

Michael B. Paulsen
Editor

Higher
Education:
Handbook
of Theory
and Research

Volume 29

 Springer

Higher Education: Handbook of Theory and Research

Volume XXIX

Associate Editors

Michael N. Bastedo, Ph.D., Center for Higher and Postsecondary Education, School of Education, 2108C SEB, The University of Michigan, Ann Arbor, MI 48109-1259, USA, bastedo@umich.edu
(Organization and Administration)

John M. Braxton, Ph.D., Department of Leadership, Policy, and Organization, Payne Hall, Peabody #514, 230 Appleton Place, Vanderbilt University, Nashville, TN 37203-5721, USA, john.m.braxton@vanderbilt.edu
(College Faculty)

Stephen L. DesJardins, Ph.D., School of Education, #2108D SEB, 610 E. University Avenue, The University of Michigan, Ann Arbor, MI 48109-1259, USA, sdesj@umich.edu
(Research Methodology)

Linda Eisenmann, Ph.D., Office of the Provost, Wheaton College, 26 E. Main Street, Norton, MA 02766, USA, eisenmann_linda@wheatoncollege.edu
(History and Philosophy)

Linda Serra Hagedorn, Ph.D., Department of Educational Leadership Studies, Iowa State University, N243 Lagomarcino Hall, Ames, IA 50011, USA, lindah@iastate.edu
(Community Colleges)

Sylvia Hurtado, Ph.D., Higher Education Research Institute, 3005 Moore Hall, Box 951521, University of California, Los Angeles, CA 90095, USA, shurtado@gseis.ucla.edu
(Diversity Issues)

Laura W. Perna, Ph.D., Graduate School of Education, University of Pennsylvania, 3700 Walnut Street, Philadelphia, PA 19104, USA, lperna@gse.upenn.edu
(Policy)

Raymond D. Perry, Ph.D., Department of Psychology, 404 Duff Roblin Building, The University of Manitoba, Winnipeg, Manitoba, Canada R3T 2N2, rperry@cc.umanitoba.ca
(Curriculum and Instruction)

Scott L. Thomas, Ph.D., School of Educational Studies, Claremont Graduate University, 150 E. Tenth Street, Claremont, CA 91711, USA, scott.thomas@cgu.edu
(College Students)

Robert K. Toutkoushian, Ph.D., Institute of Higher Education, Meigs Hall, Room 114, University of Georgia, Athens, GA 30602, USA, rtoutkou@uga.edu
(Finance and Economics)

For further volumes:

<http://www.springer.com/series/6028>

Michael B. Paulsen
Editor

Higher Education: Handbook of Theory and Research

Published under the Sponsorship of the
Association for Institutional Research (AIR)
and the Association for the Study of Higher
Education (ASHE)

Volume 29

 Springer

Editor

Michael B. Paulsen
Department of Educational Policy
and Leadership Studies
N491 Lindquist Center
The University of Iowa
Iowa City, IA 52242, USA

ISSN 0882-4126

ISBN 978-94-017-8004-9

ISBN 978-94-017-8005-6 (eBook)

DOI 10.1007/978-94-017-8005-6

Springer Dordrecht Heidelberg New York London

Library of Congress Control Number: 2013930232

© Springer Science+Business Media Dordrecht 2014

This work is subject to copyright. All rights are reserved by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed. Exempted from this legal reservation are brief excerpts in connection with reviews or scholarly analysis or material supplied specifically for the purpose of being entered and executed on a computer system, for exclusive use by the purchaser of the work. Duplication of this publication or parts thereof is permitted only under the provisions of the Copyright Law of the Publisher's location, in its current version, and permission for use must always be obtained from Springer. Permissions for use may be obtained through RightsLink at the Copyright Clearance Center. Violations are liable to prosecution under the respective Copyright Law.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

While the advice and information in this book are believed to be true and accurate at the date of publication, neither the authors nor the editors nor the publisher can accept any legal responsibility for any errors or omissions that may be made. The publisher makes no warranty, express or implied, with respect to the material contained herein.

Printed on acid-free paper

Springer is part of Springer Science+Business Media (www.springer.com)

Contents

1	The Complexity of Higher Education: A Career in Academics and Activism	1
	Philip G. Altbach	
2	Advancing an Intersectionality Framework in Higher Education: Power and Latino Postsecondary Opportunity	33
	Anne-Marie Núñez	
3	Student Veterans in Higher Education	93
	David T. Vacchi and Joseph B. Berger	
4	The Changing Nature of Cultural Capital	153
	Jenna R. Sablan and William G. Tierney	
5	The Culturally Engaging Campus Environments (CECE) Model: A New Theory of Success Among Racially Diverse College Student Populations	189
	Samuel D. Museus	
6	Organizational Identity in Higher Education: Conceptual and Empirical Perspectives	229
	David J. Weerts, Gwendolyn H. Freed, and Christopher C. Morphey	
7	Student Ratings of Instruction in College and University Courses	279
	Stephen L. Benton and William E. Cashin	
8	College Enrollment: An Economic Analysis	327
	Leslie S. Stratton	
9	The Welding of Opposite Views: Land-Grant Historiography at 150 Years	385
	Nathan M. Sorber and Roger L. Geiger	

10 The Completion Agenda: The Unintended Consequences for Equity in Community Colleges	423
Jaime Lester	
11 Using IPEDS for Panel Analyses: Core Concepts, Data Challenges, and Empirical Applications	467
Ozan Jaquette and Edna E. Parra	
12 Toward a Better Understanding of Equity in Higher Education Finance and Policy	535
Luciana Dar	
Name Index	573
Subject Index	589
Contents of Previous Volumes	593

Contributors

Philip G. Altbach Center for International Higher Education, Boston College, Chestnut Hill, MA, USA

Stephen L. Benton The IDEA Center, Manhattan, KS, USA

Joseph B. Berger College of Education, University of Massachusetts Amherst, Amherst, MA, USA

William E. Cashin Kansas State University, Manhattan, KS, USA

Luciana Dar Graduate School of Education, University of California, Riverside, Riverside, CA, USA

Gwendolyn H. Freed Division of Institutional Advancement, Cornish College of the Arts, Seattle, WA, USA

Roger L. Geiger Department of Higher Education, The Pennsylvania State University College of Education, University Park, PA, USA

Ozan Jaquette Educational Policy Studies & Practice, College of Education, University of Arizona, Tucson, AZ, USA

Jaime Lester Higher Education Program, George Mason University, Fairfax, VA, USA

Christopher C. Morphew Department of Educational Policy and Leadership, University of Iowa, Iowa City, IA, USA

Samuel D. Museus Morgridge College of Education, University of Denver, Denver, CO, USA

Anne-Marie Núñez Educational Leadership and Policy Studies, University of Texas at San Antonio, San Antonio, TX, USA

Edna E. Parra Educational Policy Studies & Practice, College of Education, University of Arizona, Tucson, AZ, USA

Jenna R. Sablan Pullias Center for Higher Education, University of Southern California, Los Angeles, CA, USA

Nathan M. Sorber Curriculum and Instruction/Literacy Studies Department, College of Education and Human Services, West Virginia University, Morgantown, WV, USA

Leslie S. Stratton Department of Economics, Virginia Commonwealth University, Richmond, VA, USA

Aarhus University, Aarhus, Denmark

Institute for the Study of Labor (IZA), Bonn, Germany

William G. Tierney Pullias Center for Higher Education, University of Southern California, Los Angeles, CA, USA

David T. Vacchi College of Education, University of Massachusetts Amherst, Belchertown, MA, USA

David J. Weerts Department of Organizational Leadership, Policy, and Development, University of Minnesota-Twin Cities, Minneapolis, MN, USA

About the Authors

Philip G. Altbach was J. Donald Monan, S.J., University Professor and Director of the Center for International Higher Education in the Lynch School of Education at Boston College; he is now a research professor. He was the 2004–2006 Distinguished Scholar Leader for the New Century Scholars initiative of the Fulbright program and in 2010 was an Erudite Scholar of the Government of Kerala in India. He has had awards from the German Academic Exchange Service, the Japan Society for the Promotion of Science, and others. His most recent book, coedited with Jamil Salmi, is *The Road to Academic Excellence: The Making of World-Class Research Universities*. He is author of *Turmoil and Transition: The International Imperative in Higher Education*, *Comparative Higher Education*, *Student Politics in America*, and other books. He coedited the *International Handbook of Higher Education*. Other recent books are *World Class Worldwide: Transforming Research Universities in Asia and Latin America*, *Leadership for World-Class Universities: Challenges for Developing Countries*, and *Trends in Global Higher Education: Tracking an Academic Revolution*.

Stephen L. Benton is Senior Research Officer at The IDEA Center where he designs and conducts reliability and validity studies on student ratings. He is a Fellow in the American Psychological Association and American Educational Research Association, as well as an Emeritus Professor of Special Education, Counseling, and Student Affairs at Kansas State University, where he taught educational psychology for 25 years. He currently serves on the editorial boards of *The Journal of Psychology: Interdisciplinary and Applied*, *Contemporary Educational Psychology*, and *Educational Psychology Review*. He earned his Ph.D. in educational psychology from the University of Nebraska–Lincoln in 1983.

Joseph B. Berger, Ph.D. is a professor of education and associate dean for Research and Engagement in the School of Education at the University of Massachusetts Amherst. Dr. Berger's scholarly expertise focuses on higher education leadership and policy, organizational development, international higher education development, and K-16 systems alignment and evaluation. He has authored dozens of articles, chapters, and reports and has served on the editorial

boards for top journals such as *Education Research International*, *Research in Higher Education*, *Journal of College Student Development*, and *Journal of College Student Retention*.

William E. Cashin is a counseling psychologist, now retired. He was the director (1985–1996) of Kansas State University’s Center for Faculty Evaluation and Development, which he joined in 1975 when it was created. During his 21 years with the center, he consulted at over 300 different colleges and universities in 48 states on topics related to faculty evaluation, especially using student ratings of teaching, and faculty development, especially improving teaching. He authored or coauthored 19 of the Center’s IDEA papers. In 2012, the AERA Special Interest Group on Faculty Teaching, Evaluation, and Development gave him the McKeachie Career Achievement Award.

Dr. Luciana Dar is an assistant professor of higher education at the University of California, Riverside. Her research interests fall into three interconnected areas of inquiry: comparative political economy of higher education, the relationship between higher education and social inequality, and the politics of higher education. Her teaching interests and expertise span a wide range of areas, including policy analysis, policy process, comparative political economy, research design, comparative public policy, higher education politics, policy and finance, and comparative state politics and policy.

Gwendolyn H. Freed is Vice President for Institutional Advancement at Cornish College of the Arts in Seattle. She has also served as Vice President for Marketing and Communication at Gustavus Adolphus College in Saint Peter, Minnesota. She holds a Ph.D. in Educational Administration and a master’s degree in Public Affairs from the University of Minnesota. Her research interests include fund-raising and marketing in higher education. A musician and former arts journalist, she is a graduate of the Juilliard School and Oberlin Conservatory of Music and has written about the arts for such publications as the *Wall Street Journal*.

Roger L. Geiger, distinguished Professor of Higher Education at Pennsylvania State University, is a historian of American higher education and the American research university. He has written three volumes on the American University in the twentieth century: *To Advance Knowledge: The Growth of American Research Universities, 1900–1940* (1986, 2004), *Research and Relevant Knowledge: The American Research Universities since World War II* (1993, 2004), and *Knowledge and Money: American Research Universities and the Paradox of the Marketplace* (2004). He has been editor of *Perspectives on the History of Higher Education* (formerly the *History of Higher Education Annual*) since 1993. In 2000 he edited *The American College in the Nineteenth Century* and in 2013 (with Nathan Sorber) *The Land-Grant Colleges and the Reshaping of American Higher Education*. His history of American higher education from 1636 to 1940 will be published by Princeton University Press in 2014.

Ozan Jaquette is an assistant professor of higher education at the University of Arizona. His research interests are organizational theory, postsecondary education

finance, and quantitative methods. His research program analyzes how postsecondary institutions change their behavior to generate enrollments from desired student populations. Specific research topics include the adoption and production of master's degrees and the recruitment of nonresident students at public universities. To conduct empirical studies, he has developed panel datasets of postsecondary institutions based on data from HEGIS, IPEDS, and other sources.

Jaime Lester is Associate Professor of Higher Education at George Mason University. Lester holds a Ph.D. and M.Ed. in higher education from the Rossier School of Education at the University of Southern California. She received numerous awards for her research and teaching including the Barbara Townsend Emerging Scholar Award from the Council for the Study of Community Colleges in 2009. Dr. Lester's research focuses on gender, organizational change, and non-positional leadership in higher education. Her most recent book examines workplace bullying in higher education.

Christopher C. Morpew is Professor and Chair of the Department of Educational Policy and Leadership at the University of Iowa. He previously held tenured faculty positions at the University of Kansas and University of Georgia. Professor Morpew earned his Ph.D. in Social Sciences and Education from Stanford University. He has also earned degrees from Harvard University and the University of Notre Dame. Professor Morpew's research focuses on issues of institutional diversity. His work has appeared in many journals, including the *Review of Higher Education*, *Research in Higher Education*, *The Journal of Higher Education*, *Educational Finance*, *Higher Education Policy*, and the *NASPA Journal*.

Samuel D. Museus, Ph.D., is an Associate Professor of Higher Education at the University of Denver. His research agenda focuses on examining the factors that affect college access and persistence among underrepresented students in the K-16 pipeline. His current research is focused on the impact of organizational environments on college success among racially diverse students. He has produced over 100 publications and national conference presentations on the racial, cultural, and structural factors that affect the experiences and outcomes of diverse college student populations. His work has been published in several peer-reviewed academic journals, including the *Harvard Educational Review*, *Journal of Higher Education*, *Review of Higher Education*, and *Teachers College Record*. His books include *Creating Campus Cultures: Fostering Success among Racially Diverse Student Populations* (2012) and *The New Majority: A Synthesis of Research on College Students of Color* (forthcoming, 2014).

Anne-Marie Núñez is associate professor of Educational Leadership and Policy Studies at the University of Texas at San Antonio. Her research addresses the college access and success of diverse students, including Latino, first-generation, and migrant students. Her studies address several institutional contexts, including Hispanic-Serving Institutions (HSIs). Her work has been published in several outlets, including *American Educational Research Journal*, *Harvard Educational Review*, and *Review of Higher Education*. In 2011, she received the 2011 Mildred

Garcia Exemplary Scholarship Award from the Association for the Study of Higher Education (ASHE) for her research on issues related to race/ethnicity in higher education.

Edna Parra is a Ph.D. student in the Center for Higher Education at the University of Arizona. She has an MA in economics from the University of Guadalajara. Her research foci are econometrics, higher education finance, and higher education policy. She has worked extensively with IPEDS data and organization-level data from the Office of Postsecondary Education and the Office of Federal Student Aid.

Jenna R. Sablan is a provost fellow and research assistant in the Pullias Center for Higher Education at the University of Southern California. Her research focuses on increasing college readiness and access to college for first-generation and under-represented students, analyzing K-16 policy, and evaluating educational programs.

Nathan M. Sorber is an Assistant Professor of Higher Education at West Virginia University and the coauthor of *Land-Grant Colleges and the Reshaping of American Higher Education* (Transaction Press, 2013). His dissertation, *Farmers, Scientists, and Officers of Industry*, was a finalist for the Association of the Study of Higher Education's Dissertation of the Year and a recipient of Penn State University's Alumni Association Dissertation of the Year. Sorber has published on higher education history in the *History of Education Quarterly*, *Perspectives on the History of Higher Education*, and will have a forthcoming chapter in Alan Marcus' book on land-grant colleges.

Leslie S. Stratton is a professor of economics at Virginia Commonwealth University, an affiliated faculty at Aarhus University (Aarhus, Denmark), and a research fellow at the Institute for the Study of Labor (IZA, Bonn, Germany). One of her research interests is in the decision to enroll in and the path taken through college. She is the author of a number of articles on this topic in *Research in Higher Education* and *Economics of Education Review*.

William G. Tierney is university professor, Wilbur-Kieffer Professor of Higher Education, director of the Pullias Center for Higher Education at the University of Southern California, and past president of the American Educational Research Association. His research focuses on increasing access to higher education, improving the performance of postsecondary institutions, and analyzing the impact of privatization on postsecondary education. His Center is involved with USC's Electronic Arts Game Lab in creating an interactive game for teenagers that will enable them to develop strategies for applying to college. Recent books include *The Impact of Culture on Organizational Decision-Making*.

David T. Vacchi retired from the US Army as a lieutenant colonel after 20 years and is a combat veteran of Operations Iraqi and Enduring Freedom. An adjunct lecturer in the Commonwealth Honors College at the University of Massachusetts Amherst, he is also a doctoral candidate in the higher education concentration of the Educational Policy and Leadership program at UMass Amherst. His research and academic

interests include the impact of college on student veterans, the success of student veterans, nontraditional and underserved student populations, undergraduate education, and leadership in various contexts.

David J. Weerts is Associate Professor and Director of the Jandris Center for Innovative Higher Education (*JCENTER*) in the Department of Organizational Leadership, Policy, and Development at the University of Minnesota-Twin Cities. Professor Weerts's scholarship and teaching focus on state financing of higher education, university-community engagement, and alumni giving and volunteerism. His research on these topics has appeared in many journals including *The Journal of Higher Education*, *Research in Higher Education*, and the *Review of Higher Education*. Professor Weerts holds a Ph.D. in educational leadership and policy analysis from the University of Wisconsin-Madison.

Chapter 1

The Complexity of Higher Education: A Career in Academics and Activism

Philip G. Altbach

Organizing a discussion of a career—and the ideas that have shaped it—that has covered more than half a century and taken a variety of unanticipated twists and turns is not a simple task. This essay is organized in two parts. The first discusses the elements of a career that has taken place entirely in the world of academe, but which was shaped in part by the social and political movements of the 1960s in America and the world. The second part focuses mainly on the ideas and concerns that have animated my work over time. These aspects are, of course, intertwined. Commitments have shaped ideas and actions, experience contributed to ideas and perspectives. Thus, this is not an autobiography in the traditional sense; the experience of a rather typical academic hardly warrants that. Rather, it is a consideration of ideas swirling in the social and academic environment of the times and how these, as well as somewhat random circumstance, shaped a career.

Origins and Formation

I was born in the shadow of the University of Chicago, grew up in its neighborhood, and was entirely educated after secondary school at that same institution—highly unusual for an American. Further, this institution was and remains a rather unusual academic institution, with its commitment to the ideal of liberal education at the undergraduate level and to research throughout. That institution has shaped my perspective on intellectual life and the role of higher education in society.

I am also the product of Chicago's South Side and particularly the neighborhood of Hyde Park that surrounds the University of Chicago. Growing up in the 1950s, it was possible to bicycle from Hyde Park to downtown along the lakefront. Later,

P.G. Altbach, Ph.D. (✉)
Center for International Higher Education, Boston College,
207 Campion Hall, Chestnut Hill, MA 02467, USA
e-mail: Altbach@bc.edu

urban blight in parts of the South Side made life rather more problematical. Even then, the area was highly diverse, with a growing African American population, as well as many other ethnic groups. For primary and secondary education, I am a graduate of the Chicago Public Schools, which are now much maligned but then were still a rather good public school system. The primary school I attended was next to the Illinois Central railroad and with a clattering street car out in front, making for constant motion and not a little bit of noise. At the same time, the school provided regular trips to a matinee of Chicago's symphony orchestra, cultivating in me an affection for classical music that remains to this day, as well as a solid if rather traditional grounding in basic school subjects.

Hyde Park High School, which I attended for 2 years before moving further south in the city, was then a remarkable school. By then, at least 80 % of the students were African American, and the school was rigidly tracked. The academic track was largely white and Asian. The heritage and many of the teachers remained from the days when the school was one of the best in the city. Hyde Park High School provided an outstanding education, at least for those in the academic track—as well as numerous lessons, mostly quite positive, in multiethnic relations. My final 2 years of secondary education took place at South Shore High School—then perhaps equally divided between Jews and Catholics—also an excellent school. With mostly white students and relatively homogenous in terms of social class, there was no tracking there.

During the height of the anticommunist “witch hunts” of the mid-1950s, a group of South Shore students, encouraged by several teachers, gravitated toward political liberalism, the emerging civil rights movement, and nascent radicalism. We were welcomed by the local Unitarian-Universalist Church and soon became their youth group, even though only one of our members had any connection to the church. From that base, the group sponsored talks by local civil rights leaders and joined in some of the activities of the National Association for the Advancement of Colored People (NAACP). We also made occasional forays downtown to the recently established Second City Theatre.

By taking several advanced placement courses and an innovative summer literature program, offered by the Chicago Public Schools at the University of Chicago, I graduated a semester early from high school. Having been accepted for midyear admission to the University of Chicago—I recall applying only to the U of C and to the University of Illinois as a “safety school”—I matriculated at Chicago in January 1959. In those days, the University of Chicago had a good reputation, but it was not all that difficult to gain entry, since most of the applicants were self-selected. Students interested in the university's serious academic atmosphere and its well-known general education curriculum were attracted. Among my motivations for studying there was the appeal of the active political culture that I had already experienced as a high school student. I entered the groves of academe in 1959 and never left and have had a career of more than half a century in a variety of higher education settings.

The University of Chicago, still well known for its rigorous general education program, was soon to end its famous “Hutchins College”—what might be described

as general education on steroids. The first 2 years were a rigidly prescribed series of arts and science courses, specifically designed for all undergraduates. Many were a year-long, three-quarter (Chicago, then as now, functioned on a quarter rather than a semester system) sequence, for which an examination was given at the end of the academic year for the course. Most of the courses were a combination of lectures, given by some of the most-eminent scholars in the country, and small group discussions led not by teaching assistants but by regular members of the faculty. Textbooks were typically compilations of primary source materials. For example, the social science courses featured books by de Tocqueville, Freud, Marx, Weber, and others rather than traditional textbooks. Mathematics included the history of the topic—a course in which I did not excel. At least, the readings were English translations rather than the original French or German! Papers submitted were based on original sources and were rigorously evaluated by the instructor. Without question, this intellectual underpinning, the way in which courses were taught, provided a valuable academic base and rigorous evaluation, excellent training in critical thinking, and clarity of written expression.

Having no clear vocational commitment, I was able to take courses of interest during the last 2 years of undergraduate study. These included comparative religion, a wonderful year-long sequence in South Asian civilization, a much less excellent Chinese civilization sequence, modern literature, and others. I ended up with concentrations in sociology and history, and no particular expertise in anything.

Politics

One of the attractions of the University of Chicago was its active, mainly leftist, political culture. Even in the apolitical 1950s, and unlike most American universities at the time, there was an array of social action and political organizations on campus, from communists (a few) to conservatives (despite Professor Milton Friedman and others—even fewer). I gravitated to the small but active youth affiliate of the Socialist Party and also to the Quakers. The socialists provided a short course on interpretations of the Russian Revolution, the role of the labor movement in social change, and the argument that both the Soviet Union and the United States were culpable in the then raging Cold War. The Quakers brought ideas of pacifism and a principled opposition to nuclear testing, then a “hot button” (no pun intended) issue, and a commitment to nonviolent social action.

American politics were, at the end of the 1950s, in transition from the political apathy that characterized the immediate post-World War II period. The Cold War was at its height. Anticommunist hysteria, fueled by Senator Joseph McCarthy and numerous “witch hunts” of “subversives” in the government, the entertainment industry, and in education, along with general apathy, characterized the political scene. Chicago’s South Side, along with such places as California’s Bay Area, Manhattan’s Upper West Side, and some college towns across the country, was somewhat immune to these trends. Political debate and activism remained part of the environment.

By the end of the 1950s, social issues such as an emerging civil rights movement (especially salient on the increasingly African American South Side), a revival of interest in civil liberties in an effort to blunt McCarthyite repression, and especially a growing consciousness of the dangers of nuclear war in an increasing volatile world contributed to a modest revival of student activism (DeBenedetti 1990).

In this context, the Student Peace Union (SPU) was established in 1959 by University of Chicago students in order to bring together the nascent antinuclear groups emerging on campuses, especially in Midwest. The organization quickly grew to be the largest left-oriented national student organization in the United States, with affiliated groups on more than 100 college campuses. I was elected the SPU's national chairman and served in that capacity from 1959 to 1963. I was chosen mainly because I was happy to wear a necktie and "respectable" clothes at a time when beards and sandals were the norm in the student movement. My job was to work with other organizations and to serve as the "public face" of the SPU. In this role, I had the opportunity to organize a series of fund-raising concerts with such luminaries as Joan Baez, Bob Dylan, and Pete Seeger—most were in fact not luminaries at the time but rather emerging young talents. I also worked with the group's advisory board and donors—respected people on the left of the American political spectrum such as Socialist party candidate Norman Thomas, civil rights leader Bayard Rustin, Nobel prizewinning chemist Linus Pauling, philosopher Bertrand Russell, Harvard sociologist David Riesman, and many others. I also spent a lot of time fund raising—convincing wealthy liberals to donate funds to an emerging student movement. The political and organizational experience of the student movement provided many very useful skills.

In 1960, the SPU was invited to send two representatives to a major rally of the Campaign for Nuclear Disarmament (CND) in London. I was selected and at age 19 and a second-year undergraduate, I went overseas for the first time. In London, the two SPU representatives participated in several antinuclear marches and a large rally at Royal Albert Hall. Unlike in the United States, the antinuclear weapons movement was at the time a significant political force in the United Kingdom—trying unsuccessfully to keep nuclear weapons off British soil. While in England, I was impressed by the ubiquitous symbol used by CND, now known in the United States as the "peace symbol." I carried a pocketful of peace symbol pins back with me and, after considerable debate, convinced the SPU to adopt and widely disseminate it (Miles 2006, p. 116). Soon afterward, the symbol came to be used universally, as perhaps the most widely recognized sign of peace anywhere. Without doubt, introducing and popularizing the peace symbol in the United States was one of my more significant accomplishments—at the time it seemed just another small aspect of work in the student movement.

The SPU had collected some 10,000 signatures on a petition asking for an end to nuclear weapons testing to the leaders of the United States and the Soviet Union, scheduled to meet in May in Paris. We set out from London to Paris with our petitions, intending to deliver them to the summit, only to learn that the meeting was abruptly cancelled by the Soviets in the aftermath of shooting down an American U-2 spy plane in Soviet airspace. We left half of the petitions at the Soviet embassy

and the other half at the American embassy in Paris—no doubt to be tossed into the garbage in both places. Two peace activists were left with nothing to do but to enjoy a first visit to Paris.

As perhaps the largest campus-based antiwar organization in the United States at the time, the SPU national office kept track of perhaps 100 campus chapters and thousands of members. The group issued a bulletin highlighting political events, as well as the organization's own activities. While the SPU had no clear ideological perspective, keeping the organization and its membership focused on the central issues of antinuclear weapons and opposition to American military forays was not an easy task. The organization's insistence on placing responsibility for the Cold War and its conflicts on both sides differentiated it from some other organizations that tended to lay blame only on the United States and of course from the general public, which viewed international relations through anticommunist rhetoric of the Cold War.

The SPU was one of the first American organizations to recognize the dangers of American involvement in Vietnam and called for the withdrawal of US advisors several years prior to Vietnam becoming a major political issue in the United States and before the escalation of American involvement. However, political events—including the Cuban missile crisis, The Freedom Rides and the growth and radicalization of the civil rights movement, and the beginning of the major student movements of the 1960s—overtook the SPU. Thus, by 1964 the SPU lost much of its energy and soon ceded leadership to the Students for a Democratic Society and other more militant groups focusing on a wider range of issues (Altbach 1997d; Gitlin 1993).

Student activism also provided several other opportunities for international involvement. In 1963, the SPU hosted a delegation from Japan's ultraradical national student union, the Zengakuren. Based on interviews, I published an article introducing Western audiences to the Japanese student movement (Altbach 1963b). Later, I was invited to Japan to look more carefully into the Japanese student movement and, through this and other efforts, brought the growing student activist movement in other countries to the attention of American students.

The SPU was also invited by the Independent Research Service—headed by Gloria Steinem, later a pioneering feminist and founder of *MS* magazine—to participate in several communist youth and student conferences in Europe. Following much internal discussion, it was decided that I would participate in a youth forum in Italy and, in 1964, a larger conference in Moscow. Representing the SPU in Italy, Gail P. Kelly, then the general secretary of the SPU and later my student at the University of Wisconsin and a faculty colleague at the State University of New York at Buffalo, and I presented an “independent left” perspective, much to the dismay of our Soviet hosts. In 1968 when *Ramparts* magazine exposed that the Central Intelligence Agency had funded a number of liberal and left publications and organizations, we discovered that the Independent Research Service was indeed a conduit for CIA activity.

My involvement in student activism also earned a Federal Bureau of Investigation dossier. In the 1980s, I requested, under the Freedom of Information Act, any files

that the FBI kept concerning me; and much to my amazement, a file of papers, perhaps an inch thick, was provided. The US government was spending its scarce resources, trying to keep track of my activities during the 1960s. They seem to have decided that I was not a subversive influence, although much of the file was redacted.

By the time I entered graduate school at the University of Chicago, my direct involvement in student activism largely ended. I learned a great deal from my experiences in the student movement. I was immersed in the central political events of the day and kept abreast of foreign policy and the Cold War, developing countries, and nuclear issues. Student politics inevitably created a need to explain global events in broader perspective. The SPU attempted, with only limited success, to draw attention to the central issues of war and peace, something that required a sophisticated argument. All of this was excellent training for an academic career. The organization sponsored a variety of events and demonstrations, including one of the earliest student-led marches on Washington, that focused on nuclear war and weapons testing. Coordinating a national demonstration that attracted more than 10,000 students to the nation's capital cultivated skills in organization. Writing newspaper articles and speaking to diverse groups was also excellent "on-the-job" training.

Graduate School

By the time I graduated from college in 1962, I had decided a career in education was as a good way to make a contribution to society and started work on a master's degree in educational administration at the University of Chicago. Staying at Chicago seemed a good choice—the department of education was well regarded and I was able to remain somewhat involved with campus politics. I thought that I could provide educational leadership as an administrator or researcher. My master's degree work focused on education policy, and I wrote a master's thesis concerning James B. Conant, an influential policymaker and former Harvard president (Altbach 1963a). I realized, however, that this career path required work experience in order to make a significant contribution, and as a newly minted 22-year-old master's graduate, I had few opportunities to acquire it. By this point I had discovered I was not especially interested in the field of educational administration; however, I was quite interested in a course I had taken on comparative education.

Quite coincidentally, the Comparative Education Center happened to be at the opposite end of the corridor from educational administration offices in Judd Hall, and was one of the best such centers in the United States at the time. I was admitted to the doctoral program in comparative education. Further, my wife was completing work on a master of arts in teaching at Chicago, and in any case I could not have imagined studying anywhere else. Because I had taken many of the required courses in education, I had the freedom to choose courses broadly in the social sciences and in development studies. The key comparative educators in the department, C. Arnold Anderson and Philip Foster, offered a variety of courses on the role of

education in socioeconomic development globally, with a special focus on developing societies. I was also able to obtain a fellowship funded by the Ford Foundation to support my doctoral study.

I was particularly interested in courses taught by Edward Shils, in Chicago's well-known interdisciplinary Committee on Social Thought. Shils, a polymath sociologist who had translated the work of German sociologist Max Weber into English, focused on higher education and the role of intellectuals in society. For many years, I maintained an active relationship with him. When I was in Chicago, even after his retirement from active teaching, I visited him—I recall one dinner when he brought me along to meet Nobel laureate and author Saul Bellow, a good friend of Shils at a rather modest Chinese restaurant. The scene, and the conversation, was reminiscent of one of Bellow's novels. On another occasion, Shils, who spent half the year as a fellow of King's College Cambridge, England, brought me to a dinner at the high table at King's—where I chanced to sit next to E. M. Forster, author of *A Passage to India*, then in his mid-90s and still quite articulate. After Shils passed away in 1995, I edited a volume of his writings on higher education (Altbach 1997a).

Professor Shils proved to have the greatest influence on my academic interests and dissertation. Through his courses, I became aware of the importance of universities in modern societies, the main interest and focus of my subsequent career. Shils had done research in India and wrote a pioneering study of the role of Indian intellectuals in society. As a result of his courses, I decided to focus my doctoral dissertation on higher education. My experience in student politics and earlier interest in India pointed me toward student activism in India. A grant available from the University of Michigan, which at the time supervised a collaboration with the University of Chicago and the University of Bombay, provided funding for a year of research. My topic focused on the history of student politics in Bombay, tracing the history of activism from the struggle for Indian independence through the 1960s.

I became convinced that higher education in general and the role of universities in particular are central to the process of social and economic development—and that universities are central cultural and research institutions in all societies. Work in India made it clear that higher education is a complicated and a many-faceted phenomenon in developing countries—worthy of study and understanding. I have kept up an interest in the manifold roles of universities, trying to understand and illustrate aspects of higher education. In fact, my entire academic career has engaged with different aspects of higher education—the role of students in politics, knowledge networks and scholarly communication, the academic profession, the role of research universities, and others. Underlying this concern has been a special interest in developing countries and a commitment to highlighting the special circumstances and problems they face.

During the period from the 1970s to the end of the twentieth century, many experts and policymakers, led by the World Bank and UNESCO, argued that the best “payoff” for development was investment in primary education and literacy training. I continued to argue for the centrality of higher education in the development process, pointing out that universities educate society's leaders, produce research, and

are central intellectual institutions. I was involved as a senior consultant, at the end of the 1990s, to one of the first influential reports that attempted to shift the balance back to higher education—*Higher Education in Developing Countries: Peril and Promise* (Task Force on Higher Education and Society 2000). The report, released with great fanfare by the World Bank president, proved to be influential in restoring higher education to prominence in the thinking of major policy organizations in governments around the world.

The importance of higher education was greatly enhanced at the end of the twentieth century, no doubt stimulated by globalization, the advent of the Internet, and especially the emergence of the knowledge-based economy even in developing countries. These realities required highly educated personnel as well as linkages among institutions and countries. Further, the recognition by a growing number of people worldwide that higher education was a key to social mobility has stimulated the expansion of enrollments everywhere and the advent of massification of higher education (Altbach 1999). Postsecondary education has since then been central both to the lives and careers of young people around the world and to policymakers and the economy, as well.

While for much of my career as an international higher education researcher, my interest in universities was not widely shared nor considered very important—universities were thought of as peripheral institutions for elites in most countries. Although universities shared common historical roots, there were relatively few international links among them. However, in the twenty-first century, higher education has been recognized as a key part of the knowledge economy of the era, and academic institutions worldwide have been internationalized. Without question, there has been a sea change in thinking about the role of higher education in the emerging global knowledge society.

Encounters with India

My first significant experience outside of the United States was my sojourn to India to collect data for my doctoral dissertation. I landed in Bombay in 1964, with precious little knowledge of the details of my topic but with a reasonable grasp of Indian society and politics, due to my academic training. Since there was no information available on the student movement, I was researching an entirely blank slate. My research on student activism was the first study of that topic done anywhere in India. I was able to affiliate with the Department of Sociology at the University of Bombay and benefited from excellent mentors there—including Professor A. R. Desai. I started by delving into historical sources, including reading the back issues of the *Bombay Chronicle*, huge bound volumes of which were fetched for me from the Maharashtra State Archives, located behind Elphinstone College—and literally tossed to the ground by staff members, amidst great clouds of dust. Much more importantly, I was able to interview many of the alumni of the student movement who had been active during the independence struggle in

Bombay. I found nuggets of Bombay's activist history, such as the 1946 naval mutiny that started among Indian sailors on British ships in the Bombay harbor, and spread elsewhere in India, and was supported by the students (Altbach 1965). The mutiny helped to convince the British that their position in India was untenable, and they granted independence in 1947.

My interests moved beyond the role of students in the independence movement and into student organizations in the 1960s in Bombay, and I decided to include other contemporary groups in my dissertation. I interviewed student leaders from left to right, visited many of the colleges to examine student activities, and got a sense of higher education in the 1960s. Much to my amazement, doors were always open to a young graduate student from the United States interested in themes seldom studied by scholars. I attended the national conference of the Hindu nationalist Akhil Bharatiya Vidyarthi Parishad in Nagpur and numerous other meetings of groups from all parts of the political spectrum.

Indian students were active in the struggle for independence and were often considerably more militant than Mahatma Gandhi's nonviolent movement. After independence, students continued a tradition of activism—but generally without the sense of national purpose that characterized the independence movement. Student activism often moved to the campus, politicizing the colleges and universities and focusing on local conditions. In Bombay, activism ceased to be a major force, although from time to time students were enlisted in off-campus political movements. Political factions—from communist groups to right-wing Hindu nationalists—continued to be present among students.

While living in Bombay in 1964, I met Sachin Chowdhury, the founding editor of the *Economic Weekly*—later the *Economic and Political Weekly*—resulting in a 40-year relationship with that distinguished publication. I wrote brief news stories and editorials, summarizing stories from the *Economist*, *Time*, and other international publications that were of interest to an Indian audience. This exercise gave me invaluable training in writing succinctly and on deadline—skills that have proved invaluable over time.

I returned to Bombay in 1968 as a Fulbright Research Professor, again affiliated to the University of Bombay's sociology department. This time, my research focus was on higher education; and I researched the culture of the University of Bombay and its affiliated colleges, spending time on several of the colleges and again benefiting immensely from the cooperation of many academic colleagues. I was impressed at the time by the diversity of Indian higher education, the complexity of the system, and the importance attached to higher education by Indians. My research resulted in a short book, *The University in Transition: An Indian Case Study* (Altbach 1972). In addition, I edited several books relating to student political activism, including *Turmoil and Transition: Higher Education and Student Politics in India* (Altbach 1968c).

My research highlighted the complex relationships between the mainly undergraduate colleges and the University of Bombay and the often ignored variations among college cultures. The culture of Indian colleges is at the heart of the reality of higher education since the vast majority of students (and staff) are affiliated with India's more than, by 2013, 34,000 colleges (Altbach 1970a).

While in Bombay, due in part to my work at *Economic and Political Weekly* and also writing occasionally for *Times of India*, as well as due to my contacts with several Indian publishers, I became interested in the Indian publishing industry and how it worked. This research resulted in *Publishing in India: An Analysis*, published by Oxford University Press in Delhi in 1975 (Altbach 1975a). I also wrote a case study of publishing in the Marathi language (Altbach 1979). I think that this book was the first in-depth study of the Indian publishing industry, at the time one of the world's larger publishers of books in English.

My work on Indian higher education was immensely strengthened by colleagues in India and particularly by my collaboration with Suma Chitnis and Amrik Singh, both later distinguished vice chancellors and researchers on higher education. In 1979, with Suma Chitnis, I coedited *The Indian Academic Profession* (Chitnis and Altbach 1979). Chitnis and I also coedited *Higher Education Reform in India: Experience and Perspectives*, in 1993, based on research funded by the World Bank (Chitnis and Altbach 1993). I coedited with Amrik Singh *The Higher Learning in India*, one of the first full-scale analyses of higher education, published in 1974 (Singh and Altbach 1974).

Between 1964 and the 1970s I visited India almost annually. By the 1980s, my academic interests were less focused on India; and I was able to travel there less frequently, although I kept writing occasionally for the *Economic and Political Weekly* and other publications. In 2010, at the invitation of the Government of Kerala, I returned to India, and specifically to Kerala, for several weeks of intensive lecturing throughout the state and was introduced to the rich culture of southern India—a sharp contrast to the regions with which I was more familiar.

I suspect that I may be the only American researcher who has kept up a fairly steady interest in Indian higher education for half a century; few non-Indian scholars have a continuing interest in this topic. During the past several decades, I have contributed numerous articles to journals and magazines in India and the West, concerning Indian higher education. I have been particularly gratified to be able to contribute to the continuing debates about Indian higher education, through many op-ed articles in the *Hindu*, one of India's major national newspapers.

Over the years I have watched Indian postsecondary education expand tremendously, although I have been dismayed to see that the quality of the system as a whole has not improved—and perhaps has even deteriorated. I have been impressed by a few parts of the system, including some distinguished colleges that have managed, against all odds, to keep high standards of quality and of course the Indian Institutes of Technology and related specialized institutions. I have written that India's higher education system is “Tiny at the Top”—referring to India's very small quality sector but a very large and rather poor-quality university and college system (Altbach 2006). India's more than 600 universities and the 34,000 colleges that are affiliated to them are in desperate need of reform and upgrading. Until this happens, quality will remain modest to deficient. The proliferation of “deemed” universities—institutions, often private, given university status by acts of state or occasionally central government fiat—has, by and large, weakened the system as a whole.

I have valued my involvement with India over almost half a century and hope that I have contributed to a broader understanding of the problems and possibilities of Indian higher education (Agarwal 2012). Since I first arrived in India in 1964, I have found the country endlessly fascinating. Its complex culture, diverse ethnic and religious population, and perplexing societal and educational realities are the source of great interest. Indians may be uniquely open to letting curious foreigners have access to debates and data, and I have had the pleasure of making many good Indian friends and colleagues over the years. I have also had the unusual privilege of participating in some of the debates about higher education policy in India.

Students and Politics

No doubt, influenced by my experience in the American student movement and my research on Indian student activism, I pursued research on student politics—arguing that students, particularly in developing countries, in the mid-twentieth century were and, to some extent even now, are a potent political and educational force in many societies (Altbach 1966, 1970e; Lipset and Altbach 1967). In the aftermath of the global student activism of the 1960s and 1970s, there was considerable interest in understanding the nature of student movements and their role both in society and on campus (Altbach 1984, 1989a). It is clear that student activism has had more impact on society, including causing regime change, in developing countries than in the industrialized nations, although students on occasion have contributed to political change in the West. Not surprisingly, most of the research conducted about student political activism was published in the aftermath of the activist movements of the 1960s and 1970s. Much less analysis has appeared recently, although students remain a potent political force in many countries.

The history of student political activism remains largely unexplored, but is nonetheless of considerable importance (Altbach 1970d). Students, for example, were involved in the 1848 revolutions in Europe and the rise of nationalism (Altbach 1969), including to some extent in the rise of fascism and Nazism in Europe. The involvement of students in the struggle for Indian independence from the 1920s to independence in 1947 influenced student involvement in more recent decades (Altbach 1968b). Similarly, students were involved in independence movements in other Asian societies (Altbach 1970e). While students have never overthrown governments in Western countries as they have done in the developing world, students have been involved in political activism, and the history of that activism helped to shape the movements of the 1960s and beyond (Altbach 1973, 1997c).

Research on a peripheral aspect of the student movements of the period, the international student organizations that were enmeshed in Cold War politics, showed how student groups interacted across borders and how they were influenced by Cold War machinations (Altbach 1970c; Altbach and Uphoff 1973). While there was a good deal of international communication among student political organizations during the heyday of student activism, the fact is that student movements were

national in character, with little direct involvement from abroad. Ideas did spread across borders, but only in the broadest sense. The specific international student organizations, such as the Soviet-dominated International Union of Students and the pro-Western International Student Conference (ISC), had little influence on the struggles going on at the time. Both were, in fact, funded and largely influenced by the Soviet Union and the United States, respectively. The ISC, along with the US National Student Association, was exposed in 1967 for being funded by the Central Intelligence Agency and soon collapsed (Stern 1967).

I have come to believe that understanding the role of student movements at several key junctures in the development of higher education is central. As noted, the role of students in struggles for independence and against colonialism in the developing world was significant, and that involvement gave students a sense of power and legitimacy that lasted to the postindependence period. Students in many developing countries functioned as key political players and, in some cases where the ruling authorities were weak, managed to topple regimes, but never were able to take power themselves (Altbach 1984). In contrast, despite the powerful student movements in Europe and North America, students were never able to force governmental change, although they did influence policy in some areas, including in higher education. In Germany, for example, students influenced reforms that institutionalized for a time aspects of student involvement in university governance. After the 1970s, students in the developed world were no longer involved much in activist politics. In some developing countries, students remained sporadically involved in activism.

Research and Teaching, and Building Centers and Programs

I have had the good fortune to spend an academic career now approaching a half century, studying, researching, and teaching about aspects of higher education, mostly in an international perspective. While I have served as a department chair and in several other administrative roles, I have not held a position of senior leadership. I will describe briefly the progression of my career in part to illustrate a time, at least in the United States, when academic positions were relatively plentiful and mobility fairly easy.

My academic activities have always been grounded in research and graduate education—I have never taught undergraduates. I have been doctoral supervisor for 88 students at 3 universities and have been on many master's and doctoral committees at the universities where I have worked, as well as at several others. Former doctoral students have gone on to academic positions, in more than 20 countries, and many other key posts—including as ministers in several governments, staff members in a variety of nongovernmental organizations, and staff members at the World Bank, African Development Bank, Asian Development Bank, UNESCO, and other agencies. I have always enjoyed working with graduate students and attempted to let them develop their own research foci, rather than try to shape their thinking or

methodology. I have never been skilled in building academic theories, and, perhaps as a result, I have always encouraged students to pursue detailed research and be guided by results.

While completing my dissertation in Chicago in 1965, I was invited by Professor Seymour Martin Lipset at Harvard University to join his research team as a postdoctoral researcher studying student political activism, mainly in developing countries. This research was, of course, directly related to my own interests, and I was delighted to accept this opportunity. I arrived in Cambridge, Massachusetts and had appointments in Harvard's Center for International Affairs and as a lecturer in the Graduate School of Education, where I taught a course on education and development. Marty Lipset, one of the world's most prominent sociologists, was a wonderful mentor. I learned from him the value of collecting a wide range of data and then trying to make sense of it without preconception. I enjoyed working with his team of doctoral students as well. I completed my dissertation and worked with Lipset on several books, including *Students in Revolt* (Lipset and Altbach 1967), and several bibliographies (Altbach 1970b, d).

Having completed my dissertation, I moved into the academic job market. American higher education was in its period of great expansion, and jobs were not difficult to find. Offers from two excellent midwestern universities materialized, and I joined the faculty of the School of Education at the University of Wisconsin–Madison in the fall of 1966 as an assistant professor. I was also appointed in the Department of Indian Studies and had an opportunity to teach courses both on comparative education and on South Asian education. Madison was building its comparative education program at the time. I was promoted to associate professor with tenure in 1968 and, at the age of 27, was one of the youngest tenured professors on the campus at the time. While at Wisconsin, I coedited *Academic Supermarkets*, a book about the university's challenges during the 1960s from a moderately critical perspective (Altbach et al. 1971). The book was widely ignored on campus, but I later met the chancellor while we were both in Malaysia, and he asked me why I had edited such a critical volume. Thank goodness for tenure.

In 1974, an offer to join the faculty of the State University of New York at Buffalo as a full professor with appointments in higher education and in social foundations of education lured me to Buffalo. I held a joint appointment in the School of Information and Library Studies and taught a course on international publishing. The position was a presidential professorship and I was encouraged to build up the graduate program in comparative education and establish a Comparative Education Center. With Gail P. Kelly, and later Lois Weis and Sheila Slaughter, all of whom had studied with me at the University of Wisconsin, and other colleagues, we built exciting programs in comparative and higher education. The comparative education program and the center attached to it became one of the strongest such programs in the United States during the 19 years I was on the Buffalo faculty. I became the editor of the *Comparative Education Review*, the major journal in the field, in 1978 and served in that role for a decade. At the end of my editorship, the center became the secretariat of the Comparative and International Education Society, with Gail P. Kelly as the CIES general secretary.

I moved to Boston College in 1994 to join the university's higher education program. Soon after arrival, I was appointed to the newly created Monan University Chair, a position I have held until my retirement in 2013. I proposed to President J. Donald Monan, S.J., that we establish a Center for International Higher Education (CIHE) in 1995, and the university agreed and provided support with additional funding from the Monan Chair. CIHE also benefited from 15 years of steady support from the Ford Foundation that ultimately totaled more than \$1 million. Additional support for specific research projects and other programs has come from the Carnegie Corporation of New York, Rockefeller Foundation, MacArthur Foundation, Toyota Foundation, and others.

The research projects undertaken by the center dealt with a range of issues of interest to the center and our funders. Typically, a group of researchers were brought together to focus on a specific theme. The produced essays, which were discussed at a working editorial conference, were then revised and published as a book. Some of the research topics resulted in books: the rise of private higher education in global perspective (Altbach 2000), the academic profession in developing and middle-income countries (Altbach 2003), the emergence of Asian universities as key global academic institutions (Altbach and Umakoshi 2004), leadership for developing country universities (Altbach 2011), and several volumes concerning research universities in developing and emerging economies (Altbach and Balán 2007; Altbach and Salmi 2011).

The center has been closely tied to Boston College's master's and doctoral programs in higher education administration and has greatly benefited from the collegueship of faculty in the program and also from outstanding doctoral students who have served as graduate assistants over the years. One of these students, James J.F. Forest, introduced me to the Internet in 1995, and through his efforts and additional expertise by many others, the center has had a robust Web site and other Internet resources ever since. Roberta Malee Bassett and Liz Reisberg served as managing editors of the *Review of Higher Education*, which I edited between 1996 and 2004. Damtew Teferra assisted with the Bellagio Publishing Network and initiated the International Network for Higher Education in Africa. He also obtained funding for the pioneering *African Higher Education: An International Reference Handbook* (Teferra and Altbach 2002).

Sensing in 1995 the emergence of an international consciousness in higher education, I established a quarterly publication, *International Higher Education*, to provide a forum for analysis and information concerning the rapidly expanding arena of international higher education. *IHE*, which recently published its 75th issue, has proved to be a valuable source of analysis worldwide. The concept of publishing short but authoritative articles by key experts has been successful. Busy experts are prepared to write short articles, and our audience of higher education leaders, government and organizational officials, and the research community finds short analytical articles useful. *IHE* now appears in Chinese, Russian, Spanish, and Portuguese. Discussions are in progress to expand to Arabic and Vietnamese. It is distributed in English as part of the *Deutsche Universitätszeitung*, the major publication for the German higher education community. *IHE* is distributed in paper and electronic editions.

The Shaping of Fields of Study

Two new academic fields—comparative education and higher education—and especially the international aspects of higher education have been of concern to me throughout my career (Altbach and Kelly 1986a). By editing prominent journals in these fields, *Comparative Education Review* and the *Review of Higher Education*, I have contributed to their development. I have also helped to create standard textbooks in both fields. In the field of comparative education, three volumes were widely cited for a period of time. These are *Comparative Education* (Altbach et al. 1982), *New Approaches to Comparative Education* (Altbach and Kelly 1986b), and *Emergent Issues in Education: Comparative Perspectives* (Arnove et al. 1992). These volumes were used in many courses on comparative education and helped to shape debates, at a time when the field of comparative education was rapidly expanding and the debate about whether the field was a “discipline” or a multidisciplinary field of study was actively discussed. The multidisciplinary advocates, with whom I was affiliated, prevailed (Altbach 1991b).

Even the field of higher education studies, although better established than comparative education, was relatively new. Coediting *American Higher Education in the 21st Century: Social, Political, and Economic Challenges* provided an opportunity to contribute to thinking about American higher education (Altbach et al. 2011). That book, now in its fifth edition (two with Prometheus Books and three with Johns Hopkins University Press), is the standard text in many courses on American higher education. The opportunity to edit the *Review of Higher Education* permitted me to contribute to shaping a key journal.

I have had the opportunity to be involved in the development of the “subfield” of international higher education just as the international dimension of university education became more central due to the impact of globalization and importance of the knowledge economy. Coediting *Higher Education Research at the Turn of the New Century: Structures, Issues, and Trends*, which surveyed key trends in the field, provided a benchmark for the field’s development at the time (Sadlak and Altbach 1997). Two volumes of my essays on comparative higher education themes also made a contribution to the development of the field (Altbach 1998, 2007c). My involvement as North American editor of *Higher Education*, the pioneering international research journal in the field, between 1975 and 1996, permitted further involvement with an emerging field. Editing several book series on international higher education between 1977 and the present—from 1977 to 1984 with Praeger Publishers, 1985 to 1994 with Pergamon, and from 2005 to the present with Sense Publishers—provided an opportunity to contribute key work on global higher education.

Globalization and all of its ramifications contributed to the remarkable growth of the field during my professional lifetime. In 1970, I prepared *Higher Education in Developing Countries: A Select Bibliography* for the Harvard Center for International Affairs—it included just 1,600 entries (Altbach 1970b). The research literature dramatically expanded soon after that. Also in the 1970s, I served

as secretary for several conferences organized by the International Council for Educational Development (ICED), an early effort chaired by James Perkins to bring together senior university and policy leaders to think about the international implications of higher education policy and practice. The ICED found, for example, that there was little knowledge available about higher education systems and commissioned a series of short books on higher education in a dozen or so countries. Annual ICED conferences also produced several volumes focusing on higher education in a comparative framework (Altbach 1975b). In 1977, the first comprehensive encyclopedia on international higher education, in ten volumes, was published (Knowles 1977). At the time that UNESCO, the World Bank, and other international agencies were beginning to take an interest in postsecondary education, my book *International Higher Education: An Encyclopedia* provided an additional contribution (Altbach 1991a).

Since 1995, the Boston College Center for International Higher Education (CIHE) has played a role in expanding the knowledge base of international higher education through its conferences, books, and especially through *International Higher Education*. The center's Web site has also been a source of information and research on higher education, with a special focus on developing countries. Through articles in *IHE* and with the research that the center has sponsored over the past two decades, key issues have been illustrated.

Globally, the field has dramatically expanded. Two publications, the *International Directory of Higher Education Research Institutions* (Altbach 1981a) and *Higher Education: A Worldwide Inventory of Centers and Programs* (Altbach et al. 2007), traced the status of the field at two different times and illustrate how the field has grown and how it has developed in many parts of the world. The expansion of research and policy centers and institutes focusing on higher education in the past several decades has been unprecedented, indicating the importance of higher education in the era of massification and the knowledge economy. We also traced the development of degree programs aimed at training practitioners and researchers in higher education. Here, growth has been spotty—with most of the programs existing in the United States and in China—although expanding significantly in other parts of the world as it becomes clear that academic institutions need professional managers. As a contribution to the professionalization of academic administration and training academic leaders, I edited *Leadership for World-Class Universities: Challenges for Developing Countries* (Altbach 2011). The focus of this book is on perspectives needed for academic leadership—such as governance, strategic planning, and fund raising and financial management.

Circulation and Distribution of Knowledge

Academics and researchers create knowledge through research and analysis. They seldom consider the complexities of knowledge distribution. I have been interested, both as a practical matter and as an important intellectual theme, in issues relating

to knowledge circulation and distribution throughout my career. Both editing and publishing—and efforts to understand how these complex phenomena take place in the modern world—are central.

I was interested in these issues even as a student. I was on the staff of the *Chicago Maroon*, the student newspaper at the University of Chicago, which provided valuable experience in writing and editing. I also worked at the *Economic and Political Weekly* in India, again providing useful editorial training. As a student, I wrote for a variety of publications on issues relating to student politics and movements (Altbach 1963c).

A commitment to scholarly journals led me to editorial positions, to several of the top journals in my fields of expertise. I served as associate editor of the *Comparative Education Review*, generally acknowledged as the premier journal in its field, for several years in the 1970s, while on the faculty at the University of Wisconsin. In 1978, I later became the editor of the journal and served in that capacity for a decade. During that period, I convinced the board of the Comparative and International Education Society (CIES) to move the *Review* to the University of Chicago Press, which provided professional publishing services, an arrangement that has been beneficial to both the journal and CIES for more than 40 years. The services of a professional publisher permitted the journal to transition easily to the digital age and provided valuable technical and financial services. While at Boston College, I served as editor of the *Review of Higher Education (RHE)*, one of the top-three higher education journals in the United States, from 1996 to 2004. Again, I brought the journal from a self-published entity into a relationship with the Johns Hopkins University Press, which now publishes the journal, again enhancing the journal's professionalism. *RHE* was an original participant in Project MUSE, Hopkins' pioneering electronic platform, which increased both the impact of the journal and its income as well. I was also one of the founding editors of *Educational Policy* in 1985, along with colleagues at the State University of New York at Buffalo. *EP*, now published by SAGE, is an ISI-listed publication.

The publication of books in emerging fields, such as comparative education and higher education, is also quite important for legitimizing the field and providing an outlet for original scholarship and analysis. While there has been a revolution in knowledge transmission as a result of the digital age, books and monographs remain central to the knowledge production process, although produced and distributed now in different ways. Starting the early 1970s and continuing through 2013, I have served as editor of a number of book series that I have created for several publishers. The first of these was a book series on comparative education for Praeger Publishers, at the time managed by its founder, the legendary Frederick A. Praeger, one of the pioneers of scholarly publishing in the United States. I continued with that series after Praeger Publishers was absorbed by Greenwood Press, which itself became part of Elsevier in a series of acquisitions that characterized publishing in the latter twentieth century. Soon after coming to the State University of New York at Buffalo, I established "Frontiers in Education" at the SUNY Press. That series published more than 40 volumes until SUNY Press closed it down in the 1990s. In an effort to provide visibility for some of the best doctoral dissertations, I established "Studies in Higher Education: Dissertation Series" with RoutledgeFalmer publishers. This

series was later expanded to include nondissertation research-based volumes—40 dissertations were published over a decade. Most recently, “Global Perspectives on Higher Education” was started with SENSE Publishers. In all, some 200 books were produced in these various series. These volumes helped to build the research literature in international higher education and comparative education and provided outlets for scholarship that might not have existed otherwise as these fields were becoming legitimized as ones for analysis and as the research base expanded rapidly. Books and journals, particularly when appearing with respected publishers and in recognized journals, are central to the development of fields of study, particularly when these fields are new and multidisciplinary.

Another effort to contribute to the development of the field of higher education studies was editing two reference handbooks. Both are two-volume compendiums of key themes and chapters dealing with regions and countries. The purpose of these volumes was to bring together key analysis and research. The first, *International Higher Education: An Encyclopedia*, was published in 1991 and contributed to the development of the field of higher education studies (Altbach 1991a). The second, *International Handbook of Higher Education*, coedited with James J.F. Forest, was published in 2006 (Forest and Altbach 2006).

Translations

Almost by definition, research and publication concerning international higher education will be of global interest. Thus, publication in the field deserves worldwide circulation in languages other than English. Although English is today’s main international language of scientific communication, it is not the only language, and many professionals and researchers in higher education do not have adequate fluency in English to access this scholarship. Many scholars prefer to read material in their own language. Assuming that the academic world is a monolingual English environment is not the case, even in a globalized environment.

I have paid careful attention to the translation and publication of my work into other languages and have had reasonable success in securing translated editions. *International Higher Education* appears in five languages. Many of the books I have written or edited have appeared in other languages including Spanish, French, Russian, Indonesian, Turkish, Japanese, and Arabic. Eighteen of my books have been translated into Chinese, several by Peking University Press and other leading Chinese publishers. The China Ocean University Press published a series of my books. Perhaps as a result of these translated editions, several master’s and doctoral dissertations have been written about my work in China.

In most cases, the translations were undertaken on a commercial basis by publishers. In other instances, agencies such as the World Bank or UNESCO have sponsored the translations. It is not always easy to arrange for translated editions. Western publishers, and particularly the large multinational firms, sometimes do not respond to requests for translations and in some instances ask for unrealistic fees for

translation rights. Generally, both publishers and authors either do not consider translations important or measure the value of other language editions in purely commercial terms. The fact is that in a globalized world, the academic community needs to seriously consider knowledge dissemination in multiple languages.

Academic Journalism

Most academics eschew writing for popular audiences and, indeed, criticize colleagues who do as “popularizers.” Indeed, there is often a price to be paid for interacting with the media. I have always thought that academics have a responsibility to communicate their ideas to a wider audience and to participate in public debate, a point emphasized by Ernest Boyer in *Scholarship Reconsidered* (Boyer 1997). By translating academic knowledge and research into language easily understood by a wider audience and disseminating ideas and perspective in places with a wider circulation, it is possible to contribute to policy debates and intellectual life. Having been trained to write in a journalistic style for the *Economic and Political Weekly* and for publications and newspapers during my student movement days, I was able to write brief articles that make a point. For most of my career I have contributed opinion pieces, book reviews, and other analysis for newspapers and magazines worldwide. For almost two decades, I have contributed op-ed articles to the *Hindu*, one of India’s main national newspapers, with a circulation in the millions. While in Buffalo, I wrote frequently for the *Buffalo News*. I have also published regularly in a Mexico City newspaper, *Milenio*, and for a time in the *Japan Times*, Japan’s main English-language daily. I have also contributed articles to such publications as the *South China Morning Post* (Hong Kong), *Clarín* (Buenos Aires), and *Vedimosti* (Moscow).

I also contribute regularly to the higher education press, globally. I write regularly for *Times Higher Education* (London) and serve on their editorial board. I also contribute to *University World News*, an Internet-based weekly news source, and other publications.

In 2010, the Center for International Higher Education, at the initiative of Liz Reisberg, started a blog for *Inside Higher Education*, the online US-based daily news publication. The “World View” blog features the work of a network of internationally recognized bloggers from around the world, who write on current international higher education issues. I contribute regularly to the blog. Our effort is to bring analysis of contemporary themes to a wide audience through the Internet.

The Analysis of Publishing and Knowledge Distribution

I realized early on that the publishing industry is intertwined with higher education and the process of knowledge distribution. Without publishers, knowledge cannot reach an audience. In the age of the Internet, traditional publishing has been

significantly changed, but the business of knowledge processing and distribution remains of great importance. I was first introduced to the complexities of publishing when my doctoral dissertation, *Student Politics in Bombay* (Altbach 1968a), was published in India by the leading social science publisher of the day, Asia Publishing House. I was able to participate in the publishing process in the Indian context.

Publishers, journal editors, and others are key parts of knowledge networks everywhere. They are gatekeepers of knowledge and decide, through their publishing choices, what becomes “legitimate knowledge.” Understanding the nature of publishing, editing, and knowledge distribution has significant implications for higher education and for scientific development (Altbach and Hoshino 1995). Publishers and journals in the developed countries traditionally controlled the key knowledge networks globally—with the gatekeepers in the top universities and prestigious publishing houses especially powerful. Researchers in developing countries are at a special disadvantage in this unequal relationship. *The Knowledge Context: Comparative Perspectives on the Distribution of Knowledge* provides an overview of many of the key issues (Altbach 1987).

Knowledge networks became increasingly complex in the latter years of the twentieth century, when multinational firms, such as Elsevier and Springer, purchased or established large numbers of journals and often raised prices for them. The advent of the digital age made things even more complicated and introduced new means of journal and book production and distribution, as well as possibilities for “open access” scholarship of many different kinds. The traditional publishers, with some difficulty, were able to cope with the new technologies. In addition, many new players have joined the system, creating journals and publishing books without regard to quality in order to earn profits.

Some of these new “publishers” have established hundreds of new journals and often charge authors to publish their articles with no review process. These publications are not taken seriously by the academic community but may confuse potential authors. Similarly, some book publishers publish doctoral dissertations and other works without regard to the quality of the product, do not provide editing or evaluation, and hope that a few unsuspecting libraries may purchase the volume. Digital technology and “print on demand” facilitate innovation, but technological advance does not always work to the benefit of the scientific community. Knowledge networks are increasingly confused.

India was, and remains, one of the largest publishers of books in English in the world, yet Indian publishers, even now, are not part of the global knowledge network. Further, many multinational publishers operate in India. Over the past several decades, India has become a center for editing and book and journal preparation, including copyediting, computer-based composing, and many of the “back-office” elements of publishing. My book, *Publishing in India: An Analysis* (Altbach 1975a), was the first full-scale discussion of Indian publishing.

Some of the largest and most prestigious publishers in India were, and remain, branches of large multinational firms, although with considerable autonomy. Indian-owned publishers tend, with a few notable exceptions, to be small and have problems sustaining themselves in a competitive marketplace. Publishing in Indian languages

tends to lag behind English-language publishing, to the detriment of possibilities for new journals and other printed products. As literacy increased and a middle class emerged that supported regional languages, a market for books and other publications in these languages emerged. India, with its large internal market, has a more vibrant publishing industry than most developing countries.

In an effort to assist publishing in Africa in particular and in developing countries generally, the Bellagio Publishing Network was established with the assistance of the Rockefeller Foundation. For a decade in the 1990s, I directed the Network that, in collaboration with the African Books Collective, published more than a dozen volumes of research and commentary on publishing and book distribution in Africa and the developing world. The purpose of these volumes was to assist publishers and others involved in book development to improve practice and understand the complexities of global publishing realities. Volumes dealing with copyright, feminist publishing, African publishing, journal publishing, and others appeared in “Bellagio Studies in Publishing.” One of the key books in this series was *Publishing and Development in the Third World* (Altbach 1992). Our guide to publishing and development was also among the useful books published (Altbach and Teferra 1998). We also published *Bellagio Publishing Newsletter* quarterly, highlighting information and analysis concerning publishing issues in the context of developing countries.

Linking the practical aspects of publishing and knowledge distribution, such as the nurturing of journals in developing countries, is quite important. Research and analysis concerning publishing, knowledge distribution, and related themes, particularly as they affect higher education, is quite limited (Altbach 1985c). Now, in the digital age, understanding how journals and other aspects of knowledge distribution work is even more complex—and perhaps even more important in a globalized world.

Neocolonialism and Centers and Peripheries

Stemming from the more ideologically based scholarship of the 1960s, the realities of the Cold War, and research on higher education in developing countries, in the 1970s I wrote about the complex relationships between the developing countries of the Third World (as it was called then) and the industrialized nations (Altbach 1971). An influential article, “Servitude of the Mind? Education, Dependency, and Neocolonialism,” was published in 1977 (Altbach 1977), which argued that educational relations and by implication other intellectual and political relations between the developing and industrialized nations were highly unequal and that these inequalities were the result of “natural” imbalances in wealth and academic strength on the one hand and of specific policies by the rich countries to maintain their influence—neocolonialism—on the other. Research on publishing and knowledge distribution in India contributed to this line of analysis—relating the various book and publishing programs financed by the Cold War powers in India, with the aim of influencing

opinion and perspectives, as well as other education initiatives. This article was one of the first that sought to tie natural inequalities to specific national policies and also to the politics of the Cold War. A broader analysis was provided in our edited volume, *Education and the Colonial Experience* (Altbach and Kelly 1984) and the earlier *Education and Colonialism*, both of which had some influence on the debates at the time (Altbach and Kelly 1978).

By linking center-periphery realities with specific policies of governments, it was possible to analyze the various forces influencing higher education and knowledge communication realities in developing countries. While center-periphery analysis was by no means a new tool, applying it to higher education and knowledge communication was original (Altbach 1981b, 1985a; Shils 1975). The larger developed nations—especially those that use English—tend to be most influential in terms of their academic institutions, the production of scientific knowledge in all fields, and editing and publishing influential journals. These countries host the large majority of international students. Their academic institutions tend to be most influential. In the twenty-first century, they dominate the Internet. Countries at the periphery tend to gravitate to one or more centers. Their universities are less influential and in recent decades do not score at the top of the global rankings of academic institutions (Altbach 2012). By applying the insights of the center periphery, it is possible to analyze the inequalities that are evident in global higher education.

Centrality is based on a variety of factors. Among them are language—using world languages in higher education and publishing, especially English, is of significance—the size of the academic system, a history of academic influence (the former colonial powers are at a considerable advantage), wealth and well-developed academic infrastructures, and others.

In the postcolonial world, it is possible to overcome peripherality. Japan, in the years following World War II, has built a powerful and influential academic system, which does not use English. But it struggles with ways to be recognized globally. More recently, China has made considerable strides to join the front ranks of the top global academic systems (Altbach 2009). Even small countries, such as Singapore, have joined the ranks of mature academic systems. Nonetheless, they are still part of the international knowledge system, in which the major and largely English-using academic “powers” dominate.

Dependency, which takes its analytical roots from Marxist thought, argues that higher education institutions in developing countries are structurally dependent on the former colonial powers and other developed nations, because of the realities of global capitalism and the specific policies of the governments and multinational corporations of these countries. Developing countries find it difficult to break with these structures.

During the Cold War, the policies of the major protagonists (the United States and the Soviet Union) included many initiatives aimed at influencing higher education, intellectual life, publishing, and other aspects of culture and education. The “battle for hearts and minds” was very much part of the agenda. Further, in the period immediately following the end of colonialism, many of the former colonial powers were seen as trying to maintain their influence over their former colonies.

The term neocolonialism has been used to define the many initiatives that governments have used to gain, maintain, or enhance their influence abroad. While the term is mainly used as a critique of policies, careful analysis of specific instances may yield a more-balanced evaluation.

There are many examples of programs that may be referred to as neocolonialism by some analysts but as “foreign assistance” by others. Programs to translate university textbooks for developing countries, for example, can be evaluated in different ways (Altbach 1985b). The main scholarship programs sponsored by the American Fulbright program, the German DAAD, the British Council, and many others can also be analyzed in different ways. The Confucius Institutes, sponsored by the Chinese government, can be seen as “soft power diplomacy” or as efforts at neocolonialism.

With the end of the Cold War, governmental efforts to influence education and culture in other countries have slowed, but commercial interests have become the key elements. Multinational corporations in the knowledge business, such as publishers and information technology firms, play a key role in influencing developing and peripheral countries. Countries and academic institutions seek to expand their number of international students in large part to earn income from these students, but at the same time international student flows have cultural and educational implications.

If anything, globalization and information technology have led to increased international higher education relationships of many different kinds. What was once a matter of government policy and an aspect of the political struggles of the Cold War has become a much more complex phenomenon that is central to the realities of the twenty-first century.

Global Trends: Massification, Systems, and the Knowledge Economy

I have argued that the driving force and dominating reality of contemporary higher education is massification—the dramatic expansion of enrollments that began in Europe in the 1960s and has since spread worldwide (Altbach 1999; Altbach et al. 2009). Only North America was educating more than 30 % of its age cohort at the mid-twentieth century. Enrollments expanded dramatically, reaching 200 million by 2012. Huge inequalities in access continue—with much of Africa enrolling under 10 % of the age group, while most of the industrialized countries educate 60 % or more of their young people. The two largest higher education systems in the world, China and India, respectively, enrolled 22 and 13 % of the age group in 2012; and both have plans to expand access significantly (Altbach et al. 2009).

The implications of massification are fundamental. Among them is the rise of the private sector. Private higher education is the fastest-growing part of postsecondary education; increasing inequalities in academic systems as the bottom of the system seeks to provide access while the top is increasingly selective. These factors have

led to a likely overall deterioration of standards at the bottom, severe fiscal constraints, stress on the academic profession, and other problems (Altbach 1999). All countries are affected by massification, although they move through the process from elite to mass and then to universal access to higher education at different rates and with somewhat different implications (Trow 2006).

Massification has also contributed to growing inequalities in academic systems worldwide. Mass access at the bottom of the system has resulted in a proliferation of relatively modest or poor-quality postsecondary institutions. At the same time, the demands of an increasingly sophisticated global knowledge economy have created increasingly selective and high-quality universities at the top of the system.

One of the results of massification has been the growth of the private sector, much of it for-profit, globally. Indeed, private higher education is the fastest-growing part of higher education in the world. Parts of the world that were at one time dominated by public universities now have a majority of their students in private institutions—including most of Latin America, Indonesia, and some others. Much of the new private sector is for-profit. Most private postsecondary institutions are “demand absorbing” and of relatively low quality, although there is a small but growing sector of high-quality private universities (Altbach 2000). This emerging sector requires careful quality-assurance systems, and many developing countries have only limited capacity to supervise the private sector.

The advent of the knowledge economy has also created a demand for internationally linked high-quality research universities—a phenomenon discussed in the next section. As seemingly contradictory trends, for mass access at the bottom and elite institutions at the top, has led in many countries to the creation of academic systems having differentiated institutions with specific mission and foci. Indeed, such differentiation is necessary for a country to serve the increasingly diverse student population.

At the same time that massification was transforming higher education, through massive increases in enrollments and the manifold challenges that entailed, a global knowledge economy emerged that placed emphasis on the “top” of the higher education system—universities and other institutions with the infrastructures and capabilities to deal with a globalized economy and the research and training needs of highly qualified professionals. These elite institutions often hire staff from an international labor market and educate students from many countries.

Massification and the global knowledge economy necessitated the differentiation of academic institutions and in many countries the creation of academic systems with institutions serving different missions and societal needs (Altbach 1999; Task Force on Higher Education and Society 2000). In many countries, there were typically binary academic systems, with nonuniversity and mainly vocational institutions in one category, and universities, all of which had a significant research mission, in another. In a mass higher education environment and in more complex economies, more kinds of academic institutions were needed to serve different purposes—a differentiated academic system. Such systems necessarily include a small number of research universities at the top

but also larger numbers of universities focusing on teaching and perhaps more vocational in orientation, nonuniversity postsecondary institutions, and specialized schools, as well. An example of such a system is the public higher education arrangement in California, but there are many other examples. Despite the logic of such systems, it has been quite difficult for many countries to create them. Historical traditions, competing interests, dispersed policy authority, and other factors present significant obstacles.

Research Universities and Development

Universities, through their research, teaching, and service, have long been responsible for development as well as education for centuries. Universities in developing countries and emerging economies play key roles in national development (Altbach 1989b). *Scientific Development and Higher Education: The Case of Newly Industrializing Nations* was an early effort to analyze the role that universities can play in emerging research cultures. Cases from South Korea, Malaysia, Singapore, and Taiwan were presented in an effort to understand how research cultures in universities can be created (Altbach et al. 1989).

Research universities stand at the pinnacle of any academic system. Since the research university was developed by Wilhelm von Humboldt at the beginning of the nineteenth century in Germany, the institution has continued to evolve. The American version added the idea of service to society to the original Humboldtian model. They are the main producers of knowledge and link most directly to international knowledge networks. These institutions educate most of the academic profession, and produce most of the research, including both basic and applied. Although research universities constitute only a small part of most contemporary academic systems, they are of great importance (Altbach and Salmi 2011; Salmi 2009). The role of these key institutions consists of special importance in developing and emerging economies—and is often poorly understood as well (Altbach and Balán 2007). I have argued that most countries require at least one research university—particularly developing countries—in order to participate in the global knowledge economy, to bring relevant research to the nation, and to educate the “best and brightest” in the home country (Altbach 2007b).

Building and sustaining research universities are complex. They require larger expenditures than teaching-focused institutions. Their academic staff must be highly qualified and internationally linked. Students must also be carefully selected. These institutions will inevitably do a significant part of their work in English—the global academic medium—even if they do not offer teaching in English (Altbach 2007a). Creating “world-class” research universities is not an easy task in any country and is particularly daunting in developing and emerging economies. Among the challenges are creating an appropriate academic culture, sustained financial support, effective governance, and others (Salmi 2009).

Globalization and Internationalization

Universities have always been international institutions. In the medieval period, Latin was the common language of instruction and scholarship among European universities. Both students and professors came from many countries. The contemporary period has seen the expansion of the international nature of higher education in unprecedented ways. Further, globalization has brought the international role of universities to prominence and has greatly expanded the scope of campus internationalization. The traditional mobility of students has expanded to include widespread faculty mobility and the creation of a global academic profession. Branch campuses, cross-border initiatives, and twinning arrangements have greatly expanded the institutional reach of institutions (Altbach 2007c; Altbach and Knight 2007; Altbach and Teichler 2001). Student and faculty mobility was and, to some extent, remain the core of international academic relations (Altbach 1986; Altbach et al. 1985). Push and pull factors relating to global student mobility were identified in an effort to explain why students chose to study abroad—and what the consequences of the experience meant. Themes such as the “brain drain” and the common choices of students to link study abroad to migration are central to understanding what is by the twenty-first century a common phenomenon.

An element of globalization has been the establishment of international rankings of universities (Altbach 2012). The two major somewhat reliable rankings, the Academic Ranking of World Universities at the Shanghai Jiao Tong University and the *Times Higher Education* rankings, focus mainly or exclusively on research productivity and ignore other key parts of the work of universities. Further, because of their methodologies, they privilege academic institutions in the developed world. Few developing country or emerging economy universities are high in the rankings. Yet, the rankings play a significant role in determining which universities are most prestigious and at the “center” of the academic universe.

My perspective on globalization and internationalization is to analyze this phenomenon, at least in part, from the perspectives of the developing world and to point the inherent inequalities evident in many aspects of international academic relations (Altbach 2004). This analysis is directly related to linking globalization to center-periphery relationships and even to elements of dependency. Developing countries not only lack the funds necessary to compete at the top levels of science, but their universities generally lack the required infrastructure. The academic profession may not have the required training. In short, the global “playing field” is far from equal. Many authors simply point to the positive aspects of international academic relations—a wider perspective is needed.

The Academic Profession

Without a well-educated and committed academic profession, quality is impossible in higher education. Analyzing the academic profession has been a continuing research interest, in part because of the centrality of the professoriate. I have had a

special focus on developing countries. Massification has contributed to the expansion and also to the deterioration of working conditions for the professoriate in much of the world and particularly in many developing countries (Altbach 2003). Yet, as we found in the first international study of the attitudes of academics in 14 countries, undertaken by the Carnegie Foundation for the Advancement of Teaching in 1995, academics in most countries remained fairly positive about their profession (Altbach 1997b). We later looked at academic salaries, contracts, and careers in 28 countries in *Paying the Professoriate* (Altbach et al. 2012). That research found significant variations in salary levels among the case-study countries and glaring inequalities both within nations and among them. Clearly, countries at the bottom of the salary rankings will have a difficult time building top-quality research universities. Research on the academic profession in China and India found significant variations in the world's two largest academic systems, although surprisingly academic salaries are higher in India than in China (Altbach and Jayaram 2006).

As with higher education trends, generally, the academic profession has become more differentiated. A small elite in almost every country is part of a global academic labor market. These academics produce most of the published research, hold doctoral degrees (in much of the world the majority of academics do not have doctorates), and tend to be globally mobile. While it is increasingly difficult to attract the “best and brightest” to the academic profession in all countries, working conditions and salaries tend to be better for this small elite, although even among this group there has been a deterioration. For much of the profession globally, salaries and conditions of work leave much to be desired. Academics are increasingly employed part time and have little or no security of tenure.

Almost everywhere, academics have lost power and authority in the management of postsecondary institutions. Universities have become large bureaucracies and the sense of academic community that existed in many institutions has been weakened. The concept of shared governance, which had traditionally been widely accepted among the better American colleges and universities, has been weakened in many of them, and power has shifted to administrators. The European tradition of domination by senior professors was weakened during the student revolts of the 1960s and no longer seems to be effective in the era of massification. Politics has intervened in academic affairs in some developing countries (Altbach 2003). The twentieth century saw the professionalization of the academic profession and the rise of faculty power. The twenty-first century, despite the increased importance of the academic profession in delivering higher education to the masses and at the same time functioning key players in the global knowledge economy, seems to be marked by a weakening of the professorial role.

Conclusion

For more than half a century, I have been fascinated by the academic enterprise. I was convinced early on that postsecondary education is not only an interesting field of research but is a central part of modern society. Based on my graduate training as

well as on experience, I took on specific elements of higher education for research and study over time. Students, the academic profession, the role of the university in society, the process of knowledge creation and transmission, and the research university have been at the core of my research foci over time. I was especially interested in these phenomena in the context of developing countries—seeking to illustrate the inequalities that exist in global higher education (Altbach 1989b).

Key developing countries that had been peripheral in global higher education, most notably China and India, became major parts of the global higher education system (Altbach 2009). The BRIC countries have taken their places as key academic powers globally (Altbach et al. 2013).

Globalization caught up with me at the end of the twentieth century, when many of the themes that I had been researching, such as global student and faculty mobility, suddenly hit the front pages of newspapers and, in keeping with the rise of the Internet, the subject of Web sites. The perspective of center-periphery analysis lent itself well to understanding higher education globalization. International higher education moved from the concerns of a few specialists to a topic of wide interest and of growing policy relevance. *International Higher Education* and the various research projects and books, with which I have been associated over time, have illustrated some of the key issues facing higher education in a globalized world and have attracted more interest as a result of the centrality of the global higher education involvement.

Acknowledgments Thanks to Edith Hoshino Altbach for careful editing and to Liz Reisberg for editorial suggestions.

References

- Agarwal, P. (Ed.). (2012). *A half-century of Indian higher education: Essays by Philip G. Altbach*. New Delhi: Sage.
- Altbach, P. G. (1963a, October). James B. Conant: Educator. *Phi Delta Kappan*, 45, 11–12.
- Altbach, P. G. (1963b, October). Japanese students and Japanese politics. *Comparative Education Review*, 7, 181–189.
- Altbach, P. G. (1963c, August 5). The quiet campus. *New Leader*, 12–14.
- Altbach, P. G. (1965, July 27). The Bombay naval mutiny. *Opinion*, 6, 40–45.
- Altbach, P. G. (1966, June). Students and politics. *Comparative Education Review*, 10, 17–87.
- Altbach, P. G. (1968a). *Student politics in Bombay*. Bombay: Asia Publishing House.
- Altbach, P. G. (1968b, Winter). Student politics and higher education in India. *Daedalus*, 97, 254–273.
- Altbach, P. G. (1968c). *Turmoil and transition: Higher education and student politics in India*. New York/Bombay: Basic Books/Lalvani Publishing House.
- Altbach, E. H. (1969). Vanguard of revolt: Students and politics in Central Europe, 1815–1848. In S. M. Lipset & P. G. Altbach (Eds.), *Students in revolt* (pp. 451–474). Boston: Houghton Mifflin.
- Altbach, P. G. (1970a, October). Bombay colleges. *Minerva*, 8, 520–540.
- Altbach, P. G. (1970b). *Higher education in developing countries: A select bibliography*. Cambridge, MA: Center for International Affairs, Harvard University.

- Altbach, P. G. (1970c). The international student movement. *Journal of Contemporary History*, 5(1), 156–174.
- Altbach, P. G. (1970d). *A select bibliography on students, politics and higher education*. Cambridge, MA: Center for International Affairs, Harvard University.
- Altbach, P. G. (1970e, March). Student movements in historical perspective: The Asian case. *Youth and Society*, 1, 333–357.
- Altbach, P. G. (1971, May). Education and neocolonialism. *Teachers College Record*, 72, 543–558.
- Altbach, P. G. (1972). *The university in transition: An Indian case study*. Cambridge, MA/Bombay: Schenkman/Lalvani Publishing House.
- Altbach, P. G. (1973, December). The National Student Association in the fifties: Flawed conscience of the silent generation. *Youth and Society*, 5, 184–211.
- Altbach, P. G. (1975a). *Publishing in India: An analysis*. Delhi: Oxford University Press.
- Altbach, P. G. (Ed.). (1975b). *The university's response to societal demands*. New York: International Council for Educational Development.
- Altbach, P. G. (1977, December). Servitude of the mind? Education, dependency and neocolonialism. *Teachers College Record*, 79, 197–204.
- Altbach, P. G. (1979). Book publishing in a developing regional culture: The case of Maharashtra, India. *International Social Science Journal*, 31(2), 328–340.
- Altbach, P. G. (1981a). *International directory of higher education research institutions*. Paris: UNESCO.
- Altbach, P. G. (1981b, Summer). The university as center and periphery. *Teachers College Record*, 82, 601–621.
- Altbach, P. G. (1984, November). Student politics in the Third World. *Higher Education*, 13, 635–655.
- Altbach, P. G. (1985a). Center and periphery in knowledge distribution: The case of India. *International Social Science Journal*, 37(1), 109–118.
- Altbach, P. G. (1985b). *Publishing in the Third World: Knowledge and development*. Portsmouth: Heinemann.
- Altbach, P. G. (1985c, April). The role and nurturing of journals in the Third World. *Scholarly Publishing*, 16, 211–222.
- Altbach, P. G. (1986, Summer). The foreign student dilemma. *Teachers College Record*, 87, 589–610.
- Altbach, P. G. (1987). *The knowledge context: Comparative perspectives on the distribution of knowledge*. Albany: State University of New York Press.
- Altbach, P. G. (Ed.). (1989a). *Student political activism: An international reference handbook*. New York: Greenwood.
- Altbach, P. G. (1989b). Twisted roots: The Western impact on Asian higher education. *Higher Education*, 18(1), 9–29.
- Altbach, P. G. (Ed.). (1991a). *International higher education: An encyclopedia* (2 Vols.). New York: Garland.
- Altbach, P. G. (1991b, August). Trends in comparative education. *Comparative Education Review*, 35, 491–507.
- Altbach, P. G. (Ed.). (1992). *Publishing and development in the Third World*. Oxford: Hans Zell Publishers.
- Altbach, P. G. (Ed.). (1997a). *Edward Shils: The order of learning: Essays on the contemporary university*. New Brunswick: Transaction.
- Altbach, P. G. (Ed.). (1997b). *The international academic profession: Portraits from twelve countries*. Princeton: Carnegie Foundation.
- Altbach, P. G. (1997c). Research on higher education: Global perspectives. In J. Sadlak & P. G. Altbach (Eds.), *Higher education research at the turn of the new century: Structures, implications, and trends* (pp. 4–23). New York: Garland.
- Altbach, P. G. (1997d). *Student politics in America: A historical analysis*. New Brunswick: Transaction. (Originally published in 1974)

- Altbach, P. G. (1998). *Comparative higher education*. Norwood: Ablex.
- Altbach, P. G. (1999, Spring). The logic of mass higher education. *Tertiary Education and Management*, 10, 107–124.
- Altbach, P. G. (Ed.). (2000). *Private Prometheus: Private higher education and development in the 21st century*. Greenwich: Greenwood.
- Altbach, P. G. (Ed.). (2003). *The decline of the guru: The academic profession in middle-income and developing countries*. New York: Palgrave.
- Altbach, P. G. (2004). Globalization and the university: Myths and realities in an unequal world. *Tertiary Education and Management*, 10(1), 3–25.
- Altbach, P. G. (2006, August). Tiny at the top. *Wilson Quarterly*, 49–51
- Altbach, P. G. (2007a, September 8). The imperial tongue: English as the dominating academic language. *Economic and Political Weekly*, 3608–3611.
- Altbach, P. G. (2007b). Peripheries and centers: Research universities in developing countries. *Higher Education Management and Policy*, 19(2), 1–23.
- Altbach, P. G. (2007c). *Tradition and transition: The international imperative in higher education*. Rotterdam: Sense Publishers.
- Altbach, P. G. (2009). One-third of the globe: The future of higher education in China and India. *Prospects*, 15–27.
- Altbach, P. G. (Ed.). (2011). *Leadership for world-class universities: Challenges for developing countries*. New York/London: Routledge.
- Altbach, P. G. (2012, January–February). The globalization of college and university rankings. *Change*, 26–31.
- Altbach, P. G., & Balán, J. (Eds.). (2007). *World class worldwide: Transforming research universities in Asia and Latin America*. Baltimore: Johns Hopkins University Press.
- Altbach, P. G., & Hoshino, E. S. (1995). *International book publishing: An encyclopedia*. New York: Garland.
- Altbach, P. G., & Jayaram, N. (2006, October). Confucius and the guru: The changing status of the academic profession in China and India. *Journal of Educational Planning and Administration*, 20, 395–410.
- Altbach, P. G., & Kelly, G. P. (Eds.). (1978). *Education and colonialism*. New York: David McKay.
- Altbach, P. G., & Kelly, G. P. (Eds.). (1984). *Education and the colonial experience*. New Brunswick: Transaction.
- Altbach, P. G., & Kelly, G. P. (Eds.). (1986a, February). Comparative education: Challenge and response. *Comparative Education Review*, 30, 89–107.
- Altbach, P. G., & Kelly, G. P. (Eds.). (1986b). *New approaches to comparative education*. Chicago: University of Chicago Press.
- Altbach, P. G., & Knight, J. (2007, Fall–Winter). The internationalization of higher education: Motivations and realities. *Journal of Studies in International Education*, 11(3–4), 274–290.
- Altbach, P. G., & Salmi, J. (Eds.). (2011). *The road to academic excellence: The making of world-class research universities*. Washington, DC: World Bank.
- Altbach, P. G., & Teferra, D. (Eds.). (1998). *Publishing and development: A book of readings*. New Delhi: Vistaar.
- Altbach, P. G., & Teichler, U. (2001). Internationalization and exchanges in a globalized university. *Journal of Studies in International Education*, 5(1), 5–25.
- Altbach, P. G., & Umakoshi, T. (Eds.). (2004). *Asian universities: Historical perspectives and contemporary challenges*. Baltimore: Johns Hopkins University Press.
- Altbach, P. G., & Uphoff, N. (1973). *The student internationals*. Metuchen: Scarecrow Press.
- Altbach, P. G., Laufer, R. S., & McVey, S. (Eds.). (1971). *Academic supermarkets: A critical case study of a multiversity*. San Francisco: Jossey-Bass.
- Altbach, P. G., Arnove, R., & Kelly, G. P. (Eds.). (1982). *Comparative education*. New York: Macmillan.
- Altbach, P. G., Kelly, D. H., & Lulat, Y. G. M. (1985). *Research on foreign students and international study: An overview and bibliography*. New York: Praeger.

- Altbach, P. G., Davis, C. H., Eisemon, T. O., Gopinathan, S., Steve Hsieh, J., Lee, S., Fong, P. E., & Singh, J. S. (1989). *Scientific development and higher education: The case of newly industrializing nations*. New York: Praeger.
- Altbach, P. G., Bozeman, L. A., Janashia, N., & Rumbley, L. E. (2007). *Higher education: A worldwide inventory of centers and programs*. Rotterdam: Sense Publishers.
- Altbach, P. G., Reisberg, L., & Rumbley, L. E. (2009). *Trends in global higher education: Tracking an academic revolution*. Rotterdam: Sense Publishers.
- Altbach, P. G., Gumpert, P., & Berdahl, R. O. (Eds.). (2011). *American higher education in the 21st century*. Baltimore: Johns Hopkins University Press.
- Altbach, P. G., Reisberg, L., Yudkevich, M., Androushchak, G., & Pacheco, I. F. (Eds.). (2012). *Paying the professoriate: A global comparison of compensation and contracts*. New York: Routledge.
- Altbach, P. G., Androushchak, G., Kuzminov, Y., Yudkevich, M., & Reisberg, L. (Eds.). (2013). *The global future of higher education and the academic profession: The BRICs and the United States*. New York: Palgrave-Macmillan.
- Arnove, R., Altbach, P. G., & Kelly, G. P. (Eds.). (1992). *Emergent issues in education: Comparative perspectives*. Albany: State University of New York Press.
- Boyer, E. L. (1997). *Scholarship reconsidered: Priorities for the professoriate*. Princeton: Carnegie Foundation for the Advancement of Teaching.
- Chitnis, S., & Altbach, P. G. (Eds.). (1979). *The Indian academic profession: Crisis and change in the teaching community*. Delhi: Macmillan.
- Chitnis, S., & Altbach, P. G. (Eds.). (1993). *Higher education reform in India: Experience and perspectives*. New Delhi: Sage.
- DeBenedetti, C. (1990). *An American ordeal: The antiwar movement of the Vietnam era*. Syracuse: Syracuse University Press.
- Forest, J. J. F., & Altbach, P. G. (Eds.). (2006). *International handbook of higher education* (2 Vols.). Dordrecht: Springer.
- Gitlin, T. (1993). *The sixties: Years of hope, days of rage*. New York: Bantam.
- Knowles, A. (Ed.). (1977). *International encyclopedia of higher education*. San Francisco: Jossey-Bass.
- Lipset, S. M., & Altbach, P. G. (Eds.). (1967). *Students in revolt*. New York: Houghton Mifflin.
- Miles, B. (2006). *Peace: 50 years of protest*. Pleasantville: Reader's Digest.
- Sadlak, J., & Altbach, P. G. (Eds.). (1997). *Higher education research at the turn of the new century: Structures, implications, and trends*. New York: Garland.
- Salmi, J. (2009). *The challenge of establishing world-class universities*. Washington, DC: World Bank.
- Shils, E. (1975). *Center and periphery: Essays in macrosociology*. Chicago: University of Chicago Press.
- Singh, A., & Altbach, P. G. (Eds.). (1974). *The higher learning in India*. Delhi: Vikas Publishing House.
- Stern, S. (1967, March). CIA: NSA—A short account of international student politics and the Cold War. *Ramparts*, 5, 29–39.
- Task Force on Higher Education and Society. (2000). *Higher education in developing countries: Peril and promise*. Washington, DC: World Bank.
- Teferra, D., & Altbach, P. G. (Eds.). (2002). *African higher education: An international reference handbook*. Bloomington: Indiana University Press.
- Trow, M. (2006). Part 1: Reflections on the transition from elite to mass to universal access: Forms and phases of higher education in modern societies since World War II. In J. J. F. Forest & P. G. Altbach (Eds.), *International handbook of higher education* (pp. 243–280). Dordrecht: Springer.

Chapter 2

Advancing an Intersectionality Framework in Higher Education: Power and Latino Postsecondary Opportunity

Anne-Marie Núñez

The racial/ethnic diversity of the US population has increased significantly in the past decades. The Latino population has grown at an especially high rate, with Latinos becoming the largest non-White population as of 2000 and expected to double as a share of the population from 16 % in the year 2010 to 30 % by 2050 (Pew Hispanic Center 2008). Latinos' college enrollment and degree attainment, however, has not kept pace with their growth in the population. Although they constitute the largest, fastest-growing, and youngest segment of the population, Latinos continue to have the lowest postsecondary attainment among large racial/ethnic groups (e.g., Contreras 2011). Therefore, diverse agencies such as the American Enterprise Institute (Kelly et al. 2010) and President Obama's administration (US Department of Education 2011) have agreed that increasing Latino postsecondary attainment is essential to sustain the economic and social well-being of US residents.

That Latinos' postsecondary attainment continues to be lower relative to their representation in the population constitutes a social inequity that some have termed an educational crisis (Gándara and Contreras 2009). Understanding how postsecondary institutional practices and policies positively and negatively shape Latino college students' outcomes is essential to transforming this inequitable situation (e.g., Bensimon and Malcom 2012; Hurtado et al. 2012; Solórzano et al. 2005). Fortunately, much higher education research has been conducted, particularly in the past two decades, to address Latino higher education access and success (e.g., Contreras 2011; Núñez et al. 2013). Higher education access and success as defined in this research synthesis includes longitudinal outcomes ranging across the areas of college preparation, enrollment, achievement, and attainment (Perna and Thomas 2008).

A.-M. Núñez, Ph.D. (✉)
Educational Leadership and Policy Studies, University of Texas at San Antonio,
One UTSA Circle, San Antonio, TX 78249-0654, USA
e-mail: annemarie.nunez@utsa.edu

Purpose of the Research Synthesis

One of the aspects that make studying Latino postsecondary access and success challenging is the variation among Latinos in social categories including, but not limited to, (a) nation of origin, (b) immigrant status, (c) class, (d) gender, (e) sexuality, (f) religion, and (g) language fluency (e.g., Núñez et al. 2013; Torres 2004). When considering various social categories, Latinos are arguably the most diverse group among racial/ethnic groups in the USA (Tyler et al. 2008). As Latinos continue to outpace other racial/ethnic groups in the general population and the youth population growth, it is becoming more critical for higher education researchers to attend to variations among Latinos according to multiple social identity categories with respect to college access and success and how different social contexts shape access and success (Covarrubias 2011; Núñez et al. 2013; Ruiz Alvarado and Hurtado 2013). This task is important not only to enhance our understanding of Latinos' experiences in higher education, but also to inform practices and policies to promote Latino college access and success.

In this research synthesis, I review current education literature that addresses questions of how multiple social identities and societal contexts shape Latino college access and success. I argue that the conceptual lens of intersectionality—first developed in legal studies (Crenshaw 1991) and subsequently applied in fields as diverse as feminist studies, sociology, and political science (Cho et al. 2013)—provides a useful conceptual approach to guide inquiry about how variation in social identities and societal contexts constrains or supports Latino college access and success. The concept of intersectionality originated in Critical Race Feminist legal scholarship on how the status of women is shaped simultaneously by their status as women and as racial/ethnic minorities (e.g., Crenshaw 1991). Around this time, Patricia Hill Collins (1990) advanced an intersectional perspective in sociology and feminist studies as a lens for recognizing that individuals could simultaneously hold marginalized and privileged identities and that both kinds of identities could be salient in the process of navigating various social contexts and systems of interlocking oppression, such as those of racism and sexism.

An intersectionality approach recognizes a “matrix of domination” (Collins 1990) of broader interlocking systems of power and oppression—including racism, sexism, classism, nativism, and others—that play out in higher education institutions (Smith 2009). In this research synthesis, I review literature from both higher education and other disciplines that has employed intersectionality. I explore intersectionality as a perspective that has informed higher education research and identify limitations in its application to higher education research. I relate these limitations to other conversations taking place in disciplines, such as legal studies, feminist studies, and sociology, about intersectionality's capacity to study how interlocking systems of power and privilege influence the life chances of those from historically underserved groups in society (e.g., Anthias 2013; Bonilla-Silva 2013; Cho et al. 2013).

Following Cooper (1988), one goal of this research synthesis is to use intersectionality as a guiding conceptual framework to integrate the research literature on Latinos that addresses the role of multiple social identities and societal contexts of

power, privilege, and marginalization that contribute to reproduction of educational inequities. A related goal of this synthesis is to explore how and to what extent this literature accounts for dynamics of privilege and oppression that shape such inequities. Accordingly, I draw on multidisciplinary literature about intersectionality to critique existing higher education literature with respect to addressing dynamics of privilege and oppression that enhance or limit Latino college access and success. Drawing on this body of literature about intersectionality, I also propose a more expansive conceptual framework for addressing societal power dynamics in higher education. The central question guiding this research synthesis is: How can higher education research be expanded to incorporate attention to interlocking systems of oppression that contribute to social reproduction of inequities in postsecondary educational outcomes, particularly in the case of Latinos?

I begin this chapter by discussing the approach to the research synthesis. I continue with a discussion of the conceptual lens of intersectionality, including its intellectual background, definitions, and limitations as identified in other fields. Subsequently, I discuss how intersectionality has been applied in higher education research and its limitations, which reflect the limitations of the application of intersectionality as identified in other disciplines. This discussion entails addressing how the concept of power has been understudied and underspecified in higher education (Pusser and Marginson 2012). Having limited conceptual tools to study higher education societal, institutional, or organizational power dynamics engenders a condition in research that makes it all too easy to study the role of individuals, rather than institutions, in creating inequities and to ascribe inequities in educational outcomes not to inequities in educational opportunities or the practices that perpetuate these inequities, but to the perceived shortcomings of the individuals themselves and the social identity groups in which they hold membership (Bensimon and Bishop 2012; Zuberi 2001).

Next, I discuss how current higher education research can be applied to understand Latino college access and success through an intersectionality lens. Having identified the conceptual limits of intersectionality, I identify the empirical limits of current research on how multiple social identities, institutional and societal contexts, and related interlocking systems of privilege and oppression affect Latino college access and success. Then I propose a more expanded framework of intersectionality for higher education scholars who want to employ this conceptual lens, using the case of Latino college access and success to illustrate the meaning and utility of the framework. Finally, I discuss implications of this framework for future higher education research and practice.

Research Synthesis Approach

To conduct this research synthesis, I reviewed several bodies of literature within the field of higher education as well as other disciplines. This literature addressed Latino college access and success, intersectionality and higher education, and

intersectionality in other disciplines, including research that used an intersectionality lens to address Latino identities and societal opportunities beyond the field of education. First, to explore of how extant literature on Latinos in higher education fully addresses dynamics of social reproduction related to multiple social identities, I used keywords such as “Latino,” “intersectionality,” “race,” “ethnicity,” “class,” and “gender” to conduct a search for studies in peer-reviewed higher education journals, general education journals, and specialized journals on Latinos or diversity in education that addressed the roles of multiple identities and institutional or societal contexts in Latino college access and success. These higher education journals included four considered by higher education scholars to be in the top tier of publications (*Journal of Higher Education*, *Review of Higher Education*, *Research in Higher Education*, *Journal of College Student Development*) as well as others that scholars report using widely, such as those in the *New Directions for Institutional Research* and *New Directions for Student Services* series (Bray and Major 2011).

In addition, I searched for research in more specialized journals that focus on racial/ethnic and other social identities, particularly of Latinos. These journals included the *Journal of Hispanic Higher Education*, *Journal of Latinos and Education*, and *Journal of Diversity in Higher Education*. I also reviewed more generalist journals in educational research most likely to publish research about the roles of social and institutional identities in shaping college outcomes, including the *American Educational Research Journal*, *Harvard Educational Review*, and *Teachers College Record*. Finally, I also consulted books, book chapters, monographs in the Association for the Study of Higher Education (ASHE) series, reports, conference papers, and dissertations, because these kinds of sources could address theory and research in its developing stages and reveal more emergent themes, particularly in the realm of intersectionality, which, as noted, is a conceptual lens that is still being refined in its application to social inquiry (e.g., Anthias 2013; Cho et al. 2013). To sharpen further the conceptual tools to understand the relationships between Latino identities, social contexts, and societal inequities, I also drew on theoretical and research sources in fields beyond education that addressed intersectionality conceptually or employed an intersectionality perspective to understand Latino identities and life economic opportunities. These fields included legal studies, feminist studies, ethnic studies, sociology, linguistics, philosophy, and political science.

Literature on Intersectionality in Relation to Latino College Access and Success

With the exception of a few sources (e.g., Covarrubias 2011; Núñez and Murakami-Ramalho 2011; Ramírez 2013), most educational research I reviewed about Latino college and access and success did not explicitly use intersectionality as a conceptual framework. However, several studies addressed intersectional themes of the roles of multiple social identities and social contexts in shaping Latinos’ postsecondary educational experiences and outcomes. My preliminary sorting and review of the literature suggested that existing studies of Latino college access and success addressing

intersectional themes were focused more on describing commonalities and differences in Latino college access and success according to various social identities than on the institutional dynamics and systemic contexts shaping college access and success. I will revisit this point later in this chapter when I examine these studies more specifically.

Intersectionality and Higher Education

Because of the limited higher education studies employing intersectionality as a lens to address Latino college access and success, I also reviewed higher education research to understand more generally the role of multiple social identities and institutional contexts in shaping college access and success. In addition, while the focus of this research synthesis was college student access and success, I expanded my search to include studies of faculty, to gain a better sense of how scholars in higher education have employed intersectionality to explore dynamics of privilege and oppression in shaping inclusion or exclusion of different higher education stakeholders. When I expanded my search, I found that, similar to my preliminary findings regarding Latino college access and success, there was more empirical literature that focused on the descriptions of how multiple social identities influence agents' experiences within higher education, but less on how actors in higher education institutions themselves perpetuate dynamics of privilege or oppression. This reflected a state of scholarship in higher education that Pusser and Marginson (2012) have identified as a lack of specification of the concept of power, a point I examine in more detail later in the chapter.

Intersectionality and Other Disciplines

Seeking to gain further clarity on how intersectionality could be employed in higher education to go beyond descriptions of multiple social identity experiences in order to examine institutional and societal power dynamics shaping those experiences, I turned to literature outside of higher education about intersectionality as a conceptual lens for examining meso- and macro-, as well as micro-level instantiations of privilege and marginalization. In particular, I examined literature in legal studies, feminist studies, and sociology, where intersectionality has been more developed conceptually and empirically.

Curiously, I found that scholars were articulating similar limitations to intersectionality and the study of power in their own fields. For example, Roscigno (2011) suggested that power is an underdeveloped concept in sociology. Feminist sociologist Anthias (2013) suggested that intersectionality is currently limited in its capacity to examine how interlocking systems of oppression shape life chances. Furthermore, in a special issue about intersectionality as a field of study that included articles from leading scholars in multiple disciplines, pioneers in intersectionality scholarship argued that intersectionality research has focused more on experiences related to

multiple social identities and less on how power structures shape and constrain life chances associated with those social identities (Cho et al. 2013).

Despite these limitations, I found that this literature offered some specific suggestions for conceptualizing and guiding future research to identify interlocking systems of oppression and dynamics within those systems that constrain life chances (e.g., Anthias 2013; Dill and Zambrana 2009; Roscigno 2011). Therefore, I have drawn on this literature to propose a broader array of conceptual tools to apply intersectionality as a framework to study dynamics perpetuating inequities in higher education. Later in this chapter, I propose a conceptual model to illustrate how an expanded perspective of intersectionality could apply to the study of Latino college access and success. This model could not only guide further work in higher education research on Latinos, but also be adapted to study inequities among other social identities across various institutional contexts.

It should be noted that intersectionality and Latino college access and success are each rapidly evolving areas of study (Cho et al. 2013; Núñez et al. 2013). Assessing the research in these areas is like assessing a moving target; by the time this research synthesis is published, new studies and insights in these areas will certainly have emerged. The difficulty of searching studies in higher education according to the keyword “intersectionality” means that some related studies may not be discussed in this chapter. In light of this condition, while parts of my proposed conceptual framework are based on empirical studies that have already been conducted in higher education, parts of it also involve propositions and speculations that have been explored theoretically and conceptually, but have yet to be tested extensively in research. I hope that the proposed framework will serve as a beginning point to organize and contextualize forthcoming studies that seek to understand how interlocking systems of power dynamics in relation to multiple social identities affect college access and success. To illustrate the utility of this model, I subsequently apply it to the case of Latino college access and success toward the end of this chapter.

With this goal of providing an organizing frame for research about Latino post-secondary educational equity, I now turn to a discussion of the background, definition, and limitations of intersectionality. In this next section, I will address the conceptual lens of intersectionality to set the stage to discuss the application of intersectionality as a conceptual framework in higher education. After discussing how higher education has employed intersectionality as a conceptual lens, I will then examine the potential of this lens to enhance the study of Latino college access and success in higher education.

Intersectionality Background, Definition, and Limitations Across Disciplines

Intersectionality is a lens that has been applied to understand how power relations shape life opportunities according to multiple social identities in a wide range of disciplines. These disciplines include, but are not limited to, (a) feminist studies,

(b) legal studies, (c) sociology, (d) political science, (e) psychology, and (f) higher education (e.g., Anthias 2013; Cho et al. 2013; Davis 2008; A. Hurtado and Cervantez 2009; Museus and Griffin 2011; Renn and Reason 2013). Observers in fields as diverse as higher education and student development (Renn and Reason 2013), sociology (Anthias 2013; Bonilla-Silva 2013), and feminist studies (Cho et al. 2013; Davis 2008) have noted that intersectionality is not yet a theory. In mapping out the state of intersectionality studies about two decades after the emergence of the intersectionality perspective (e.g., Collins 1990; Crenshaw 1991; Cho et al. 2013) assert that intersectionality is “best framed as an *analytic sensibility*” to explore:

the problem of sameness and difference and its relation to power. This framing—conceiving of categories not as distinct but as always permeated by other categories, fluid and changing, always in the process of creating and being created by dynamics of power—emphasizes *what intersectionality does rather than what intersectionality is*. (795, emphasis added)

The notion of focusing on what intersectionality “does” rather than what it “is” means that it will be employed in different ways according to the disciplinary context and topic of inquiry, as an analytical tool to understand the role of interlocking systems of oppression in shaping life opportunities for individuals from multiple privileged and/or marginalized social categories. To indicate the range of social identities to which an intersectionality lens has been applied, intersectionality research has found at least 14 social categories or “lines of difference” (Davis 2008, p. 81), including gender, sexuality, racial phenotype, ethnicity, national belonging, class, religion, and able-bodiedness—that are salient in shaping life opportunities—and this list may be longer (Lutz 2002, as cited in Davis 2008).

According to Dill and Zambrana (2009), intersectionality has four main analytical tasks:

- (1) Placing the lived experiences and struggles of people of color and other marginalized groups as a starting point for the development of theory
- (2) Exploring the complexities not only of individual identities but also group identity, recognizing that variations within groups are often ignored and essentialized
- (3) Unveiling the ways interconnected domains of power organize and structure inequality and oppression
- (4) Promoting social justice and social change by linking research and practice to create a holistic approach to the eradication of disparities and to changing social and higher education institutions (p. 5)

Several observers have noted that, while making much progress on the first two tasks, intersectionality still has yet to reach its potential as an analytical tool to carry out the latter two tasks (e.g., Anthias 2013; Bonilla-Silva 2013; Cho et al. 2013). In assessing how intersectionality has been developed and applied within the past two decades, Cho and colleagues (2013) argue that, across multiple disciplines, the application of intersectionality has tended to focus on the analysis of how individuals experience multiple social identities, rather than the power dynamics that circumscribe or enhance life opportunities for those holding those identities.

Put differently, an intersectionality lens has tended to focus on “who people are” and how people experience social inequality rather than “the way things work” and how that social inequality is perpetuated (Chun et al. 2013, p. 923). Not understanding how power inequalities are perpetuated makes achieving Dill and Zambrana’s (2009) fourth task of advancing social change much more difficult. Therefore, a central purpose of this research synthesis is to sharpen the capability of higher education research to expose the workings of various “domains of power” (Dill and Zambrana 2009, p. 5), with the aim of creating more equitable higher education opportunities for students from underrepresented groups.

Intersectionality and Its Application in Higher Education

Intersectionality has the potential as an analytical tool to transform higher education into a social site that offers individuals, particularly those from historically marginalized backgrounds, more equitable chances for economic and social mobility, in a society that has historically been characterized by significant social inequality (e.g., Dill and Zambrana 2009; Hurtado et al. 2012; Jones 2009; Renn and Reason 2013; Smith 2009). Accordingly, higher education scholars have recently turned to intersectionality as a lens to explore how multiple social identities across different institutional contexts shape educational processes and outcomes. This research synthesis addresses the question: How can higher education research be framed to further illuminate how interlocking systems of power, privilege, and domination shape higher education equity and opportunity for groups from unique social identities? The intersectionality lens provides attention to both structure and identity in the reproduction of inequality. In this section, I discuss conceptual and empirical work on higher education and intersectionality.

Development of Conceptual Work

Before higher education scholars began to use the terminology of “intersectionality” to explore this question, they were already considering the role of multiple identities with relationship to various social contexts and interlocking systems of power, privilege, and oppression in shaping higher educational experiences and outcomes. In student development theory, Jones and McEwen’s (2000) model of multiple dimensions of identity theory (MMDI) aligns closely with the intersectional perspective. It postulates that an individual is embedded in social contexts in which social identities interconnect and play out. These authors sketch out a figure that resembles an atom, with one’s identity at the center, multiple overlapping ovals representing the different identities, and dots on the ovals that represented the salience of various identities.

Abes et al. (2007) extended this work to include Baxter-Magolda's (1998) notion of the capacity for self-authorship, including how students construct, interpret, and make meaning out of their multiple identities. Meanwhile, Torres and Hernández's (2007) empirical work on Latino students indicated that Baxter-Magolda's notion of self-authorship is incomplete in explaining key developmental tasks for Latino college students, which also include handling racism and building community. Their work revealed the salience of these students' encounters with systems of privilege and power—in this case, with racism—in Latino students' college growth and indicated that future theory about student development incorporate the consideration of power asymmetries.

While this work focused on identity development, higher education research also has considered the role of structure in identity development, postsecondary opportunities, and college experiences. At least three theories have considered the role of situated social contexts in constraining or enhancing college access and success. Renn and Arnold's ecological theory of student development (2003) emphasizes the role of embedded social micro-, meso-, and macro-level contexts, including organizational and external subcultures, in shaping the nature and salience of social identities in college students' lives. Similarly, Perna (2006) and Perna and Thomas's (2008) model of college access and success articulates how situated layers of context (including the family, K-12 school, local higher education systems, state policies, and economic conditions) influence students' considerations of, enrollment in, experiences in, and completion of college. Neither of these theories used intersectionality as a guiding lens, but they pointed to the critical role of multiple social and contextual identities and related institutional dynamics to influence college access and success.

Hurtado and colleagues' diverse learning environment (DLE) model of campus climate (2012) is another example of a model that considers situated social contexts in affecting college access and success. They specifically use the lens of intersectionality to illuminate the importance of considering multiple social identities for social actors in organizations and how different micro-, meso-, and macro-level contexts may condition these identities and affect educational experiences in different ways. They suggest that prior frameworks such as those of Renn and Arnold (2003), Perna (2006), and Perna and Thomas (2008) have significantly advanced our understanding of the role of situated contexts and campus climate with relation to external influences in shaping students' college experiences but also that these "organizational models fail to specify the *dynamics between actors within the institution*" (p. 46, emphasis added). In updating the Hurtado et al. (1999) framework of campus climate, Hurtado and colleagues (2012) were encouraging higher education scholarship to consider more extensively the role of meso-level and macro-level contexts, such as state higher education policies or public attitudes about these policies, in affecting college access and success. In particular, they noted that "scholarship is still needed to also identify how institutions produce inequality [because] the latter has the potential to advance institutional transformation if it moves institutional actors towards reflexivity to alter their role in the reproduction of inequality" (Hurtado et al. 2012, p. 105).

Similarly, Smith (2009) argues that the lens of intersectionality can be useful in informing more equitable policy and practice through the insights it provides in understanding the general relationship between identity and diversity within higher education institutions. This perspective recognizes that individuals have multiple identities, which include affiliations with groups (or group-based social identities) as well as personal identities, and that individual and institutional identities can intersect and affect students' experiences and outcomes. Furthermore, these identities may take on different degrees of saliency in different contexts (Steele 2010). Identifying the workings of privilege and marginalization in organizations can enable institutional actors to challenge these workings and develop policies and programs to advocate for the inclusion and equitable advancement of diverse students, faculty, and staff (Smith 2009).

Development of Empirical Work

Similar to the conceptual developments described, some earlier research did not necessarily use the term "intersectionality" as a conceptual lens, but it took an intersectionality perspective by addressing the experiences of faculty and graduate students who were women of color. This research considered the role of multiple identities and institutional systems such as racism and sexism in affecting higher education experiences. Specifically, Cuádriz and Pierce (1994) and Turner (2002) argued that the effects of multiple marginal identities of being women and people of color affected graduate students and women faculty of color academics in unique and simultaneous ways, limiting their capacities to actualize their goals in some ways, but in other ways offering them a source of strength.

More recent work has explicitly used intersectionality as a conceptual lens to examine how having multiple social identities shapes faculty and students' experiences with power, privilege, and oppression in higher education settings. Jones (2009) employed intersectionality as a framework for examining how multiple identity dimensions shape how faculty and students navigate privileged and marginalized identities. She examined how, for her and for her graduate students, multiple social identities (including gender, class, race/ethnicity, disability) constrained or enhanced their educational experiences and how they encountered various systems of domination and oppression, sometimes independently and sometimes simultaneously, across different societal contexts (Jones 2009).

Jones et al. (2012) and Abes (2012) extended this work further by using autoethnographic techniques to illuminate how elusive and understudied categories such as class and sexuality interplay fluidly with other categories, such as gender and race, across different social contexts to shape students' and faculty members' college experiences. Griffin and Reddick (2011) used qualitative techniques to explore African American faculty's different experiences according to gender. They found that women faculty perceived that they were more likely to be expected to mentor

and take care of students, while men were cautious about associating with students for fear of being accused of taking advantage of these students.

In their edited volume of *New Directions for Institutional Research*, about the application of intersectionality and mixed methods in higher education, Museus and Griffin (2011) offer several examples of studies that explicitly employ an intersectionality lens. Among other findings, these studies have revealed variations in Filipino and Filipina American students' experiences with campus climate according to gender (Maramba and Museus 2011) and complexities and inconsistencies in how mixed heritage individuals identify racially/ethnically (Harper 2011). Importantly, the use of multiple methods revealed a multidimensional view of these phenomena. For example, in one mixed methods study, quantitative results did not show a statistically significant difference between gender identities with experiences in campus climate, but qualitative results revealed different patterns in how Filipinos and Filipinas expressed their encounters with institutional personnel and the campus setting (Maramba and Museus 2011).

Likewise, Strayhorn's (2013) edited volume about intersectionality and African American college students offers several examples of studies that explicitly apply intersectionality to examine Black students' identities and experiences in college. This work focuses on how Black students' various social identities (e.g., gender, class, sexuality) in contexts as diverse as STEM fields (Fries-Britt et al. 2013), honors programs (Griffin and Pérez 2013), and HBCUs (Gasman et al. 2013) shape their college experiences and outcomes. Now, I turn more specifically to higher education research that has employed an intersectionality lens to understand Latino college access and success.

Intersectionality and Latino College Access and Success

Development of Conceptual Work

Intersectionality is particularly suitable for framing the understanding of diversity among Latinos because it recognizes that individuals can hold multiple social identities simultaneously (including both privileged and marginalized identities) and that these identities affect how they experience social, political, and economic contexts, including that of higher education (Collins 2007; Davis 2008; Smith 2009). The guidelines for intersectionality closely resemble the tenets of Latino Critical Race Theory (LatCrit) (Dill et al. 2007), a theory which has been employed in several studies to investigate Latino equity in higher education (e.g., Solórzano and Villalpando 1998; Villalpando 2003, 2004; Solórzano et al. 2005).

LatCrit's tasks include (a) placing the experiences of people of color at the center of analysis, (b) focusing on institutional racism as a central factor affecting educational outcomes, (c) advancing social change, and (d) recognizing the intersectionality of categories such as race, class, gender, ethnicity, nationality, language, and citizenship status in shaping life opportunities (e.g., Solórzano and Villalpando

1998; Villalpando 2003, 2004). LatCrit has offered less guidance on how to study or frame intersectionality in social inquiry, but this dimension of LatCrit is important, because it emerged in response to a binary (Black-White) way of examining race to highlight the importance of alternative and additional social identities (Dill et al. 2007; Solórzano and Villalpando 1998; Villalpando 2003, 2004). One subtle distinction between intersectionality and LatCrit is that LatCrit emphasizes centering the social category of race and system of racism in the analysis, while intersectionality also acknowledges the centrality of race, but (not surprisingly) leaves the choice more open to the researcher or educator as to which social categories and associated forms of power and privilege to address (Dill and Zambrana 2009).

Development of Empirical Work

Taking an intersectionality view, Torres (2004) emphasized the importance of considering multiple social identities and societal contexts for understanding Latinos' college access and success, particularly variations in ethnicity and national origin. In their literature review, Sáenz and Ponjuán (2009) uncovered evidence that gender is also a critical factor in understanding variation among Latinos in college access and success. Since then, a handful of studies have explicitly employed an intersectionality perspective to examine these and other variations. In my search, I found four studies, three concerning students and one concerning faculty, that explicitly used intersectionality as a conceptual framework to guide the investigation.

In one such study, Covarrubias (2011) coined the term “critical quantitative intersectionality” and employed it as a lens to examine variations in high school and postsecondary outcomes along multiple social identities including gender, class, ethnicity, and citizenship. In another study, Ramírez (2013) used qualitative techniques to explore Latinas' and Latinos' processes of choosing graduate school. Her findings included that Latinas were more likely to express that remaining closer to home and to their families of origin was important and that Latinos and Latinas were sometimes willing to forego attending elite graduate institutions if they found environments in these institutions unwelcoming. In their autoethnographic work, Núñez and Murakami-Ramalho (2011) used intersectionality as a lens to examine how their own mixed heritage Latina identities have shaped their research, teaching, and service as faculty members in a Hispanic-Serving Institution. Finally, Ruiz Alvarado and Hurtado (in press) have used quantitative techniques to examine how Latino students report the saliency of their different social identities, including race/ethnicity, gender, class, and sexuality, in different institutional contexts. They found that these students reported varying degrees of saliency of these identities according to whether their colleges had higher or lower proportions of Latinos, women or men, and lower socioeconomic status students.

Other studies that have not used the terminology of intersectionality have nonetheless taken an intersectional view to examine Latino college access and success. Following Torres's (2004) call to explore the topic, two related examples concern

racial/ethnic differences in Latino college access. Using LatCrit as one of the guiding conceptual lenses, Núñez et al. (2008) used quantitative techniques to examine ethnic differences between Mexican Americans and Puerto Ricans in terms of 4-year college choice and found that, when holding constant other key factors, Mexican Americans and Latinas tended to enroll in less selective schools. Using a different data set, Núñez and Crisp (2012) used multiple regression to analyze the factors influencing college choice of Mexican Americans and Puerto Ricans and found that Mexican Americans were more likely than Puerto Ricans to enroll in community colleges. They speculated that different histories of higher education, colonization, and economic conditions—all components of structures of power and oppression—influenced these differential college choice and enrollment patterns.

Similar to other higher education intersectionality research, the research that has employed intersectionality or an intersectionality perspective to guide analysis of Latino college access and success has primarily focused on students' or faculty members' perspectives on the role of multiple social identities and in some cases on systems of power and oppression in shaping their higher education experiences. Quantitative descriptive techniques in higher education studies have typically disaggregated data to identify differences in college access, experiences, and success according to multiple social identities (e.g., Covarrubias 2011; Maramba and Museus 2011; Núñez and Crisp 2012; Núñez et al. 2008; Ruiz Alvarado and Hurtado *in press*). Quantitative multivariate techniques have tended to sample one social identity (e.g., one racial/ethnic group) and control for the independent effects of other social identities on college access and success outcomes (e.g., Maramba and Museus 2011; Núñez and Crisp 2012; Núñez et al. 2008). Qualitative techniques have included autoethnography and semistructured interviews in which study participants describe the role of multiple social identities and associated systems of power and oppression in shaping their higher education experiences (e.g., Abes 2012; Griffin and Reddick 2011; Jones 2009; Jones et al. 2012; Núñez and Murakami-Ramalho 2011).

Notably, much of the quantitative and qualitative work employing intersectionality focuses on the perspectives of the study participants, rather than other actors (e.g., college personnel) who could shape those participants' experiences in higher education. Collectively, this research demonstrates the importance of considering multiple social identities and associated systems of power and oppression in shaping college access and success inequities. However, as feminist legal scholar Catharine MacKinnon argues, these identities “are the ossified outcomes of the dynamic intersection of multiple hierarchies, not the dynamic that creates them. *They are there, but they are not the reason they are there*” (MacKinnon 2013, p. 1023). While intersectionality work in higher education has emphasized the role of the social contexts in contributing to educational conditions, the application of intersectionality to empirical studies has largely been limited to *descriptions of these actors' experiences, rather than organizational dynamics among social actors or other entities that shape those experiences*. For example, more is known about the variation among Latinos in college access and success according to multiple social identities, but it is less clear what specific institutional norms, beliefs,

attitudes, or behaviors related to these identities contribute to lower Latino college completion rates. Therefore, the potential of intersectionality to illuminate systems and structures of domination and power (Dill and Zambrana 2009; Cho et al. 2013; Renn and Reason 2013) is not fully harnessed. In the next section, I note patterns in higher education research that suggest that more work could address institutional systems and structures of domination and power.

Structure and Agency in Higher Education Scholarship

Like in other fields (e.g., Cho et al. 2013), intersectionality research in higher education has focused primarily on individual agents' experiences of power and oppression according to multiple social identities, rather than how social structures themselves shape these individuals' experiences. This reflects a state of higher education research where the student or individual is the primary unit of analysis, which limits the capacity to explore the role of social contexts in shaping college access and success. Perna and Thomas's (2008) comprehensive review of literature in economics, sociology, psychology, and education pertaining to their college access situated context model revealed that, out of 175 articles in these four disciplines, just three used the institution as the unit of analysis, and two used the state. Furthermore, just three articles out of the 175 reviewed used two levels of analysis, such as student and institution, or student and state.

In a similar example of the limited capacity of higher education research to speak to the role of social context in college access and success, Harper (2012) found that most articles in the most commonly used higher education journals that purport to focus on the experiences of minoritized groups in higher education and associated social contexts do not directly focus on the effects of *racism* as a structural system of oppression that limits minoritized individuals' educational opportunities. In particular, Harper (2012) found that just 16 out of 255 (about 6 %) of these articles used the term "racism" or "racist" three or more times as an indicator of recognition of this system of power and privilege. Similarly, Hart (2006) found that, among a multi-year sample of articles in three of the most commonly used journals in higher education, just 1 % used the term "feminism" and fewer than 10 % indicated in the titles that they addressed women as subjects. Even though some time has passed since their reviews, Perna and Thomas's (2008), Harper's (2012), and Hart's (2006) assessments of higher education scholarship suggest that higher education research still primarily focuses on the individual level of analysis rather than to institutional dynamics that could enhance or constrain conditions for educational access and success. This state of the research can obscure the organizational and institutional role in shaping equitable outcomes as well as solutions to promote equity (Bensimon and Bishop 2012).

This state of the research reflects the historically strong influence of psychology on educational research and highlights that more attention should be paid to how more meso- and macro-level social structures affect college access and success, an

area that sociology is well poised to address (Hurtado 2007). Focusing higher education research primarily on the level of individual identity makes it all too easy to ascribe inequities in educational outcomes not to inequities in educational opportunity or the practices that perpetuate these inequities, but to the perceived shortcomings of individuals themselves and the racial/ethnic groups in which they hold membership (Zuberi 2001). Foregrounding the student as the unit of analysis emphasizes the student's responsibility, in turn deemphasizing the institution's responsibility and the role of broader contexts for perpetuating inequitable outcomes (e.g., Bensimon and Bishop 2012; Harper 2012), and makes it more difficult to develop strategies to challenge inequities. Conversely, identifying dynamics within and across societal "domains of power" has the potential to inform strategies to advance educational equity in higher education (Dill and Zambrana 2009, p. 5).

Critique of Intersectionality: The Importance of Specifying Power Dynamics

As noted in the previous sections, intersectionality has been useful in higher education empirical research to guide the examination of the role of multiple identities and associated systems of power, privilege, and oppression in higher education actors' experiences (Renn and Reason 2013). While its flexibility and versatility could be seen as strengths to study the simultaneous influence of multiple identities and social contexts that could interplay in myriad ways, some have critiqued intersectionality for being too vague a concept—a "buzzword" (Davis 2008) in need of greater analytical precision. Sociologist Eduardo Bonilla-Silva (2013) has argued that the concept of intersectionality is promising in understanding issues like racial/ethnic equity in life outcomes but that it is still a "first-generation" concept requiring further development. Similarly, sociologist Floya Anthias (2013) argues that intersectionality needs greater specification to increase its utility in social science research.

In this research synthesis, I have argued that limitations in higher education scholarship in identifying power dynamics in societal structures that perpetuate inequities (Pusser and Marginson 2012) reflect similar problems identified in other disciplines, such as sociology and feminist studies. As Bonilla-Silva (2013) and Anthias (2013) suggest, these disciplines have not offered as much specific guidance on how researchers can identify, describe, and make visible the domains of power (Dill and Zambrana 2009), matrices of oppression (Collins 1990), or interlocking systems of oppression and domination that challenge educational equity. This is partly because, as sociologist Roscigno (2011) argues, the concept of power is difficult to conceptualize and theorize, much less be applied to guide empirical work to identify specific power dynamics that reproduce social inequality.

Anthias (2013) asserts that applying intersectionality to study power relations must entail examining how (a) particular social categories are constructed as

inferior to others; (b) people in a capitalist world are viewed as part of a larger economic project and source of labor, rather than beings who could actualize their own potential; and (c) resources are distributed unevenly to enhance the life chances of some at the expense of others, particularly those in marginalized social categories. An implication of undertaking these tasks is that intersectionality can be refined conceptually from serving as a static location where individuals experience the consequences of multiple identities and associated forms of privilege or oppression (as in descriptive comparisons disaggregating one social category, like gender, within another, like race), toward serving as a perspective that lays bare and challenges the power dynamics that (re)produce educational and societal inequities.

As noted, the concept of power has been undertheorized in sociology (Bonilla-Silva 2013; Roscigno 2011) and in higher education research (Pusser and Marginson 2012). This state of affairs has made it difficult to visualize what terms like domains of power, matrices of domination, and systems of oppression mean when applying theoretical perspectives such as intersectionality, Critical Race Theory, and LatCrit. There are examples of studies in sociology that have illuminated some of the power dynamics that contribute to societal inequality, which are also applicable to education. One is Bonilla-Silva's (2010) research analyzing how, when asked about sources of and reasons for societal inequities, individuals use discursive strategies to obscure the recognition that racially minoritized groups experience unequal life chances due to discrimination and oppression. Another is Roscigno's (2011) research on how company employees defend legal charges of racism and sexism inhibiting minoritized groups' job advancement by rationalizing marginalized employees' lack of advancement in terms of individual traits or shortcomings.

Some higher education research has also focused on institutional dynamics that privilege some and not others with respect to particular social identities. Smith and colleagues (2004) demonstrate how, contrary to common assumptions, faculty and women of color do not receive extra privilege or consideration in the faculty recruitment process, but instead are often overlooked in "usual" procedures that do not place value on or render invisible the unique contributions that faculty and women of color can make in research, teaching, and service at an institution. Similarly, Delgado Bernal and Villalpando (2002) illustrate how standards of review for faculty promotion and tenure often privilege members of certain groups and not other marginalized groups, due to reasons that are beyond the merit of the scholarship itself—such as the unequal application of review standards for research, teaching, and service. They argue that one way this is manifested is in the devaluation of epistemologies, methods, and topics of inquiry that may be particularly important to faculty of color, such as an orientation toward the public good (González and Padilla 2008). These studies of higher education institutional power dynamics have addressed how power dynamics shape faculty opportunities, but more insights are needed to inform how power dynamics such as institutionalized racism (e.g., Harper 2012) or patriarchy (e.g., Hart 2006) shape college student access and success.

A Multilevel Model of Intersectionality to Understand Power Dynamics in Relation to Multiple Identities and Contexts

In this section, I develop a model to apply intersectionality to higher education research. This model is intended to guide researchers who not only want to understand and describe the educational experiences of those with multiple social identities, but to explore how power dynamics and systems of oppression like racism interlock with other systems of domination to enhance or constrain educational opportunities for those with some identities and not others. Subsequently, to illustrate more concretely the potential of this model, I apply the model to examine scholarship on how interlocking systems of power affect Latino college access and success across multiple social identities. The final sections of this research synthesis turn to associated implications for research, methodology, and practice in higher education.

I draw primarily on the work of sociologist Anthias (2013) and insights from Dill and Zambrana (2009) and Roscigno (2011) to propose a model to “go beyond a focus on intersectional categories and to look at the broader social landscape of power and hierarchy” (p. 12) in higher education access and opportunity. To situate the workings of power, she recommends examining three levels: (a) social categories and the *outcomes* of the associated relations of power (such as existing hierarchies), (b) four domains of practice that highlight social *processes* that construct and reify these categories, and (c) the historical context that shapes the development of social categories, relations among those in different categories, and processes that construct and sustain those relations. This approach follows the guiding assumption that the analytical purchase of intersectionality can be maximized when we “distinguish different levels of analysis in terms of questions about *what is being referred to* (social categories or concrete relations), *arenas of investigation* (organizational, representational, intersubjective, and experiential), and *historicity* (processes and outcomes)” (Anthias 2013, p. 12, emphasis original).

Corresponding to Anthias’s framework (2013), I propose a multilevel model that includes three levels, each of which is embedded in the next: (a) multiple social identities, (b) domains of power (Dill and Zambrana 2009), and (c) historicity (Anthias). This model of situated contexts relates to existing models of ecological student development (Renn and Arnold 2003); college student access and success (Perna 2006); and campus climate (Hurtado et al. 2012) that specify micro-, meso-, and macro-level influences on student experiences and outcomes. Anthias (2013) argues that ideally all three levels should be addressed. However, as I will acknowledge later, it can be more difficult to do so in reality. Therefore, this model presents more of what sociologist Max Weber would call an ideal type (Gerth and Mills 1946) of framing intersectionality that researchers can follow and, even if they do not address all of the levels empirically, they can draw on literature that addresses other levels to help contextualize and interpret results.

For understanding the first level of multiple identities, there are different ways to frame social categories. Three positions include that (a) social categories do not

exist (e.g., Butler 1999), (b) an intracategorical perspective that there is significant and meaningful variability within categories, and (c) an intercategorical perspective that meaningful variability between categories exists (McCall 2005). The first take on categories is not very useful in understanding how to foster equity in higher education, since social categories with inequitable educational experiences or outcomes are not identified. Consequently, the last two positions characterize much higher educational empirical research that employs intersectionality, where analysts may use quantitative approaches to disaggregate data or isolate the singular or joint effects of categories such as race, gender, class, national origin, immigration status, or sexuality to illuminate variation between and among groups' educational experiences and outcomes (e.g., Covarrubias 2011; Núñez et al. 2008; Núñez and Crisp 2012; O'Connor 2009). Qualitative research reveals how individuals make meaning and perceive power structures in shaping educational experiences according to their multiple identities (Abes 2012; Griffin and Reddick 2011; Jones 2009; Jones et al. 2012; Núñez and Murakami-Ramalho 2011; Ramírez 2013).

This research synthesis focuses on the variability within categories—for example, gender within race (e.g., Covarrubias 2011; Griffin and Reddick 2011; Maramba and Museus 2011; Núñez and Murakami-Ramalho 2011). Moving to the second level (domains of power), I adapt Dill and Zambrana's (2009) concept of domains of power to the field of education and draw on Anthias's (2013) argument that there are four domains of power that construct and reify these categories, including organizational, representational, intersubjective, and experiential. While these may not be an exhaustive list of domains of power, they are a departure point for further investigations of the effects of power structures on educational equity. Applied to higher education research, the organizational domain of power highlights the channeling and sorting role that institutions can enact, such as organizational processes in community colleges that track some groups of students and not others toward successful outcomes such as transfer, associate's degree attainment, and bachelor's degree attainment (Bensimon and Dowd 2009; Deil-Amen and Rosenbaum 2002; Dowd 2007; Gándara et al. 2012; Crisp and Núñez *in press*). The representational domain of power emphasizes how those social categories and related policies are represented in societal discourse or media. It includes how stereotypes that threaten marginalized groups, raising their self-consciousness around failure, are created and sustained.

The intersubjective domain highlights the relationships between social actors and how this conditions life chances and outcomes, such as teachers' perceptions of students or intergroup relations in the campus climate, which have the capacity to diminish or reify stereotype threat (Hurtado et al. 2012). The experiential domain embodies the internal interpretation and lived experience of the individual. For example, the experiential dimension might reflect the meaning-making filter (Abes et al. 2007) that students use to make narrative sense of their own abilities or of the campus climate.

The third level, which Anthias (2013) calls historicity, situates social categories and domains of practice within a temporal perspective that reminds us that social categories are fluid rather than fixed and that some social categories are not natural or a given. For example, as I will describe in further detail, Mora's (2014) sociological and historical analysis indicates that the social category "Latino" was essentially

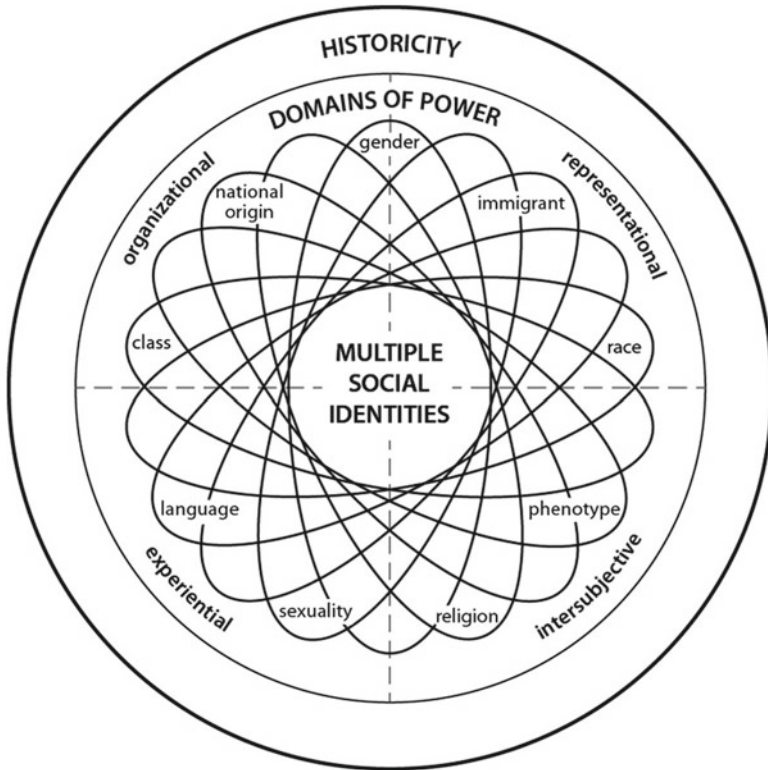


Fig. 2.1 A multilevel model of intersectionality applied to Latinos in higher education

unimaginable before 1970, but after activist, government, and corporate movements begin in the 1970s to converge interests and associated efforts to actualize those interests, Latino has become an “irreducible” social category (Anthias 2013). That is, it is a durable, if also flexible (Mora 2014), identity that encompasses a diversity of other social categories (e.g., Mexican American/Chicano, Puerto Rican, Cuban, Central American).

Figure 2.1 provides a model of intersectionality that applies these three levels of analysis to the study of Latinos in higher education. The first level, named multiple social identities, draws on Jones and McEwen’s (2000) model of multiple dimensions of identity theory (MMDI) to indicate multiple and intersecting identities that, in this example, are found to be salient in Latinos’ college experiences. These multiple social identities include, but are not limited to, gender, national origin, immigration status, linguistic minority status, class, phenotype, sexuality, and religion, which I will discuss later in the chapter. Similar to other models that have sought to explore how identities are constructed, such as Herrera, Hurtado, Garcia, and Gasiewski’s (2012) model for redefining STEM identity for talented graduate students, the first level of multiple identities in this multilevel model of intersectionality

is situated within broader social contexts. The first level of the model, as embedded in the second level (domains of power) and the third level (historicity), suggests that these multiple identities are socially constituted and influence how social positions, divisions, and hierarchies are created and reified in society (Anthias 2013).

The second level of domains of power illustrates that societal processes and organizational practices shape the creation, perpetuation, salience, and nature of social categories through four broad domains of power—organizational, representational, intersubjective, and experiential. Following an intersectionality perspective that systems of power and oppression can be interlocking, the lines between these domains are dotted, to indicate that the boundaries between these domains may be permeable and overlapping. Later in the chapter, I discuss the dynamics within these domains of power that can shape Latino college access and success.

In turn, the second level is embedded in the third level of historicity, a term based on Anthias's work (2013). Historicity highlights the macro-level role of history in shaping these broader dynamics. For example, the economic downturn of 2008 affected Latinos more negatively than other groups in terms of income lost (e.g., Pew Hispanic Center 2011). This economic and historical condition cannot be ignored when considering Latinos' enrollment college patterns today and the way they take finances into account in planning for life after high school (Rendón et al. 2012).

In addition to Anthias's (2013) model and Dill and Zambrana's (2009) concept of domains of power, I also draw on Roscigno's (2011) "dynamic relational theory of power" to emphasize the processes that take place in the domains of power to pass advantage on to some groups and marginalize others. The dynamic relational theory of power emphasizes an understanding of power that goes beyond the workings of interpersonal relations to emphasizing the role of discourses that legitimize the value of some groups at the expense of others. The dynamic relational theory of power helps us to understand dynamics in the representational domain of power in the multilevel model of intersectionality. It can also help us understand how the four domains of power (organizational, representational, intersubjective, experiential) form interlocking system of powers. For example, discourses that promote equality symbolically (representational domain of power) may be enacted very differently in reality (organizational or intersubjective domains of power) to create or perpetuate social inequalities, but these inequalities may remain obscured because of the representational discourses purporting equality. From the standpoint of the oppressor, two key processes that serve to reinforce power relations are what Roscigno calls "vilification"—criticizing the "victim" who is lower on a power hierarchy and "amplification"—asserting that official policies are being followed and no wrongdoing toward those lower on the hierarchy of power is occurring (2011, p. 364).

Following the dynamic relational theory of power, actors with power have more access to the capacity to employ vilification and amplification in their actions toward others. For example, in anti-affirmative action discourse, *vilification* might involve devaluing the potential of historically marginalized students to succeed in college to rationalize their exclusion from certain college environments, and *amplification* might emphasize seemingly "neutral" policies such as an emphasis on narrowly defined "merit" to justify that current and past admissions processes have always been

fair, regardless of different groups' social identities. Similarly, Bonilla-Silva (2010) identified dynamics of power where those in the racialized majority rationalized the oppression of those in the racialized minority on the basis of this type of logic.

Although I suggest that there are three levels in a multilevel model of intersectionality—multiple social identities, domains of power, and historicity—I recognize that not all scholarship that employs intersectionality can or will address all three levels. Quantitative data sets often do not allow the sample sizes to disaggregate multiple social identities or to measure cross-level interactions between institutional effects and multiple social identities. Qualitative research has the potential to examine power dynamics in depth, but to achieve this depth might require limiting the number of identities or levels that can be explored.

At the very least, however, I suggest that research that employs intersectionality address the first level of multiple social identities, in conjunction with either the second level of domains of power or the third level of historicity. To correct intersectionality scholarship's tendency to focus on identity (rather than structure) (Cho et al. 2013), scholars might be encouraged to focus on the structural levels of domains of power and historicity. Because there are not many higher education studies that employ an intersectionality lens, I also refer to studies that only focus on one social identity (typically Latino) with reference to the structural levels of domains of power or historicity, with the aim of pointing to new areas of inquiry where multiple social identities might be considered within social or institutional contexts. Taking this approach may not always present precise models to replicate, but possible directions for the analyst to attend simultaneously to social identities and contextual power structures (Cho et al. 2013).

Applying the Multilevel Model of Intersectionality: Latino College Access and Success

Now, I take up more concretely the question of how intersectionality can go beyond describing the experiences of having multiple and simultaneous social identities, to illuminate how various social contexts throughout history—the domains of power (as indicated in level 2)—enhance or constrain educational opportunity for those with marginalized social identities. In this section, I apply the proposed multilevel model to the study of Latino college access and success in higher education. I begin by describing the rationale for applying intersectionality to this line of inquiry, focusing on the history of the social construction of “Latino” as a salient, irreducible social category (Anthias 2013). I continue by addressing the diversity within this group and the challenges it poses for addressing their needs in higher education. Then I apply the model to understanding Latino students' access and success. Specifically, I focus on various social categories (not an exhaustive list, but those most often researched) as intersecting with “Latino” to shape experience. Thus, this part of the analysis focuses on the first level of the multilevel model, specifically the definitions of and relationships between social categories.

Among the levels in the model, I found that most of this literature has focused on level one (multiple social identities) or one domain of power in level two (specifically, the experiential domain as explored in qualitative methods addressing Latino college students' lived experiences with power structures). Therefore, I draw on other literature in the K-12 educational research, the social sciences and other disciplines, as well as higher education, to apply the second level (domains of power) and third level (historicity) to the study of Latino college access and success. In the second level (domains of power), I discuss how the four domains of power and their associated practices in the organizational, representational, intersubjective, and experiential arenas influence Latino educational experiences. Finally, speaking to the third level (historicity), I illustrate how consideration of multiple social identities (level one) and domains of power (level two) must be situated within a historical context to afford the most analytical purchase to understand holistically the dimensions and dynamics affecting Latino college access and success.

The Social Construction of Latinos: The Rationale for Intersectionality

Before discussing the application of the multiple levels in the model to the study of Latino college access and success, it is important to understand the complex construction of this category, because Latinos subsume multiple categories. This account ties together strands of the multilevel model of intersectionality. It speaks to how multiple identities (level one) were brought together to create the “Latino” category and how different sectors (level two’s organizational and representational domains of power) formulated and reified this category over time (level three’s historicity). Understanding this background affirms the importance of using an intersectionality lens to study Latino college access and success.

Although the term “Latino” is a social construction and initially was intended to be an ethnic category, it has often been used to denote race as well (Mora 2014; Telles 2012). The category Latino/Hispanic is a panethnic category that includes a multiplicity of heritages and national origins, encompassing a variety of cultures, languages, races, and phenotypes (Rumbaut 2011; Sáenz 2010). The category “Hispanic” emerged as an option for survey respondents to the US Census in 1980, in the wake of Civil Rights efforts to compare the characteristics and opportunities of different racial/ethnic groups. Following the congressional passage of a law to collect data about people of Spanish origins, the U.S. Office of Management and Budget in 1977 had approved the term “Hispanic” to classify this unique demographic group (Mora 2014; Rumbaut 2011). This was the first and only law in US history that defined and stipulated data collection activities regarding a specific ethnic group (Rumbaut 2011).

Mora’s (2014) historical account of the emergence of Latino as a category between 1965 and 1995 illustrates that the “Latino” category would have been difficult, if not impossible, to conceive before the 1970s, even though Mexican Americans endured de facto segregation in the American Southwest (Donato and

Hanson 2012; Zambrana and MacDonald 2009). She documents how, in the wake of the 1960s Civil Rights movements, Mexican American activists who were challenging these segregated conditions partnered with other ethnic groups such as Puerto Rican activists, and worked with the US Census bureaucrats, to establish a “Hispanic” panethnic category that would count and document the limited participation of this group of individuals from Spanish-speaking countries.

In addition to these two sectors, a third organizational sector of corporate media executives that would come to compose the largest Latino broadcasting company (Univision) helped the first two sectors to create and circulate the term and meaning of this singular panethnic group that incorporated many cultural, linguistic, national, and immigrant heritages. This corporation would also direct programming such as *telenovelas* (soap operas) at a “universal” Spanish audience, using actors that spoke non-colloquial or non-vernacular Spanish, further reifying this social identity category. Thus, by 1995, the Hispanic/Latino category would come to be seen as a distinct and even “natural” entity (Mora).

Given the unique construction of Hispanics as a social category and the diversity within the Latino population, some observers have questioned whether Latinos ought to even be considered a meaningful sociodemographic group (e.g., Gimenez 1997). As cultural critic Richard Rodríguez (1993) questions,

‘Hispanic’ is not a racial or a cultural or a geographic or a linguistic or an economic description. How much does the central American refugee have in common with the Mexican from Tijuana? What does the black Puerto Rican from New York have in common with the white Cuban in Miami?

However, others argue that Latinos’ limited participation in US society merits the recognition of them as a distinctive ethnic group with historically limited economic, social, political, and educational opportunities that need to be addressed by political and legal mechanisms (Gracia 2008; Rodríguez 2008). Indeed, this was the initial motivation for Mexican American activists to initiate the process of the construction of the Hispanic/Latino category (Mora 2014). Furthermore, in practice, Hispanic/Latino has come to be seen as a distinctive category that is irreducible (Anthias 2013) in relation to its other distinctive parts or cultural components (Mora 2014; Telles 2012).

As the presence of Latinos/Hispanics has increased in the US population, resistance to Latinos’ incorporation has intensified, as exemplified by Arizona’s law permitting law enforcement officers to detain any individual who could be perceived as an illegal immigrant and the state’s banning of K-12 ethnic studies programs (Frey 2010). A recent survey of Americans from all racial/ethnic groups revealed that Latinos have now surpassed Blacks as the racial/ethnic group most often perceived to be experiencing discrimination (Pew Hispanic Center 2010b). The majority of Latinos believe that discrimination against them is a major social problem, and the most common place they report witnessing this phenomenon is in schools, with about two-thirds of Latinos indicating this sector as a site of discrimination (Pew Hispanic Center 2010a). One recent national poll indicated that eight in ten (79 %) Latinos feel that any Latino, regardless of citizenship or immigrant status, at some point “will get stopped or questioned by police” for any potential reason (Menjívar and Abrego 2012, p. 2).

Some observers argue that the study of Latinos in US society is critical not only in the field of education but also in social science in general. Given the increase in the Latino population and their complex identity construction, noted race scholar Eduardo Bonilla-Silva (2013) argues that two central future directions for race scholarship in sociology include (1) understanding the process of Latinos' racialization and minoritization and how this evolves over time and (2) enhancing the analytical power of intersectionality to shed light on processes of racialization and minoritization of individuals and groups.

Implicit here in Bonilla-Silva's (2013) emphasis on temporal and process-oriented aspects is a historical approach to studying the construction of life opportunities, in congruence with Anthias's (2013) focus on historicity as part of an intersectionality orienting framework. For example, Bonilla-Silva (2010) argues that, in the racial hierarchy of the USA, Jews have gone from becoming marginalized from opportunities including college access on the basis of race (Karabel 2005) to becoming "honorary Whites" who are no longer considered inferior nor penalized from access to higher education opportunities on the basis of the social category of race. He points out that in the USA, as in Brazil, phenotype (skin color), rather than self-identified race, may come to differentiate among racial groups such as Latinos with respect to life chances. One consequence is that light-skinned Latinos could become "honorary Whites," while dark-skinned Latinos are associated with Blacks and are afforded limited access to societal opportunities (Bonilla-Silva 2010). Such a hypothesis calls for an intersectional approach to analysis.

Beltrán (2010) draws on political science, philosophy, feminist studies, and Latino studies to argue that the political unity among Latinos politically—sometimes termed as *Latinidad* to illustrate a common identity—has been overemphasized, at the expense of recognizing the diverse backgrounds and approaches that Latinos have taken to mobilize politically for greater life opportunities, such as educational access and immigrant rights. With her critique of *Latinidad*, she calls for an intersectional approach that recognizes diversity in social identity and the diverse ways that Latino identity is performed in localized and specialized spaces, such as in the 2006 political protests for immigrants' rights that mobilized many Latinos across the nation in different ways.

Similarly, philosopher Jorge Gracia (2008) argues that Latino social identity is not held together by a common history, national background, memory of colonization or conquest, race, color, language, or culture, but that Latinos assert a Latino identity on the basis of a "familial-historical" affiliation, in which Latinos identify with the Latino category in local and individualized ways and choices of dimensions of identity, much as different members of the same family might identify with the family in very different ways. This individualized nature and felt sense of a familial-historical affiliation aligns with Beltrán's (2010) argument that identifying as Latino is an individual, affective, and performative process, rather than a wholesale subscription to a shared identity with all other Latinos.

As Latinos become an increasingly significant presence in higher education, it is critical for scholars, policymakers, and practitioners to recognize the diversity within this population (Torres 2004). Viewing Latinos as a monolithic group in

higher education at best obscures and at worst perpetuates misunderstanding and stereotyping about the multidimensionality of their experiences. Accordingly, an intersectionality perspective holds much promise to affirm and examine the meaning of this diversity and how it plays out in various societal contexts over time.

Level One: Multiple Social Identities

Following McCall's (2005) intersectionality framework addressing the relationship between social categories, this section postulates that variations within and between multiple social identities present critical considerations in the understanding of Latino college access and success. Accordingly, this section provides a selective review to present key multiple social identities found to influence Latino students' college access and success. The point is not to review all possible literature on Latinos, but to illustrate the utility of an intersectional model in highlighting the complexity and capacity to understand the postsecondary experiences and outcomes of Latinos more holistically. Furthermore, many of the social categories described also condition the experiences of other racial/ethnic groups, such as Asian Americans, in related ways. Broadly speaking, this section offers a departure point for examining the multiple social identities, relationships between these identities, practices in different domains of power, and contextual influences that affect the postsecondary access and attainment of Latinos and other racial/ethnic groups.

The previous section emphasizes how Latinos were, in effect, brought together to intersect as a meaningful, irreducible and durable, if also flexible, social category. Given that the development of this social construct involved a process of bringing together multiple identities, I discuss the research on select social identities and suggest how these identities may differentiate among Latinos' college experiences. The purpose here is not to describe the meaning of an exhaustive list of salient social identities or lines of difference, but to sketch out some key distinctions according to identities that research in higher education and associated disciplines (particularly sociology) has uncovered as being especially meaningful for Latinos' equitable college access and success.

In terms of limitations in current research on social identity, Abes (2012) highlights that class and sexuality, as typically invisible and nonphysical markers of identity, are understudied in higher education research. This condition applies to the study of Latinos' postsecondary educational experiences as well. Additionally, religion is also a particularly salient social category for Latinos (e.g., Torres 2010). An intersectionality lens may be increasingly relevant to study how this category affects Latino experiences, particularly in light of historical trends such as the growth of Latino Protestants relative to Catholics in the USA (Torres 2010). However, there is limited research to postulate how religion or sexuality may differentiate among Latinos' postsecondary experiences, although I do reference literature later in this section suggesting that gender may mediate how LGBTQ college students view sexuality as part of their identities (Ruiz Alvarado and Hurtado [in press](#)) and that

religion, in addition to gender, also influences how Latino LGBTQ students construct their identities in different contexts such as family and college (Peña-Talamantes 2013).

The social categories I focus on have been most commonly examined in an intersectional manner (either implicitly or explicitly) to describe and disaggregate among Latinos' educational experiences, including those of students and faculty. Because race and ethnicity are often conflated in the study of Latinos and how Latinos self-identify (e.g., Mora 2014), I do not make distinctions between these social categories for the purposes of this analysis, but I do list race as a salient social category in the intersectionality model, and briefly focus on phenotype as a physical identity marker of distinction. Following an intersectionality perspective, the model also includes ethnic characteristics of national belonging, immigration status, and language.

This investigation of the meaning of social categories with respect to Latino educational experiences begins with *gender*, particularly due to current policy concern about Latinas' and Latinos' differences in college enrollment and attainment. I continue with a discussion of *national belonging*, *immigration status*, and *language*. These three identities primarily informed how social activists, government bureaucrats, and media corporate executives came together to construct Latino as a meaningful social category (Mora 2014).

Subsequently, I discuss the role of *class*, particularly in relationship to first-generation college-going status among Latinos. Finally, I discuss some emergent (if less proximal to education) research on *phenotype* as the sixth, and last, category. Among the studies I cite, only three use the term "intersectionality" to guide the analysis: Covarrubias's (2011) analysis of national belonging, class, and gender in terms of Latino postsecondary outcomes; Ramírez's (2013) examination of race, class, and gender in influencing Latinos' choice of graduate school; and Núñez and Murakami-Ramalho's (2011) exploration of national belonging and gender in their identity development as faculty. However, all of the studies cited suggest the saliency of their respective social categories to influencing Latino educational processes and outcomes and thus can be applied to support the logic of an intersectional perspective to study Latinos in education. Figure 2.1 illustrates how these categories are embedded within the organizational, representational, intersubjective, and experiential arenas and, in turn, within the broader historical context (historicity).

Gender

Research in this area indicates that while facing some common challenges, male Latinos and female Latinas also experience distinctive gender-based challenges that merit more focused attention. Current research disaggregating gender on postsecondary outcomes among Latinos has shown that Latino males are severely underrepresented among high school graduates and college students in comparison to female Latinas (Covarrubias 2011; Núñez and Kim 2012), to the point where a

crisis of the “vanishing Latino male” has been coined (Sáenz and Ponjuán 2009). There are several potential reasons for this, including that K-12 teachers are less supportive of male Latino students and that male Latinos see more of a responsibility to work to financially support the family at the expense of participating in higher education more intensively (Sáenz and Ponjuán 2009). The ideology of *machismo*, which emphasizes the appropriate role for Latino males is to work to support the family (González 1996), among other roles, may make it difficult for Latino males to focus on longer-term school success, in favor of shorter-term work opportunities (Sáenz and Ponjuán).

While the success of Latina students has been emphasized in the discourse about the underachievement of Latino males, this does not mean that Latinas are uniformly privileged. Latina college students and faculty experience higher education practices in dually exclusionary ways that are salient to their status as women and Latinas (e.g., Cuádras and Pierce 1994; Ginorio and Huston 2001; Turner 2002). The ideology of *marianismo* stipulates that Latinas sacrifice their individual achievement for the care of the family (Sy and Romero 2008). As a result, Latinas may place limitations on their own capacity to participate in activities outside of the home (Ortiz and Santos 2009; Sy and Romero 2008). Consequently, while male Latinos may be enrolled in higher education at lower rates, female Latina college students are less likely than Latinos to enroll in selective higher education institutions and to leave home for undergraduate or graduate school (Núñez et al. 2008; Ramírez 2013).

Furthermore, Latinas also express lower satisfaction than Latinos with their college experience (Ojeda et al. 2012). Lower satisfaction rates and attending less selective schools can have negative consequences for Latinas’ longer-term higher education degree persistence and completion (e.g., Arbona and Nora 2007; Bowen et al. 2009) and for placement after graduate school in more prestigious higher education institutions as faculty members. Here, Allan’s (2011) phrase to describe the status of women in higher education, “the higher, the fewer,” applies to Latinas in selective higher education, graduate education, and the STEM fields, when compared with their Latino counterparts. Using an intersectionality perspective to understand Latina and Latino educational equity suggests that only recognizing a problem of the “vanishing Latino male” with respect to Latino educational opportunity is overly simplistic. Despite relative success in school, Latinas face unique barriers related to access compared with Latino men.

As noted, little research has explored the role of sexuality and LGBTQ status in Latino students’ experiences. However, two studies suggest that gender may mediate the extent to which LGBTQ Latinos see their sexuality as a meaningful identity (Peña-Talamantes 2013; Ruiz Alvarado and Hurtado *in press*). Ruiz Alvarado and Hurtado’s research (*in press*) suggests that male LGBTQ Latinos see their sexuality as a more salient identity than do LGBTQ Latinas. Meanwhile, although his study does not explicitly focus on gender differences, the interview excerpts in Peña-Talamantes’s (2013) qualitative study of six LGBTQ Latinos and Latinas indicated that LGBTQ Latino males referenced their sexual identity toward external power structures (e.g., societal expectations, familial expectations) to a greater degree than

LGBTQ Latinas, who tended to reference their sexual identities with respect to their intra- and interpersonal development. This example suggests that gender be considered in studying how sexual identity shapes college experiences.

National Origin

Demographic research reveals significant differences in educational attainment and income between Latinos of different national and regional origins, including Mexican American, Puerto Rican, Caribbean, Central American, and South American origins (Sáenz 2010; Torres 2004). Overall, Cuban Americans show higher K-12 educational achievement than Mexican Americans or Puerto Ricans (Baker et al. 2000), and South Americans show higher educational and occupational attainment than other Latinos (Sáenz 2010). Being Mexican American or Puerto Rican also appears to be associated with where students begin their college educations, with Puerto Ricans being more likely to enroll in selective and 4-year higher education than their Mexican American counterparts (Núñez et al. 2008; Núñez and Crisp 2012). These factors could be tied to regional higher education options, colonization histories, and citizenship opportunities of each group (Núñez and Crisp 2012; Sáenz 2010; Torres 2004). Thus, these findings suggest that social contextual domains of power in level two and historicity in level three of the multilevel intersectional model must be considered when examining access to and success in higher education according to Latino national origin.

Immigration Status

Immigration status includes generational status (timing of family arrival in the USA) and citizenship status. More extensive research on generational status has been conducted in the K-12 than the higher education area, and it has been found that K-12 educational outcomes are better for first-generation immigrants than their second-generation counterparts (e.g., Portes and Rumbaut 2001). Similarly, more recent research suggests that, holding other critical individual and institutional factors constant, first-generation immigrant students in 4-year higher education institutions persist at higher rates than their second- or third-generation immigrant counterparts (Sparks and Núñez 2012).

Scholars speculate that this phenomenon is due to increased first-generation immigrant optimism (Kao and Tienda 1995) or to newcomers' reduced exposure to a discriminatory environment for Latinos in the USA (Portes and Rumbaut 2001). Consistent with the latter idea, one study of Latino students in 4-year institutions found that being a second-generation (compared with first-generation) immigrant was positively associated with perceptions of a hostile climate for diversity on campus and negatively associated with feelings that faculty had taken an interest in their

welfare (Núñez 2009). These findings indicate that immigration status can influence how Latino students experience K-12 schooling or higher education campus climates. Furthermore, the broader sociohistorical context for immigrant reception can also influence Latinos' educational experiences with respect to factors like sense of belonging or alienation within higher education institutions (Ruiz Alvarado and Hurtado 2013). These institutional and political climates are critical social contexts at level 2 and 3 in the proposed multilevel intersectional model.

Citizenship status also circumscribes Latino access to and success in college, with Latino noncitizens less likely than Latino citizens to complete high school and enroll in college (Covarrubias 2011). Significant limitations in many states and across the federal government are placed on the extent to which undocumented immigrant students are eligible to receive public college financial aid. Undocumented Latino college students are not eligible for federal or (in 80 % of states) state aid to pay for public college education (Contreras 2011). In states where undocumented students have access to state higher education aid, however, they are more likely to enroll and persist in college (Flores 2010; Flores and Horn 2009–10). Therefore, whether or not a Latino student has citizenship is also important to consider with respect to factors such as “environmental pull” for attending or completing college due to access to financial capital to pay for college, the need to work, the need to live at home, and the need to support family members (Nora and Crisp 2009). Citizenship can shape the social and financial, not to mention political, contexts that Latino students must navigate toward college access and success.

Language Minority (LM) Status

Although LM students (students who grew up speaking a first language other than English) have not been extensively explored in higher education research (Rodríguez and Cruz 2009), emerging research suggests that LM status is a distinguishing feature among Latinos in college access and success. Among Latinos, high school English proficiency has a significant positive influence on high school graduation, college enrollment, and college completion (Kanno and Cromley 2013). There is also evidence that Latino linguistic minority (LM) students, in comparison with their Asian American LM counterparts in the K-12 system, have less access to college preparatory math courses (Mosqueda 2012). Research suggests that Latino LM college students are more likely than their non-LM counterparts to begin college at community colleges, which has negative longer-term consequences for college persistence and degree completion (Arbona and Nora 2007; Bowen et al. 2009). Those Latino LM students who begin at community colleges can have particularly dismal college persistence rates (Razfar and Simon 2011).

Furthermore, there is evidence that Latino LM college students persist and complete bachelor's degrees at lower rates than their non-Latino LM counterparts (Rodríguez 2012). Emerging research indicates that linguistic proficiency can influence Latino LM students' college experiences in both two- and four-year

institutions; many Latino LM students feel marginalized in the college environment (Kanno and Harklau 2012). Thus, similar to immigration status, LM status can influence college preparation skills and experiences in the college climate that affect college access and success. Also similar to immigration status, however, there are gradations in LM status (according to level of proficiency) that affect college access and success in different ways (Kanno and Cromley 2013). This research collectively points to LM status and even English proficiency (in the rare cases it is possible to measure it) as an important dimension to consider in an intersectional approach.

Class

Class is a multidimensional construct (Walpole 2007), and it is important to consider it as distinguishing among Latinos' experiences, including access to schooling and family resources (Zambrana 2011). Class may not operate in the same way for Latinos as for Whites in terms of higher education, as coming from a higher-SES background appears to confer fewer advantages to Latinos relative to Whites in 4-year college enrollment (O'Connor 2009). Therefore, assumptions cannot necessarily be made that higher SES advantages Latinos similarly to other groups in terms of educational access and success.

With respect to the intersection between class and immigrant status, in terms of the educational levels and material resources that immigrants bring with them to the USA, class strongly differentiates among K-12 immigrant students in terms of academic achievement and college preparation (Portes and Rumbaut 2001; Suárez-Orozco et al. 2008; Zambrana 2011). These findings reflect the differential family resources that immigrant students may have according to their family class background.

Being first-generation college-going and Latino can influence students to feel marginalized in a selective university setting (Lundberg et al. 2007; Núñez 2011). Regardless of whether they are community college or 4-year students, first-generation college-going Latino college students also have lower persistence rates than other students (Crisp and Nora 2010; McCarron and Inkelas 2006). One study suggests that Latina first-generation college students perceive their first-generation status to distinctively shape their college experience, viewing college as more of a struggle (in terms of factors such as family obligations) and as more of a privileged opportunity, than their counterparts whose families had more college experience (Gloria and Castellanos 2012).

Phenotype

Less research has been conducted on the effect of phenotype (skin color) on life and educational outcomes for Latinos, but the history of racism in the USA and beyond suggests that phenotype ought to be considered in an intersectional analysis on

Latinos (Zambrana 2011). Allen and colleagues (2000) found that, among Mexican Americans and African Americans, lighter phenotypes were associated with improved educational and occupational outcomes. Ortiz and Telles (2012) found that darker-skinned Mexican Americans in the USA report encountering discrimination more frequently than their lighter-skinned counterparts. Considering the variability among Latinos in phenotype, Bonilla-Silva (2013) hypothesizes that some Latinos may evolve into being considered White and others Black, stemming from the historically “one-drop” rule that has historically characterized the US conception of racial categories as dichotomous.

Flores and Telles (2012) have conducted intriguing research in Mexico to measure phenotype, not just by the researcher’s observation of a research participant in a study, but by requiring researchers to hold up a card with various skin tones to match a study participant’s skin color to certain categories of phenotype. They found that, as found in prior research, skin color is significantly associated with socioeconomic status and that skin color shapes SES primarily through its influence on access to educational opportunities. Access to educational opportunities (or lack of it), in turn, influences occupational stratification in the labor market, according to skin color. Their findings imply that, in Mexico, exposure to stereotypes in education, lower expectations from teachers, and lower quality schools all together begin to sort darker-skinned children into differential educational opportunities that, in turn, eventually sort these individuals into lower-status occupations. They conclude that prior research finding a disadvantage in life chances due to indigenous origin is primarily predicated on the interactions between indigeneity and past “skin color discrimination, class origin, and rural residence” (Flores and Telles 2012, p. 492). These studies directionally suggest that phenotype may act simultaneously with class to enhance or circumscribe educational opportunities.

Level Two: Domains of Power

Having sketched out how some critical social categories may influence variation in Latinos’ college access and success, I now turn to examining the power dynamics in various domains of power that may foster these variations. In particular, I consider how multiple arenas of investigation as articulated by Anthias (2013)—*organizational*, *representational*, *intersubjective*, and *experiential*—condition systems and contexts engendering power dynamics, systems of oppression, or “domains of power” (Dill and Zambrana 2009) that work interdependently to influence the educational opportunities and attainment of Latinos with multiple social identities. This analysis represents intersectional contextual influences at level 2 of the proposed multilevel intersectional model.

Before I discuss these distinct arenas of investigation in relation to Latino college access and success, I will focus on an illustrative example discussed earlier in the account of how the Latino social identity was constructed. One potential example of this sort of analysis is illustrated by Mora’s (2014) account of the construction of

Latino as a social category. Although she does not explicitly use intersectionality as a guiding framework, she finds that the *organizational* sectors of social activists, Census government bureaucrats, and corporate media executives converged from different interest standpoints to create the Latino category.

The effect of this convergence was not just limited to the organizational arena, however. It extended to the *representational* arena because it affected changes in the discourse used to classify people from different racial/ethnic backgrounds and distinguished Latinos from others. That is, these organizational actors took symbolic power (Bourdieu and Passeron 1977) to define and reify the Latino category. This process had political, economic, social, and educational consequences, especially for those who would be classified in a Latino category. Processes of reconciliation (deliberating on a term for Latinos), codification (articulating/defining that term), and translation (circulating that term to the public to encourage people to complete the Census as members of that category) strengthened the Latino identity as a meaningful category (Mora 2014). I focus next on how domains of power shape Latino educational equity and opportunity.

Organizational

Broadly speaking, the organizational arena focuses on the role of organizations and institutions, such as schools, colleges, and universities, in shaping life opportunities. This raises the importance of considering institutional identities (Smith 2009) in understanding Latino college students' experiences. At the K-12 level, significant evidence exists to suggest that Latino students receive less educational encouragement from teachers and counselors and therefore are tracked into lower-level math courses (e.g., Mosqueda 2012; Oakes 1985; Oakes et al. 2006) and guided away from pursuing 4-year colleges in favor of community colleges, if they are encouraged to pursue college at all (e.g., González et al. 2003; Oakes et al. 2006). These trends converge and contribute to make Latinos less likely to receive bachelor's degrees than other ethnic groups (Arbona and Nora 2007; Bowen et al. 2009).

Latinos are channeled into community colleges for several reasons, including limited: academic preparation (Oakes et al. 2006), encouragement from guidance counselors (González et al. 2003; Oakes et al. 2006), and access to funds to pay for college (Contreras 2011; Dowd 2008). Accordingly, developmental education is a key concern for many Latino college students (Crisp and Nora 2010; Gándara et al. 2003; Nora and Crisp 2009, 2012; Núñez and Elizondo 2013).

Furthermore, although community colleges are a critical entry point for Latinos seeking a bachelor's degree (e.g., Núñez and Elizondo 2013), many Latino community college students who begin college hoping to transfer to a 4-year institution never do so (Crisp and Núñez *in press*; Gándara et al. 2012). Crisp and Núñez's (*in press*) national research suggests that, holding constant other critical individual and institutional factors, Latino and African American community college students who intend to transfer are channeled into vocational rather than academic

course-taking tracks, which negatively impacts their likelihood of transferring to a 4-year institution. So an intersectionality perspective suggests that, organizationally, educational tracking and channeling into lower-level educational postsecondary opportunities presents significant inequality in Latinos' chances of economic mobility, and multiple social categories must also be considered when understanding sources of this inequality.

For example, among Latinos, language minority (LM) status is associated with opportunities to take college preparatory courses during K-12 schooling (e.g., Gándara and Hopkins 2010). When Latino language minority students are tracked into lower-level courses, their access to postsecondary education is compromised in comparison to their counterparts who speak English more proficiently (Kanno and Cromley 2013; Kanno and Harklau 2012; Rodríguez 2012). Among Latino community college students who are also LM students, being tracked into developmental education courses can severely limit their capacity to persist or transfer in college, because of limited institutional support from instructors and counselors for their advancement (Razfar and Simon 2011).

In addition to being tracked into different academic programs within the same institution (e.g., developmental education versus regular instruction), research suggests that between institutional contexts, Latinos may have different experiences according to multiple social identities. As an example, we might consider the experiences of Latinos in predominantly White institutions versus Hispanic-Serving Institutions (HSIs). Research on Latinos in more selective 4-year or predominantly White institutions indicates that Latino students in these settings build academic self-confidence and find a sense of belonging in different ways than the research on White students might indicate (e.g., Hurtado and Carter 1997; Hurtado and Ponjuán 2005; Núñez 2009; Villalpando 2003). Variations in vulnerability to stereotypes regarding Latinos can also have differential effects on Latino students' academic achievement in 4-year selective university settings. For example, Latinos who experience higher stereotype threat also experience lower academic achievement (Massey et al. 2003). Bringing in the social identity of gender, women are known to experience stereotype threat in the face of expectations that they perform less well in math (Steele 2010). Meanwhile, Latina college students report that their gender identity is more salient to them—that they think more often about their gender identity than male Latinos (Ruiz Alvarado and Hurtado *in press*). Therefore, considering Latina identity in conjunction with gender identity could provide a more complete account of lower representations of Latinas in science, technology, engineering, and math (STEM) fields (Crisp et al. 2009; Crisp and Nora 2012).

By contrast, research suggests that, holding other individual and institutional factors constant, Latinos in HSIs have more equitable academic outcomes in demanding STEM fields (Crisp et al. 2009; Dowd et al. 2010) and college persistence and degree attainment (Flores and Park 2013). Similarly, there is some evidence that Latinos in community college HSIs transfer at higher rates than those in non-HSIs (Hagedorn et al. 2007; Laden et al. 2008). One possible explanation for these improved outcomes is that, although there is variation by ethnic group, Latino college students as a whole express that their identities as Latinos are less salient

when there is an increased proportion of Latinos on campus (Ruiz Alvarado and Hurtado *in press*). Therefore, they may experience less stereotype threat (Steele 1997, 2010) on the basis of their Latino identity in HSIs. Although this may be the case, Latinas still appear to be earning STEM degrees at lower rates in HSIs, suggesting that gender needs to be taken into account in conjunction with the HSI institutional context in understanding college success (Crisp and Nora 2010). Collectively, these findings suggest the utility of an intersectional perspective that requires that institutional contexts and identities (Hurtado et al. 2012; Smith 2009) be examined closely to understand Latino educational access and success.

The idea that stereotypes about Latinos manifest systems of racial oppression implicates also the other three arenas of investigation: representational (e.g., how Latinos' abilities are portrayed in media/public discourse and shape discursive assumptions about their educational potential), intersubjective (e.g., how teachers make assumptions about Latino students' capabilities, how they act in relation toward Latino students, and how Latino students react to teachers' and school personnels' interactions with them), and experiential (e.g., the extent to which Latino students may internalize stereotypes that are perpetuated in the representational and/or intersubjective arenas or how Latino students construct notions of "merit" and deservingness in educational opportunities). I discuss these three arenas in the next sections.

Representational

The representational realm involves how the media portray Latinos and the language used to discuss Latinos, how Latinos are publicly imaged, and broader discourse that purports to explain educational access and opportunity. These portrayals have the potential to "create and sustain ideologies of group and individual inferiority/superiority and support the use of these factors to explain both individual and group behavior" (Dill and Zambrana 2009, p. 4). Using Roscigno's (2011) terms, these portrayals can invoke power dynamics of vilification of Latinos and amplification of their negative qualities in the press, policy discourse, or other venues of representation. Zambrana's (2011) analysis of the scholarship of the representation of Latinos in the media indicates that the media often portrays Latinos in stereotypical ways, such as the "Hot Latina" or the "Latino lover." Furthermore, scholarship on Latinos has often represented Latinos and Latino families as deficient and responsible for their marginalization, rather than examining the structural inequalities that perpetuate existing inequalities (Valencia 2002; Zambrana 2011).

Latinos in the USA are sometimes framed as invaders rather than members of the country (Beltrán 2010), when, in reality, the majority (64 %) of Latinos were born in the USA (Motel and Patten 2013). Meanwhile, a recent national public opinion poll suggested that three in ten non-Latino respondents believe that over half of Latinos in the USA are "illegal" immigrants (National Hispanic Media Coalition 2012). The use of the term "illegal aliens" to describe undocumented students diminishes the humanity of these students (Pérez-Huber 2009).

Thus, an immigrant identity and Latino identity are often conflated in dominant discourse, with the potential to create, perpetuate, and reify stereotypes about Latinos in terms of their immigrant identity and citizenship, and broader sense of belonging (academically and socially) in higher education (Rodríguez 2008; Ruiz Alvarado and Hurtado 2013). Furthermore, although research consistently documents that Latinos have less equal access to resources (e.g., underfunded K-12 schools, limited college preparatory course offerings) than others (e.g., Gándara and Contreras 2009; Contreras 2011), Latinos themselves are typically blamed and framed for their lower educational attainment (Martínez Alemán 2006). This can adversely affect images and assumptions about Latinos' academic abilities that lead to dynamics such as academic tracking (Oakes 1985; Oakes et al. 2006).

There is another dynamic in the representational domain that can compromise Latino access and success, particularly in community colleges. As noted, persistence and transfer outcomes for Latino community college students are lower than those of other students (e.g., Bensimon and Dowd 2009; Gándara et al. 2012; Crisp and Nora 2010; Crisp and Núñez *in press*; Núñez and Elizondo 2013). Many Latino community college students are enrolled in remedial courses (Nora and Crisp 2012; Núñez and Elizondo 2013). When considering multiple identities, this is especially true of Latino students who do not speak English as a first language (Razfar and Simon 2011). However, remedial courses are often not labeled clearly as being remedial, and students may not understand the consequences of taking these courses for their degree completion (Deil-Amen and Rosenbaum 2002; Deil-Amen 2011). Again, this is particularly true for students who do not speak English as a first language. Unfortunately, the incomplete description of the content, purpose, and consequences of taking certain courses can obscure the fact that certain courses might not even provide college credit and lead students to think they are making more progress than they actually are (Deil-Amen and Rosenbaum 2002; Deil-Amen 2011). In this way, representation of curriculum (or lack of it) can negatively affect Latino community college students' efforts to make progress toward a college credential or degree.

On a more macro-level, intersectionality presumes that "historical and systemic patterns of disinvestment in nonprivileged groups are major contributors to the low social and economic position of those groups" (Dill and Zambrana 2009, p. 4). Disinvestment in higher education and financial support through federal and state financial aid has happened in the same decades that the Latino population has been increasing, resulting in a "perfect storm" in which limited financial private and public resources impede college access for Latino students and families (Santos and Sáenz 2013). Although the practice of disinvestment itself is a power dynamic that lies in the organizational realm and varies according to historical trends, how disinvestment is discussed, rationalized, and justified lies in the representational realm.

Currently, disinvestment in higher education is justified by an ideological discourse prioritizing accountability over access, one that legitimizes educational inequity and, in philosopher Giorgio Agamben's view (1998, 2005), leads to an "abandonment," or absolution, of institutional responsibility for Latino postsecondary attainment (Harbour and Wolgemuth 2013, p. 250). Under this framing of higher education issues, a process of discursive obfuscation minimizes this institutional

absolution to provide educational access, in favor of “limited expenditure and delivery policies” (Harbour and Wolgemuth 2013, p. 235) that transfer the cost of higher education to individual students from the state, implement policies (like merit aid) that advantage higher income students, and reduce financial support for developmental instruction (Harbour and Wolgemuth 2013; Lakoff 2006; Roscigno 2011; St. John 2003). While these trends appear neutral, the ideological discourse and attendant material consequences of these policy shifts tend to disadvantage Latinos in terms of college access and success at the same time that they are beginning to constitute a larger share of the college-age population (historicity as another dimension of intersectionality that will be elaborated upon later).

Intersubjective

The intersubjective realm emphasizes interpersonal connections, which also contribute to educational inequality (Dill and Zambrana 2009). This includes assumptions that teachers make about Latino students and how stereotypes affect the ways that teachers and counselors interact with students and place them in coursework, which can contribute to academic tracking into lower-level coursework (Oakes 1985; Oakes et al. 2006), which can result in diminished college access for Latinos (González et al. 2003). Suárez-Orozco, Suárez-Orozco, and Todorova’s (2008) longitudinal mixed methods ethnographic study about Latino and Asian American immigrant students’ academic trajectories revealed that their teachers typically expressed assumptions that, in comparison to other students, Latino students had lower academic potential and that Latino families did not value education.

Language minority status is one identity that can shape Latino students’ college access during high school. Teachers may devalue (or vilify) Latino students’ academic potential over cumulative micro-level interactions, which can have negative consequences for being placed in college-level courses. One micro-level example of the consequences of misjudging a Latino student’s academic potential is illustrated in the experience of one Latino migrant student in a writing-intensive outreach program. In an interview after the program, he expressed that one of his schoolteachers had assumed that he could not write well, because English was not his first language. After strengthening his writing skills in the program, he returned to his senior year, and his teacher recognized that he was indeed skilled, apologized to him for making her negative assumptions, and, in his words, was “recommending me for college, not special education” (Núñez and Gildersleeve *under review*; Núñez *in press*). In another example of how intersubjectivity plays out, Latino high school students described how their teachers assumed they could not speak English well and assigned them to courses that were less aligned with their academic abilities; these experiences frustrated and alienated these students in school (Barajas and Ronnkvist 2007).

Language minority (LM) status also influences the extent to which Latino students feel marginalized in the university setting (Kanno and Harklau 2012; Kanno

and Grosik 2012). LM Latino community college students in remedial education experience institutional neglect (González et al. 2003) when teachers and staff do not take the time to engage in communication with Latino students who show struggles with speaking English (Razfar and Simon 2011). The LM Latino community college students in Razfar and Simon's (2011) longitudinal mixed methods study persisted at a less than 10 % rate, in part because of the lack of receptiveness of college personnel who did not offer these students more opportunities to practice English.

These dynamics for LM Latino community college students reflect what Clark noted as "cooling out" (1960), because these students encountered college personnel who did not fully support them in exploring their potential. Similarly, Bensimon and Dowd's (2009) interviews with Latino community college students reveal that many of these students lack access to necessary information and encouragement to transfer to a 4-year institution and earn a bachelor's degree. In the cooling-out process (Clark 1960), students who lack sufficient encouragement and support lower their aspirations and expectations of what they can accomplish and do not end up meeting their initial postsecondary goals.

Gender can also have a differential influence on Latino and Latinas' access to support from teachers during high school and college. An intersectional analysis involving the social categories of Latinos and gender suggests that teachers may interact with Latinas in more supportive ways than with Latinos (Sáenz and Ponjuán 2009). Gloria and Castellanos's (2012) research suggests that student affairs professionals feel that, compared with Latinas, Latino college students are more reticent and less inclined to seek help from college personnel or peers when they encounter challenges. If these professionals have a harder time sensing if Latino college students are struggling, it may affect their interactions with them, and they may be able to offer less timely support to these students. Although not in the educational field, Fraga's et al. (2005) research in political science indicates that gender also differentiates the political opportunities of Latina from Latino legislators. Again suggesting that Latinas may be more interconnected with other institutional actors, he notes that the most differentiating factor between these politicians is intersubjective: Latinas are more likely than Latinos to build cross-ethnic coalitions to advance political agendas. This includes being approached by members of other ethnic groups to create joint efforts.

With respect to graduate school choice process, Ramírez's (2013) research revealed how Latino students' intersubjective experiences, in the form of interactions with faculty and staff, gave them signals about the campus climate and whether it would be supportive or reflect their cultural values. Some decided to attend lesser-ranked graduate schools because they felt more supported in these schools. One described being treated "coldly" (Ramírez 2013, p. 30) at a highly ranked institution. Another mentioned that "...it's not just the quality of the academics that are very important for me, but also whether or not I belong...or [feel] welcome" (Ramírez 2013, p. 30). The power dynamics in these intersubjective interactions, including faculty and teachers' power to frame students' skills or to welcome students in educational settings, suggest institutional support or neglect (González et al. 2003) that can affect Latino postsecondary educational opportunity.

Experiential

So far, we have explored how organizational, representational, and/or intersubjective domains of power can play out through societal mechanisms such as stereotype threat (Steele 1997, 2010) to shape Latino college access and success. The experiential domain of power, in turn, primarily concerns the lived experiences of Latinos in higher education, a central concern of LatCrit theory (Solórzano and Villalpando 1998; Villalpando 2003, 2004). One dimension of the experiential realm that is salient to Latino college access and success is the extent to which Latino students internalize the relevancy of stereotypes that can be ascribed to Latinos. This involves the individual's construction of internal narratives explaining their own success or failure, based on an interpretation of dominant narratives and stereotypes around topics such as educational potential, possibilities, access, and equity.

Research suggests that Latino immigrant and migrant high school students have internalized negative stereotypes about their abilities and may attribute their lack of success to individual ability, rather than to structural constraints and power asymmetries (Gibson and Hidalgo 2009; Pacheco and Nao 2009). This could adversely affect the sense among Latinos from these marginalized communities that they have the ability to go to college (Gildersleeve 2010). Similarly, Latino first-generation college-going students frequently express an insecurity in their abilities because they are Latino; for example, half of the Latino students in Núñez's (2011) qualitative study expressed feeling some kind of stereotype threat. Vulnerability to these stereotypes has a negative effect on college academic performance for Latinos, even at the most selective of universities (Massey et al. 2003). Susceptibility to stereotype threat (Steele 2010) also has a negative relationship with life satisfaction during college for Latino students, as does an internally felt pressure to conform to perceived Latino cultural standards and behaviors, such as being expected to know how to speak Spanish (Ojeda et al. 2012; Tyler et al. 2008).

As suggested, Latino students can internalize dominant representational narratives that educational outcomes are predicated primarily on merit versus access or equity of opportunity (Pacheco and Nao 2009). When exposed to curricula that question these narratives, such as Chicano studies or critical theory, some Latino students realize that the limited economic, political, and social structure of opportunity, rather than their own lack of ability, is primarily responsible for their educational challenges (e.g., Gildersleeve 2010; Núñez 2011; Núñez *in press*; Núñez and Gildersleeve *under review*; Yosso 2006). One study about an (im)migrant (including both immigrant and migrant students—for example, see Gildersleeve 2010) outreach program found that Latino participants exposed to such a curriculum enrolled in selective public higher education institutions at higher rates than a similar comparison group of nonparticipants (Núñez 2009). This suggests that students can resist and challenge power dynamics when they develop the analytical tools to redefine how Latino students are framed in the representational and intersubjective arenas, to transform and expand their own opportunities in the organizational arena.

Based on a comprehensive review of literature on Chicanos, Yosso (2006) formulates a counterstory, or an alternative narrative centered in the experiences of Chicano

students, to challenge scholarship and practices that frame these students in a deficit manner (Solórzano and Yosso 2002). The counterstory articulates some of the intersubjective factors that could hamper Chicano students' college success, such as teachers' or administrators' assumptions that they are not fully qualified (e.g., conflating Chicanos with nonnative English speakers and believing that not all Chicano students speak English well). However, the counterstory also suggests that participation in activities that affirm Latino identities—such as ethnic studies courses, ethnic centers, activism, or community service—can enhance college success (Villalpando 2003; Yosso 2006).

In sum, level two of the multilevel model of intersectionality addresses the organizational, representational, intersubjective, and experiential domains of power arenas to indicate that postsecondary attainment is not just a matter of individual motivation and effort. Power dynamics in these arenas include institutionalized racism and the creation, perpetuation, and reification of stereotypes that influence Latino students' outcomes. How Latino students react to these power dynamics of vilification and amplification regarding their abilities and potential, coupled with the extent to which institutions can mitigate such dynamics, can influence their educational access and success (Martínez Alemán 2006; Roscigno 2011).

Level Three: Historicity

In the third level of the model, scholars focus on the importance of locating social categories, associated concrete relations, and domains of practice within a broader temporal and spatial context, what Anthias (2013) calls “historicity.” This type of analysis highlights broader interlocking systems of power that evolve over time and in specific geographic places. Broadly speaking, level three merits further consideration in scholarship because it conditions the power dynamics and the construction of social categories (level one) and related hierarchies or power asymmetries. Fewer examples of research exist about how sociohistorical context affects diverse learning environments (Hurtado et al. 2012). However, tracing broader historical trends can help to identify macro-level influences that affect Latino postsecondary access and success.

First, Latino itself is not a natural and given social category, as the term did not exist before the 1970s (Mora 2014). One could not even self-identify as Latino before the president's executive order on affirmative action in 1961. This is now difficult to imagine, indicating how government, media, and social movements contributed to shaping a Latino panethnic identity that has come to be conceived of as natural, taken-for-granted, and timeless (Mora 2014). The construction of this category enabled the limited Latino participation in higher education to be documented and subsequently to extend affirmative action policies to include Latino students (Contreras 2011; Gracia 2008). The existence of this category also made it possible for scholars to build the field of Chicano studies further (e.g., Acuña 2011)

and for demographers to draw on national data sets to understand patterns in Latino participation in society (e.g., Mora 2014).

Second, the economic context of reception for people from a Latino background has varied over time. During times of war when certain types of domestic laborers (ranging from migrant farmworkers, to skilled laborers, to professionals) have been less available to work in the USA due to involvement in wars overseas, the country has been more welcoming to Latino immigrants. For example, beginning in 1942, when many residents of the USA were participating in World War II, the USA formally welcomed Mexican American laborers to the country through the Bracero program, because it had too few of its own workers to sustain production at home. However, after the war ended and US personnel returned home, these laborers were discouraged from working in the US and often forcibly returned to Mexico. The Bracero program eventually ended in 1964 (Calavita 2010). As Suárez-Orozco, Suárez-Orozco, and Todorova (2008) suggest, then, the USA has had an uneasy and ambiguous relationship with the potential labor that Latinos can offer, actively recruiting this labor at times and, at other times, seeking to exclude it. This variance in openness to the presence of US Latinos affects their educational and occupational life chances (Massey and Pren 2012).

Third, in an interrelated point, the context of reception for Latino immigrants and Latinos by association (since their identities are often conflated with those of immigrants) also has varied over time. What comprises the context of reception itself has changed; most of the Western and Southwestern states in the USA were once part of Mexico, following the phrase: “We didn’t cross the border; the border crossed us.” In more recent times, in the wake of the 2008 economic collapse, Latinos and immigrants have often been vilified as taking away jobs that rightfully belong to US residents and as drawing public resources away from US residents (even though *all* working Latinos, regardless of citizenship status, pay taxes for public services) (Pérez 2012). Observers have also noted the emergence of a fear of Latino cultural values threatening what are perceived to be American cultural values, voiced by cultural critics such as Harvard political scientist Samuel Huntington (Beltrán 2010; Rodríguez 2008). Richard Rodríguez (1993), however, reminds us that this is a historical phenomenon, and that other groups now perceived to hold “American” cultural values were not seen this way in the past. In his words, “Now ‘Hispanics and Asians’ have replaced ‘Catholics and Jews’ in the imaginations of nativists. The nativist fear is that non-European immigrants will undo the European idea of America (*forgetting that America was formed against the idea of Europe*)” (165, emphasis added).

Amplification of this historical vilification of Latinos is reflected in contemporary trends such as the emergence of laws in state like Arizona permitting any individual suspected to be an undocumented immigrant to be detained by the police at any time, the increase in hate crimes against Latinos, Latinos surpassing African Americans as the group perceived most often to be experiencing discrimination (Pew Hispanic Center 2010b), and the majority of Latinos (about two-thirds) witnessing discrimination in schools, the most common site for which they report experiencing discrimination (Pew Hispanic Center 2010a). As noted earlier, national figures indicate that about eight in ten Latinos, regardless of immigration status, feel that they could be stopped by the police at any time (Menjívar and Abrego 2012).

Such discourse and its consequences can shape the historical portrayal and experiences undocumented students in K-12 and higher education, who are often portrayed as draining the USA of its public resources during poor economic times (Pérez-Huber 2009; Suárez-Orozco, Suárez-Orozco, and Todorova 2008), rather than as potential contributors to the economic, social, political, and civic well-being of the country (Pérez 2009, 2012). Access to financial aid for higher education poses a significant challenge to most undocumented immigrant students, since at the time of publication, 32 states do not offer in-state public tuition benefits and because federal aid remains inaccessible to these students (Institute for Higher Education Law and Governance 2013). More broadly, these macro-level exclusionary trends can adversely affect Latino students' perceptions of whether and where they can go to college (Núñez and Gildersleeve [under review](#)) and of the campus climate if they pursue college (Ruiz Alvarado and Hurtado 2013). These conditions have led Núñez and Gildersleeve ([under review](#)) to term anti-immigrant, anti-bilingual, and anti-affirmative action policy trends as a collective "policy regime" that, at this point in US history, seeks to exclude Latino and immigrant students from educational, economic, social, and political opportunities. Applying the multilevel model, historical trends in nativism, public policy, and economic conditions (level 3—historicity) can shape discourses about access and opportunity (level 2—representational domain of power), as well as organizational practices (level 2—organizational domain of power) that shape college access and success of students who hold multiple Latino and immigrant identities (level 1—multiple social identities).

Fourth, historical trends in declining public support for higher education, which have been rationalized in the representational policy discourse as discussed previously in this paper, have no doubt adversely affected Latino students' college access and success. Contreras (2011) and Santos and Sáenz (2013) note that the Latino population's increase has corresponded with severely declining availability of public funds for higher education, leading Santos and Sáenz to coin these simultaneous trends "a perfect storm" challenging Latino educational equity. As Contreras (2011) reminds us, this is not a natural and given turn of events, when we consider how a major public infusion of funds financed returning soldiers from World War II to attend college on the GI Bill in the 1940s. Today, there has been a severe decline in the availability of financial aid for Latinos and other students to pay for college, such that as college tuition has risen, the share of college paid for by loans relative to grants has increased substantially (Harbour and Wolgemuth 2013; Santos and Sáenz 2013; St. John 2003). This trend adversely affects Latinos in particular, since they are among the poorest racial/ethnic groups in the USA (López 2011).

To summarize, a perspective of historicity reminds us that the construction of social categories, context of reception for different groups, development of hierarchies, and allocation of resources for different public or private societal goals are neither natural nor given. An intersectional approach recognizes how dynamics in these areas can shape educational access and opportunity. These dynamics can influence the practices across organizational, representational, intersubjective, and experiential arenas, depending on opportunity structures and discourses around these structures at particular historical moments or time periods.

Implications for Future Inquiry and Practice

In advancing an intersectionality framework, I raise several implications and directions for future research and practice. In terms of research, this chapter highlights the importance of conducting research about how “domains of power” (Dill and Zambrana 2009) and related power dynamics affect educational opportunity through intersecting historical, social, organizational, and political contexts and their interplay with multiple social identities. The literature reviewed in this article suggests that certain specific concepts could guide future inquiry about the power dynamics shaping educational access and success for groups with different social identities. These processes include reconciliation, codification, and translation of social identities between and among various social, economic, and political actors (Mora 2014); the use of vilification and amplification to rationalize higher education power asymmetries (Roscigno 2011); and diversion from or obfuscation of the institutional responsibility for promoting student access and success (Harbour and Wolgemuth 2013; Roscigno 2011). Accordingly, expanding the research base could also require “studying up” (Howard and Gatzimbe-Fernández 2010; McDonough and Núñez 2007) about those who are privileged in the decision-making process regarding higher education—be it state legislators, institutional personnel, K-12 personnel, or related actors who shape college access.

Studying these processes within the organizational, representational, intersubjective, and experiential domains (Anthias 2013) to see how power asymmetries are created and reified poses critical directions for higher education research seeking to understand and affect educational equity. The special case of Latinos in higher education in this review suggests that these domains often operate interdependently to affect convergent movements, so exploring how multiple contexts interplay to affect educational opportunity is important. In addition, the role of the sociohistorical context in shaping contexts, processes, and construction of social categories is underexamined (Hurtado et al. 2012) and warrants further research.

Drawing on Transdisciplinary Perspectives

If higher education researchers would like to gain more traction in examining the workings of systems of oppression such as racism (Harper 2012), drawing more extensively from work in sociology and from a wider range of disciplines than those that are typically considered in higher education research is warranted (e.g., Anthias 2013; Bonilla-Silva 2010, 2013; Collins 2007; Roscigno 2011; Mora 2014). In particular, this review suggests that political science and philosophy can offer additional insights into how systems like racism are created and foster exclusionary social, political, and economic inequities (e.g., Beltrán 2010; Harbour and Wolgemuth 2013). Comparative literature, feminist studies, and Latino studies also hold potential to inform studies of educational access and success in novel ways (e.g., Beltrán 2010; Butler 1999; Dill and Zambrana 2009).

Speaking to the multilevel model's third level of historicity, with some exceptions (e.g., Gasman 2007a, b, 2010; Hutcheson et al. 2011), the discipline of history is generally underutilized in higher education to shed light on the dynamics of educational equity. Insights from organizational studies (Bastedo 2012) and feminist poststructural theory (e.g., Allan et al. 2010; Kezar 2011) could also inform the application of intersectionality in higher education. Collectively, these disciplines and fields have the potential to offer new lenses and possibilities to structure inquiry to reveal new nuances in the understanding of the construction or deconstruction of postsecondary educational equity.

Incorporating Comparative Lenses

As has been illustrated in disciplines including history, anthropology, sociology, and political science, a comparative lens can also enhance the utility of an intersectional perspective in understanding the construction and functioning of interlocking systems of oppression in shaping educational opportunity. For example, scholarship on the construction of race as a social category has tended to be grounded in the USA, but this could only be illustrating one "natural" and creating a "taken for granted" pathway of understanding of how race is constructed in society, obfuscating other ways to understand racial formation and racialization as these have unfolded in other countries (Bonilla-Silva 2013). For example, compared with research in the USA, race scholarship in countries such as Brazil suggests that the initial construction of social categories (at level one—multiple identities—of the multilevel intersectional model) may unfold from different societal processes (at level two—domains of power—of the multilevel intersectional model) over time (at level three—historicity—of the multilevel model) (Bonilla-Silva). The Flores and Telles (2012) study cited earlier about the role of phenotype in affecting life chances was conducted in Mexico, but sheds light on how skin color may affect socioeconomic status and educational opportunities in different ways among Latinos in the USA. It also suggests that, regardless of where a study is conducted, measuring phenotype is a complex matter and, when measured inconsistently, can lead to inconclusive results.

Choosing Methodologies

The research cited throughout this synthesis has employed a range of methods. Understanding the limits and possibilities of this research can inform future use of methodologies to explore the role of intersectionality in phenomena such as college access and success. Below, I explore how existing methods can be applied and developed further to understand how intersectionality affects college access and success.

Qualitative

Some qualitative research has already shed light on variation in Latinos' and Latinas' graduate school choice process (Ramírez 2013), African American faculty's gendered experiences in the academy (Griffin and Reddick 2011), and Filipino and Filipina American college students' experiences with campus climate (Maramba and Museus 2011). This research has focused primarily on the experiential domain of power in terms of highlighting individuals' self-reports, narratives, and interpretations of how their multiple social identities shape their possibilities in various educational roles. Thus, it has shed the most light on the meaning of multiple social identities in educational experiences and individuals' own meaning making of these experiences (experiential domain of level 2). Given that intersectional research and research on Latinos is in relatively early stages, the interpretive nature of qualitative research is especially well positioned to generate understanding of concepts, dynamics, and settings that influence the interplay among and between multiple individual and institutional and social contexts (e.g., Collins 2007). Similarly, Roscigno (2011) argues that qualitative research is especially well suited to identify processes of amplification and vilification that result in privileging some groups' status and not others.

In particular, the use of critical discourse analysis (CDA) (Bloomert and Bulcaen 2000) to analyze the language in educational policies (Martínez Alemán *in press*; Chase et al. 2012) or transcripts in court cases that challenge societal inequality (Roscigno 2011) can reveal organizational and representational (Anthias 2013) processes of rationalization, justification, codification, translation, obfuscation, or diversion (Harbour and Wolgemuth 2013; Mora 2014; Roscigno 2011) that perpetuate power asymmetries for different social and institutional identities. Put differently, the use of CDA can identify cognitive frames (Lakoff and Johnson 1980; Lakoff 2006) used to shape how people make sense of educational opportunity. As noted previously in the representational domain of power, such cognitive frames including those focused on accountability and efficiency can divert attention away from agendas directed toward equity, access, and opportunity (Harbour and Wolgemuth 2013).

Although methodological standards for autoethnography are still evolving (Hughes et al. 2012), autoethnographical narratives of individuals or groups also hold much potential to reveal how multiple social identities play out in different social contexts and influence educational opportunities. Several researchers have explicitly used intersectionality to guide an autoethnographic method to explore issues of power and privilege in relation to social and institutional contexts and outcomes (Abes 2012; Jones 2009; Jones et al. 2012; Núñez and Murakami-Ramalho 2011). These studies have focused on the role of less visible identities such as class and sexuality (Abes 2012) and more visible identities such as race and gender (e.g., Jones 2009; Núñez and Murakami-Ramalho 2011) in shaping individuals' perceptions of their educational opportunity structures and the ways in which individuals navigate those opportunity structures. These autoethnographical narratives have also highlighted the importance of social context in shaping the

salience of various identities in educational experiences and outcomes (Jones 2009). Núñez and Murakami-Ramalho (2011), for example, discuss how working in a Hispanic-Serving Institution (HSI) has shaped their research on educational access and opportunity for Latinos in unique and distinctive ways. In other work, Núñez et al. (2010) employ autoethnography to discuss how their social identities influence relations with students in the classroom, addressing the intersubjective domain of power.

Many higher education researchers use interviews or narratives to collect qualitative data to speak to intersectionality. Observations of those privileged in decision-making roles in higher education may also shed light on how intersectional social contexts shape educational opportunities. For example, Suárez-Orozco, Suárez-Orozco, and Todorova (2008) mixed methods longitudinal study of Latino and Asian American immigrant K-12 students included qualitative interviews and observations of students, teachers, and families. As noted earlier, observations of teachers revealed that teachers often assumed that their Latino immigrant students were less capable than others and that Latino families were less interested in education in general. Such observational data could inform our understanding of how such assumptions shape teachers' behaviors that steer students away or toward opportunities such as advanced courses, and in turn enhance our understanding of behaviors such as tracking.

The qualitative method of counterstorytelling from LatCrit and Critical Race Theory provides an alternative way to focus on experiences of students with multiple identities and to expose the contradictions and complexities they encounter across various domains of power (Solórzano and Yosso 2002). The flexibility counterstorytelling offers in creating narratives of power, privilege, and marginalization can enable researchers to address several identities, domains of power, and kinds of history and to consider the various roles that these could play in issues like Latino college access and success. Yosso's (2006) counterstory of Chicano students' college experiences, for example, reveals how college instructors can make assumptions that Chicano students cannot speak English well and assume that their reading, writing, and speaking skills are not equivalent with those of other students. Making such an assumption conflates the multiple identities of being Latino and language status (level one—multiple social identities). In turn, teachers could treat their students differently on the basis of this assumption (intersubjective domain of power), limiting the possibilities to enable students to meet their academic potential.

Qualitative studies of higher education faculty can also reveal instructors' perspectives in relation to their students with multiple identities. Jaffe's (2007) analysis of how community college instructors worked together to better serve Latino students; Núñez et al.'s (2010) reflections on pedagogy; and Peña's (2012) in-depth qualitative analysis with faculty members who reflected on their experiences teaching about race together indicate the power of self- and group reflection (Patton et al. 2007), to shift how teachers relate to their students and incorporate culturally relevant content into their curricula. Research has shown that the effect of teacher perceptions on student achievement can be long lasting (Croninger and Lee 2001), and this type of research could show us how these perceptions emerge and shape

behavior that reinforces the power asymmetries that do not fully honor certain students' academic capabilities. Alternatively, such research can show us how teachers and faculty with opportunities to reflect on their practice can work to authentically respond to and cultivate their students' culturally diverse assets (Jaffe 2007; Núñez et al. 2010; Peña 2012).

Quantitative

As intersectional paradigms and research become more sophisticated and as data sets become more expansive, it may become clearer how to conduct quantitative research in this field (Collins 2007). One limitation of conducting quantitative research on intersectionality is finding data sets that examine multiple social identities and that have large enough sample sizes of different combinations of those identities. For example, the only data set since the early 1970s that measures and distinguishes between both ethnicity and gender among Latinos is the Cooperative Institute Research Program (CIRP) survey, discussed in the Higher Education Research Institute's report tracing Latinos' college characteristics and experiences over three decades (Hurtado et al. 2008).

Conceptually, the notion of a "critical quantitative approach" (Stage 2007) aligns with the idea of intersectional inquiry. In an analysis of differential educational outcomes among Latinos according to multiple social identities, Covarrubias (2011) coins the term "critical quantitative intersectionality" to illustrate the potential to connect intersectionality with an intersectional approach to explore variation among social identities. A first step in such an approach is simply to disaggregate data on salient categories for Latinos, such as gender (Sáenz and Ponjuán 2009), ethnicity (Núñez et al. 2008; Núñez and Crisp 2012), or citizenship status (Covarrubias 2011). However, as has been noted, such an approach is merely descriptive and points to directions for speculation about the role of social contexts, but tends not to provide empirical evidence about how multiple and intersectional social contexts are associated with educational opportunities and outcomes.

A next step is to, where possible (depending on considerations like sample size and data availability), include these variables in multivariate models to examine their significance while holding other variables constant. To go beyond viewing the variables in independent and additive ways, Collins (2007) suggests forming composite variables that reflect the simultaneity of multiple influences. A related approach is to examine interaction effects between variables—for example, does gender (being female or male) interact with immigration status when examining the likelihood of Latinos to enroll in 2-year versus 4-year institutions? Advanced statistical quantitative methods like structural equation modeling (SEM) can facilitate exploration of constructs that incorporate simultaneous identities and indirect as well as direct effects of individual and institutional identities on outcomes. Accordingly, in a SEM analysis of predictors of Latinos' sense of belonging during their second year of college, Núñez (2009) found that second-generation immigrant status had an independent, negative effect on sense of belonging through a direct

and positive association with perceptions that the racial/ethnic campus climate was hostile and a negative association with perceptions that faculty were interested in their welfare. This finding supported sociological literature suggesting that second-generation students were especially vulnerable to a negative societal context of reception (e.g., Portes and Rumbaut 2001), illustrating how identity is embedded in the intersubjectivity domain of power.

Hierarchical linear modeling (HLM), through its capacity to analyze institutional effects on outcomes in more independent ways, can inform research on how institutional contexts or identities are salient in relation to sociodemographic identities in terms of shaping postsecondary education experiences and outcomes. In an example of a study that speaks to interlocking systems of power based on race and class, Park et al.'s (2013) HLM analysis finds that higher education racial and socioeconomic compositional diversity have independent effects on student behaviors and that socioeconomic compositional diversity, while not having a direct relationship, is indirectly associated with increases in cross-racial interactions through its relationship with institutional racial/ethnic diversity. However, this example focuses on domains of power and less on multiple social identities, since it does not include cross-level effects to illustrate how these types of diversity may affect the experiences of students from different identity groups or those with multiple social identities.

Using a different data set and sample, Ruiz Alvarado and Hurtado's (2013) HLM analysis focuses on Latinos only and suggests that, among Latinos, multiple social identities can mediate the extent to which students report perceiving or experiencing discrimination, with males, Puerto Ricans (compared with Mexican Americans), and LGBTQ students more likely and first-generation immigrant students less likely to report experiencing discrimination or bias in their institutions. It also suggests that, regardless of identities, students at institutions with higher proportions of Latinos are more likely to perceive that their institution is committed to diversity, even though this compositional variable is not significantly associated with reported perceptions of discrimination and bias or with reports of experiencing harassment (Ruiz Alvarado and Hurtado 2013). To conceptually apply the multilevel model of intersectionality here, the organizational domain of power is represented by the composition of Latino students on campus, the experiential domain of power by the extent to which students report experiencing discrimination, and the intersubjective domain of power by the extent to which students report experiencing harassment. Methodologically in HLM analysis, the organizational domain of power is measured as an institutional variable, whereas the latter two variables are measured as individual-level variables. The study reveals that taking multiple social identities into account is important when understanding Latino college students' experiences across these three domains of power. It also suggests that a higher proportion of Latino students (in the organizational domain of power) can (but not always) have a positive relationship with support for Latino students in the intersubjective and experiential domains of power. Thus, interlocking yet distinct institutional-level class and race social identity contexts influence college experiences that could have implications for shaping how the intersubjective and experiential domains in higher education influence diverse students' behaviors and outcomes.

Mixed Methods

A mixed methods approach combines the potential and varied benefits of quantitative and qualitative research outlined above to generate an especially holistic way to explore the intersectionality between social identities and how different social contexts across time accordingly affect educational opportunities (see Museus and Griffin 2011, for a more elaborate discussion of how using mixed methods can be especially valuable in conducting higher education research on intersectionality).

As noted earlier, in their 5-year longitudinal ethnography of first-generation immigrant K-12 students, Suárez-Orozco, Suárez-Orozco, and Todorova (2008) interviewed Latino and Asian immigrant students and their families from several national backgrounds. They also observed students in school, interviewed their teachers, and collected academic achievement data on these students. This mixed methods study offers rich insights on the interplay between multiple sociodemographic identities and institutional contexts and how this interplay is related to academic achievement, and, in some cases, college enrollment. The qualitative analyses provide insight into the educational, familial, and cultural processes that shape these students' educational opportunities, while the quantitative analyses offer insight into how such processes are connected with longer-term academic performance and even, in some cases, college enrollment. Consistent with an intersectional emphasis on institutional as well as individual influences (e.g., Collins 2007), their study addresses multiple units of analysis to illustrate how broader interlocking systems of power and oppression, including racism, nativism, classism, and sexism, affect Latino first-generation immigrant students' schooling experiences.

Practical Implications: Strategies and Practices to Challenge Oppression

Because a key component of intersectionality is its focus on social justice and transformative action (e.g., Collins 2007; Dill and Zambrana 2009), discussing practical implications of research on intersectionality is important. This section provides some examples that are focused on each level of the multilevel model.

Multiple Social Identities

It is important for policymakers and practitioners to be culturally responsive to specific social categories and identities. For example, taking one social identity, Latinos tend to value the family and collective to a greater degree than other cultures (Tyler et al. 2008). An intersectionality framework that brings in the role of gender also indicates that familial values can influence women to be more likely to stay at or near home than men if they do pursue higher education. Staying nearer to the family of origin can be associated with a lower selectivity of Latinas' undergraduate and

graduate institutions (Núñez et al. 2008; Ramírez 2013), which has negative consequences for college persistence and graduate school attendance (e.g., Arbona and Nora 2007; Bowen et al. 2009).

Interventions could work with students and families to explore families' feelings about location of institution, selectivity, and the costs and benefits of attending different institutions. Such interventions could also take into account how various social categories such as gender play into Latino students' and families' decisions about college. The purpose of such interventions would not be to impose an external view of where students should go to college, but to focus on students' and families' own perspectives on how multiple social identities could affect college access and success and to take these into account in the college (or graduate school) decision-making process.

Domains of Power

There can be cultural discontinuity between organizational values, norms, and behaviors in K-12 schools or higher education and Latino values, such as the US emphasis on individualism and individual advancement versus a Latino tendency to emphasize the collective, including the family, to a greater degree (Tyler et al. 2008). Designing interventions to “bridge multiple worlds” (Cooper 2009) or social contexts such as school, family, and community can result in increased academic performance and postsecondary-related outcomes (Moran et al. 2009). Such P-20 partnerships can also support students in the transition to college (Núñez and Oliva 2009). When the unit of analysis becomes the institution, commonalities across sectors in the skills required for students transitioning from one organizational sector (e.g., K-12 schooling) to another (e.g., higher education) become evident. Programs, policies, and practices seeking to bridge these sectors' interactions with students could facilitate their educational transitions toward postsecondary education.

Engaging Latino students in examining reasons for organizational inequities, misrepresentation of Latino capabilities, and differential intersubjective treatment of Latinos can also positively influence Latino students' educational outcomes. For example, engaging Latino immigrant and migrant students to express themselves in the language in which they feel most comfortable and exposing them to a curriculum in which they interrogate power dynamics that foster unequal educational opportunities can shift their experiential or narrative interpretation of why they or those from their background are pursuing higher education at lower rates (Núñez *in press*; Gildersleeve 2010; Pacheco and Nao 2009). This may shift their understanding from blaming themselves—internalizing the vilification in the representational arena—to recognizing that institutions are also contributing to their lack of opportunity (Pacheco and Nao 2009). Immigrant and migrant students who participated in an outreach program involving these activities and behaviors applied to and enrolled in selective higher education at higher rates than members of an academically and socially equivalent comparison group (Núñez 2009).

At the intersubjective level, it is important to challenge dynamics where teachers and counselors encourage Latino students to pursue 4-year education at lower rates and community college at higher rates than other students (González et al. 2003; Oakes et al. 2006). Increasing awareness about and deconstructing inappropriate assumptions regarding Latino students could help expand Latino access and success in this regard. Further research on these topics and associated processes that reify or challenge existing power relations is warranted to understand systems of domination and resistance, as well as how to interrupt social reproduction of educational inequity.

Historicity

A historical perspective reminds us that, although there is currently a “nativist fear that non-European immigrants will undo the European idea of America” (Rodríguez 1993, p. 165; see also Rodríguez 2012), in fact, “America was formed *against the idea of Europe*” (Rodríguez 1993, p. 165, emphasis added). The spirit of immigrants, in addition to the labor that they bring, has in past times been valued (R. Rodríguez 1993; Suárez-Orozco, Suárez-Orozco, and Todorova 2008). It is not a given that they are “invaders” in the USA and “takers” of US resources (Pérez 2012). As one participant in Núñez’s (2011) study of Chicano studies expressed, exposure to the coursework helped to explain to her what’s influenced her to “feel like I’m not good enough for the school because I’m Latina...I actually see *what’s actually caused it and all those kinds of things*” (p. 646). Or, as another student in the study expressed, in K-12 schooling, “You only hear one side of the history” (Núñez 2011, p. 646). Although there is clearly political resistance to it in states like Arizona and Texas, teaching history to all students in K-12 schools and colleges with this expanded perspective of the past can shape norms that are more inclusive toward Latinos and immigrants and challenge the current nativism that limits political will toward broadening educational opportunities for Latinos, regardless of their immigrant or citizenship status (Contreras 2011; Gándara and Contreras 2009; Tienda 2009).

Future Use of the Model

I have proposed a way for using intersectionality to study power dynamics across social contexts in relation to multiple social identities and how these entities collectively influence educational access and success. Accordingly, the application of the multilevel model of intersectionality can provide insight into the social construction of the definition, salience, and interplay of multiple social categories and their influence on educational processes and outcomes. By employing Latinos as a special case to illustrate the utility of a multilevel model of intersectionality, this review sheds additional light on the holistic understanding of the multiple individual and contextual dimensions affecting Latinos’ postsecondary opportunity. This multilevel model may be useful to guide research studying the roles of multiple social categories, contexts, and histories simultaneously shaping equitable educational opportunities.

References

- Abes, E. (2012). Constructivist and intersectional interpretations of a lesbian college student's multiple social identities. *Journal of Higher Education*, 83(2), 186–216.
- Abes, E. S., Jones, S. R., & McEwen, M. K. (2007). Reconceptualizing the model of multiple dimensions of identity: The role of meaning-making capacity in the construction of multiple identities. *Journal of College Student Development*, 48(1), 1–22.
- Acuña, R. (2011). *The making of Chicana/o studies: In the trenches of academe*. New Brunswick: Rutgers University Press.
- Agamben, G. (1998). *Homo sacer: Sovereign power and bare life* (D. Heller-Roazen, Trans.). Stanford: Stanford University Press.
- Agamben, G. (2005). *State of exception* (K. Attell, Trans.). Chicago: University of Chicago Press.
- Alemán, A. (2006). The challenge of Latino demographics to educational accountability: A pragmatist's view. *Educational Researcher*, 39(6), 74–591.
- Alemán, A. (in press). *Critical discourse in higher education policy research*. Unpublished manuscript.
- Allan, E. (2011). Women's status in higher education. *ASHE Higher Education Report*, 37(1). Hoboken: Wiley.
- Allan, E. J., Iverson, S., & Ropers-Huilman, R. (Eds.). (2010). *Reconstructing policy in higher education: Feminist poststructural perspectives*. New York: Routledge.
- Allen, W., Telles, E., & Hunter, M. (2000). Skin color, income, and education: a comparison of Mexican Americans and African Americans. *National Journal of Sociology*, 12(1), 129–180.
- Anthias, F. (2013). Intersectional what? Social divisions, intersectionality, and levels of analysis. *Ethnicities*, 13(1), 3–19.
- Arbona, C., & Nora, A. (2007). The influence of academic and environmental factors on Hispanic college degree attainment. *Review of Higher Education*, 30(3), 247–270.
- Baker, B., Keller-Wolff, C., & Wolf-Wendel, L. (2000). Two steps forward, one step back: Race/ethnicity and student achievement in education policy research. *Educational Policy*, 14(4), 511–529.
- Barajas, H., & Ronnkvist, A. (2007). Racialized space: Framing Latino and Latina experience in public schools. *Teachers College Record*, 109(6), 1517–1538.
- Bastedo, M. N. (2012). Building theories: Using sticky social mechanisms to understand and improve educational work. In M. N. Bastedo (Ed.), *The organization of higher education* (pp. 335–354). Baltimore: Johns Hopkins University Press.
- Baxter-Magolda, M. (1998). Developing self-authorship in young adult life. *Journal of College Student Development*, 39, 143–156.
- Beltrán, C. (2010). *The trouble with unity*. Oxford: Oxford University Press.
- Bensimon, E. M., & Bishop, R. (2012). Introduction: Why 'critical'? The need for new ways of knowing. *Review of Higher Education*, 36(1), 1–7.
- Bensimon, E. M., & Dowd, A. (2009). Dimensions of the transfer choice gap: Experiences of Latina and Latino students who navigated transfer pathways. *Harvard Educational Review*, 79(4), 632–658.
- Bensimon, E. M., & Malcom, L. (2012). *Confronting equity issues on campus: Implementing the equity scorecard in theory and practice*. Sterling: Stylus.
- Bloomaert, J., & Bulcaen, C. (2000). Critical discourse analysis. *Annual Review of Anthropology*, 29, 447–466.
- Bonilla-Silva, E. (2010). *Racism without racists* (3rd ed.). Lanham: Rowman & Littlefield Press.
- Bonilla-Silva, E. (2013). The last shall be the first: Best books in the race field since 2000. *Contemporary Sociology: A Journal of Reviews*, 42(1), 31–40.
- Bourdieu, P., & Passeron, J.-C. (1977). *Reproduction in education, society, and culture*. Beverly Hills: Sage.
- Bowen, W., Chingos, M., & McPherson, M. (2009). *Crossing the finish line*. Princeton: Princeton University Press.

- Bray, N., & Major, C. H. (2011). Status of higher education journals. *Journal of Higher Education*, 82(4), 479–503.
- Butler, J. (1999). *Gender trouble*. New York: Routledge.
- Calavita, K. (2010). *Inside the state: The Bracero program, immigration, and the INS*. New Orleans: Quid Pro.
- Chase, M. M., Dowd, A. C., Pazich, L. B., & Bensimon, E. M. (2012). Transfer equity for “minoritized” students: A critical policy analysis of seven states. *Educational Policy*. Retrieved from: <http://epx.sagepub.com/content/early/2012/12/06/0895904812468227>
- Cho, S., Crenshaw, K. W., & McCall, L. (2013). Toward a field of intersectionality studies: Theory, applications, and praxis. *Signs*, 38(4), 785–810.
- Chun, J. J., Lipsitz, G., & Shin, Y. (2013). Intersectionality as a social movement strategy: Asian immigrant women advocates. *Signs*, 38(4), 917–940.
- Clark, B. (1960). The ‘cooling out’ function in higher education. *American Journal of Sociology*, 65, 569–576.
- Collins, P. H. (1990). *Black feminist thought: Knowledge, consciousness, and the politics of empowerment*. Boston: Unwin Hyman.
- Collins, P. H. (2007). Pushing the boundaries or business as usual? Race, class, and gender studies in sociological inquiry. In C. Calhoun (Ed.), *Sociology in America: A history* (pp. 572–604). Chicago: University of Chicago Press.
- Contreras, F. (2011). *Achieving equity for Latino students: Expanding the pathway to higher education through public policy*. New York: Teachers College Press.
- Cooper, H. M. (1988). Organizing knowledge syntheses: A taxonomy of literature reviews. *Knowledge in Society*, 1(1), 104–126.
- Covarrubias, A. (2011). Quantitative intersectionality: A critical race analysis of the Chicana/o educational pipeline. *Journal of Latinos and Education*, 10(2), 86–105.
- Crenshaw, K. (1991). Mapping the margins: Intersectionality, identity politics, and violence against women of color. *Stanford Law Review*, 43(6), 1241–1299.
- Crisp, G., & Nora, A. (2010). Hispanic student success: Factors influencing the persistence and transfer decisions of Latino community college students enrolled in developmental education. *Research in Higher Education*, 51(2), 175–194.
- Crisp, G., & Nora, A. (2012). *Overview of Hispanics in Science, Mathematics, Engineering and Technology (STEM): K-16 representation, preparation and participation*. San Antonio: Hispanic Association of Colleges and Universities.
- Crisp, G., & Núñez, A. -M. (in press). Understanding the racial transfer gap: Modeling underrepresented minority and non-minority students’ pathways from 2-year to 4-year institutions. *Review of Higher Education*.
- Crisp, G., Nora, A., & Taggart, A. (2009). Student characteristics, pre-college, college, and environmental factors as predictors of majoring in and earning a STEM degree: An analysis of students attending a Hispanic–serving institution. *American Educational Research Journal*, 46, 924–942.
- Croninger, R. C., & Lee, V. E. (2001). Social capital and dropping out of high school: Benefits to at-risk students of teachers’ support and guidance. *Teachers College Record*, 103(4), 548–581.
- Cuádriz, G. H., & Pierce, J. L. (1994). From scholarship girls to scholarship women, surviving the contradictions of class and race. *Explorations in Ethnic Studies*, 17(1), 21–44.
- Davis, K. (2008). Intersectionality as buzzword: A sociology of science perspective on what makes a feminist theory successful. *Feminist Theory*, 9, 67–85.
- Deil-Amen, R. (2011). Beyond remedial dichotomies: are underprepared college students a marginalized majority? *New Directions for Community Colleges*, 155, 59–71.
- Deil-Amen, R., & Rosenbaum, J. (2002). The unintended consequences of stigma-free remediation. *Sociology of Education*, 75, 249–268.
- Delgado Bernal, D. D., & Villalpando, O. (2002). An apartheid of knowledge in academia: the struggle over the “legitimate” knowledge of faculty of color. *Equity and Excellence in Education*, 35(2), 169–180.

- Dill, B. T., & Zambrana, R. E. (2009). Critical thinking about inequality: An emerging lens. In B. T. Dill & R. E. Zambrana (Eds.), *Emerging intersections: Race, class, and gender in theory, policy, and practice* (pp. 1–21). New Brunswick: Rutgers University Press.
- Dill, B. T., McLaughlin, A., & Nieves, A. D. (2007). Future directions of feminist research: Intersectionality. In S. Hesse-Biber (Ed.), *Handbook of feminist research, theory, and praxis* (pp. 629–638). Thousand Oaks: Sage.
- Donato, R., & Hanson, J. S. (2012). Legally white, socially ‘Mexican’: The politics of de jure and de facto school segregation in the American Southwest. *Harvard Educational Review*, 82(2), 202–225.
- Dowd, A. C. (2007). Community colleges as gateways and gatekeepers: Moving beyond the access saga toward outcome equity. *Harvard Educational Review*, 77(4), 1–13.
- Dowd, A. (2008). Dynamic interactions and intersubjectivity: Challenges to causal modeling in studies of college student debt. *Review of Educational Research*, 78(2), 232–259.
- Dowd, A. C., Malcolm, L. E., & Bensimon, E. M. (2010). *Benchmarking the success of Latina and Latino students in STEM to achieve national graduation goals*. Los Angeles: Center for Urban Education.
- Flores, S. (2010). State Dream Acts: The effect of in-state resident tuition policies and undocumented Latino/a students. *Review of Higher Education*, 33(2), 239–283.
- Flores, S., & Horn, C. (2009–10). College persistence among undocumented students at a selective public university: A quantitative case study analysis. *Journal of College Student Retention*, 11, 57–76.
- Flores, S., & Park, T. (2013). Race, ethnicity, and college success: Examining the continued significance of the minority-serving institution. *Educational Researcher*. doi:10.3102/0013189X13478978.
- Flores, R., & Telles, E. (2012). Social stratification in Mexico: Disentangling color, ethnicity, and class. *American Sociological Review*, 77(3), 486–494.
- Fraga, L. R., Martínez-Ebers, V., López, L., & Ramírez, R. (2005). *Strategic intersectionality: Gender, ethnicity, and political incorporation*. A paper presented at the annual meeting of the American Political Science Association, Washington, DC.
- Frey, W. H. (2010, April 28). *Will Arizona be America’s future?* Washington, DC: Brookings Institution. Retrieved September 15, 2011, from http://www.brookings.edu/opinions/2010/0428_arizona_frey
- Fries-Britt, S., Johnson, J., & Burt, B. (2013). Black students in physics: The intersection of academic ability, race, gender, and class. In T. Strayhorn (Ed.), *Living at the intersections: Social identities and black collegians*. Charlotte: Information Age Press.
- Gándara, P. C., & Contreras, F. (2009). *The Latino educational crisis*. New York: Teachers College Press.
- Gándara, P. C., & Hopkins, M. (2010). *Forbidden language: English learners and restrictive language policies*. New York: Teachers College Press.
- Gándara, P. C., Alvarado, E., Driscoll, A., & Orfield, G. (2012, February). *Building pathways to transfer: Community colleges that break the chain of failure for students of color*. Los Angeles: The Civil Rights Project.
- Gasman, M. (2007a). *Envisioning black colleges*. Baltimore: Johns Hopkins University Press.
- Gasman, M. (2007b). Swept under the rug: A historiography of gender and black colleges. *American Educational Research Journal*, 44(3), 760–805.
- Gasman, M. (2010). *The history of U.S. higher education – Methods for understanding the past*. New York: Routledge.
- Gasman, M., Nguyen, T.-H., & Kalam, S. (2013). Black undergraduates at historically black colleges and universities and multiple identities. In T. Strayhorn (Ed.), *Living at the intersections: Social identities and black collegians*. Charlotte: Information Age Press.
- Gerth, H. H., & Mills, C. W. (1946). *From Max Weber: Essays in sociology*. New York: Oxford University Press.
- Gibson, M. A., & Hidalgo, N. D. (2009). Bridges to success in high school for migrant youth. *Teachers College Record*, 111(3), 683–711.
- Gildersleeve, R. (2010). *Fracturing opportunity*. New York: Peter Lang.

- Gimenez, M. E. (1997). Latino/"Hispanic" – Who needs a name? The case against a standardized terminology. In A. Darder, R. Torres, & H. Gutierrez (Eds.), *Latinos and education*. New York: Routledge.
- Ginorio, A. B., & Huston, M. (2001). *Si se puede! Latinas in schools*. Washington, DC: American Association of University Women.
- Gloria, A. M., & Castellanos, J. (2012). *Desafíos y bendiciones: A multi-perspective examination of the educational experiences and coping responses of first-generation college Latina students*. *Journal of Hispanic Higher Education*, 11(1), 82–99.
- González, R. (Ed.). (1996). *Muy macho*. New York: Anchor Books.
- González, K., & Padilla, R. (2008). *Doing the public good: Latina/o scholars engage civic participation*. Sterling: Stylus.
- González, K., Stoner, C., & Jovel, J. (2003). Examining the role of social capital in access to college for Latinas: Toward a college opportunity framework. *Journal of Hispanic Higher Education*, 2(2), 146–170.
- Gracia, J. J. E. (2008). *Latinos in America: Philosophy and social identity*. Malden: Blackwell Publishing.
- Griffin, K., & Pérez, D. (2013). Looking beyond labels: Black honors students negotiating the intersections between their personal and social identities. In T. Strayhorn (Ed.), *Living at the intersections: Social identities and black collegians*. Charlotte: Information Age Press.
- Griffin, K., & Reddick, R. (2011). Surveillance and sacrifice: Gender differences in the mentoring patterns of black professors at predominantly white research universities. *American Educational Research Journal*, 48(5), 1032–1057.
- Hagedorn, L. S., Chi, W., Cepeda, R. M., & McLain, M. (2007). An investigation of critical mass: The role of Latino representation in the successes of urban community college students. *Research in Higher Education*, 48(1), 73–90.
- Harbour, C. P., & Wolgemuth, J. R. (2013). Giorgio Agamben and the abandonment paradigm: A new form of student diversion in public higher education. *Review of Higher Education*, 36(2), 235–254.
- Harper, C. E. (2011). Identity, intersectionality, and mixed-methods approaches. In K. A. Griffin & S. D. Museus (Eds.), *Using mixed methods to study intersectionality in higher education: New directions in institutional research* (pp. 103–115). San Francisco: Jossey-Bass.
- Harper, S. (2012). Race without racism: How higher education minimize racist institutional norms. *Review of Higher Education*, 36(1), 9–30.
- Hart, J. (2006). Women and feminism in higher education scholarship. *Journal of Higher Education*, 77(1), 40–61.
- Herrera, F., Hurtado, S., Garcia, G., & Gasiewski, J. (2012). *A model for redefining STEM identity for talented STEM graduate students*. Los Angeles: University of California Los Angeles. Retrieved from <http://heri.ucla.edu/nih/downloads/AERA2012HerreraGraduateSTEMIdentity.pdf> on 26 June 2013.
- Howard, A., & Gatzimbe-Fernández, R. A. (Eds.). (2010). *Educating elites*. Lanham: Rowman & Littlefield Press.
- Hughes, S., Pennington, J. L., & Makris, S. (2012). Translating autoethnography across the AERA standards. *Educational Researcher*, 41(6), 209–219.
- Hurtado, S. (2007). The study of college impact. In P. J. Gumport (Ed.), *Sociology of education* (pp. 94–112). Baltimore: Johns Hopkins University Press.
- Hurtado, S., & Carter, D. F. (1997). Effects of college transition and perceptions of the campus racial climate on Latino college students' sense of belonging. *Sociology of Education*, 70(1), 342–345.
- Hurtado, A., & Cervantez, K. (2009). A view from within and without: The development of Latina feminist psychology. In F. A. Villaruel, G. Carlo, J. M. Grau, M. Azmitia, N. J. Cabrera, & T. J. Chahin (Eds.), *Handbook of U.S. Latino psychology: Developmental and community-based perspectives* (pp. 171–190). Thousand Oaks: Sage.
- Hurtado, S., & Ponjuán, L. (2005). Latino educational outcomes and the campus climate. *Journal of Hispanic Higher Education*, 4(3), 1–18.

- Hurtado, S., Milem, J. F., Clayton-Pedersen, A. R., & Allen, W. R. (1999). Enacting diverse learning environments: Improving the climate for racial/ethnic diversity in higher education. *ASHE/ERIC Higher Education Report*, 26(8). Washington, DC: George Washington University.
- Hurtado, S., Sáenz, V. B., Santos, J. L., & Cabrera, N. L. (2008). *Advancing in higher education: A portrait of Latina/o college freshmen at four-year institutions, 1975–2006*. Los Angeles: Higher Education Research Institute.
- Hurtado, S., Alvarez, C. L., Guillermo-Wann, C., Cuellar, M., & Arellano, L. (2012). A model for diverse learning environments: The scholarship on creating and assessing conditions for student success. *Higher Education: Handbook of Theory and Research*, 27, 41–122.
- Hutcheson, P., Gasman, M., & Sanders-McMurtry, K. (2011). Race and equality in the academy: Rethinking higher education actors and the struggle for equality for the post-World War II period. *Journal of Higher Education*, 82(2), 121–153.
- Institute for Higher Education Law and Governance. (2013). Table One: State laws allowing undocumented students to establish residency, 2013. Retrieved September 30, 2013, from <http://www.law.uh.edu/ihe/g/documents/Statute-TableOne.html>
- Jaffe, B. (2007). Changing perceptions, and ultimately practices, of basic writing instructors through the *familia* approach. In C. Kirklighter, D. Cardenas, & S. W. Murphy (Eds.), *Teaching writing with Latino/a students: Lessons learned at Hispanic-serving institutions* (pp. 169–192). Albany: State University of New York Press.
- St. John, E. P. (2003). *Refinancing the college dream: Access, equal opportunity, and justice for taxpayers*. Baltimore: Johns Hopkins University Press.
- Jones, S. R. (2009). Constructing identities at the intersections: An autoethnographic exploration of multiple dimensions of identity. *Journal of College Student Development*, 50(3), 287–304.
- Jones, S. R., & McEwen, M. (2000). A conceptual model of multiple dimensions of identity. *Journal of College Student Development*, 41, 405–413.
- Jones, S. R., Kim, Y. C., & Skendall, K. C. (2012). (Re)framing authenticity: Considering multiple social identities using autoethnographic and intersectional approaches. *Journal of Higher Education*, 83(5), 698–724.
- Kanno, Y., & Cromley, J. (2013). English language learners' access to and attainment in postsecondary education. *TESOL Quarterly*, 47(1), 89–121. doi:10.1002/tesq.49.
- Kanno, Y., & Grosik, S. A. (2012). Immigrant English learners' access to four-year universities. In Y. Kanno & L. Harklau (Eds.), *Linguistic minority students go to college: Preparation, access, and persistence* (pp. 130–147). New York: Routledge.
- Kanno, Y., & Harklau, L. (Eds.). (2012). *Linguistic minority students go to college: Preparation, access, and persistence*. New York: Routledge.
- Kao, G., & Tienda, M. (1995). Optimism and achievement: The educational performance of immigrant youth. *Social Science Quarterly*, 76(1), 1–18.
- Karabel, J. (2005). *The chosen*. New York: Mariner Books.
- Kelly, A. P., Schneider, M., & Carey, K. (2010). *Rising to the challenge: Hispanic college graduation rates as a national priority*. Washington, DC: American Enterprise Institute.
- Kezar, A. (Ed.). (2011). *Recognizing and serving low-income students in higher education*. New York: Routledge.
- Laden, B. V., Hagedorn, L. S., & Perrakis, A. (2008). Donde estan los hombres? Examining success of Latino males at Hispanic-serving community colleges. In M. B. Gasman, B. Baez, & C. S. V. Turner (Eds.), *Understanding minority-serving institutions* (pp. 127–140). Albany: State University of New York Press.
- Lakoff, G. (2006). *Thinking points*. New York: Farrar, Straus, & Giroux.
- Lakoff, G., & Johnson, M. (1980). *Metaphors we live by*. Chicago: University of Chicago Press.
- López, M. H. (2011). *Hispanic poverty rate highest in new supplemental census measure*. Washington, DC: Pew Hispanic Center. Retrieved November 27, 2011, at <http://pewhispanic.org/reports/report.php?ReportID=148>

- Lundberg, C. A., Schreiner, L. A., Hovaguimian, L. D., & Miller, S. S. (2007). First-generation status and student race/ethnicity as distinct predictors of student involvement and learning. *NASPA Journal*, 44(1), 57–83.
- MacKinnon, C. A. (2013). Intersectionality as a method: A note. *Signs*, 38(4), 1019–1030.
- Malcom, L., Dowd, A., & Yu, T. (2010). *Tapping HSI-STEM funds to improve Latina and Latino access to STEM professions*. Los Angeles: University of Southern California.
- Maramba, D., & Museus, S. (2011). The utility of using mixed-methods and intersectionality approaches in conducting research on Filipino American students' experiences with the campus climate and on sense of belonging. In K. A. Griffin & S. D. Museus (Eds.), *Using mixed methods to study intersectionality in higher education* (pp. 93–101). San Francisco: Jossey-Bass.
- Martínez Alemán, A. M. (in press). Critical discourse analysis in higher education policy research. In A. M. Martínez Alemán, B. Pusser, & E. M. Bensimon (Eds.), *Critical approaches to the study of higher education*. Baltimore: Johns Hopkins University Press.
- Martínez Alemán, A. M. (2006). Latino demographics, democratic individuality, and educational accountability: A pragmatist's view. *Educational Researcher*, 35(7), 25–31.
- Massey, D. S., Charles, C. Z., Lundy, G., & Fischer, M. J. (2003). *The source of the river: the social origins of freshmen at America's selective colleges and universities*. Princeton: Princeton University Press.
- Massey, D. S., & Pren, K. A. (2012). Origins of the new Latino underclass. *Race and Social Problems*, 4, 5–17.
- McCall, S. (2005). The complexity of intersectionality. *Signs: Journal of Women in Culture and Society*, 30, 1771–1800.
- McCarron, G., & Inkelas, K. K. (2006). The gap between educational aspirations and attainment for first-generation college students and the role of parental involvement. *Journal of College Student Development*, 47(5), 534–549.
- McDonough, P., & Núñez, A.-M. (2007). Bourdieu's sociology of education: Identifying persistent inequality, unmasking domination, and Fighting social reproduction. In C. A. Torres & A. Teodoro (Eds.), *Critique and utopia: New developments in the sociology of education*. New York: Rowman & Littlefield.
- Menjívar, C., & Abrego, L. (2012). *Legal violence in the lives of immigrants: How immigration enforcement affects families, schools, and workplaces*. Washington, DC: Center for American Progress.
- Mora, C. (2014). *Making Hispanics: How activists, bureaucrats, and media constructed a new American*. Chicago: University of Chicago Press.
- Moran, C., Cooper, C. R., López, A., & Goza, B. (2009). Developing effective P-20 partnerships to benefit Chicano/Latino students and families. *Journal of Hispanic Higher Education*, 8(4), 340–356. doi:10.1177/1538192709347845.
- Mosqueda, E. (2012). Linguistic minority students' opportunities to learn high school mathematics. In Y. Kanno & L. Harklau (Eds.), *Linguistic minority students go to college: Preparation, access, and persistence*. New York: Routledge.
- Motel, S., & Patten, E. (2013). *Statistical portrait of the foreign-born population in the United States, 2011*. Retrieved from <http://www.pewhispanic.org/2013/01/29/statistical-portrait-of-the-foreign-born-population-in-the-united-states-2011/>
- Museus, S. D., & Griffin, K. A. (2011). Mapping the margins in higher education: On the promise of intersectionality frameworks in research and discourse. In K. A. Griffin & S. D. Museus (Eds.), *Using mixed methods to study intersectionality in higher education: New directions in institutional research* (pp. 5–13). San Francisco: Jossey-Bass.
- National Hispanic Media Coalition. (2012). *The impact of media stereotypes on opinions and attitudes toward Latinos*. Retrieved from <http://www.nhmc.org/sites/default/files/LD%20NHMC%20Poll%20Results%20Sept.2012.pdf>
- Nora, A., & Crisp, G. (2009). Hispanics and higher education: An overview of research, theory, and practice. In J. C. Smart (Ed.), *Handbook of theory and research in higher education* (pp. 317–353). Neu-Isenberg: Springer Medizin press.

- Nora, A., & Crisp, G. (2012). *Hispanic student participation and success in developmental education*. San Antonio: Hispanic Association of Colleges and Universities.
- Núñez, A.-M. (in press). Employing multilevel intersectionality in educational research: Latino identities, contexts, and college access. *Educational Researcher*.
- Núñez, A.-M. (2009). Latino students' college transitions: A social and intercultural capital perspective. *Harvard Educational Review*, 79(1), 22–48.
- Núñez, A.-M. (2011). Counterspaces and connections in college transitions: first-generation Latino students' perspectives on Chicano Studies. *Journal of College Student Development*, 52(6), 639–655.
- Núñez, A.-M., & Crisp, G. (2012). Ethnic diversity and Latino/a college access: A comparison of Mexican American and Puerto Rican beginning college students. *Journal of Diversity in Higher Education*, 5(2), 78–95.
- Núñez, A.-M., & Elizondo, D. (2013). *Closing the Latino/a transfer gap: Creating pathways to the baccalaureate*. San Antonio: American Association of Hispanics in Higher Education, Educational Testing Service, and University of Texas at San Antonio.
- Núñez, A.-M., & Gildersleeve, R. (under review). *Sociocritical matters: Migrant and immigrant students' college access*.
- Núñez, A.-M., Hoover, R., Pickett, K., Stuart-Carruthers, C., & Vazquez, M. (2013). Latinos in higher education and Hispanic-Serving Institutions: Creating conditions for success. *ASHE Higher Education Report* 39(1). San Francisco: Jossey-Bass.
- Núñez, A.-M., & Kim, D. (2012). Building a multicontextual model of Latino college enrollment: Student, school, and state-level effects. *Review of Higher Education*, 35(2), 237–263.
- Núñez, A.-M., & Murakami-Ramalho, E. (2011). Advocacy in the hyphen: Perspectives from junior faculty at a Hispanic-serving institution. In G. Jean-Marie & B. Lloyd-Jones (Eds.), *Women of color in higher education: Turbulent past, promising future* (pp. 171–194). Bingley: Emerald Press.
- Núñez, A.-M., & Oliva, M. (2009). Organizational collaboration to promote college access: A P-20 framework. *Journal of Hispanic Higher Education*, 8(4), 322–339.
- Núñez, A.-M., McDonough, P., Ceja, M., & Solórzano, D. (2008). Diversity within: Latino college choice and ethnic comparisons. In C. Gallagher (Ed.), *Racism in post-race America: New theories, new directions* (pp. 267–284). Chapel Hill: Social Forces Publishing.
- Núñez, A.-M., Murakami, E., & Cuero, K. (2010). Pedagogy for equity: Teaching in a Hispanic-Serving Institution. *Innovative Higher Education*, 35(3), 177–190.
- O'Connor, N. (2009). Hispanic origin, socio-economic status, and community college enrollment. *Journal of Higher Education*, 80(2), 121–145.
- Oakes, J. (1985). *Keeping track*. New Haven: Yale University Press.
- Oakes, J., Rogers, J., Silver, D., Valladares, S., Terriquez, V., McDonough, P., Renee, M., & Lipton, M. (2006). *Removing the roadblocks: Fair college opportunities for all California students*. Los Angeles: UC All Campus Consortium for Research on Diversity and UCLA Institute for Democracy, Education, and Access.
- Ojeda, L., Navarro, R. L., Meza, R. R., & Arbona, C. (2012). Too Latino and not Latino enough: The role of ethnicity-related stressors on Latino college students' life satisfaction. *Journal of Hispanic Higher Education*, 11, 14. doi:10.1177/1538192711435553.
- Ortiz, A. M., & Santos, S. J. (2009). *Ethnicity in college: Advancing theory and improving diversity practices*. Sterling, VA: Stylus.
- Ortiz, V., & Telles, E. (2012). Racial identity and racial treatment of Mexican Americans. *Race and Social Problems*, 4, 41–56.
- Pacheco, M., & Nao, K. (2009). Rewriting identities: Using historicized writing to promote migrant students' writing. *Pedagogies*, 4(1), 24–43.
- Park, J. J., Denson, N., & Bowman, N. A. (2013). Does socioeconomic diversity make a difference?: Examining the effects of racial and socioeconomic diversity on the campus climate for diversity. *American Educational Research Journal*, 50(3), 466–496.
- Patton, L. D., McEwen, M., Rendón, L. I., & Howard-Hamilton, M. F. (2007). Critical race perspectives on theory in student affairs. *New Directions for Student Services*, 120, 39–53.

- Peña, E. (2012). Inquiry methods for critical consciousness and self-change in faculty. *Review of Higher Education, 36*(1), 69–92.
- Peña-Talamantes, A. E. (2013). Empowering the self, creating worlds: Lesbian and gay Latina/o college students' identity negotiation in figured words. *Journal of College Student Development, 54*(3), 267–282.
- Pérez, W. (2009). *We are Americans: Undocumented students pursuing the American dream*. Sterling: Stylus Publishing.
- Pérez, W. (2012). *Americans by heart: Undocumented latino students and the promise of higher education*. New York: Teachers College Press.
- Pérez-Huber, L. (2009). Challenging racist nativist framing: Acknowledging the community cultural wealth of undocumented Chicana college students to reframe the immigration debate. *Harvard Educational Review, 79*(4), 704–729.
- Perna, L. (2006). Studying college access and choice: A proposed conceptual model. In J. C. Smart (Ed.), *Handbook of theory and research in higher education* (Vol. 21, pp. 99–157). New York: Springer.
- Perna, L. W., & Thomas, S. L. (2008). Theoretical perspectives on student success: Understanding the contributions of the disciplines. *ASHE/ERIC Higher Education Report, 34*(1). San Francisco: Jossey-Bass.
- Pew Hispanic Center. (2008). *US population projections: 2005–2050*. Washington, DC: Pew Hispanic Center. Retrieved February 18, 2010, from <http://pewhispanic.org/files/reports/85.pdf>
- Pew Hispanic Center. (2010a). *Hispanics and Arizona's new immigration law*. Washington, DC: Author.
- Pew Hispanic Center. (2010b). *Pew social and demographic trends 2010*. Washington, DC: Author. Retrieved from www.pewsocialtrends.org/2010/01/12/blacks-upbeat-about-black-progress-prospects
- Pew Hispanic Center. (2011, May 26). *Statistical profile: Hispanics of Mexican origin in the United States, 2009; Hispanics of Puerto Rican origin in the United States, 2009; and Hispanics of Cuban origin in the United States, 2009*. Retrieved from <http://www.pewhispanic.org/2011/05/26/country-of-origin-proCles/>
- Portes, A., & Rumbaut, R. G. (2001). *Legacies*. Berkeley: University of California Press.
- Pusser, B., & Marginson, S. (2012). Power, politics, and global rankings. In M. N. Bastedo (Ed.), *The organization of higher education* (pp. 86–117). Baltimore: Johns Hopkins University Press.
- Ramírez, E. (2013). Examining Latinos/as' graduate school choice process: An intersectionality perspective. *Journal of Hispanic Higher Education, 12*(1), 23–36.
- Razfar, A., & Simon, J. (2011). Course-taking patterns of Latino ESL students: Mobility and mainstreaming in urban community colleges in the United States. *TESOL Quarterly, 45*(4), 595–627. doi:10.5054/tq.2011.268060.
- Rendón, L., Dowd, A., & Nora, A. (2012). *Priced out: A close look at postsecondary affordability for Latinos*. Washington, DC: The Higher Education Subcommittee on President Barack Obama's Advisory Commission on Educational Excellence for Hispanics.
- Renn, K. A., & Arnold, K. D. (2003). Reconceptualizing research on college student peer culture. *Journal of Higher Education, 74*(3), 261–291.
- Renn, K. A., & Reason, R. D. (2013). *College students in the United States: Characteristics, experiences, and outcomes*. San Francisco: Jossey-Bass.
- Rodríguez, R. (1993). *Days of obligation: An argument with my Mexican father*. New York: Penguin.
- Rodríguez, C. F. (2008). Latinos and immigrants. *Harvard Law Review, 11*, 247–262.
- Rodríguez, C. (2012). Top 10 % linguistically diverse students' access and success at Texas public universities. In Y. Kanno & L. Harklau (Eds.), *Linguistic Minority students go to college: Preparation, access, and persistence*. New York: Routledge.
- Rodríguez, G. M., & Cruz, L. (2009). The transition to college of English Learner and undocumented immigrant students: Resource and policy. *Teachers College Record, 11*(10), 2385–2418.
- Roscigno, V. J. (2011). Power, revisited. *Social Forces, 90*(2), 349–374.

- Ruiz Alvarado, A., & Hurtado, S. (in press). Salience at the intersection: Latina/o identities across different campus contexts. In D. J. Davis, R. J. Brunn, & J. Olive (Eds.), *Intersectionality and research in education*. Sterling: Stylus.
- Ruiz Alvarado, A., & Hurtado, S. (2013, April). *Growing during troubled times: Latina/o student experiences with multiple dimensions of the campus climate*. Paper presented at the American Educational Research Association annual meeting, San Francisco.
- Rumbaut, R. (2011). Pigments of our imagination: The racialization of the Hispanic-Latino category. *Migration information source*. Retrieved December 15, 2011, from www.migrationinformation.org/USfocus/display.cfm?ID=837
- Sáenz, R. (2010, December). *Population Bulletin update: Latinos in the United States 2010*. Washington, DC: Population Reference Bureau.
- Sáenz, V. B., & Ponjuán, L. (2009). The vanishing Latino male in higher education. *Journal of Hispanic Higher Education*, 8(1), 54–89.
- Santos, J., & Sáenz, V. (2013). In the eye of the perfect storm: The convergence of policy and Latina/o trends in access and financial concerns: 1975–2008. *Educational Policy*. doi:10.1177/0895904812465111.
- Smith, D. (2009). *Diversity's promise for higher education: Making it work*. Baltimore: Johns Hopkins University Press.
- Smith, D. G., Turner, C. S., Osei-Kofi, N., & Richards, S. (2004). Interrupting the usual: Successful strategies for hiring diverse faculty. *Journal of Higher Education*, 75(2), 133–160.
- Solórzano, D., & Villalpando, O. (1998). Critical Race Theory, marginality, and the experience of students of color in higher education. In C. A. Torres & T. R. Mitchell (Eds.), *Sociology of education: Emerging perspectives* (pp. 211–224). Albany: State University of New York Press.
- Solórzano, D., & Yosso, T. (2002). Critical race methodology: Counter-storytelling as an analytical framework for education research. *Qualitative Inquiry*, 8(1), 23–44.
- Solórzano, D., Villalpando, O., & Oseguera, L. (2005). Educational inequities and Latina/o undergraduate students in the United States: A critical race analysis of their educational progress. *Journal of Hispanic Higher Education*, 4(3), 272–293.
- Sparks, P. J., & Núñez, A.-M. (2012, April). *Institutional location and college persistence: The role of urbanicity*. Paper presented at the annual meeting of the Population Association of America, San Francisco, CA.
- Stage, F. (2007). Using quantitative data to answer critical questions. In *New Directions for Institutional Research*. San Francisco: Jossey-Bass.
- Steele, C. (1997). A threat in the air. *American Psychologist*, 52(6), 613–629.
- Steele, C. (2010). *Whistling Vivaldi*. New York: W. W. Norton and Company.
- Strayhorn, T. (Ed.). (2013). *Living at the intersections: Social identities and black collegians*. Charlotte: Information Age Press.
- Suárez-Orozco, C., Suárez-Orozco, M., & Todorova, I. (2008). *Learning a new land: Immigrant students in American Society*. Cambridge, MA: Belknap.
- Sy, S. R., & Romero, J. (2008). Family responsibilities among Latina college students from immigrant families. *Journal of Hispanic Higher Education*, 7(3), 212–227.
- Telles, E. (2012). Race and social problems. *Race and Social Problems*, 4, 1–4.
- Tienda, M. (2009). *Hispanicity and educational inequality: Risks, opportunities, and the nation's future* (Tomas Rivera Lecture Series). Princeton: Educational Testing Service, Policy Information Center.
- Torres, V. (2004). The diversity among us: Puerto Ricans, Cuban Americans, Caribbean Americans, and Central and South Americans. In A. M. Ortiz (Ed.), *New directions for student services* (Vol. 105, no. 16, pp. 5–15). San Francisco: Jossey-Bass.
- Torres, V. (2010). La familia as locus theologicus and religious education in lo cotidiano (daily life). *Religious Education*, 105(4), 444–461.
- Torres, V., & Hernández, E. (2007). The influence of ethnic identity on self-authorship: A longitudinal study of Latino/a students. *Journal of College Student Development*, 48, 558–573.
- Turner, C. S. V. (2002). Women of color in academe: Living with multiple marginality. *Journal of Higher Education*, 73(1), 74–93.

- Tyler, K. M., Uqdah, A. L., Dillihunt, M. L., Beatty-Hazelbaker, R., Conner, T., Gadson, N., & Stevens, R. (2008). Cultural discontinuity: Toward a quantitative investigation of a major hypothesis in education. *Educational Researcher*, 37(5), 280–297.
- US Department of Education. (2011). *Developing Hispanic-Serving Institutions Program—Title V*. Retrieved June 29, 2011, from www2.ed.gov/programs/idueshsi/index.html
- Valencia, R. (2002). *Chicano school failure and success* (2nd ed.). London: Routledge/Falmer.
- Villalpando, O. (2003). Self-segregation or self-preservation? A critical race theory and Latina/o critical theory analysis of a study of Chicana/o college students. *Qualitative Studies in Education*, 16(5), 619–646.
- Villalpando, O. (2004). Practical considerations of critical race theory and Latino critical race theory for Latino college students. *New Directions for Student Services*, 105, 41–50. San Francisco: Wiley Periodicals.
- Walpole, M. B. (2007). Economically and educationally challenged students in higher education: Access to outcomes. *ASHE-Higher Education Report Series*, 33(3), 1–113.
- Yosso, T. J. (2006). *Critical race counterstories along the Chicana/Chicano pipeline*. New York: Routledge.
- Zambrana, R. E. (2011). *Latinos in American Society*. Ithaca: Cornell University Press.
- Zambrana, R. E., & MacDonald, V.-M. (2009). Staggered inequalities in access to higher education by gender, race, and ethnicity. In B. T. Dill & R. E. Zambrana (Eds.), *Emerging intersections: Race, class, and gender in theory, policy, and practice* (pp. 73–100). New Brunswick: Rutgers University Press.
- Zuberi, T. (2001). *Thicker than blood: How racial statistics lie*. Minneapolis: University of Minnesota Press.

Chapter 3

Student Veterans in Higher Education

David T. Vacchi and Joseph B. Berger

Student veterans have been an important constituency that has contributed to the diversity of college and university campuses since the late 1940s when veterans first became prominent in US higher education following the end of World War II (WWII) and the launch of the GI Bill programs. Since that time, the numbers of veterans on college campuses has waxed and waned with the shifting tides of US involvement in foreign wars and veterans' educational benefits through programs like the GI Bill. The first decade of the twenty-first century, with the recent wars in Iraq and Afghanistan and the creation of the Post-9/11 GI program, has seen a rise in attention to the issues associated with the largest influx of student veterans into American higher education since the Vietnam War era. The US Department of Veterans' Affairs (VA) estimates close to one million veterans and family members used Post-9/11 GI Bill benefits by 2014 (US Department of Veterans' Affairs 2013a). With no end date for this benefit program, the generosity of Post-9/11 GI Bill benefits, and the need for advanced degrees in an increasingly competitive job market, significant numbers of veterans will continue to enroll in higher education institutions. A sustained influx of student veterans requires higher education faculty, staff, and administrators to both understand veterans and prepare to meet the needs of this rapidly growing student population. The need for greater understanding of this special population requires us to review what we know about student veterans and to set a direction for the growing movement of scholars who will shape the way we understand student veterans and how we develop improved policies and practice for this burgeoning population.

D.T. Vacchi (✉)
College of Education, University of Massachusetts Amherst,
19 Sheffield Drive, Belchertown, MA 01007, USA
e-mail: dvacchi@acad.umass.edu

J.B. Berger, Ph.D.
College of Education, University of Massachusetts Amherst,
230 Furcolo Hall, Amherst, MA, USA
e-mail: jbberger@educ.umass.edu

Despite the need for a well-defined, knowledge-driven scholarly agenda focused on student veterans, this has been an underdeveloped area in the higher education literature base for the past several decades. This dearth of attention has persisted even as the study of college impact has become an increasingly specialized body literature with significant attention paid to an array of subpopulations that constitute the expansive and diverse population of students in American higher education. There are complex reasons that likely contributed to the lack of scholarship on student veterans when compared to the wealth of studies conducted on other types of students. For example, it is likely that the malaise surrounding the Vietnam War and the unpopularity of the Vietnam era veteran resulted in decreased scholarly attention, particularly given the reluctance of Vietnam veterans to self-identify on campus (Rumann and Hamrick 2010). Then, nearly 30 years of relative peace, coupled with relatively low numbers of veterans enrolling in higher education throughout the 1980s and 1990s, provided a unique combination of factors that limited scholarly attention on this particular student subgroup despite the proliferation of research on a wide variety of students and subpopulations in higher education. Yet, there is a clear need for purposeful, thoughtful, and rigorous empirical study of student veterans as a component of the student population within higher education.

This chapter addresses this need for further scholarship on student veterans in several ways. First, we review the history of veterans as it informs our basic understanding of this nontraditional student population particularly with the evolution of the various GI Bill programs. Second, we review the precursors to understanding the contemporary student veteran population and the differences between today's veterans and past generations of veterans. Third, we review the extant literature on student veterans and identify major gaps in understanding student veterans that offer initial directions for future scholarly inquiry into the student veteran population. We then offer two conceptual frameworks for considering approaches to researching student veterans in higher education. The chapter concludes with considerations for research that may begin to address the numerous gaps in knowledge highlighted earlier in the chapter.

History of Student Veterans

In order to understand student veterans better, it is useful to review the history of societal support for veterans and student veterans. While the WWII GI Bill dominates the history of veterans and particularly student veterans as a landmark historical moment, this is but one important part of several eras in the history of student veterans in the United States. These eras include the Pre-GI Bill era, the WWII era, the Korean War era, the Vietnam era, the Cold War era, and the Post-9/11 era. Except for the WWII era, the student veteran literature base is sparse; however, many of the WWII era studies that might assist our understanding of student veterans are only documented in brief synopses from the *Journal of Higher Education* and do not satisfy the criteria for rigorous empirical research expected in

contemporary higher education. Moreover, we do not know how much similarity, or difference, there is between the current generation of veterans and the WWII era of veterans. The advent of the GI Bill following WWII transformed opportunities for veterans while having a tremendous impact on higher education and society. In fact, veterans who used their GI Bill benefits earned an average of \$10,000–\$15,000 more in annual incomes than those that did not; these additional earnings also generated tax revenues that were eight to ten times greater than the cost of the program itself (Herbold 1995). The original GI Bill and its variations align with the different eras of veteran history due primarily to their connection with the wars of the last 80 years. Since 1944, there have been six GI Bill educational programs, most recently including the Post-9/11 GI Bill, implemented in the fall of 2009, 1 year after enactment into law.

The Pre-GI Bill Era (Before 1944)

The first era, covering the years prior to WWII, is the longest era in the history of student veterans and is marked by remarkably little in the provision for and participation by veterans in higher education. Initially veterans only received benefits in the form of pensions, which first appeared in the United States after the Revolutionary War for severely disabled veterans (Altschuler and Blumin 2009). Little changed for veterans throughout the nineteenth century until the late 1860s when veterans and surviving spouses of the Civil War demanded better care and compensation for those killed and wounded during the war (Olson 1974). At the end of the Civil War, the efforts of the Grand Army of the Republic expanded and increased pensions and homes to care for those veterans who could no longer care for themselves (Altschuler and Blumin 2009; Olson 1974). While utilization of these services diminished as the twentieth century began, World War I (WWI) laid the groundwork for our current approach to serving veterans in higher education (Altschuler and Blumin 2009).

In the years following WWI, the federal government promised veterans a bonus to help them adjust after serving in *the war to end all wars* (Olson 1974). However, with the economic complications of the Great Depression, the government attempted to renege on veteran bonuses (Dickson and Allen 2004). The result of the bonus controversy led to a broader normative commitment to honest and fair treatment of veterans as a characteristic of the national ethos (Altschuler and Blumin 2009; Olson 1974). One tangible manifestation of the attempted default was the Bonus March of 1932, in which over 43,000 veterans and family members protested the failure of Congress to authorize payment of the WWI bonuses for veterans (Bennett 1996; Dickson and Allen 2004). Eventually General Douglas MacArthur led military troops to disband the protests, but not before Congress authorized the bonuses which were 13 years overdue (Olson 1974).

While the magnitude of the mobilization effort for WWI was impressive, it paled in comparison to the national mobilization undertaken for WWII. President Roosevelt, expecting an Allied victory, wanted to avoid the kind of negative

publicity brought on with the Bonus March in 1932 (Olson 1974). To address this issue, many in Congress and the White House advocated for programming brokered by the American Legion to help veterans avoid poverty after their wartime sacrifices (Clark 1998; Olson 1974; Serow 2004; Thelin 2004). The resulting Servicemen's Readjustment Act of 1944 featured 52 weeks of unemployment benefits, vocational retraining, zero percent home loans, small business loans, and Title II with postsecondary education financial support to help roughly 16 million veterans as they returned from the war in 1944 and 1945 (Clark 1998; Thelin 2004).

The WWII GI Bill Era (1944–1955)

Compensating American veterans for military service has roots that reach as far back as the Colonial era (Altschuler and Blumin 2009), but post-service compensation began to manifest prominently toward the end of WWII. Then the original GI Bill, or the Servicemen's Readjustment Act of 1944, established a comprehensive series of benefits and programs to help ease veterans back into American society without overwhelming the American workplace. While there were unemployment benefits, business loans, home loans, and training opportunities within the original GI Bill, the cornerstone of that legislation was the educational component, which some mistake as the only component of the Servicemen's Readjustment Act of 1944 (Olson 1974).

Contemporary Americans rarely contest the significant impacts of the WWII GI Bill. In fact, many Americans believe the WWII GI Bill was a "revolutionary social program that changed both higher education and American society" (Clark 1998). The reputation of the WWII GI Bill intertwines with the reputation of the WWII era veteran such that the bill is widely viewed as one of the most successful policy initiatives in American history (Altschuler and Blumin 2009). Tom Brokaw saw the WWII veteran as the backbone of what he termed "The Greatest Generation" (1998) for the selfless sacrifice these Americans made during the war and in contributing to the postwar growth of the United States. While Brokaw's book is a popular history of the impact WWII era veterans had on American society rather than an academic history, his book reflects popular perceptions of the impact the WWII era veteran and the WWII GI Bill had on American society. Still, the military industrial complex and the new economy, expanded higher education, and the creation of the American middle class would not have happened without the contributions of WWII veterans and the original GI Bill (Serow 2004).

While the WWII era GI Bill was a sweeping piece of federal legislation, the actual impact for expanded economic and educational attainment may not be as great as commonly believed (Thelin 2004). The economic path of the United States due to the wartime economy of 1939–1945 may have been due more to the establishment of the middle class than introduction of the GI Bill. Higher education was evolving with greater equality for women and Black Americans along with expanded opportunities through a new junior college system and the development of

vocational and trade schools (Thelin 2004). While the prestige of “The Greatest Generation” is very high, the generation as a whole, not just its veterans, contributed to the development of the new postwar economy (Brokaw 1998).

The educational assistance commonly thought to be the only part of the WWII era GI Bill was actually just one part of a comprehensive package of benefits intended to ease veterans back into American society as the war ended. The Servicemen’s Readjustment Act of 1944 included an array of benefits for returning veterans and designers of the law did not expect educational benefits to be a prominent feature of the program (Clark 1998; Thelin 2004). In fact, supporters of adding the educational component, or Title II, to the Act estimated that only about 8–10 % of veterans would use the educational benefit (Clark 1998; Olson 1974). This projection turned out to be a gross underestimate of how many total veterans would use the educational benefit, with roughly 5.6 million veterans attending trade schools and funded on-the-job training. Government estimates more accurately reflected the 2.2 million veterans who used the GI Bill for baccalaureate and graduate education alone (Olson 1974).

Some authors mentioned in Clark’s (1998) distinction between GI Bill fact and popular culture assert that the WWII veteran could not go to college without the GI Bill, which may be an overstatement. Based on numerous analyses including the 1956 President’s Commission report, as many as 80 % of WWII veterans who earned baccalaureate or graduate degrees funded by the GI Bill would have gone to college anyway (Clark 1998; Serow 2004; Thelin 2004; Zook 1947). Related to this finding was the selectivity of the military in drafting service members for WWII. Military testing began in WWI and was refined to select nearly ten million draftees for WWII (Lemann 1999). The military draft testing process during WWII involved rigorous mental and physical screening resulting in a highly select population of draftees (Serow 2004). Further, many draftees, including approximately 75 % of Harvard’s student veterans in the late 1940s, were already in college when the military drafted them, so they naturally expected to return to college following the war (Thelin 2004). Despite these facts, the average veteran using GI Bill benefits in the late 1940s had slightly lower high school grades and entrance test scores while coming from a slightly lower socioeconomic background than their nonveteran peers (Serow 2004). Even though veterans typically had lower traditional entrance statistics, veterans came to college with more maturity and higher levels of discipline than their nonveteran classmates did because of their military service (Clark 1998; Olson 1974; Serow 2004).

Keeping in mind that almost eight million WWII era veterans used GI Bill educational benefits (Olson 1974; Thelin 2004), only 2.2 million veterans used Title II GI Bill benefits to earn a college degree (Olson 1974; Serow 2004). Of those WWII era veterans seeking a bachelor or graduate degree, most veterans sought to attend large and prestigious colleges and universities such as flagship campuses and elite private colleges (Serow 2004). Additionally, most veterans took advantage of the unemployment benefits, loan programs, and vocational or farm training (Serow 2004).

It is important to realize that in the 1940s, citizens volunteered for war out of patriotic duty rather than for college benefits, since the GI Bill program did not exist

at the time of their draft or enlistment. Later GI Bill eras, particularly the Montgomery era from 1985 to 2008, and now the Post-9/11 GI Bill era, saw GI Bill benefits used as recruiting and retention tools for the military (US Department of Veterans' Affairs 2013b). With the delay in pursuing a college degree brought on by WWII, a bubble resulted which created a surge of highly qualified veterans starting in the 1946–1947 academic year (Serow 2004; Thelin 2004) for colleges and universities across the nation. Nationally the veteran surge resulted in almost 50 % of all college students in 1949 being veterans (Olson 1974) and 500,000 college degrees conferred on veterans in 1950, a total unsurpassed until the 1960s (Serow 2004).

More broadly, the expansion of higher education was underway when WWII began (Geiger 1999). Despite the resistance of elite colleges like Harvard and Yale, more and more Americans began seeking baccalaureate degrees after high school in the early twentieth century (Serow 2004). James Bryant Conant, the president of Harvard, was staunch in his opposition to the expansion of higher education and felt that education was a rite of passage for the elite few gifted enough to earn their way into college on their merit (Lemann 1999; Thelin 2004). Two distinct influences resulted in sweeping changes to higher education during the years immediately following WWII. First, despite opposition by Conant and other elite college presidents, the expansion of state colleges and universities coupled with community college or junior college opportunities, education became a new commodity to enhance prospects for the middle class to enter business and make a better life (Brint and Karabel 1989). In fact, students pressed to use junior colleges as preparation venues for entering baccalaureate degree institutions (Brint and Karabel 1989) despite the strategy of many elite college leaders to help create junior colleges as a selection barrier to limit growth of student populations at elite colleges (Clark 1960).

A second influence, the physical expansion required to meet the increasing class sizes created by more than 2.2 million veterans pursuing bachelor's degrees from 1946 to 1950 (Clark 1998; Serow 2004; Thelin 2004), was unavoidable and resulted in the creation of temporary living arrangements such as Quonset huts and large lecture halls to accommodate veterans (Clark 1998; Thelin 2004). WWII veterans were no different from their nonveteran peers in career aspirations or skepticism of traditional higher education approaching WWII (Clark 1998). Veterans demanded new courses in business administration, economics, and engineering and demanded changes to humanities courses making them more relevant to real life in corporate America (Clark 1998). The result of this expansion was an increased perception by Americans that a college education was not just for the elite but also for the average American (Clark 1998; Serow 2004; Thelin 2004) including WWII veterans.

Despite the gender and race neutrality of the Servicemen's Readjustment Act of 1944 (Serow 2004), American society was plagued with anti-Semitism (Karabel 2005), gender inequality, and racial bigotry. Thus, the GI Bill, while constructed to be equal, produced far from equitable results. Among those individuals trying to use the GI Bill, these societal problems obstructed the equal opportunity of African Americans (Turner and Bound 2003; Serow 2004), particularly those in Southern states. Herbold (1995) notes that discrimination in white college admissions, lack of

educational investment in predominantly Black elementary and secondary schools in largely segregated school systems, and a broad range of racist and segregationist policies created woefully inequitable outcomes for underrepresented minorities during the first decades of the GI Bill. Still, Turner and Bound (2003) conclude:

The availability of benefits to Black veterans had a substantial and positive impact on the educational attainment of those likely to have access to colleges and universities outside the South. Unfortunately, for those more likely to be limited to the South in their collegiate choices, the G.I. Bill exacerbated rather than narrowed the economic and educational differences between Blacks and Whites. (p. 172)

The existence of Historically Black Colleges and Universities (HBCUs) provided the only real opportunities for African American student veterans in the South, which was a boon for some African Americans and a major driver in the expansion of enrollments in HBCUs. The number of African American men enrolled in HBCUs doubled between 1940 and 1950, an increase largely due to the effects of the GI Bill (Herbold 1995). Unfortunately, HBCUs also turned away an estimated 20,000 veterans in 1946 and 1947 due to limited resources (Herbold 1995): veterans for whom there was no other option for postsecondary educational enrollment. Clearly, the WWII era had both tremendously positive effects and embedded inequities that mirrored numerous challenges in US society.

The Korea and Vietnam GI Bill Eras (1953–1980)

While the years immediately following WWII resulted in substantial attention toward and support for student veterans (Olson 1974), veterans of the Korean and Vietnam Wars did not enjoy the same support and attention in society or higher education research. Whether it was due to the lack of popularity of these wars or the resulting lack of support Americans had for wars after WWII, educational scholars overlooked this unique subpopulation of students during a time of rapid expansion in higher education (Thelin 2004). The extended generation of relative peace that followed the Vietnam War maintained the relegation of student veterans to the background of scholarly inquiry, while other nontraditional students, such as older students, lower-socioeconomic-status students, and minority students, became the focus of emerging lines of inquiry. While some understudied and underserved students benefitted from increased inquiry into their experiences in college beginning in the 1980s (Pascarella and Terenzini 2005), student veterans were largely overlooked, perpetuating the substantial gap in the literature for this important student population.

The Korean War, popularly known as “The Forgotten War” because of the fatigue Americans had from WWII, was the first proxy war against Soviet-backed Communism of the Cold War era in a country few Americans knew about before 1950. Additionally, Korean War deployments were limited in scope and scale compared with WWII, with only 1.7 million soldiers deployed to the relatively small Korean peninsula (US Department of Defense 2013a). Despite approximately 2.5 million veterans

attending postsecondary education on the Korean War era GI Bill (US Department of Veterans' Affairs 2013b), which includes the interwar period from 1953 to 1965, the Korean War era is poorly represented in the higher education research literature. The biggest changes in the Korean War era GI Bill were the elimination of the tuition benefit awarded to WWII veterans coupled with an increase in monthly living stipend (Olson 1974). The result was a net decrease in GI Bill benefits, a trend that would continue for several generations.

The student veteran literature of the Vietnam and post-Vietnam eras is insufficient to enhance our understanding of student veterans, but there are scattered indications of similarities between Vietnam era student veterans and previous generations of student veterans. In a study of veterans at the University of Iowa, Joanning (1975) found that veterans had higher grade point averages than did nonveterans, while Angrist (1993) found that more than half of all veterans from the Vietnam era enrolled in postsecondary education and had higher career earnings than did nonveterans. Perhaps the most interesting research explored the common practice of Vietnam era student veterans downplaying their veteran status in order to avoid stigmatization, rejection, or open hostility from Vietnam War protestors, common on many campuses during the 1960s and 1970s (Figley and Leventman 1980).

Americans in general appear to be separating angst with the wars from their feelings toward service men and women who fought in Iraq and Afghanistan, unlike the tumultuous Vietnam War era in which veterans felt they had to hide their status in order to avoid negative treatment by society in general (Summerlot et al. 2009). The ill will among the American population also manifested in federal policy as the Vietnam era produced the most limited GI Bill benefits in the history of the program (Olson 1974). This fact coupled with the strife surrounding the Vietnam War resulted in a unique and uncomfortable experience for student veterans from the mid-1960s through the late 1970s. While Vietnam era veterans utilized the educational benefit at the highest percentage of any era at roughly 70 % (US Department of Veterans' Affairs 2013b) and success rates were still good (Olson 1974), we know very little about the experiences of this era's student veterans. It may be that the student retention literature, beginning to develop in the mid-1970s, focused primarily on traditional students (e.g., Astin 1970; Tinto 1975; Pascarella 1980). In addition, by the time nontraditional students gained attention in the broader literature (e.g., Bean and Metzner 1985), the era of relative peace from 1975 to 1990 may have contributed to a failure to consider veterans as a prominent segment of student populations as veteran presence on campuses diminished throughout the 1980s and 1990s (US Department of Veterans' Affairs 2013b).

The Post-Vietnam and Montgomery GI Bill Era (1975–2009)

Another factor that influenced a reduction of veterans on campus was the establishment of the Montgomery GI Bill in 1985, which evolved as the first GI Bill program devised and implemented as a recruiting tool by the military. The Montgomery GI

Bill was designed to address insufficiencies of the Vietnam era GI Bill while the dynamics of the military had changed with the onset of the all-volunteer military in 1973 (Rostker 2006). With the all-volunteer professional standing military, recruiting and retention became significant cornerstones of maintaining a trained and ready force, particularly as a deterrent during the Cold War. At the same time, an emphasis on advanced education began to sweep across the military and educational programs that a service member could access while on active duty on a military base, or as part of the National Guard and Reserves, served as another military retention tool. Between 1980 and 2005, these efforts contributed to a decrease in veteran presence on our campuses compared with the three decades after WWII, thereby decreasing the visibility and prominence of veterans as students.

The end of the Vietnam era also ushered in the implementation of the Vietnam Education Assistance Program (VEAP) to improve the reduced financial benefits of the Vietnam era GI Bill (US Department of Veterans' Affairs 2013b). While scholars (e.g., DiRamio et al. 2008; Rumann and Hamrick 2010) agree that this era is not well documented through empirical research, there were also notable changes in the GI Bill program that foreshadow the current Post-9/11 GI Bill program. First, beginning with the VEAP, but primarily with the Montgomery GI Bill of 1985, education benefits shifted from primarily a reward for military service to levers to enhance military recruiting and retention (US Department of Veterans' Affairs 2013b). This dynamic was necessary as the military evolved from a primarily conscript force to an all-volunteer force in 1973 (Rostker 2006). One of the aspects of the all-volunteer military is an even higher selectivity criteria to enter military service, which reached an apex in the 1990s with a restriction against serving without a high school degree, after decades of allowing people with Graduate Equivalency Diplomas (GED) to join the military (Rostker 2006).

Post-Vietnam education programs also reversed the post-Korean War trend of decreasing benefits. To help offset the cost of increasing benefits, the primarily junior members of the military who used the opt-in Montgomery GI Bill (MGIB) had to pay a small percentage of their active duty paycheck into the MGIB program (US Department of Veterans' Affairs 2013b). At the same time, the reserve components, familiarly known as the National Guard and Reserves, began offering their own education benefits to enhance recruiting and retention. These programs mirrored the active duty programs in many ways, but sometimes have different names. As the 1990s unfolded, National Guard benefits in some states became more generous than the MGIB benefits offered by the federal government.

As with all prior student veteran eras, extant research is insufficient to offer adequate understanding of this population. However, some scholarly work emerged, including some studies that discussed the experiences of active military members as they attended college in anticipation of transitioning out of the military and seeking employment (e.g., Covert 2002). The literature also includes some studies attributed to contemporary veterans, but including primarily student veterans of the MGIB era due to data used from before the inception of the Post-9/11 GI Bill (e.g., Cook and Kim 2009; Holder 2007, 2009, 2011; Radford 2009, 2010, 2011; Steele et al. 2010). Most of the accurate data concerning student veterans

come from the Department of Defense (DoD) or the US Department of Veterans' Affairs: unfortunately, this data is difficult to access and has not been widely used by many contemporary scholars.

Historical Lessons for Contemporary and Future Student Veterans

Before moving into a discussion of the current era, it is important to consider lessons learned through the Montgomery GI Bill era of US military and veteran history. The greatest gap in the contemporary literature is the absence of a comprehensive long-term study of the academic performance of student veterans. Some smaller-scale studies attempt to measure academic performance of veterans, but fall short methodologically, or conceptually, to produce generalizable findings. One study by Holder (2009) suggests that veterans enroll in college at higher rates than nonveterans enroll, but do not complete degrees at rates commensurate with nonveterans. However, the data from this study derive from US Census Bureau data and may not be a fair comparison between those reporting degree attainment for Census Bureau surveys and those estimated to enroll in courses. As with estimates of retention rates in the National Survey of Student Engagement and other major reports such as those produced by the National Center for Education Statistics (NCES), higher education lacks a mechanism to account for those who stop out temporarily, then return to college later. The effect of these shortcomings of cross-sectional analyses in higher education that compare enrollment and completion statistics is that we likely have an overestimate of those who begin degrees by double counting those who stopped out and returned later. We do have accurate measurements of those who graduate, but we cannot be certain that cross-sectional analyses are accurate for this reason. These methodological challenges have led many scholars, such as Smart and Pascarella (1987), to posit that the only way to measure success in higher education accurately is with a long-term study that tracks a constant sample of students for several years.

While Holder (2009) concludes that veterans earn degrees at a statistically significant lower level than do nonveterans, Lang and Powers (2011) conclude that with intentional programming that addresses student veterans' unique needs, student veterans persist and graduate at levels equal to or above their nonveteran peers. The implication of these seemingly contradictory conclusions is that scholars should explore the support conditions for student veterans further from a historical perspective and attempt to control for veterans who may start degrees, stop out, and then begin their degrees again later. For example, mobilizing the Reserves or National Guard on short notice for local disaster relief or federal combat deployments may force these students to stop out of college. Given the concentration of student veterans in the WWII and Korean War eras across higher education, it is fair to presume a favorable level of support for student veterans during that era, since they comprised such a significant percentage of campus populations during that era (Olson 1974). However, given the lackluster support of veterans following WWI and the Vietnam War, the success rates of those generations of students suggest that there is

something more than a simple level of support that contributes to student veteran success. While this assertion needs empirical exploration in greater depth, numerous scholars conclude the success of student veterans relates to discipline, motivation, and commitment to earning a degree that surpasses that of the nonveteran student (Clark 1998; Olson 1974; Serow 2004).

The Post-9/11 GI Bill Era (2009–Present)

Enacted in 2008 and implemented in 2009, the Post-9/11 GI Bill grew out of recognition that as the wars in Iraq and Afghanistan end, there will almost have to be a reduction in the size of the military, and further, many military members will depart military service after serving in combat (US Department of Veterans' Affairs 2013b). Unlike its recent predecessors, the Post-9/11 GI Bill was designed according to the spirit of the original GI Bill educational benefits and accounts for the ever-increasing cost of higher education today (US Department of Veterans' Affairs 2013b). While the WWII GI Bill was the most comprehensive benefits plan ever for veterans, it included much more than educational benefits (Olson 1974). Subsequent GI Bills only needed to revise the educational portion of the original bill, and thus a total comparison between the bills is not fair when looking at the various versions of the GI Bill. While the educational benefit steadily increased through the Vietnam and, to some extent, the Montgomery eras, the Post-9/11 GI Bill is the most financially generous educational package ever offered to our military veterans (US Department of Veterans' Affairs 2013a). When GI Bill benefits couple with the prominence of the Yellow Ribbon Program, a partnership program between institutions and the US Department of Veterans' Affairs, financial access to higher education for our military veterans is a tangible reality. As the Post-9/11 GI Bill era is now well underway, and may last for several decades due to long eligibility dates of entitlement (US Department of Veterans' Affairs 2013a), it is important to capture the statistics of students using these benefits.

The Impact of the GI Bill Programs

Given the importance of the GI Bill as a major influence on the numbers of student veterans in higher education across the historical periods during the last 70 years, it is worth pausing for a moment to consider the impact of the various iterations of the GI Bill. The most important aspect of the WWII GI Bill was that it was a short-term measure to facilitate the return of veterans and to prevent massive unemployment and possible unrest as veterans transitioned from the war back to the United States as happened after WWI (Serow 2004; Thelin 2004). It is also important to remember that the WWII era GI Bill was not necessarily the blueprint for the contemporary Post-9/11 GI Bill. Still, research on the WWII GI Bill did provide assistance to

those designing the Post-9/11 GI Bill, but many differences exist between the two grant programs making them problematic to compare. It was important for the crafters of the Post-9/11 GI Bill to look at the spirit of the original GI Bill, the shortcomings of the intervening GI Bills, and the current economy to create a reasonable package of benefits (US Department of Veterans' Affairs 2013a).

The development of enhanced packages of benefits, such as with the Post-9/11 GI Bill, can only be accomplished during a period of national crisis (or war) and for populations that will not engender negative sentiment among the populace, therefore facilitating avoidance of the contentious partisan politics that detract from so many social programs today. The global recession, still gripping the world well into the twenty-first century, offers a grim outlook compared with the opportunities available during the rapidly expanding American economy of the 1940s and 1950s. In fact, many Americans are calling into question the value of a college degree and wondering if the cost, which has outpaced inflation for the last 20 years (Heller 2011), is worth the benefit any more. This line of thinking questions if higher education is good for the masses or if an elite few should attend college based on a meritocracy and serve as American business and political leaders (Karabel 2005; Lemann 1999; Thelin 2004). The circumstances surrounding the WWII era GI Bill eliminated the financial obstacle to earn a bachelors or graduate degree and may well have expanded the previous limits of Conant's *elite few* (Karabel 2005) and filled those roles with an ever-expanding population that is more broadly representative of American society.

While the entire package of benefits established during WWII under the GI Bill is the most comprehensive in history, the educational benefits of the Post-9/11 GI Bill represent the most generous financial educational benefit package for veterans in our nation's history after adjustments for inflation (Vacchi 2012). The implication of these generous benefits is clear: federal policy provides financial support for earning a postsecondary education as gratitude for serving in our nation's military (Shinseki 2013). However, financial access does not necessarily lead to success. For example, lower socioeconomic student populations enjoyed increased access to college beginning with the reauthorization of the Higher Education Act in 1974, but studies such as Fry (2002), Harper (2012), and Sciarra (2007) suggest that increased access does not necessarily lead to improved persistence. Therefore, we must focus on understanding the needs of this unique campus population and develop knowledge-based strategies and frameworks to help veterans succeed and make the final adjustment from military member to college graduate.

Despite the significant presence of student veterans on college and university campuses over the last seven decades, there has been a dearth of scholarly attention to the experiences of these students on college campuses. The lack of scholarly attention in this area is both surprising and understandable. This insufficient attention on student veterans may be due to a variety of reasons related to broader societal issues, such as the contentious nature of the Vietnam War and the evolution of the college impact literature during the 1970s, which primarily focused on traditional undergraduate populations (Pascarella and Terenzini 2005). As scholars began to disaggregate student populations for study in the 1980s, college impact

research focused increasingly on nontraditional students and individuals from underrepresented ethnic/racial populations. Yet, veterans were not a significantly large segment of student populations, and they received little attention from scholars studying the impact of college on students. Further, the Higher Education Acts of 1965 and 1972, along with the civil and equal rights movement of the 1960s, appropriately focused research interest on college experiences of women and racial/ethnic minorities with some attention to other nontraditional groups. Due to the evolution of research on the impact of college on students, only recently have scholars (e.g., Bauman 2009; DiRamio et al. 2008; Livingston et al. 2011; Rumann and Hamrick 2010) moved beyond simple statistical analyses of GI Bill utilization and college completion rates for the highly concentrated surges of student veterans during the late 1940s, the 1950s, and the 1970s. While contemporary research has just begun to focus on student veterans, the growing numbers and importance of veterans on campus suggest scholars have a new opportunity to explore the college experiences of student veterans. Therefore, it is critical to examine what we know about student veterans and to set the direction for research to help ensure student veteran success for generations to come.

Defining Student Veteran

When discussing the nature of veteran benefits and support, defining the term *veteran* becomes important for benefits eligibility, as there are legal implications and significant entitlements associated with veteran status. It is also important to consider how to define veteran as we seek to understand this important subpopulation of college students better through research that can inform improved policy and practice. There is no universally agreed-upon definition for who a veteran is, because it depends upon the context of the individual. Many states do not consider their own National Guard members to be veterans unless they have deployed for a certain amount of time for other than a state emergency management situation. Some veterans do not consider themselves veterans, because they did not serve in combat. Technically, currently serving members of the military are not veterans because they are still in the military, but how do military members currently serving fit into a college campus? Campuses, states, and the federal government all vary in their definition of veteran, and typically, these distinctions connect with eligibility for government benefits, such as the GI Bill. The service of military members during peacetime carries many of the same background experiences and acculturation to the military as combat veterans. The great inconsistency in defining a veteran compels those in higher education to be intentional about defining an inclusive population for student veterans.

The transition difficulty of joining an academic community and the challenges to student success have to do with the differences in socialization and culture between academia and the military, not simply legal benefit entitlements or specific aspects of military service. Those students who may experience the friction between

cultures include wartime and non-wartime veterans of active duty, Reserves, and National Guard, current and former members of those services, including those currently serving on active duty.

An Inclusive Definition for *Student Veteran*

Defining the student veteran population involves a broad understanding of why student veterans are a unique subpopulation on campus. Understanding the unique prior socialization veterans undergo before joining a campus community may help campus members understand the military culture that helped to shape student veterans. A more complete discussion of socialization to the military and its theoretical and conceptual relevance for student veterans is provided later in this chapter; however, we provide a brief overview at this point in the chapter regarding how understanding military and academic socialization informs a working definition of student veteran. Upon entry, or reentry, to the college campus, veterans have already been powerfully socialized into in a military culture (Soeters et al. 2006) that is markedly different from the culture in higher education. Student veterans are part of a new generation of veterans unlike any in US history. Briefly, contemporary student veterans come from a professional all-volunteer standing military, seasoned by the highest-quality training, equipment, standards, and expectations, and most veterans have deployed for modern combat duty around the world. Even if the service member has not experienced combat, combat veterans pervade the military culture, a situation that will not change in the near future.

It is this prior socialization that not only makes the student veteran population unique but also establishes student veterans as a nontraditional student population (Bean and Metzner 1985; Soeters et al. 2006; Vacchi 2011), even with approximately 14 % of veterans being of traditional college-going age (Radford and Wun 2009). Campus community members should keep in mind that student veterans will generally not seek the spotlight and it is likely that a small minority of student veterans need more help than nonveterans will. It is more likely that the average student veteran simply needs the right direction to navigate the campus on their own and veterans will take the initiative to solve most personal challenges.

The Problematic Nature of Developing a Common Definition for Student Veterans

A goal in defining the student veteran population should be inclusivity of all students who may experience challenges to student success due to a military background. A common and inclusive term for this population has been elusive, due to legal, historical, and perceptual challenges. Based on this lack of a common reference for student veterans, various institutions have developed their own labels for student veterans on their campus, but it is unclear if these labels are inclusive. For example, some colleges refer to *military-affiliated students* and include active duty,

National Guard, Reserves, and dependents as members of the population. Another example refers to *military students* as enlisted personnel, veterans, and dependents using GI Bill benefits. Still other colleges refer to *veteran students* and, most commonly, *student veterans*. Radford (2009) refers to *military undergraduates*, but does not completely account for National Guard members in her definition and excludes graduate students. Holder (2011) includes active duty members and self-reported veterans, which may exclude many noncombat veterans and members of the National Guard and Reserves.

Veterans separated from the military, which make up roughly 84 % of this population (Radford and Wun 2009), may no longer consider themselves *affiliated* with the military or *military students* upon separation from military service. Further, logic dictates that *veteran students* might just be students who have been on campus for a long time, and *military undergraduates* not only excludes graduate students but also more appropriately describes the student populations of our military academies and colleges such as West Point and The Citadel. This leaves *student veteran* as the logical remaining label among these commonly used terms for this population. An advantage to using *student veteran* as a label across the nation is that it acknowledges the veteran status of the majority of over 90 % of the intended population, and there is positive historical cache associated with the term *veteran*. Active duty members, along with those in the reserve components, should understand being included in the student veteran population due to their affiliation with the military. Using different labels at different campuses that refer to different populations depending on the campus creates a problem when referring to this unique student subpopulation in national dialogue. Identifying this student population requires a more comprehensive definition.

The transition difficulties of joining an academic community have to do with the differences in socialization and culture between academia and the military (Pascarella et al. 1986; Tinto 1988). It is important to realize that inclusive student veteran populations comprise more than those students using military education benefits to attend college. Students who may experience the friction between military and campus cultures include wartime and non-wartime veterans of active duty, the Reserves, and the National Guard, as well as current members of those services, including those currently serving on active duty and studying on campus. When considering the academic socialization of former military members to campus in pursuit of an academic degree, restricting our definitions to legal and status-related terms of who may be a veteran is not necessary. What unifies this student population is military service and socialization to military organizations. For the purposes of this chapter, a *veteran* is any current or former member of the Active, National Guard, or Reserve military regardless of deployment status or combat experience. Thus, an inclusive definition is “*A student veteran is a student who is a current or former member of the Active Duty Military, the National Guard, or Reserves regardless of deployment status, combat experience or legal status as a veteran*” (Vacchi 2012, p. 17).

All students who are current or former military members of the military are included in this definition, making it inclusive of the intended student subpopulation.

This definition is more inclusive than the NCES definition, which does not completely account for National Guard members (Radford 2009, p. vii). The only group excluded here, which is included in other definitions used on select campuses around the nation, is dependents utilizing GI Bill benefits. The absence of strong prior socialization to the military (Soeters et al. 2006) places dependents and family members of student veterans' into traditional or nontraditional student categories rather than into the student veteran category for student development consideration. Dependents and family members may need assistance using GI Bill benefits, but prior socialization to the military culture does not affect their college experiences. Using this common definition, campus professionals can clarify who student veterans are and consistently refer to this campus student population to develop policies and services. Even if campuses do not use the term *student veteran* on their campus, the population should remain inclusive and consistent in national discussions about this student subpopulation.

Describing Student Veterans

Overgeneralized demographic descriptions of veterans facilitate stereotypes of this underserved student population, which is potentially detrimental because it serves to marginalize the diverse array of student veterans. Stereotyping is potentially harmful for veterans, particularly based on unfounded popular generalizations (Hopkins and Rae 2001; Van and Stapel 2009) about military members, for example, presuming all veterans killed in combat or that veterans are not ready for college. While no generic demographic description applies to all student veterans or their experiences, trends and descriptive statistics can help education professionals understand the broader student veteran population better and make the population less mysterious.

Veterans are a diverse group representing all racial and socioeconomic backgrounds (Armor and Gilroy 2010). Unfortunately, data describing the national student veteran population are unavailable or insufficient to provide a robust picture of student veterans as a population. The data we have come from the NCES during the 2003–2008 academic years and are neither current nor inclusive of the Post-9/11 GI Bill student veteran population. However, data on the greater veteran population can serve to fill gaps in available demographic data about student veterans.

As of 2008, approximately 4 % of students enrolled in higher education were student veterans (Holder 2011; Radford 2009), and veteran enrollment in higher education increased from approximately 500,000–925,000 between 2005 and 2011 (US Department of Veterans' Affairs 2013b). Additionally, the student veteran population is generally as diverse than the general college student population, except with regard to gender. The most glaring difference between student veteran and non-veteran populations is that roughly 27 % of student veterans are female (Radford and Wun 2009), while approximately 57 % of all college students are female (US Census Bureau 2013). However, only 15 % of military service members are women

(US Census Bureau 2013), confirming women use their GI Bill benefits at greater rates than do men (Holder 2011).

As of 2008, it is interesting to note that the difference between veteran and nonveteran Asian Americans in higher education reveals that while Asians in general represent roughly 5.6 % of all students in higher education (US Census Bureau 2013), only 3.2 % of student veterans are Asian (Radford and Wun 2009). This pattern is consistent with military enlistments, as Asians are underrepresented in the military as well. Black student veterans compare to the nontraditional Black nonveteran student population at roughly 18 %, while Hispanic nonveteran students outnumber Hispanic student veterans slightly (Radford and Wun 2009).

In looking closely at the available demographic statistics describing student veterans, it appears that student veterans are similar in many ways to *independent undergraduates* as the NCES refers to the *nontraditional* student population. First, over 60 % of student veterans are married, married with children, or are single parents (Radford 2009). Next, while all traditional students are between ages 18 and 23, less than 16 % of student veterans are under the age of 24 and almost 60 % of student veterans are between the ages of 24 and 39 (Radford and Wun 2009). These latter two descriptors align closely with nontraditional student trends, even though military service further differentiates veterans from traditional students.

Socioeconomic background also provides basis for similarity between student veterans and the general student population. The military is underrepresented by families in the lower 40 % of income strata in favor of an overrepresentation by the upper 60 % of families (Kane 2006; Watkins and Sherk 2008), much like the general student population (Heller 2011). The reasons for this underrepresentation are unique to the military however. First, there are stringent entrance requirements related to health, physical conditioning, and secondary school academic achievement that eliminate many lower socioeconomic candidates from eligibility for military service. Second, Burland and Hickes-Lundquist (2011) reported a downward trend in military service of Black and Hispanic citizens, thereby reducing the number of veterans in these demographics. Finally, the educational quality of military recruits increased steadily during the 1990s, as a high school diploma was the minimum entrance criteria. A popular belief is that the military is a common pathway to escape poverty within the United States. While some people may join the military to escape poverty, rigorous selection criteria contribute to the poorest Americans being underrepresented in the military (Kane 2006; Watkins and Sherk 2008). Additionally, it is more likely that middle-class and lower-middle-class Americans benefit from improved economic circumstances by serving in the military (Kane 2006; Watkins and Sherk 2008).

In terms of gender, women in the military and women veterans are increasing (US Department of Veterans' Affairs 2007), and female veterans do not fit the historically male-centric stereotypes of veterans (Baechtold and Sawal 2009). While all military specialties only recently opened to women (Roulo 2013), the military began expanding opportunities for women in 1990, including some combat positions, and the recent wars saw women experience combat in much the same way as men do because of no conventional front lines. While roughly 7 % of all veterans are

women, roughly 15 % of all service members are female (US Census Bureau 2013) suggesting an increasing trend in the number of women veterans every year. The typical college campus, however, might include less than 27 % student veteran women (Radford and Wun 2009). With an overall student veteran population of less than 4 % of all students, female student veteran needs may be unique and may require special attention in order to facilitate the persistence of some women veterans.

Higher education professionals should be aware that sexual trauma against female service members is a problem that is poorly documented and quantified. The Veterans Health Administration reports that roughly 23 % of women seeking care report experiencing sexual harassment or assault while serving on active duty, compared with 1.2 % of men (National Center for PTSD 2009). Estimates suggest that roughly one-third of all women on active duty experienced sexual assault while serving in their military units (US Department of Defense 2012), a statistic generally believed to be underreported. The implication for higher education is that some women student veterans may be masking a prior sexual assault in addition to masking other elements of their veteran experiences.

Accurate estimates on the prevalence of members of the gay, lesbian, bisexual, and transgender (GLBT) community on or off campus are elusive and typically based on estimates. According to Gary Gates, distinguished scholar at the Williams Institute on Sexual Orientation Law and Public Policy at UCLA, a fair estimate of the GLBT community is that 3.8 % of Americans belong to this group (2004). It is difficult to get an accurate estimate of the number of GLBT people in the nation, much less in the military where for decades being known to be other than *straight* meant immediate expulsion from military service. A study by the Urban Institute (Gates and Ost 2004) estimated the military gay and lesbian population to be roughly 65,000 or 2.8 % of the military at the time. With the recent repeal of the Clinton Administration's controversial Don't Ask, Don't Tell (DADT) policy, almost 20 years of uneasy limbo concluded within the military that may open the door to collecting data that are more accurate on the GLBT military population.

To begin to understand the cultural experience of the GLBT community within the military, as veterans, and as student veterans requires more research. From a statistical perspective, it is very unlikely, given the traditionally unwelcoming GLBT environment in the military, that the GLBT student veteran population is larger than the national GLBT population as a percentage of total veterans. Since estimates drive available data, we can only estimate that 4 % or less of all veterans, including student veterans, might be members of the GLBT community. No matter what the exact percentage of GLBT student veterans is, realizing that GLBT student veterans are likely one of the least acknowledged populations on any given campus is critical. If a student were a member of both of these unique subpopulations, would the student identify with either or both populations if any? If a student veteran is reluctant to self-identify, how much less likely is a GLBT student veteran to self-identify as such? If we acknowledge that of all campus populations, the GLBT student veteran population is rare, requires understanding, support, and protection by all campus members, this can be an important first step in supporting the success of GLBT student veterans.

Considering Injured Student Veterans on Campus

While it is true that the survival rate of those serving in conflicts has increased historically due to medical advances, attacks such as roadside bombs kill more service members that previously survived, thereby balancing combat injury rates of the current wars with historical trends. Still the most liberal estimates of those returning with visible and invisible injuries from the current wars are well below 30 % of the total population serving in the Global War on Terror (Institute of Medicine 2012; Tanielian and Jaycox 2008; US Department of Defense 2013b). The average American is therefore more than twice as likely to encounter a veteran with no injuries as one with injuries. Further, the most severe combat injuries may limit a veteran's ability to engage in the cognitive activities requisite for attending college. Disabled veterans may seek online degrees to avoid the physical challenges of negotiating a campus and pursue degrees in the comfort of their own homes and at their own pace. In the end, available statistics conclusively suggest that most colleges and universities should not have a heavy burden of serving severely traumatized or wounded veterans: but campuses should have contingencies that provide special attention to the needs of some wounded veterans.

Military personnel can have significant risks to their physical and mental health in training or in combat. Further, while only some veterans experienced combat and only some of those experienced physical or psychological trauma, such trauma can have significant effects on veterans as they return to civilian life: certainly, student veterans are no exception. The intense focus of the medical community on traumatic brain injury (TBI) as the signature injury of the wars in Iraq and Afghanistan has advanced medical treatment and understanding of this potentially debilitating injury. The most important aspect for higher education professionals to keep in mind is that the incidence of TBI and the more familiar post-traumatic stress disorder (PTSD) is low as a percentage of the overall military and veteran population. While some studies estimate that between 13 and 20 % of Iraq and Afghanistan veterans have TBI or PTSD (Hoge et al. 2004; Institute of Medicine 2012; Seal et al. 2007; Tanielian and Jaycox 2008; Vasterling et al. 2010), it is likely that a lower percentage may attend college. It is also reasonable to expect the percentage of wounded veterans attending college to decline as the wars of the early twenty-first century in the Middle East end.

Student veterans, like all combat veterans who may still be adjusting to their "new normal" after a deployment, may feel more comfortable with classroom seats at the back of a room, near a wall, or near a door (Institute of Medicine 2012). Some veterans may have sensitivity to light or loud noises, while others may have a short temper with the sophomoric antics and attitudes of some college students, which are not usually classic cases of PTSD or TBI and will subside in time (Institute of Medicine 2012). Typically, a service member returning from combat will require 6–9 months to reach their new normal (Institute of Medicine 2012) and will not be the same as they were before the combat deployment. This usually manifests itself in ways that indicate student veterans have more focus, more discipline, and more commitment to excelling in the classroom than traditional students (Clark 1998; Frederiksen and Schrader 1950; Olson 1974).

Why Veterans Go to College

The primary motivations for young people to enlist in the military are the desire to serve the nation and to improve their own economic status (Burland and Hickey-Lundquist 2011). Veterans go to college for the same reasons most Americans go to college: to improve economic status by getting a good job after college. Like many college students, the cost of a college education is the most significant obstacle for veterans to overcome, but the Post-9/11 GI Bill reduces this obstacle if not eliminating it altogether. As noted earlier, the Post-9/11 GI Bill is the most comprehensive financial package of educational benefits in the history of the GI Bill program (Vacchi 2012) paying for tuition, mandatory fees, and books while providing a generous living stipend adjusted to the local economy.

The wars in Iraq and Afghanistan may no longer be popular, but respect for veterans is high in the United States, especially when compared with the Vietnam War era. Veterans of the wars in Iraq and Afghanistan face particular challenges from their service to the nation. For some, the challenges are obvious, such as a physical disability, and for others, the challenges are not so obvious, such as post-traumatic stress (PTSD) or traumatic brain injury (TBI). Almost all veterans face adjustment when they return to American society: for some it is a physical disability; for others, it is simply that they changed during combat or service and need time to adjust to their new normal. Student veterans, particularly those returning from a recent combat deployment or recently departing active duty, have to adjust not only to American society but also to a niche of society that differs greatly from mainstream America: higher education.

Where Veterans Go to College

Veterans are not randomly distributed across all types of colleges and universities. Data derived by Radford and Wun (2009) suggest that student veterans make college type and degree choices that more closely resemble nontraditional student rather than traditional student patterns. Approximately 64 % of student veterans attend public institutions. Roughly 12 % of student veterans attend private for-profit institutions, which markedly differentiates student veterans from traditional students. The greatest single types of institutions attended by student veterans are public community colleges at over 43 %. Despite this, with roughly 89 % of veterans pursuing bachelor's or associate degrees, slightly more student veterans pursue bachelor's degrees than associate degrees, suggesting a significant percentage of those student veterans attending community colleges continue on to four-year colleges. In comparison to nonveterans, student veterans attend private not-for-profit institutions at slightly higher rates than nontraditional students, but slightly less than traditional students. Veterans also attend two-year colleges at rates substantially greater than traditional students, but slightly less than nontraditional students.

Veterans tend to live in concentrated numbers in California, Florida, Texas, and Virginia, near the location of majority of military installations (Radford 2009).

Veterans report that location is the most dominant factor influencing their choice of where to go to college (Radford 2009). Several reasons for student veterans choosing a college location close to home include staying near job locations, family, and activities external to the college campus (Radford 2009), reasons that are similar to the reasons identified by nonveteran nontraditional students (Pascarella et al. 1986).

Are Student Veterans Succeeding in College?

There are many different definitions of student success, and the policy environment is increasingly challenging educators, leaders, and scholars on college and university campuses to better define, assess, and promote student success. Thus, as we move forward with the study of student veterans, it is important to examine success for this growing population of college students. GI Bill legislation intends to afford veterans the opportunity to earn a college degree (US Department of Veterans' Affairs 2013b); therefore, one measure of success ought to focus on veteran degree completion. Further, a student veteran's retention at a specific institution, i.e., the institutional perspective (Berger et al. 2012), is not as important to measures of veteran success as is a student veteran's persistence to degree completion at either one or multiple institutions, i.e., the student's perspective (Berger et al. 2012). So, rather than focusing on institutional retention as some scholars do (e.g., Bean and Metzner 1985; Tinto 1975, 1993), system-wide student veteran persistence should be the focus of such research. For this chapter, we define persistence as a student continuing pursuit of a college degree through to degree completion regardless of whether or not they stay continuously enrolled in one institution (Berger et al. 2012). Therefore, it is less important whether a veteran earns a degree through continuous enrollment at one institution or through the accumulation of credits across multiple institutions. Rather, we define success as simply earning a college degree.

While the new GI Bill makes higher education financially accessible for veterans, success as defined above may be the greater problem for student veterans. While longitudinal studies are lacking, cross-sectional analyses of US Census Bureau data suggest in the years prior to implementation of the Post-9/11 GI Bill, veterans may have challenges persisting in higher education, specifically male veterans (Holder 2009, 2011). As of 2013, no published study of Post-9/11 GI Bill era veterans offers data about the success rates of this latest generation of student veterans, but the Veterans Administration (VA) is collaborating with Student Veterans of America to begin gathering this data.

Not only do policy-makers expect that GI Bill utilization will result in degree attainment for veterans, but four-year degrees have long been a measure commonly associated with improving the average American's socioeconomic status through education. The US Census Bureau (2008) reported that there was a mean income differential of almost \$20,000 in earnings between 25 to 34 year old workers earning a high school diploma and those earning a bachelor's degree. According to US Census Bureau research on veteran educational attainment, veterans complete

four-year degree programs at a rate 70 % lower than nonveteran students in the 25–34-year age demographic, despite a significantly greater percentage of veterans than nonveterans completing some college (Holder 2009, 2011). With approximately 60 % of all student veterans between the ages of 24 and 39 (Radford 2011), success among members of this demographic group may indicate overall student veteran success. However, what is problematic about Holder and Radford's research is their use of a population based on what is meant by the term *veteran*. While the definition of a veteran varies depending upon the context of a situation, the term generally refers to those people who are *former* military members. However, the US Census Bureau appears not to disaggregate currently serving military members taking college courses from those separated from the military in their definition of veterans, and Radford's report includes active duty students, but excludes National Guardsmen. Further, it is unclear how meaningful this data may be if some service members took college courses while actively serving in the military and no longer desire a college degree since earning veteran status.

In contrast, there is a body of historical research suggesting that veterans perform as well or better than their nonveteran peers perform in the classroom and with graduation rates (Frederiksen and Schrader 1950; Olson 1974; Stewart and Davis 1946). However, this literature is quite dated and there is a significant need to examine current trends and outcomes. Further, a pilot study of student veterans at a select group of institutions known to provide specific services to support student veteran success found that the retention rates and grade point averages of contemporary student veterans were higher than rates of their nonveteran peers (Lang and Powers 2011). Given the achievement gap identified in the US Census Bureau report, there is reason to be concerned that something may be awry at campuses that are not taking specific steps to support the success of student veterans, loosely referred to as *veteran-friendly initiatives* (Ackerman and DiRamio 2009).

One result of the US Census Bureau findings was a disjointed effort by numerous media outlets, such as GI Jobs.com and Military Times Edge.com, to develop veteran-friendly rankings to highlight campuses that take specific steps to create a welcoming environment for student veterans. Unfortunately, there is no empirical evidence that many of the criteria utilized for these veteran-friendly lists contribute to student veteran success. Some of the common criteria espoused by Internet websites are presence of an ROTC program, offering classroom-based programs on military bases, campus social events for veterans, offering certificates for less than 2 years of schooling, and the presence of a Veterans' Upward Bound program. Some of the criteria might make sense, but these websites offer no empirical evidence about the relationships between these criteria and student veteran success or veteran-friendliness. For example, relaxed residency requirements, scholarships for military members and dependents, accepting College Level Entrance Program (CLEP) credits, and allowing students called to active duty to return without administrative penalty appear logically to be *veteran-friendly* policies, but these organizations offer no empirical evidence of causality. Additionally, none of these media organizations acknowledge that individual campus contexts vary and thus specific programming for student veterans may not be necessary or may simply be additive on some campuses.

The nascent body of recent research on student veterans is long overdue and provides an initial starting point for developing a more complete and robust body of empirical knowledge about this burgeoning student group. Thus far, much of this initial literature has primarily focused on the transition of veterans into higher education. On the one hand, this is a logical starting point because there is a marked transition from military life to a civilian role as an undergraduate student (Vacchi 2012). However, this body of work provides only a narrow glimpse into the student veteran experience and approaches this topic largely from a deficit perspective. We need to identify a larger conceptual framework that provides a more complete basis for exploring and improving our understanding of the student veteran experience. The model offered in this chapter subsumes this body of research, expands upon the concept of veteran transitions to higher education, and broadens the scope of major areas that affect student veterans while connecting appropriately to nontraditional lines of inquiry.

Since veterans as students is such an unexplored subject, prudent initial research questions might include the following: *Are veterans experiencing difficulties transitioning to postsecondary education?* and *Are student veterans succeeding in college?* Simply put, *is there a problem with student veteran success?* These are logical questions that recent literature (e.g., DiRamio et al. 2008; Livingston et al. 2011; Rumann and Hamrick 2010) has thus far failed to answer, presuming instead that there is a problem and offering little evidence that student veterans are having difficulty transitioning to college. Even if transition difficulties exist, transition to colleges may not be the biggest or most relevant challenge to student veteran success. Marcia Baxter-Magolda commented that military members appear adept at managing a greater degree of dissonance than nonveteran students can (DiRamio and Jarvis 2011), which directly addresses the notion of managing transitions. If student veterans are enrolling but not completing their degrees, is that by choice, or are there other factors causing veterans to stop out of college besides the transition? What the recent literature appears to overlook is that many veterans may undergo identity transitions when leaving the military or returning from combat (e.g., DiRamio et al. 2008; Rumann and Hamrick 2010). Veteran transitions are markedly different from the transitions high school students make when they join a campus community, and the models offered in recent research are insufficient to address identity transitions. The recent literature on student veterans explores interesting aspects of the student veteran experience, but these studies are only a starting point for more holistically understanding and improving the postsecondary educational experiences and success of student veterans.

Limitations of Recent Student Veteran Research

The historical limitations of research into student veterans are noteworthy as little research exists other than historical statistical success rates connected with GI Bill usage and the impact of traumatic physical and psychological war events on

veterans (e.g., Frederiksen and Schrader 1950; Olson 1974; Tanielian and Jaycox 2008; Thompson and Pressey 1948). Since the WWII era, extant scholarly articles published on the experiences of student veterans are largely anecdotal observations, such as *The Two Joes Meet – Joe College, Joe Veteran* (Clark 1998). We are just now beginning to produce conceptual and empirical analyses of the college experiences of student veterans as nontraditional students (e.g., Ackerman and DiRamio 2009; DiRamio and Jarvis 2011; Livingston et al. 2011). Among the first institutions to collect data on services for student veterans were the American Council on Education (ACE) and the Rand Corporation. Despite limitations, these studies, *Soldier to Student* and *Soldier to Student II*, are a first step toward understanding what services exist on some campuses to facilitate the success of student veterans.

Cook and Kim's (2009) study *Soldier to Student* and its update *Soldier to Student II* (McBain et al. 2012) offer useful descriptive statistics and initial insight into the frequency with which campuses offer some services described as veteran-friendly. While some of these areas may be useful as we begin to explore student veterans, these reports do not provide empirical evidence that any student veteran services contribute to student success; the reports merely document services present at sample institutions. Subsequent studies might test the correlation between these services and student veteran success, thereby offering evidence of the utility of pursuing some of the services believed to be veteran-friendly. Further, the sample frame is limited to AASCU member schools, resulting in a biased sample arguably not representative of all higher education institutions. Moreover, the original study had an institutional response rate of 17 %, and the update had a response rate of 24 %. Unfortunately, much of the findings suggesting an increase in the availability of services are suspect because the two samples do not include the same institutions. Further, both studies overrepresent two- and four-year public institutions, and *Soldier to Student* underrepresents private for-profit institutions, while *Soldier to Student II* underrepresents both private for-profit and private not-for-profit institutions. While many student veterans attend public two- and four-year colleges, the institutions with the highest concentrations of student veterans are for-profit institutions (US Department of Veterans' Affairs 2013b). For these reasons, samples more representative of all institutions attended by veterans are necessary in order to build a more robust and confident knowledge base in this area.

Finally, unlike *Soldier to Student II*, Cook and Kim do not address the sample bias in *Soldier to Student* exposing the possibility that those institutions with existing programming for student veterans may be overrepresented in their sample. In a survey asking institutions what kinds of support services they offer for student veterans, nonresponse bias is likely to come from those institutions that offer little to no specific services for student veterans. Addressing this problem in *Soldier to Student II*, the report claims to be indicative of the kinds of programming offered for student veterans (McBain et al. 2012, p. 13), but this is an unsupportable claim, as the authors do not address nonresponse bias in their report. Therefore, the statistics describing available services for veterans are likely inflated making institutions appear to offer more services with greater frequency than is likely the case. Moreover, nonresponse bias would make these findings even more troubling because

services for student veterans are already alarmingly low as reported in both *Soldier to Student* studies. The most important aspect of the *Soldier to Student* studies is that it seems reasonable that many of the services highlighted in the reports would support student veteran success even though the report is just an initial attempt to report frequencies for some services. A logical next step would be to attempt to empirically demonstrate whether student veteran services affect success, retention, or persistence.

One shortcoming of the literature on student veterans is the lack of a salient conceptual model from which to consider the college experiences of student veterans. Recently, a few scholars have attempted to apply an adaption of Schlossberg's 4S Model (1981) to student veterans, but in the years since DiRamio et al. (2008) first introduced this approach, the utility of Schlossberg's 4S Model for exploring student veterans struggles to gain support in subsequent research. Schlossberg's 4S Model, intended for counseling adults in mid-career transitions, includes four strategies for managing a transition: situation, self, support, and strategies. Livingston et al. (2011) adapt Schlossberg's Theory (1981) as a theoretical framework for understanding student veterans in their inductive study exploring veteran re-enrollment experiences in college. However, while their adapted model provides a starting point for their inquiry, the results of the study provide a less than satisfactory direction for moving forward as we develop a more comprehensive approach for studying student veterans. The drawbacks of these studies are that they primarily focus on transitions out of the military and offer limited exploration of transitions into college while ignoring strategies for successful navigation of college life. Subsequently, in a deductive attempt to operationalize Livingston et al.'s model (2011, p. 321), Van Dusen (2012) was unable to deductively validate the efficacy of the model which was guided by Schlossberg's theory (1981). While Schlossberg's theory focuses on mid-career adult transitions, and not specifically veteran transitions, using this model to guide research ignores the many potential identity shifts veterans undertake as they depart combat and military service. Further, it is unclear if the entire student veteran population is composed of adult nontraditional college students, or if veterans between the ages of 17 and 25 are still developing toward adulthood as suggested in cognitive development theory (Piaget 2008; Steinberg 2007).

However, the development of a unique conceptual model for framing research and understanding of student veterans is both possible and needed in this important but understudied area of research in higher education. This type of model should approach student veterans holistically throughout the entire college experience, including any transitions, from entrance through degree completion. The model offered by DiRamio et al. (2008) provides a first step in drawing attention to the need for understanding the student veteran experience. Yet, the DiRamio et al. model is primarily a heuristic for drawing attention to these issues and does not provide a sufficiently contextualized or comprehensive approach for understanding the unique aspects of the student veteran experience on campus. This particular model adheres perhaps too rigidly to Tinto's theory (1975, 1993) of student departure, a model that focuses on traditional student populations and that is subject to critical scrutiny in terms of its applicability to nontraditional

populations (Metz 2004). In order to begin to address these concerns and to move beyond these initial efforts to develop a conceptual model for studying student veterans, this chapter builds upon the recent literature (e.g., Ackerman and DiRamio 2009) while also drawing heavily on literature that focuses on nontraditional students and some of the more recent empirical studies that have begun to explore the unique context and conditions of the contemporary student veteran experience on campus.

Augmenting and Improving Recent Scholarly Efforts

Student veterans are nontraditional students given their age, primarily between 24 and 39 (Radford 2009), and prior socialization to military culture (Soeters et al. 2006). Furthermore, many veterans who served since 2001 experienced some form of deployment or combat duty (Bauman 2009; DiRamio et al. 2008; Livingston et al. 2011; Radford 2009; Rumann and Hamrick 2010; Steele et al. 2010), providing these individuals with experiences that most traditional freshmen have not encountered. With 85 % of undergraduate veterans in 2007–2008 being 24 or older, traditional orientation programs may isolate veterans by reinforcing their differences from traditional students (Radford 2009). The age, experience, and discipline of veterans clearly distinguish them as nontraditional students (Bean and Metzner 1985; Olson 1974; Vacchi 2012), making them different from the traditional 18-year-old high school graduates entering college for whom most orientation programs are designed (Pascarella et al. 1986).

Despite the accepted characterization that student veterans are nontraditional students (Ackerman and DiRamio 2009; McBain et al. 2012; Radford 2011; Vacchi 2012), much of the recent research on student veterans relies heavily on Tinto's seminal model of college departure (1975, 1993), which is arguably not particularly well suited for direct application to student veteran experiences. Specifically the mechanisms embedded in Tinto's model presume that student veterans must integrate and adapt socially to a campus environment in order to succeed, which nontraditional student research demonstrates is not accurate (Bean and Metzner 1985). Berger (2000) suggests that Tinto's work is most appropriate for traditionally aged, residential college students and not as appropriate for application to nontraditional students. For example, there is ample evidence that commuter students, a large segment of the nontraditional student population, do not need to adapt socially to a campus in order to succeed (Bean and Metzner 1985; Cabrera et al. 1993; Chartrand 1992). Further, expecting social adaptation of student veterans, already powerfully socialized to the military (Soeters et al. 2006), may be a form of deficit modeling for student veterans. College is a gateway to adulthood for many adolescent students (Chickering 1969); therefore, expecting nontraditional students to mature and socialize to the influences of a college context is not a reasonable expectation.

Bean and Metzner (1985) found that nontraditional students succeed despite not socializing because they have matured into adulthood already. Moreover, prescribing that student veterans adapt to a model requiring socialization to the college context discounts the prior socialization veterans experienced while in the military. Freire (1970) suggests that when assisting in the development of specific populations different from our own, it is critical not to blame the target population for perceived shortcomings or not sharing all of the same values as those offering assistance. The approach of Freire, which avoids deficit modeling, has informed the work of many scholars in higher education (e.g., Hurtado et al. 1998; Rendón et al. 2000; Berger 2000), which asserts that colleges may need to adapt to promote retention, particularly among student subpopulations that have been traditionally underserved and underrepresented in higher education.

Since the WWII era, student veterans have succeeded in postsecondary education with the help of GI Bill benefits, but we do not yet know if the current generation of student veterans, largely using the Post-9/11 GI Bill, succeeds at similar rates. While some studies offer intriguing explorations of transitions and some demographic characteristics of student veterans, we still have a great deal to learn about student veterans as a campus subpopulation. Besides understanding veterans as students, we still need to learn what factors and influences contribute to the success of student veterans. This chapter offers a baseline to begin serious and comprehensive research guided by trustworthy theory in the literature in order to avoid the oversight of student veterans as a campus population yet again.

Contemporary Research on Student Veterans

Despite the increasing significance of veterans on campus, research is just beginning to address the gaps in knowledge concerning the experiences and needs of this unique student population. Recent research (e.g., DiRamio et al. 2008; Livingston et al. 2011; Rumann and Hamrick 2010) on student veterans demonstrates a growing interest by higher education scholars in addressing this knowledge gap. Unfortunately, a strong body of theory and concepts that effectively explain the unique challenges and opportunities for student veterans has yet to be adequately developed. The Council for the Advancement of Standards (CAS) in Higher Education published a first attempt to outline standards for serving veterans on campus (Franklin 2010). However, anecdotal articles and historical documents rather than rigorous empirical research inform these CAS standards. Still, these CAS standards represent one of the few places in the literature where higher education professionals can turn as they seek direction for serving student veterans. Recent research (e.g., DiRamio et al. 2008; Rumann and Hamrick 2010) provides some initial guidance, but nascent empirical evidence about who student veterans are and what this important population needs to succeed on campus remains lacking.

Filling Gaps in Knowledge About Student Veterans

In recent years, some scholarly work filled some gaps in knowledge (Ackerman and DiRamio 2009; Lang and Powers 2011; Radford 2009; Vacchi 2012). However, many gaps in knowledge on student veterans remain including:

1. The development of salient models from which to understand and study student veteran experiences
2. The immediate and longitudinal impact of college on student veterans
3. Exploration of the intersection between veteran identity and other aspects of identity
4. Comparisons between student veterans and nonveteran students
5. The impact of transition programs and services on student veterans
6. The impact of faculty on student veterans
7. The impact of the academic advising process on student veterans
8. The impact of veteran and nonveteran peer groups on student veterans
9. Validation of student veteran services and programming through empirical study
10. The impact of regular campus services on student veterans

Besides the gaps in research regarding how college affects student veterans, little research or scholarly activity considers these issues from a larger systemic perspective. Recent work on college students (i.e., Renn and Arnold 2003; Mendoza et al. *in Press*) has emphasized the importance of understanding the student experience not just from an on-campus perspective – but from various levels within a much larger system that is situated across various levels (micro, meso, exo, macro, or chrono) of space and time. Such a systemic view has significant implications for understanding and serving student veterans, for example, about how national-, state-, or campus-level policies and practices affect student veterans at a moment in time and throughout their college career. This perspective also informs our understanding regarding the impact of changing trends in the numbers of potential student veterans on college and university campuses. In the next major section, and through multiple subsections, this chapter develops and presents a theoretical model to inform and encourage scholars and practitioners to more effectively view and study student veterans from a range of perspectives depending on the context of a campus situation.

Developing a Conceptual Model for Student Veterans

Recognition of student veterans as a unique and growing segment of the higher education student population requires considering the suitability of applying existing models of college impact to the student veteran experience. Student success, in general, has been equated with degree attainment, and Tinto's (1975) model has been called "near paradigmatic" in the study of retention to a college degree (Braxton et al. 1997). While Tinto's theory alone may be insufficient to address the unique challenges of many nontraditional students (Berger 2000), previous research (Braxton et al. 1997) demonstrates the effectiveness of using theory elaboration to appropriately adapt

this and other models to specific types of students and campus contexts. For example, when Berger and Braxton (1998) incorporated concepts from Bean and Metzner's (1985) Model of Nontraditional Student Attrition into a revised version of Tinto's theory, they found that "organizational attributes such as fairness in the administration of policies and rules" (p. 105) help account for "social integration, subsequent institutional commitment, and intent to persist" (p. 115). Berger and Braxton's (1998) findings match Tinto's (1993) theory in that *social integration, subsequent initial commitment, and intent to persist* all relate to actual persistence, which is the goal of those foundational services identified as critical for student veteran success.

Recurring themes in recent qualitative research and informal conversations with student veterans suggest that policies and procedures perceived to be unfair create negative sentiment toward the campus (Bauman 2009; DiRamio et al. 2008; Livingston et al. 2011; Rumann and Hamrick 2010) which may influence student veteran persistence. Despite this obvious indicator, contemporary research is insufficient for making meaningful connections among existing lines of research, theories of college impact, and rates of veteran degree attainment (Holder 2011). Weidman's Conceptual Model of Undergraduate Socialization (1989) may be a more appropriate point of departure for examining the experience of student veterans because it considers nontraditional students and the undergraduate experience despite grounding in traditional student matriculation perspectives. The critical difference between Weidman's work and the work of Tinto (1975, 1993) is that Weidman (1989) considers the impact of other non-college-related influences on the development of college students. Parents, and particularly noncollege reference groups, contribute to the development of undergraduate students: for student veterans, examples may be the National Guard and veteran peers not in college. In the case of student veterans, the connection is twofold. First, military influences shape currently serving military members on active duty or in the reserve components during college attendance. Second, socialization to the military persists as a component of the student veteran population when these students leave military service to attend college.

Further, if we consider the early research into socialization, Brim (1966) asserts that socialization is "the process by which persons acquire [sic] the knowledge, skills, and dispositions that make them more or less effective members of their society" (p. 3). Based on definitions such as Brim's, and the understanding that undergraduate students in general are not in a process of joining a specific social or professional academic community as doctoral students might be, it could be argued that undergraduate socialization to college is a weak outcome of the college experience, particularly among those who are already socialized to other cultures. A weak undergraduate socialization outcome may also suggest differences in the ways international students experience college in the United States and the way nontraditional students, including student veterans, experience college.

Military Socialization: A Common Thread for All Veterans

The work by Soeters et al. (2006) on the sociology of military culture describes how military structures require members to heed orders given by superiors. However,

serving within a military structure does not prevent service members from making individual decisions or taking initiative in the absence of orders. Further, military members learn to avoid being a burden to anyone in their unit from their earliest experiences in the military. The common experience of all military members includes initial entry training, popularly known as *boot camp* or *basic training*. While this is not usually the case for military officers who must earn their bachelor's degree before serving as officers, the vast majority of student veterans needing any kind of assistance are not former officers. While bachelor's degree attainment is not a requirement for enlisted service in the military, 99 % of military enlistees earn a high school diploma before entering the military (Kane 2006; Watkins and Sherk 2008). Initial entry training and *unlearning* of youthful habits in order to learn the *military way* socializes those who serve in the military in ways that are stronger than in the typical undergraduate experience (Soeters et al. 2006).

The longer the service of a military member, the deeper the military socialization is for the veteran, but even a short tour of duty creates a strong military socialization (Soeters et al. 2006). This suggests a continuum of socialization to the military that may offer insight into the degree to which a student veteran identifies as a veteran (Vacchi 2011), and this socialization is likely deeper when the veteran's resume reflects combat experience. This continuum of military socialization also has a special relevance to scholars who wish to study student veterans and other academic professionals who wish to support them in college. Indeed, for scholars or professionals who have not experienced socialization to the military, immersion with a student veteran population is required in order to gain a working understanding of student veterans. In the absence of either military socialization or sufficient immersion, it is incumbent upon those wishing to do scholarly work on student veterans to collaborate with a more informed veteran or scholar when collecting and reporting data on student veterans to capture the emic perspective (Rossman and Rallis 2012).

Even a nominal military socializing experience such as basic training (Vacchi 2011) may require a consideration that all students with prior military experience are nontraditional students due to the maturing nature of military life experiences. Additionally, while dishonorably discharged veterans may not be eligible for benefits, these veterans may still join college campuses, and these veterans may experience the friction of changing from a military to an academic culture also.¹ If a veteran

¹Dishonorably Discharged Veterans

Some veterans and military professionals might balk at including dishonorably discharged veterans in their student veteran population, in the rare instance when these students may need support on campus. Consider that not all dishonorable discharges are for nefarious offenses, and these may be academically qualified individuals. Not legally entitled to the veteran label or benefits, these very rare students still have a military socialization that may be prominent in their approach to life and require accommodation. The campus environment may affect them in a manner similar to all other current and former military students on campus. For these reasons, including dishonorably discharged veterans in their student veteran populations is something that institutions of higher learning should allow for should the circumstance arise.

chooses to go to college after military service, this may be the most difficult leap for a veteran, particularly those who have served in combat or for those who served in the military for a long time, as the campus environment is certainly not the highly structured team-based environment of the military.

A popular historical misconception about veterans in general, and among those in higher education, is that veterans are of below average intelligence (Olson 1974) and that military service serves to decay academic efficacy (Frederiksen and Schrader 1950). Yet, there is an abundance of empirical evidence dating back to WWI demonstrating that student veterans outperformed their nonveteran peers in the classroom and in graduation rates (Frederiksen and Schrader 1950; Olson 1974; Stewart and Davis 1946). The comprehensive analysis of background characteristics and success rates of more than 10,000 student veterans in the late 1940s by Frederiksen and Schrader (1950) demonstrated that after controlling for background variables, veterans outperformed nonveterans across the entire spectrum of measured variables. Frederiksen and Schrader also found that the self-selection of veterans to attend and complete a college degree resulted in greater motivation to excel than did nonveteran students. This is consistent with the findings of Thompson and Pressey (1948) who “concluded that the superior record of the veterans is a complex product of maturity, wide experience, motivation, and relative freedom from financial needs” (p. 252). The most unexpected finding of the Frederiksen-Schrader study was “that the best students were veterans who had been away from school for the longest, who were married, and who were older” (Olson 1974, p. 54) which was contrary to the expectations society had for veterans. Interestingly, Frederiksen and Schrader (1950) also found that the relatively short duration of military service and deployment overseas had no measurable effect on veteran academic performance. In fact, veterans who served in the United States actually performed better than veterans serving overseas did, in combat or not in combat (Frederiksen and Schrader 1950). Despite this detailed knowledge about WWII era student veterans, and the initial studies such as Radford (2011) and Steele et al. (2010), we simply do not know enough about Post-9/11 era student veterans to know what types of differences exist across these generations of veterans.

Regardless of historical GI Bill era, student veterans experience the transition to the military as a deliberate and highly structured process. In contrast, Cohen et al. (1972) describe higher education as an organized anarchy, suggesting much less structure than a veteran may be used to experiencing. Tinto’s notions of having to go through a process of separation, transition, and integration (1993) may be more appropriate for traditional students. Validation may be more important than integration and socialization (Rendón et al. 2000) for veterans due to the strong prior socialization veterans experience while serving in the military (Soeters et al. 2006). According to Terenzini et al. (1994), “Most campuses’ current instructional practices, academic regulations and policies, and workload expectations recognize few differences among students” (p. 70). While the transition from high school to college is a challenge for some students, and colleges increased support for underserved populations in recent years, traditional student populations receive the

abundance of support and programming on many campuses. There is emerging recognition of student veterans as a particular and unique kind of nontraditional student, but research is lacking on how best to serve this population.

Socialization into the military culture through initial military training is the common experience of all military members (Soeters et al. 2006). The challenge for student veterans arises from acculturation to the military, which adds a layer of background and associated obstacles to success not found in traditional students (Vacchi 2011), particularly with navigating higher education contexts and interpersonal dynamics. A frustrating circumstance for veterans, when reentering civilian society, is that it is hard for veterans to earn a similar level of trust and responsibility from the average American as veterans enjoyed while in the military (Vacchi 2012). Many Americans have little understanding or appreciation for the level of responsibility, training, discipline, and competence of US military personnel. This alone can be frustrating for the veteran returning from combat, when the veteran was responsible for life and death decisions affecting their fellow service members (Vacchi 2012). One of the greatest challenges facing veterans transitioning to higher education or the greater society is to explain military training and experiences for employment or for college credit (Steele et al. 2010). The veteran is in an awkward position upon departure from the military service, and one of the most awkward places for a veteran to be after military service is on a college campus because of the clash of relatively incongruous cultures of the military and academic communities (Vacchi 2012). The relative infrequency of veterans on our campuses exacerbates this incongruity of cultures. National Guard and Reserves members exemplify this dynamic as they move back and forth between their military and campus cultures (Rumann and Hamrick 2010).

It is necessary to understand the culture that produces veterans in order to understand the contemporary student veteran. Veterans come from a demanding environment, and veterans generally aspire to meet or exceed expectations (Soeters et al. 2006). The training and development of military members involves leadership and teamwork from the beginning, and military service is marked by a high level of discipline and initiative. A side effect of this culture is that few military members, ergo veterans, want to be the weak link on a team and may seek to avoid negative stigmas (Institute of Medicine 2012). Failure is not an option for these veterans, and being a burden to anyone, such as professors or campus administrators, rekindles weak link avoidance. This is a demonstrated explanation for so many cases of post-traumatic stress, anxiety disorders, alcohol and drug addiction, and medical issues going undiagnosed and untreated among veterans (Institute of Medicine 2012).

The most difficult task for any veteran to overcome may be learning that it is acceptable to need help and even more important to seek help when needed. In fact, the Vice Chief of Staff of the Army stated that using the word *disorder*, in relation to post-traumatic stress disorder, carried a stigma and discouraged many soldiers from seeking treatment (Institute of Medicine 2012). As a result, veterans may feel they must live up to a false expectation, which is not to burden others with their problems. This potential characteristic should not be overlooked when considering

student veterans and helps explain one reason why veterans may not self-identify: if no one knows they are a veteran, it is all right to ask for help. Further, if a veteran's status is unknown, the veteran may feel like they have better access to help than if campus representatives know their veteran status. Alternatively, veterans learned to solve many of their own problems while serving in the military environment, and this experience may carry over into higher education and manifest itself in ways that mirror the self-reliance of military service. It is critical for faculty and staff alike to understand student veterans, because student veterans often mask their needs even though their needs may be simple to address.

What Is Veteran-friendliness?

The way we treat veterans when they come to our campuses can influence decisions to persist or depart by student veterans, since some veterans may need support while transitioning to college (DiRamio et al. 2008; Livingston et al. 2011; Rumann and Hamrick 2010). Veterans decide to go to school near their homes because it is close to work and family (Radford 2009) suggesting that proximity to home enhances perceptions of support for student veterans. *Veteran-friendliness* is a term loosely used to describe efforts intended to provide a welcoming, or accommodating, environment on campus (Lokken et al. 2009). One issue with the concept of veteran-friendliness is that there is no universal definition, or concept about what it means for an institution to be veteran-friendly. A definition for *veteran-friendly* advanced at the Association for the Study of Higher Education (ASHE) National Conference in Charlotte, NC, in 2011 is an informed attempt to standardize this definition.

A veteran-friendly campus identifies and removes barriers to the educational goals of veterans, creates a smooth transition from military life to college life, provides information to veterans about available benefits and services, creates campus awareness of the student veteran population, and creates proactive support programs for student veterans based on their needs. (Vacchi 2011)

This definition is an enhancement of the definition offered by Lokken et al. (2009) and can serve as a guide for theoretical perspectives on veteran-friendliness.

Despite the challenges they present, student veterans benefit colleges and universities because veterans enhance the diversity of campuses. While veterans are desirable for improving diversity, a lack of programmatic focus to help this population transition to campus life can lead to unnecessary stressors in the complex lives of veterans and can earn a campus a reputation of not being *veteran-friendly*. While attention has focused on the increasing nontraditional student population in the United States, programmatic shifts have lagged (Terenzini et al. 1994) and may negatively affect persistence among nontraditional students, including student veterans. Considering the favorable perception of veterans and the competition for diverse student populations, college administrators may want to seek ways to be *veteran-friendly*.

Contrary to the significance DiRamio et al. (2008) and Rumann and Hamrick (2010) place on veteran transitions, data from recent studies brings into question the institution's role in student veteran transitions along with the models used for considering veteran transitions (Diamond 2012; Livingston et al. 2011; Vacchi 2013; Van Dusen 2012). While transition support has a role in the early success of student veterans, veteran self-efficacy (Bandura 1993) may be paramount in veteran transitions rather than any particular events or programming by an institution. Faculty, timely processing of veteran benefits, and peer support may hold central roles in perceptions of veteran-friendliness (Vacchi 2013) that are more broadly significant to student veteran success than institutional programming for transitions.

The Role of Faculty in Veteran-friendliness

While some student veterans live on campus, most live off campus and commute which is a central characteristic of nontraditional students (Bean and Metzner 1985; Smart and Pascarella 1987; Weidman 1989). This commuter dynamic limits the social interactions between student veterans and their nonveteran peers, but increases the importance of classroom interactions of student veterans. The nontraditional student literature emphasizes the importance of the role of faculty interactions on student persistence (Bean and Metzner 1985; Weidman 1989). With general agreement among scholars that student veterans are nontraditional students, student veterans' in-class interactions with their nonveteran classmates and faculty are important factors in student veteran persistence and success. A major conceptual shortcoming of the *Soldier to Student* reports (Cook and Kim 2009; McBain et al. 2012) and a secondary data analysis of Cook and Kim (2009) by DiRamio and Jarvis (2011) is that they do not account for the influence faculty has on student veterans. Academic integration with a campus is more prominent in the success of nontraditional students such as veterans due to a diminished need to adapt socially to campus (Bean and Metzner 1985). Considering student veteran experiences outside of administrative support, the role of faculty appears to be substantial (Vacchi 2013), something that scholars should explore further, but is largely ignored in the student veteran literature.

Interactions with Other Students

When considering other students' influence on a veteran's student experience, there are two perspectives emphasized in the student persistence literature: social and academic interactions (Pascarella and Terenzini 2005). Classroom interactions with nonveterans may affect the validation of veterans, requiring a basic understanding of student veterans by all students. If veterans feel validated in the classroom among their nonveteran, and typically younger student peers, this likely enhances academic integration for nontraditional students (Bean and Metzner 1985). Fortunately, interactions among student veterans appear positive throughout the student veteran

literature. The hypothesis that interacting with students of similar background or identity makes students feel safe is a well-known concept, and this is a common theme in the student veteran literature (Ackerman and DiRamio 2009; Livingston et al. 2011; Rumann and Hamrick 2010). While social integration is not required for undergraduate retention (Bean and Metzner 1985), social contact is healthy and connecting with other veterans may increase a veteran's ability to navigate a campus' administrative and academic structures.

If making veteran peer connections is a common theme among successful student veterans, this may suggest a programming recommendation for all campuses to find ways to connect student veterans informally early in their time on campus. Interestingly, many student veterans rapidly move away from spending a lot of time in veteran lounges (Vacchi 2013), which does not suggest negative environments in lounges, but suggests evidence of a successful transition to college, which is a pillar of veteran-friendliness. Like all students, developing an ability to navigate the campus without help is important to the success of student veterans on campus.

The Veterans' Services Office (VSO)

Veteran-friendly perceptions of an institution likely involve perceptions about quality of services in general and veteran benefits processing, which typically involves a veterans' certifying official or office on campuses with concentrations of student veterans. Regardless of the presence of a VSO, several factors from the literature suggest areas in which administrative staff should focus to serve student veterans. The first is timely processing of GI Bill benefits, which generally affects perceptions of veteran-friendliness among veterans (Ackerman and DiRamio 2009; Vacchi 2013). The next issue is connecting veterans with needed services, such as students with particular conditions requiring more time on exams or special note taking help, which are services arranged by the Disability Services Office on many campuses. Another action of supportive staff is helping student veterans with administrative paperwork for admissions and enrollment to the university and financial aid. Finally, veterans may need help with academic advising, particularly during the initial transition to a college campus. Ideas here would be creating academic roadmaps or plans, explaining the transfer credit process, and prerequisites for various courses in specific degree programs.

Often connected to the VSO, veteran lounges appear to be desired safe spaces for student veterans. Some of the student veteran literature advocates for establishing veterans' offices to create safe spaces for all student veterans (Ackerman and DiRamio 2009; DiRamio et al. 2008; Rumann and Hamrick 2010). This may be possible at some campuses, but is impractical at many campuses due to space, work force, or budgetary constraints. Further, it may be unrealistic to expect very many student veterans to utilize a veteran lounge. Veterans appear to desire moving toward a future less dominated by the military culture, and as such may seek ways to move rapidly past a dependency on regular contact with their veteran peers, which again suggests the self-efficacy of student veterans.

Assessing Veteran-friendliness

Websites such as GI Jobs.com and Military Times Edge.com offer veteran-friendly campus ratings and rankings, but these are subjective and based primarily on institutional self-reports. These veteran-friendly rankings lack reliable measures and consistency between ratings and may not present a valid picture of the campus climate in a meaningful way. Rankings that attempt to satisfy a need for a mythical number one school primarily serve publicity purposes and have little practical utility (Lombardi et al. 2006). Veteran-friendliness is a context-specific dynamic suggesting that what works for one campus may not work for other campuses. Therefore, perceptions of student veterans should inform any claims of veteran-friendliness by institutions, not simply self-reported checklists of items from a website that may not base its claims in empirical research. Campuses should carefully scrutinize veteran-friendly websites that do not conform to the empirical standards required for reliable scientific reporting and may find that these websites offer little more than a listing of available services rather than a true measure of veteran-friendliness.

A Student Veteran Centered Model

Recent literature on student veterans (e.g., DiRamio et al. 2008) connects with traditional models of student retention, such as Tinto's theory (1975, 1993), which may be inappropriate for connecting student veteran research effectively to the college impact literature. Veterans are clearly nontraditional students according to the universal definition offered by Bean and Metzner (1985) and do not align well with traditional student paradigms. Veteran-friendliness affects the entire collegiate experience of student veterans, not just the transition, highlighted as a critical aspect of the student veteran experience by some scholars (e.g., Ackerman and DiRamio 2009; Livingston et al. 2011; Rumann and Hamrick 2010). This section of the chapter offers a conceptual model for student veterans that focuses on the individual student veteran as opposed to a linear institutional paradigm, applies veteran-friendly propositions, and suggests four cornerstones to support pathways to successful degree completion. This model connects with other student veteran literature by suggesting that the transition support and services offered for student veterans contribute to retention of student veterans and veteran-friendliness. However, the Model for Student Veteran Support expands on these early studies by suggesting that student veteran retention or persistence is only an intermediate goal, and that degree attainment is an ultimate goal for both veterans and higher education. This model connects with the college impact literature through Bean and Metzner's Conceptual Model of Nontraditional Undergraduate Student Attrition (1985) and deemphasizes the need for veterans to adapt socially to a college context and refocuses attention on academic interactions. The Model for Student Veteran Support also connects to the college impact literature through Weidman's Model for Undergraduate Socialization (1989) which emphasizes the importance of faculty

and peer relationships on undergraduate success in college. While Weidman's model focuses on the social normative contexts of traditional students, the primary relevance of Weidman's model for student veterans is through his suggestion that noncollege reference groups influence socialization outcomes. Further, Weidman's model offers numerous logical variables for faculty and student interactions that integrate well with the variables in the Bean and Metzner model to use for veterans as nontraditional students.

Weidman's model (1989) indicates that if the frequency and intimacy of faculty and peer contact is sufficient in the eyes of the student, then successful college outcomes increase. DiRamio et al. (2008) suggest that peer relationships are important to student veteran success, but fail to demonstrate this relationship empirically either through the voice of veterans who may desire such contact or in demonstrating that peer connections influence successful college outcomes. Using exploratory factor analysis, DiRamio and Jarvis (2011) offer five key aspects to student veteran success, but use a limited array of factors from Cook and Kim's study (2009), none of which was faculty. Respected scholars dating back to the 1960s (e.g., Vreeland and Bidwell 1966; Spady 1970; Tinto 1975) demonstrate that faculty has a key role in the success of students, after all these are the institutional representatives with whom students engage most frequently.

Four Key Areas to Support Student Veteran Success

Emerging and existing research intersect to suggest four key areas in which to explore the impact of college on student veterans (see Fig. 3.1). First, services provided to veterans are one of the most frequently discussed key areas to help veterans overcome obstacles. In an interview with DiRamio and Jarvis (2011), Alexander Astin asserts that, as with all students, student veterans are individuals and have individual needs; therefore, researchers and educational professionals should not seek a *cookie cutter* solution to serving veterans. This is sage advice against deficit modeling for student veterans, and his comments recognize the dangers of generalizing about student veterans. However, there are recurring themes in the student veteran literature that suggest several areas in which campuses can be more accommodating for student veterans. Areas identified by DiRamio et al. (2008) and Rumann and Hamrick (2010), among others, include issues with processing GI Bill benefits, credit for military service, and health insurance waivers for veterans covered by VA health care. Within areas such as this, Weidman's (1989) model suggests that two variables in particular to consider for research might be *quality of services* and *timeliness of service*.

A second key area to help student veterans succeed is support to overcome obstacles during the transition to, and through, college. Extant student veteran research does not connect well to existing lines of inquiry despite a robust literature offering a myriad of college transition connections applicable to all students. Exploring the literature that offers empirical explication for student success or persistence may inform our ability to serve student veterans better than the student departure

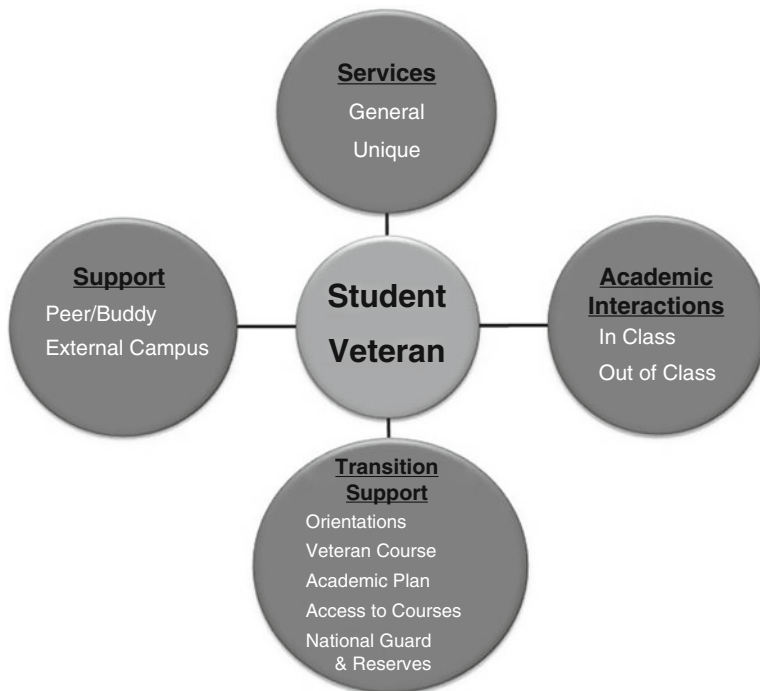


Fig. 3.1 Vacchi's Model for Student Veteran Support

literature. A study by Pascarella et al. (1986) on the indirect effects of orientation programming on freshmen year persistence highlights the significance of an effective orientation on persistence and success. One possible recommendation that derives from emerging research is the suggestion that veterans may benefit from a transition course tailored for student veterans (DiRamio and Jarvis 2011). Transition courses can be of great value to the student veteran who is not yet comfortable with the new reality of being a veteran and uncertain about how to engage members of the campus community effectively as a veteran. Another promising recommendation by DiRamio et al. (2008) is the transition coach (p. 93), which is essentially a peer sponsor or mentor to assist a new student veteran in navigating the nuances of a college campus.

The third key area is faculty interactions, which involve *frequency* and *intimacy* of contact as variables to consider for research (Weidman 1989). Contemporary scholars researching student veterans do not emphasize faculty influences on student veterans enough, despite there being abundant opportunity in their qualitative data. In this regard, the theories of Schlossberg (1981), and particularly Tinto (1975), offer little salient connection with existing student retention research. Tinto (1975, 1993), among others, insists that social and academic integration are required to avoid student departure. The literature on nontraditional students clearly

deemphasizes the importance of social integration (Bean and Metzner 1985; Metz 2004; Pascarella et al. 1986) in disparity with the work of Tinto and theories based upon his work. Still, the emerging student veteran literature allows that ineffective or inconsistent advising and faculty interactions may have a negative impact on student veteran success (Cook and Kim 2009; DiRamio et al. 2008; Radford 2009; Rumann and Hamrick 2010).

While contemporary researchers (e.g., DiRamio et al. 2008; Livingston et al. 2011; Rumann and Hamrick 2010) agree that student veterans are nontraditional students, overreliance on Tinto's theory inappropriately forces nontraditional students such as student veterans into traditional student paradigms. Traditional undergraduate student models do not place enough emphasis on the motivations for nontraditional students to pursue a college degree and the differences in the environments that nontraditional students may have compared to traditional students (Bean and Metzner 1985; Pascarella et al. 1986). Weidman (1989) departs from Tinto by suggesting there are influences on undergraduates other than college peers and faculty, specifically noncollege reference groups. Therefore, a failure to understand the unique characteristics of student veterans' noncollege reference groups may hinder efforts by researchers, faculty, staff, and students alike to create an accommodating environment for student veterans on campus by believing veterans are culturally the same as nonveterans. Since many members of the campus community know little about student veterans (Radford 2009), this may be why veterans report problems with many kinds of interactions on campus, including nonveteran peers, faculty, and staff (Ackerman and DiRamio 2009).

Faculty interactions are a significant influence on the goals and aspirations of students (Weidman 1989), and we know that faculty interactions affect students' values and perceptions based on the quality and frequency of those interactions (Weidman 1989; Johnson 1994). The qualitative research on contemporary student veterans suggests that negative classroom environments are a recurring theme for participants (Bauman 2009; DiRamio et al. 2008; Livingston et al. 2011; Rumann and Hamrick 2010). The other component of faculty interaction is contact outside the classroom, which students and faculty members tend to agree has a lasting impact on college attendance (Weidman 1989). If interactions with faculty outside the classroom are insufficient for student veterans or faculty contact is of poor quality, then this may have a negative impact on student veteran persistence. The implication for these theoretical and empirical observations is that higher education should implement strategies to ensure that classroom environments are neutral to positive for student veterans, rather than negative.

The fourth key area for supporting student veterans is the effect support has on student veterans, which has two components. A critical first component of *support* is peer advising, frequently called peer mentorship and may not be a function of formal structures such as a student veteran organization, or club, or formal peer sponsorship relationships. Peers can have a strong influence on student persistence and success (Tinto 1975; Pascarella and Terenzini 2005; Weidman 1989) and represent an important pathway for veterans to learn to navigate campuses independently. However, scholars should not overstate the significance of peer influence for student

veterans, particularly because they are nontraditional students (Bean and Metzner 1985), and evidence suggests that many such students may not seek or need connections with peers in order to succeed in college. Moreover, this may be particularly true with regard to student veterans as the military culture emphasizes avoiding being the weak link on a team (Institute of Medicine 2012; Soeters et al. 2006). Still, providing opportunities for peer support and advice through formal or informal mechanisms for veterans to access voluntarily may be advisable on campuses with enough veterans to support such endeavors.

Some contemporary literature suggests a student veteran organization is important for ensuring the success of student veterans (DiRamio et al. 2008; DiRamio and Jarvis 2011; Livingston et al. 2011; Rumann and Hamrick 2010), despite evidence to the contrary (Student Veterans of America 2011; Woosley et al. 2011). Those benefits of an effective student veteran organization are primarily healthy peer relationships, which may result in beneficial informal advice to student veterans. However, evidence suggests that an overwhelming majority of student veterans choose not to participate in existing student veteran organizations (Student Veterans of America 2011). This may be an indicator that student veterans either tend to seek nonveterans as peers to pursue a perception of being *normal* or choose not to seek any peer relationships and merely pursue the academic aspects of a college degree. In either case, we need further empirical evidence, but the extant literature (e.g., DiRamio and Jarvis 2011) offers no evidence of student veteran organizations as panaceas for student veteran success, nor should colleges and universities believe that simply creating a student veterans' organization would change the veteran-friendliness of a campus environment. Further, student veteran organizations could serve to isolate student veterans if the organizations are ineffective, artificial, or not effectively integrated into the campus culture, much like other campus-based organizations designed to serve the particular needs of specific groups of underrepresented students (Rendón et al. 2000).

There is some evidence in the literature (e.g., Guiffrida 2003; Museus 2008; Rooney 1985) that student organizations comprised of nondominant campus cultures are potentially valuable as safe spaces that focus campus support to enhance the success of some student subcultures. However, this body of work assumes these student organizations are well run and integrate effectively with the host campus. These works also refer to definitive subcultures, of which prior military experience may be a subculture, but may not be the predominant culture with which all student veterans identify. Poorly run higher education organizations may well magnify the isolating effects of a dominant nonveteran culture, highlighted as a substantive concern by scholars such as Kuh and Love (2000), Museus et al. (2008), Tierney (1999), and Rendón et al. (2000). While it is possible that student veterans could constitute a campus subculture, there are possible flaws with connecting this research to student veterans in order to justify the artificial creation of a student veterans' organization as an expected panacea for improving persistence.

A second component of support is *general campus support*, which may vary according to the individual needs of a student veteran. Truth in advertising may influence student veteran perceptions about a campus regarding policies such as

transfer credits. Not receiving proper credit for transfer courses and military experience is another theme cited as a negative experience for student veterans (Bauman 2009; DiRamio et al. 2008; Livingston et al. 2011; Rumann and Hamrick 2010). The Air Force makes laudable attempts to award accredited community college credit for military training and experience, something the Army, Navy, and Marine Corps has yet to embrace. Insufficient recognition of appropriate credit for military experiences is partially the fault of the military's largest branch, as the Army tends to inflate the value of training and experiences based on outdated models of higher education. Much like the cooperation gap between the Veterans Administration and the national higher education community (McBain 2010), the military and higher education connect poorly regarding issues such as credit for military experience. More research into student veteran self-efficacy and the quality and frequency of support for student veterans is required in order to inform practice by higher education professionals.

Organizational Development to Support Student Veterans

At one time, student veterans historically performed as well or better than nonveterans do in the classroom and in degree attainment (Frederiksen and Schrader 1950; Olson 1974). Yet we have virtually no current data that provides contemporary insight into this phenomenon. It is clear that organizational development needs to occur in higher education, but as a means to an end of helping student veterans realize their potential as undergraduate students (Berger and Milem 2000) going through a developmental process (Chickering and Reisser 1993) in college. Theorists such as Astin (1993) proffered models that describe three phases to the experiences of students in college: Astin's Inputs-Environments-Outcomes model (1970) is the most direct, intimating that inputs and college environments shape outcomes.

The majority of college impact models (e.g., Tinto 1993; Weidman 1989) identify three major stages of a micro-chronosystem: initial transition to college, academic achievement, and transition out of college. When considering the temporal aspect of the student veteran experience, we envision three similar phases on the path to college degree attainment. The transition phase, typically the first one or two semesters on campus, is critical (Pascarella et al. 1986) and can involve many identity transitions – some of which are not primarily the responsibility of higher education to support (Vacchi 2013). The academic achievement phase accounts for those semesters between the transition into college and the beginning of the transition out of college. For some veterans, the academic phase may overlap with the final phase if the veteran only needs a few semesters to graduate. The final phase is the transition out of college in which the veteran anticipates a postcollege career and begins a job search, typically in the final two semesters of college; and this may well be the most logical phase in which to utilize Schlossberg's 4S Model (1981) to support student veterans transitioning to a career after college.

During a veteran's college experience, many changes may occur from identity transitions, family changes, and increased self-efficacy to validation and success. The strength of the many influencing factors on the experiences of student veterans can vary over time resulting in a dynamic educational experience as the veteran develops into a college graduate (Vacchi 2013). The importance of student veterans and concerned professionals understanding the temporal nature of individual student development cannot be overstated. For example, if GI Bill benefit processing works well for several semesters, with no interruption or delay in benefit payments, but then the process breaks down at the university, this can upset the student veteran's priorities and perspective about the college experience (DiRamio et al. 2008; Rumann and Hamrick 2010; Vacchi 2013). In addition, if a veteran experiences good faculty relationships for the first semester on campus, this will facilitate a smooth transition to college. However, if the veteran subsequently experiences adverse faculty relationships, this can have a deleterious effect on the student veteran's experience in college and could lead to student departure (Johnson 1994). To develop a theoretical model that captures the complexities of the student veteran experience, and to highlight intervention points for professionals in higher education, requires a considered perspective on institutional efforts for student retention.

Collegiate Ecological Systems Theory

Bronfenbrenners' (1993) Ecological Systems Theory (EST) assumes that the human experience exists within a complex, dynamic, interactive web of nested environments beyond the immediate situations containing the subject (Fig. 3.2). It accounts for the influences of individuals (person), their interactions with the environment and the responses they provoke from the environment (process), their interactions within immediate settings (context), and the changing sociocultural influences (time). The elements of person, process, context, and time (PPCT) create a developmental environment unique to an individual that shapes personal growth. This environment is the result of five nested environmental systems: microsystem, mesosystem, exosystem, macrosystem, and chronosystem. EST views human development as the result of interactions between the individual and an immediate environment, embedded within a broader ecological system. In this process, the particular attributes of the individual shape the interactions with the environment and hence individual development. Personal attributes, including nontraditional backgrounds such as being a veteran, contribute to the variability in college outcomes across students. The following sections reconsider the student veteran experience in terms of each level of EST's five nested environmental systems.

Microsystem

This level refers to the interpersonal contexts involving the student such as residential halls, classes, student organizations, employment settings, social events, living situations, church, family, and community (Renn and Arnold 2003). Areas unique to student

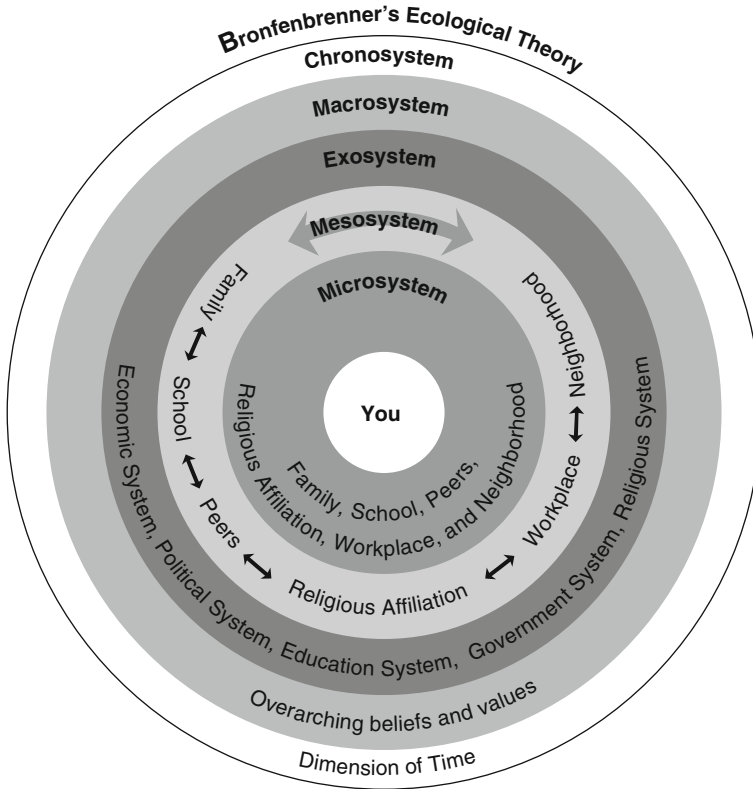


Fig. 3.2 Bronfenbrenner's ecological system model (1993)

veterans may include medical conditions, life challenges, identity transitions, and issues involving dependents. Veterans may also have numerous student involvement aspects within the microsystem, such as participation in student organizations or government, along with support relationships outside the campus (Vacchi 2013). Attinasi (1989) posits that students develop the ability and the self-confidence to persist through the support of peers rather than the normative pressure of institutional cultures. Thomas' (2000) research supports Attinasi when he asserts that students can draw upon peer networks as pools of social and academic capital to persist in college.

Mesosystem

This second level refers to the interactions, linkages, and processes among microsystems (Renn and Arnold 2003), for example, the influence of employment on taking classes and the influence of friendships in social activities. This interdependence of microsystems may reinforce or counteract one another, and so, it might affect students'

integration. For example, National Guard members have short-term absences from college for training or service deployments creating conflicts with course requirements. Another example is a combat veteran experiencing a PTSD-related flashback and having to miss classes to see health professionals at the VA.

Exosystem

This third level refers to the contexts in which the student does not have an active role, but the context has a direct effect on the student. Examples include institutional policies (admissions, curriculum, housing requirements), financial aid, and students' family labor and economic conditions (Renn and Arnold 2003). Examples in the case of student veterans would be institutional policies regarding class enrollment holds due to late GI Bill payments by the VA and quality of service provided by the VA in benefits processing or health-care visits. Other student veteran examples include the recent prominence of extended combat or humanitarian deployments and limitations in educational benefits depending on a specific veteran's circumstances.

Macrosystem

The fourth level contains the broader political, economic, social, and cultural context in which individuals live. Renn and Arnold (2003) provide an example of the macrosystem for college students in the United States, which is meritocratic values rooted in democratic and capitalist ideologies as well as cultural notions of gender, race/ethnicity, and sexual orientation. The macrosystem contextualizes the inner systems and depends on given cultures and historical moments in time (Bronfenbrenner 1993). For student veterans, examples of the macrosystem include values impressed upon the veteran during military service and cultural norms of the military, such as trusting and respecting authority and comfort within structured and rule-based environments. Incongruence between a veteran and an institution may occur if the values of the military, impressed upon a veteran during service, do not align well with the values of a college or university. This aspect of sufficient fit is another motivation for exploring veteran-friendly concepts and scrutinizing published Internet rankings and lists for veteran- or military-friendly campuses.

Chronosystem

Finally, this ecological environment evolves over time, and so it resides within a chronosystem. Here we see the influence of generations (Boomers, Millennials), historical events (9/11, the Great Recession), social movements (Civil Rights, Tea Party, Occupy Wall Street), as well as popular culture trends. This system also accounts for transitions over the life course of an individual such as entering college, graduation, first full-time job, marriage, and child-rearing. In the case of many student veterans, the events of 9/11 represent a significant developmental influence shaping the

background of student veterans. For others it may be combat deployments to Iraq or Afghanistan, or simply a long stretch of military service during the Post-9/11 era.

The temporal dimension, or the chronosystem, of the higher education ecological system has not received a great deal of attention until very recently. Before turning to a more detailed discussion of the chronosystem, it is important to define the chronosystem clearly and to clarify sublevels that exist within this chronosystem. For the purposes of this conceptual framework, it is important to distinguish three subsystems within the chronosystem. The micro-chronosystem focuses on the individual veteran experience as they transition into and through the college experience. Traditional thinking considers this “the traditional four years” in which a student progresses from entry into college followed by a progression from freshman to sophomore to junior to senior and into a successful college graduate. Much of the extant college impact literature has focused on the student experience as a temporal microsystem – a snapshot that ranges from 1 to 4 years (depending on the model and/or the duration of data collection in such studies).

Yet, college and universities are not isolated islands that exist in a vacuum of time and space (Berger and Milem 2000). Very few models of college impact have considered the extent to which larger sociohistorical trends and forces influence the college experience. However, there have been some attempts to consider the larger macrosystem. For example, the recent application of an ecological perspective by Renn and Arnold (2003) and Mendoza et al. (in press) has called attention to the fact that the era of time in which students attend college influences the student experience in college. For example, students who attended college during the late 1960s and early 1970s experienced college in very different ways than did students who attended college 25 years later. The work that has been done on the current millennial generation and other generational aspects of the undergraduate experience (Coomes and DeBard 2004) also recognizes the importance of historical period as a significant environmental influence on the college experience.

The meso-chronosystem receives even less attention, which is the specific historical development within a particular college campus (Bronfenbrenner 1993). One of the notable conceptual models that explicitly addressed this temporal subsystem is in the work of Hurtado et al. (1998) on campus racial climates. In their multidimensional model, Hurtado et al. (1998) recognize that each campus has its own historical legacy that influences how students experience a particular college campus. Their work focuses on the historical legacy of racism and the climate for diversity; however, this concept applies equally well to all aspects of the campus environment, including student veterans.

An Ecological Approach for Student Veterans

Mendoza et al. (in press) note that the meso- and exosystems have Tinto’s (2010) conditions of student retention (expectations, feedback, involvement, and support) embedded within and across both levels. These conditions manifest themselves in

the mesosystem in a “person-process context” (Mendoza et al. [in press](#)) that involves interactions between the student and the immediate campus environment over time. Thus, individual student agency within the immediate ecological system is critical to a veteran’s success. Moving to the exosystem, institutional policies and practices impact student veteran success through a variety of mechanisms that are primarily driven by various policy mandates (e.g., the GI Bill), the implementation of such policies, and a variety of sociohistorical trends (e.g., engagement in war, number of veterans). The literature insufficiently incorporates the macrosystem and chronosystem for student retention theory. However, the clear influences of the events of 9/11, combat deployments to the Middle East, and the socialization of veterans during military service articulate how the chrono- and macrosystems apply to the student veteran experience.

The complex nature of veteran transitions coupled with the individual background and experiences of veterans within the varied contexts of college campuses requires us to move away from traditional student models and deficit models to understand student veterans and to support their success. Models such as Tinto’s (1975), which imply a generic path to success for all students, break down because students are unique and the goal of higher education is not to produce a homogeneous graduate. Ironically, Tinto’s theory may enjoy the most relevance at military institutions intended to develop our nation’s entry-level military officers. However, traditional student models fail to account for the differences between student veterans and their traditional student peers, even among traditional aged student veterans (Vacchi 2013). Freire (1970) called this deficit modeling and the suggestion is that unless scholars and higher education professionals understand student veterans and work from within the veteran culture, we will fail to support the degree attainment goals of our student veterans. Berger (2000) asserts that institutions may need to adapt to unique subpopulations of students, rather than expecting these students, such as student veterans, to adapt to the campus. This assertion is consistent with Bean and Metzner’s (1985) findings that social adaptation or integration may not be necessary for nontraditional students.

When we center models on student veterans, we depart from deficit modeling and can begin to address the unique needs of student veterans. One attempt to demonstrate this need is Vacchi’s (2011, 2013) Conceptual Model of Student Veteran Support. This model adapts theory from several scholars and emphasizes what a more comprehensive approach to student veteran support would entail, rather than just focusing on a one- or two-semester transition. However, this model only loosely accommodates the passage of time and how different aspects of a student veteran’s collegiate experience, and life, can vary in prominence.

While Bronfenbrenner’s model (1993) offers a generic view of the ecological considerations for students and our adaptation contextualizes the student veteran experience, combining this chapter’s models reveals the complexity of the college experience for veterans. The combined model (see Fig. 3.3) situates the Model for Student Veteran Support within the microsystem of the ecological model for veterans and suggests that the microsystems of other people and organizations can interact with the student veteran within the mesosystem. The exosystem depicts the

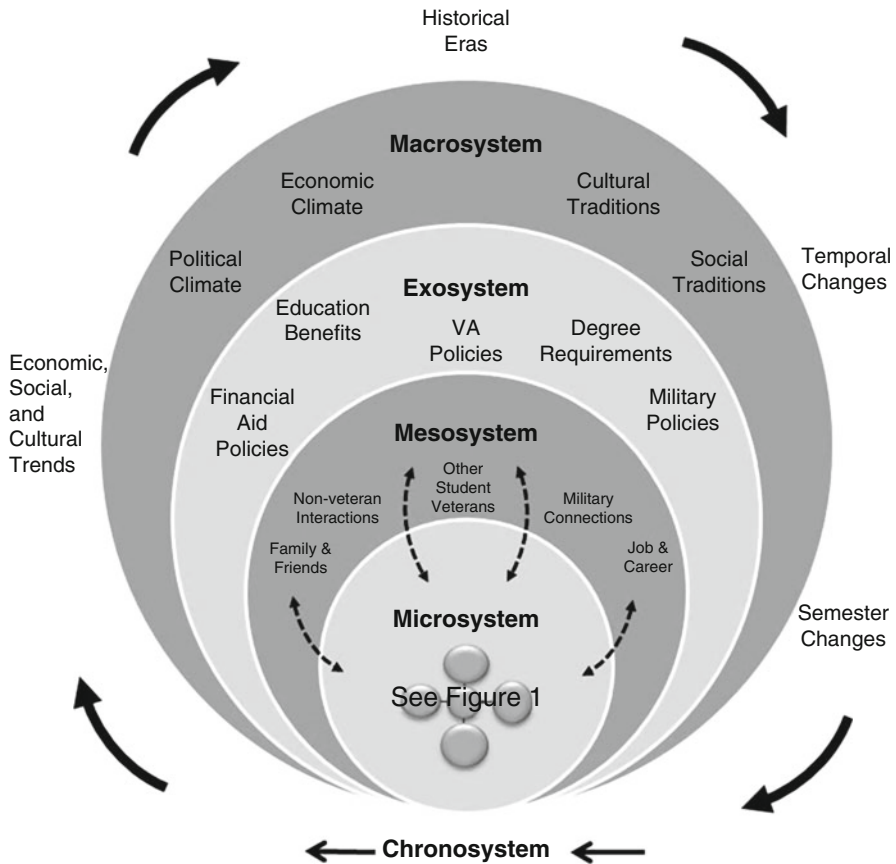


Fig. 3.3 Combined ecological model for student veterans

effects of university, government, and military policies and programs on the experiences of veterans in college. The macrosystem includes influences on the veteran’s life that are beyond the narrow context of the higher education experience, yet can exert powerful influence on a student veteran’s pursuit of a college degree. Finally, the chronosystem suggests that the temporal nature of these environments precludes static views or short-term approaches to supporting the success of student veterans because the campus context changes over time. Furthermore, the primary finding of the 2012 College Completion Symposium, which was that “efforts to promote student success must be integrated and sustained, rather than isolated or short-term” (US Department of Education 2012, p. 3), helps validate the concept of the chronosystem. While the various systems of the ecological model all interact and overlap for the nonveteran student, the major influences on the experiences of veterans are greater and more complicated than those for the typical student around whom our student support paradigms are conceived.

Recommendations for Future Research

The extant research and scholarly effort to explore and explain the impact of college on student veterans is laudable, albeit insufficient. Extant student veteran theory only focuses on the transition to college, which is insufficient for student veterans, and requires that scholars develop more and better theory to understand the entire collegiate experience of student veterans, as well as the impact of pre-college and in-college, institutional and external, factors on student veterans' experiences, development, performance, persistence, degree completion and other indicators of success, and a variety of college outcomes. Student veterans are nontraditional students, so scholars should engage the nontraditional literature to connect with student development theory. A theory of student veteran self-efficacy based on phenomenology or ethnography would benefit scholars and practitioners immensely.

Schlossberg's Moving In, Moving Through, and Moving Out theory (1981) is a useful theory to conceptualize transitions, but is Schlossberg's 4S Model (1981) an effective way to conceptualize the experiences of student veterans? Schlossberg's influence on the field of counseling is beyond question; in fact, counselors using her 4S Model may help veterans negotiate some transitions as college students. While some scholars attempt to adapt Schlossberg's 4S Model to construct student veteran theory (e.g., DiRamio et al. 2008; Livingston et al. 2011; Rumann and Hamrick 2010), these efforts do not address the comprehensive factors that affect student veterans during their entire college experience. A laudable start to developing student veteran theory, Schlossberg's model appears insufficient to carry research and theory forward for this important student group. Because the student veteran population is diverse and does not experience the same number or intensity of transitions, higher education may do well to approach veteran transitions from a different theoretical lens than what either Schlossberg or Tinto offer. The models within this chapter offer a foundation and first step to address this shortcoming of recent student veteran literature.

Revisiting some of the ten gaps in knowledge about student veterans noted earlier in this chapter may help to highlight the largest gaps in research for future scholars to explore in the coming years. Recent conceptual and theoretical consideration of student veterans (e.g., DiRamio et al. 2008; Livingston et al. 2011; Rumann and Hamrick 2010) offers little in effective connections to appropriate broader theory or lines of inquiry in the higher education literature. The models offered in this chapter connect with appropriate lines of inquiry from the higher education literature and are a salient foundation from which to begin rigorous research on student veterans. Acknowledging extant research, which not only differentiates traditional from nontraditional students (e.g., Bean and Metzner 1985) but requires consideration of the uniqueness of student veterans (Rendón 1994), clears the path for improved empirical study of student veterans in college.

Longitudinal Study Recommendations

Due to a lack of national tracking processes or programs for student veterans, even those using GI Bill benefits, the most reliable way to assess student veteran success to graduation and employment is via longitudinal studies that track a cohort of veterans from military service through to employment as Smart and Pascarella (1987) did for their study. A study such as this would require an initial sample in the range of 10,000 student veterans distributed over three or four cohorts and would take 7–10 years to complete allowing for likely sample attrition and six-year time to degree measures. In order to justify the GI Bill program, it would be in the best interest of the US Department of Veterans' Affairs to fund a grant for such a study, if not conduct the study themselves.

During a longitudinal study, researchers should examine numerous variables informed by student retention literature and not limit themselves to the current body of student veteran literature. While researchers might explore social integration as a variable (e.g., Tinto 1975, 1993), analysis of nontraditional student populations convincingly suggests that social integration is not a component of nontraditional student success (Bean and Metzner 1985; Cabrera et al. 1993; Chartrand 1992). Of prime interest are academic integration variables such as faculty and nonveteran peer interactions, which the nontraditional student research literature suggests are more important for populations such as student veterans (Bean and Metzner 1985; Cabrera et al. 1993; Chartrand 1992) than for traditional students who may rely on social integration for retention (Tinto 1975, 1993).

Researchers would do well to explore the effect spouses, children, employment, and external organizational influences have on student veterans (Weidman 1989) as these noncampus influences tend to have a greater effect on nontraditional students (Bean and Metzner 1985). Other variables to consider are on campus versus off campus living contexts (e.g., Tinto 1993) and the impact peer veterans (students and nonstudents) have on student veterans. These issues are not addressed in the empirical literature, a shortcoming demanding scholarly attention. Some scholars document the challenges facing National Guard and Reserves students as they negotiate being in and out of military service frequently (Bauman 2009; Livingston et al. 2011; Rumann and Hamrick 2010). However, these scholars offer little empirical evidence suggesting a difference between part-time service members and those of active duty members or separated veterans, except that our National Guard and Reserves members can move in and out of higher education multiple times while pursuing a degree. Another gap in knowledge is an understanding of the differences between career veterans and short-term enlisted veterans, which may lead to an exploration of the effects of college courses taken while serving in the military on the post-military educational pursuits of veterans. Finally, the differences between student veterans with and without combat experience are critical for researchers to investigate. This is but a partial list and it behooves researchers to explore the rich student retention and persistence literature for more variables.

Another longitudinal study that may be of value is an ethnography in which researchers undertake long-term participant observations (Rossman and Rallis 2012) to understand student veterans' views and render accounts of those cultural worldviews. While time-consuming, this method is superior to cross-sectional qualitative and quantitative inquiry in truly understanding the student veteran culture. In order to describe the student veteran culture reliably, researchers must replicate these ethnographies at numerous campuses of differing types and missions. An interesting approach might be to have the researcher be a student veteran, to allow for a less common perspective on the experiences of student veterans than the recent trend of nonveteran scholars researching this population.

An alternative to a comprehensive or national longitudinal study of student veterans is for institutions to track their own cohorts of student veterans from arrival to campus through to employment. Any institution desiring to avoid a label as a predatory recruiter of veterans with GI Bill benefits would be wise to quantify student veteran success on its own campus. We want campuses to recruit student veterans, but we assume that campuses will support student veterans when they arrive on campus and throughout their pursuit of a college degree. Colleges and universities track and advertise four- and six-year degree completion rates with great pride, so why not take the extra effort to track student veterans and, for that matter, other underserved student populations?

Intersections with Student Veteran Identity

The limited number of recent studies that provide us with actual data about student veterans has a collective sample of 70 participants (Bauman 2009; DiRamio et al. 2008; Livingston et al. 2011; Rumann and Hamrick 2010), which is insufficient for any conclusions about student veteran identity. While these are important first steps, we need more inductive studies, followed by a meta-analysis, to develop a reasonable profile of student veterans informed by other than anecdotal observations and personal experience of veteran scholars. A unique description of what it means to be a veteran or military service member is important, as in the cultural analysis of Soeters et al. (2006) in the *Handbook of the Sociology of the Military*; however, veteran identity may not be the primary identity influence among some, or even most, veterans. Exploring the intersection of veteran identity and gender, ethnic, or sexual identity may reveal informative and revealing findings about the primacy of the veteran identity. Veteran-ness may not override other cultural tendencies, but we can only learn about this through intentional research. Veterans come to college with experience that makes them nontraditional students, but there may be numerous identity-related variables to explore, such as veteran self-efficacy, agency, validation, and ability to manage dissonance, which may be different from most other students. Additionally, our lack of understanding of veteran avoidance of self-identification and desire to avoid stigma warrants research from not only higher education scholars but also scholars from sociology and psychology.

One interesting aspect of studying student veterans may be fleeting or lost if either the DoD or the VA do not move quickly: understanding the experiences of deployed service members who are taking online courses. Given the access to college education through the Internet, military members pursue college degrees while deployed for combat and other missions around the world, a unique aspect not seen before the wars in the Middle East. Presuming the United States will not seek to engage in another protracted war in the near future, this opportunity may be fleeting. Once the deployments to Iraq and Afghanistan are over, these opportunities may not present themselves for another generation, and like the 1970s, we will have missed an important opportunity to study a unique and fleeting student population.

Comparing Veterans with Nonveterans

When conducting any study of student veterans, it is important to attempt to compare and contrast their experiences with nonveteran students. While it would be a surprise if the educational experiences of student veterans were the same as nonveteran students, highlighting the differences allows practitioners to focus programs and services on the unique needs of student veterans. While we should study all student veterans, the experiences of undergraduate student veterans should be of prime relevance with over 84 % being undergraduates (Radford 2009). However, graduate student veterans are a consistent population with DoD programs sending active duty officers to our campuses every year, and we should seek some understanding of veterans undertaking advanced degrees. Another interesting aspect of understanding student veterans may be to explore the impact of various veteran and nonveteran peer groups on student veterans. For example, are student veterans more comfortable, or more successful, when they interact socially with veterans or nonveterans, or both? How do student veterans interact with nonveterans in the classroom? Do these academic relationships transfer to social relationships?

Researching the Key Influencers on Student Veterans

The reality of contemporary research is that time is short and resources are few, which pushes the majority of research into the cross-sectional variety, taking a snapshot of a sample population at a brief moment in time. These studies do not have to lack rigor, and scholars should aspire to the most thorough methods possible when conducting cross-sectional studies. Cross-sectional study possibilities include both qualitative and quantitative methodologies, and researchers should pursue both approaches to understand the various influencers of student veterans better. From quasi-experiments measuring the impact of transition courses and programs on persistence, to a phenomenological investigation of student veteran transitions, scholars should explore an array of avenues regarding student veterans in higher education.

Several topics from the current literature warrant empirical exploration, such as the effects of separate, combined, and multiple new student orientations on student veteran retention. First year transition programming such as new student orientations increases student retention by as much as 80 % (Pascarella et al. 1986), but are student veterans who are older and possibly returning to the campus likely to benefit from new student orientations? Is there a potential theory for the integration of older returning student veterans that can inform programming, possibly something related to nontraditional student programming? Other topics to explore include the effects of administrative services on retention, effects of disability services on retention, and indicators of student veteran success from institutional and student veteran perspectives. While a recent pilot study suggests that academic advising has little effect on veteran perceptions of campus veteran-friendliness (Vacchi 2013), explorations of academic advising and career advising warrant further study. Other studies may include explorations of the effects that dependents and families have on student veterans, the effect that part-time or full-time employment has on the persistence of student veterans, and descriptive typologies of student veterans. The paradigms that constrain scholarly thinking and limit new ideas are strong in higher education, and scholars should guard against deficit modeling perspectives on student veterans that marginalize this important component of a campus' student body diversity.

Research that may bridge the longitudinal versus cross-sectional gap may include explorations of the cognitive, social, and identity development of student veterans. Scholars have yet to demonstrate that student veterans have a unique identity: we assume this. Even if there is a distinct student veteran identity, do identities intersect for student veterans, and if so, which identities are primary among student veterans? Another considered exploration into student veterans would be to categorize the phases or stages of development of a student veteran during a college program. Still another study might be to explore the effects of student veterans delaying college entry until the post-combat normalization process is essentially over, which is typically 6–9 months (Institute of Medicine 2012).

Most of our student veterans appear on a certifying official's list on campus, and concerned professionals can use this list to begin measuring student veteran success, just as we do for traditionally matriculating students. We can also measure year-to-year retention and conduct exit interviews when student veterans depart. Departure is not always a bad thing: the campus environment or culture may not be a good fit for some student veterans, just as it may not be for other students. Poor student-institution fit is not necessarily the fault of the university, especially if the institution is meeting the reasonable needs of individual student veterans as they do the needs of many other special population students on campus.

Concluding Thoughts on Student Veterans

Student veterans are not an emerging student group and have been on our campuses in significant numbers since the WWII era. While overlooked for close to two generations while the college impact and student development literature was forming

from the late 1960s through the early 2000s, the gaps in knowledge for student veterans are vast. However, with an increasingly diverse student population and limited resources for researching student veterans, scholars must be intentional about research choices and help to build a solid foundation for future scholars to advance in the years to come. Our current lack of a solid foundation of empirical knowledge on student veterans simply mirrors the poor foundations left for use by past generations.

As we move forward and research the experiences of student veterans, we must be ever vigilant to connect to appropriate lines of inquiry and consider the uniqueness of student veterans as a student population. As paradigmatic as Tinto's (1975, 1993) theories are for understanding traditional student retention and departure, a lengthy body of research and theory demonstrates the inefficacy of using Tinto's theories for nontraditional students, such as veterans (Metz 2004). The literature reviewed in this chapter, specifically the work of Bean and Metzner (1985) and Weidman (1989), offers initial points of departure from Tinto's theories and informs the development of the Model for Student Veteran Support included in this chapter. Reviewing the entire experience of student veterans requires a temporal perspective offered in the ecological approach for student veterans inspired by Bronfenbrenner's theory (1993). The recent attempts by some scholars to study student veterans are not wasted energy and help us to see the direction we must take in order to understand veterans as students better and drew initial attention to the importance of transitions for student veterans. This allows others to complicate and refine those arguments to begin to understand that student veterans can undertake many different kinds of transitions, that transitions are not the only key to student veteran success, and that avoiding deficit modeling is critical, not only for student veterans but also for all student populations.

Acknowledgments The authors would like to thank Ernest T. Pascarella and Karen Kurotsuchi Inkelas for their thoughtful review and insightful feedback on early drafts of this chapter.

References

- Ackerman, R., & DiRamio, D. (Eds.). (2009). *Creating a veteran-friendly campus: Strategies for transition and success* (New direction for student services, Vol. 126). San Francisco: Jossey-Bass.
- Altschuler, G., & Blumin, S. (2009). *The GI Bill, a new deal for veterans*. New York: Oxford University Press.
- Angrist, J. D. (1993). The effect of veterans benefits on education and earnings. *Industrial and Labor Relations Review*, 46, 637–652.
- Armor, D., & Gilroy, C. (2010). Changing minority representation in the U.S. military. *Armed Forces & Society*, 36(2), 223–246.
- Astin, A. (1970). The methodology of research on college impact (II). *Sociology of Higher Education*, 43, 437–450.
- Astin, A. (1993). *What matters in college? Four critical years revisited*. San Francisco: Jossey-Bass.
- Attinasi, L., Jr. (1989). Getting in: Mexican Americans' perceptions of university attendance and the implications for freshman year persistence. *Journal of Higher Education*, 60(3), 247–277.
- Baechtold, M., & Sawal, D. (2009). Meeting the needs of women veterans. *New Directions for Student Services*, 126(35–43).

- Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist*, 28, 117–148.
- Bauman, M. (2009). The mobilization and return of undergraduate students serving in the National Guard and Reserves. *New Directions for Student Services*, 126, 15–23.
- Bean, J., & Metzner, B. (1985). A conceptual model of nontraditional undergraduate student attrition. *Review of Educational Research*, 55(4), 485–540.
- Bennett, M. (1996). *When dreams came true: The GI Bill and the making of modern America*. Washington, DC: Brassey's.
- Berger, J. (2000). Optimizing capital, social reproduction, and undergraduate persistence: A sociological perspective. In J. M. Braxton (Ed.), *Rethinking the student departure puzzle*. Nashville: Vanderbilt University Press.
- Berger, J., & Braxton, J. (1998). Revising Tinto's interactionist theory of student departure through theory elaboration: Examining the role of organizational attributes in the persistence process. *Research in Higher Education*, 39(2), 103–119.
- Berger, J., & Milem, J. (2000). Organizational behavior in higher education and student outcomes. In J. C. Smart (Ed.), *Higher education: Handbook of theory and research* (Vol. XV, pp. 268–338). New York: Agathon.
- Berger, J., Blanco, G., & Lyons, S. (2012). Past to present: A historical look at retention. In A. Seidman (Ed.), *College student retention* (2nd ed.). Lanham: Rowman & Littlefield.
- Braxton, J., Sullivan, A., & Johnson, R. (1997). Appraising Tinto's theory of college student departure. In J. C. Smart (Ed.), *Higher education: Handbook of theory and research* (Vol. XII, pp. 107–164). New York: Agathon.
- Brim, O., Jr. (1966). Socialization through the life cycle. In O. Brim Jr. & S. Wheeler (Eds.), *Socialization after childhood: Two essays* (pp. 1–49). New York: Wiley.
- Brint, S., & Karabel, J. (1989). Organizing a national education movement. In *The diverted dream: Community colleges and the promise of educational opportunity in America, 1900–1985* (pp. 23–66). New York: Oxford University Press.
- Brow, T. (1998). *The greatest generation*. New York: Random House.
- Bronfenbrenner, U. (1993). The ecology of cognitive development: Research models and fugitive findings. In R. H. Wozniak & K. W. Fischer (Eds.), *Development in context: Acting and thinking in specific environments* (pp. 3–44). Mahwah: Erlbaum.
- Burland, D., & Hickey-Lundquist, J. (2011). The dynamic lives and static institutions of the “two armies”: Data from the survey of active duty personnel. *Armed Forces & Society*, 37(3). Retrieved from <http://afs.sagepub.com/content/early/2011/06/10/0095327X11410858>
- Cabrera, A., Nora, A., & Castañeda, M. (1993). College persistence: structural equations modeling test of an integrated model of student retention. *Journal of Higher Education*, 64(2), 123–139.
- Chartrand, J. (1992). An empirical test of a model of nontraditional student adjustment. *Journal of Counseling Psychology*, 39(2), 193.
- Chickering, A. (1969). *Education and identity*. San Francisco: Jossey-Bass.
- Chickering, A., & Reisser, L. (1993). *Education and identity* (2nd ed.). San Francisco: Jossey-Bass.
- Clark, B. (1960). The “cooling-out” function in higher education. *American Journal of Sociology*, 65(6), 569–576.
- Clark, D. (1998). “The two Joes meet – Joe College, Joe Veteran”: The G.I. Bill, college education, and postwar American culture. *History of Education Quarterly*, 38(2), 165–189.
- Cohen, M., March, J., & Olsen, J. (1972). A garbage can model of organizational choice. *Administrative Science Quarterly*, 17, 1–25.
- Cook, B., & Kim, Y. (2009). *From soldier to student: Transition programs for service members on campus*. Santa Monica: Rand.
- Coomes, M. D., & DeBard, R. (Eds.). (2004). *Serving the millennial generation: New directions for student services* (Vol. 68). San Francisco: Jossey-Bass.
- Covert, C. M., (2002). Soldiers preparing for new careers: An examination of the motivations and barriers associated with postsecondary educational participation of nontraditional students

- in transition (Doctoral dissertation, University of Southern California). Gaithersburg: US, Government Printing Office, General Accounting Office.
- Diamond, A. (2012). *The adaptive military transition theory: Supporting military students in academic environments*. Unpublished doctoral dissertation, Johnson & Wales University, Providence, RI.
- Dickson, P., & Allen, T. (2004). *The bonus army: An American epic*. New York: Walker & Company.
- DiRamio, D., & Jarvis, K. (2011). Veterans in higher education: When Johnny and Jane come marching to campus. *ASHE Higher Education Report*, 37(3).
- DiRamio, D., Ackerman, R., & Mitchell, R. (2008). From combat to campus: Voices of student-veterans. *NASPA Journal*, 45(1), 73–102.
- Figley, C. R., & Leventman, S. (1980). Introduction: Estrangement and victimization. In C. R. Figley & S. Leventman (Eds.), *Strangers at home: Vietnam veterans since the war* (pp. xxi–xxx). New York: Praeger.
- Franklin, D. (2010). *Veterans and military programs and services: CAS standards and guidelines* (Vol. 7). Washington, DC: CAS Professional Standards for Higher Education.
- Frederiksen, N., & Schrader, W. (1950). *Adjustment to college: A study of 10,000 veteran and non-veteran students in sixteen American colleges*. Princeton: Educational Testing Service.
- Freire, P. (1970). *Pedagogy of the oppressed* (M. Bergman Ramos, Trans.). New York: Monthly Review Press.
- Fry, R. (2002). *Latinos in higher education: Many enroll, too few graduate*. Washington, DC: Pew Hispanic Center.
- Gates, G. (2004). *Gay men and lesbians in the US military: Estimates from census 2000*. Santa Barbara: The Urban Institute.
- Gates, G., & Ost, J. (2004). *The gay & lesbian atlas*. Washington, DC: The Urban Institute Press.
- Geiger, R. (1999). The ten generations of American higher education. In P. G. Altbach, R. O. Berdahl, & P. J. Gumpert (Eds.), *American higher education in the twenty-first century: Social, political, and economic challenges* (pp. 38–69). Baltimore: Johns Hopkins University Press.
- Guiffrida, D. (2003). African American student organizations as agents of social integration. *Journal of College Student Development*, 44(3), 304–319.
- Harper, S. (2012). *Black male student success in higher education: A report from the National Black Male College Achievement Study*. Philadelphia: University of Pennsylvania, Center for the Study of Race and Equity in Education.
- Heller, D. (2011). *The states and public higher education policy*. Baltimore: The Johns Hopkins University Press.
- Herbold, H. (1995). Never a level playing field: Blacks and the GI Bill. *The Journal of Blacks in Higher Education*, 6, 104–108.
- Hoge, C., Castro, C., Messer, S., McGurk, D., Cotting, D., & Koffman, R. (2004). Combat duty in Iraq and Afghanistan, mental health problems, and barriers to care. *New England Journal of Medicine*, 351(1), 13–22.
- Holder, K. (2007). *Educational attainment of veterans: 2007*. Washington, DC: US Census Bureau.
- Holder, K. (2009). *Profile of veterans: 2009. Data from the American community survey*. Washington, DC: US Department of Veterans' Affairs National Center for Veterans Analysis and Statistics.
- Holder, K. (2011). *Educational attainment of veterans: 2000 to 2009*. Washington, DC: US Department of Veterans' Affairs National Center for Veterans Analysis and Statistics.
- Hopkins, N., & Rae, C. (2001). Intergroup differentiation: Stereotyping as a function of status hierarchy. *Journal of Social Psychology*, 141(3), 323–333.
- Hurtado, S., Milem, J., Clayton-Pederson, A., & Allen, W. (1998). Enhancing campus climates for racial/ethnic diversity: Educational policy and practice. *The Review of Higher Education*, 21(3), 279–302.
- Institute of Medicine. (2012). *Treatment for posttraumatic stress disorder in military and veteran populations: Initial assessment*. Washington, DC: The National Academies Press.
- Joanning, H. (1975). The academic performance of Vietnam veteran college students. *Journal of College Student Personnel*, 16(1), 10–13.

- Johnson, G. (1994). Undergraduate student attrition: A comparison of students who withdraw and students who persist. *Alberta Journal of Educational Research*, 15, 337–353.
- Kane, T. (2006). *Who are the recruits? The demographic characteristics of U.S. military enlistment, 2003–2005*. Washington, DC: A Report of the Heritage Center for Data Analysis: CDA06-09.
- Karabel, J. (2005). *The chosen: The hidden history of admission and exclusion at Harvard, Yale, and Princeton*. Boston: Houghton Mifflin.
- Kuh, G. D., & Love, P. G. (2000). A cultural perspective on student departure. In J. M. Braxton (Ed.), *Reworking the student departure puzzle* (pp. 196–212). Nashville: Vanderbilt University Press.
- Lang, W., & Powers, J. (2011). *Completing the mission: A pilot study of veteran students' progress toward degree attainment in the Post 9/11 era*. Trenton: Operation College Promise and the Pat Tillman Foundation.
- Lemann, N. (1999). *The big test: The secret history of the American meritocracy*. New York: Farrar, Straus, and Giroux.
- Livingston, W., Havice, P., Cawthon, T., & Fleming, D. (2011). Coming home: Student veterans' articulation of college re-enrollment. *Journal of Student Affairs Research and Practice*, 48(3), 315–331. doi:10.2202/1949-6605.6292.
- Lokken, J., Pfeffer, D., McAuley, J., & Strong, C. (2009). A statewide approach to creating veteran-friendly campuses. *New Directions for Student Services*, 126, 45–54.
- Lombardi, J., Capaldi, E., & Abbey, C. (2006). *The top American research universities*. Tempe: The Center for Measuring University Performance at Arizona State University.
- McBain, L. (2010). Proposed legislative changes to the Post-9/11 GI Bill: Potential implications for veterans and colleges. *Policy Matters*. Nov 2010. American Association of State Colleges and Universities.
- McBain, L., Cook, B., Kim, Y., & Snead, K. (2012). *From soldier to student II: Assessing campus programs for veterans and service members*. Washington, DC: American Council on Education.
- Mendoza, P., Malcolm, Z., & Parish, N. (In Press). The ecology of student retention: Undergraduate students and the Great Recession. *Journal of College Student Retention: Research, Theory & Practice*.
- Metz, G. (2004). Challenge and changes to Tinto's persistence theory: A historical review. *Journal of College Student Retention: Research, Theory & Practice*, 6(2), 191–207.
- Museum, S. (2008). The role of ethnic student organizations in fostering African American and Asian American students' cultural adjustment and membership at predominantly white institutions. *Journal of College Student Development*, 49(6), 568–586.
- Museum, S., Nichols, A., & Lambert, A. (2008). Racial differences in the effects of campus racial climate on degree completion: A structural equation model. *The Review of Higher Education*, 32(1), 107–134.
- National Center for PTSD. (2009). Military sexual trauma. *PTSD Research Quarterly*, 20, 1–2. Retrieved from: <http://www.ptsd.va.gov/professional/newsletters/research-quarterly/v20n2.pdf>
- Olson, K. (1974). *The GI Bill, the veterans and the colleges*. Lexington: The University Press of Kentucky.
- Pascarella, E. (1980). Student-faculty informal contact and college outcomes. *Review of Educational Research*, 50, 545–595.
- Pascarella, E., & Terenzini, P. (2005). *How college affects students: A third decade of research*. Indianapolis: Jossey-Bass, an Imprint of Wiley.
- Pascarella, E., Terenzini, P., & Wolfe, L. (1986). Orientation to college as anticipatory socialization: Indirect effects on freshman year persistence. *Journal of Higher Education*, 57, 155–175.
- Piaget, J. (2008). Intellectual evolution from adolescence to adulthood. *Human Development*, 51, 1.
- Radford, A. (2009). *Military service members and veterans in higher education: What the new GI Bill may mean for postsecondary institutions*. Santa Monica: Rand.
- Radford, A. (2010). *Service members in school: Military veterans' experiences using the post-9/11 GI Bill and pursuing postsecondary education*. Santa Monica: Rand.
- Radford, A. (2011). *Military service members and veterans: A profile of those enrolled in undergraduate and graduate education in 2007–08 (NCES-163)*. Washington, DC: US Department of Education document.

- Radford, A., & Wun, J. (2009). *Issue tables: A profile of military service members and veterans in higher education*. Washington, DC: US Department of Education, National Center for Education Statistics.
- Rendón, L. (1994). Validating culturally diverse students: Toward a model of learning and student development. *Innovative Higher Education*, 19(1), 33–51.
- Rendón, L., Jalomo, R., & Nora, A. (2000). Theoretical considerations in the study of minority student retention in higher education. In J. Braxton (Ed.), *Reworking the student departure puzzle* (pp. 127–156). Nashville: Vanderbilt University Press.
- Renn, K. A., & Arnold, K. D. (2003). Reconceptualizing research on college student peer culture. *Journal of Higher Education*, 74(3), 261–291.
- Rooney, G. (1985). Minority students' involvement in minority student organizations: An exploratory study. *Journal of College Student Personnel*, 26(5), 450–456.
- Rossman, G., & Rallis, S. (2012). *Learning in the field: An introduction to qualitative research*. Washington, DC: Sage.
- Rostker. (2006). *The evolution of the all-volunteer force*. Santa Monica: Rand. Retrieved from: http://www.rand.org/content/dam/rand/pubs/research_briefs/2006/RAND_RB9195.pdf
- Roulo, C. (2013, January 24). Defense department expands women's combat role. *American Forces Press Service*. Retrieved from: <http://www.defense.gov/News/NewsArticle.aspx?ID=119098>
- Rumann, C., & Hamrick, F. (2010). Student veterans in transition: Re-enrolling after war zone deployments. *Journal of Higher Education*, 81(4), 431–458.
- Schlossberg, N. (1981). A model for analyzing human adaptation to transitions. *Counseling Psychologist*, 9(2), 2–18.
- Sciarra, D. (2007). Predictive factors in postsecondary educational attainment among Latinos. *Professional School Counseling*, 10(3), 307–16.
- Seal, K., Bertenthal, D., Miner, C., Sen, S., & Marmar, C. (2007). Bringing the war back home: Mental health disorders among 103,788 U.S. veterans returning from Iraq and Afghanistan seen at US Department of Veterans' affairs facilities. *Archives of Internal Medicine*, 167(5), 476–482.
- Serow, R. (2004). Policy as symbol: Title II of the 1944 G.I. Bill. *The Review of Higher Education*, 27(4), 481–499.
- Shinseki, E. (2013, January 4). Remarks by Secretary Eric K. Shinseki Student Veterans of America 5th annual national conference, Orlando, FL. Retrieved from http://www.va.gov/opa/speeches/2013/1_04_13.asp
- Smart, J., & Pascarella, E. (1987). Influences on the intention to reenter higher education. *Journal of Higher Education*, 58, 306–322.
- Soeters, J., Winslow, D., & Weibull, A. (2006). Military culture. In C. Giuseppe (Ed.), *Handbook of the sociology of the military*. New York: Springer.
- Spady, W. (1970). Dropouts from higher education: An interdisciplinary review and synthesis. *Interchange*, 1, 64–85.
- Steele, J., Salcedo, N., & Coley, J. (2010). *Service members in school: Military veterans' experiences using the Post-9/11 GI Bill and pursuing postsecondary education*. Santa Monica: Rand.
- Steinberg, L. (2007, April). Risk taking in adolescence: New perspectives from brain and behavioral science. *Current Directions in Psychological Science*, 16, 55–59.
- Stewart, E., & Davis, R. (1946). Scholarship of World War I veterans who studied at the University of Colorado from 1919 to 1926. *The Journal of Educational Psychology*, 37(1), 53–57.
- Student Veterans of America. (2011). *The dissection of an SVA chapter*. Retrieved from <http://www.studentveterans.org/?p=1259> on 14 Oct 2011.
- Summerlot, J., Green, S., & Parker, D. (2009). Student veterans organizations. In R. Ackerman & D. DiRamio (Eds.), *Creating a veteran-friendly campus: Strategies for transition and success* (New directions for student services, Vol. 126, pp. 71–79). San Francisco: Jossey-Bass.
- Tanielian, T., & Jaycox, L. (Eds.). (2008). *Invisible wounds of war: Psychological and cognitive injuries, their consequences, and services to assist recovery*. Santa Monica: Rand.
- Terenzini, P., Rendón, L., Upcraft, M., Millar, S., Allison, K., Gregg, P., & Jalomo, R. (1994). The transition to college: Diverse students, diverse stories. *Research in Higher Education*, 35(1), 57–73.

- Thelin, J. R. (2004). *A history of American higher education*. Baltimore: Johns Hopkins University Press.
- Thomas, S. L. (2000). Ties that bind: A social network approach to understanding student integration and persistence. *Journal of Higher Education*, 71(5), 591–615.
- Thompson, R., & Pressey, S. (1948). An analysis of the academic records of 2,144 veterans. *College and University*, 23(2), 242–252.
- Tierney, W. G. (1999). Models of minority college-going and retention: Cultural integrity versus cultural suicide. *The Journal of Negro Education*, 68(1), 80–91.
- Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *The Review of Educational Research*, 45, 89–125.
- Tinto, V. (1988). Stages of student departure: Reflections on the longitudinal character of student leaving. *Journal of Higher Education*, 59(4), 438–55.
- Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition* (2nd ed.). Chicago: University of Chicago Press.
- Tinto, V. (2010). From theory to action: Exploring the institutional conditions for student retention. In J. C. Smart (Ed.), *Higher education: Handbook of theory and research 25* (pp. 51–89). New York: Springer.
- Turner, S., & Bound, J. (2003). Closing the gap or widening the divide: The effects of the G.I. Bill and World War II on the educational outcomes of black Americans. *The Journal of Economic History*, 63, 145–177.
- US Census Bureau. (2008). *Mean earnings by highest degree earned: 2007* (Current Population Reports, series P60-235). Retrieved from <http://www.census.gov/compendia/statab/2010/tables/10s0227.pdf>
- US Census Bureau. (2013). *Profile America: Facts for features*. Retrieved from: http://www.census.gov/newsroom/releases/archives/facts_for_features_special_editions/cb13-ff04.html
- US Department of Defense. (2013a). *U.S. military casualties: Korean conflict casualty summary*. Defense Manpower Data Center. Retrieved from: https://www.dmdc.osd.mil/dcas/pages/report_korea_sum.xhtml
- US Department of Defense. (2013b). *U.S. military casualties: GWOT casualty summary by casualty type*. Defense Manpower Data Center. Retrieved from: www.dmdc.osd.mil/dcas/pages/report_sum_reason.xhtml
- US Department of Defense (DoD). (2012). *Department of Defense annual report on sexual assault in the military: Fiscal year 2011*. Washington, DC. Retrieved from: http://www.sapr.mil/media/pdf/reports/Department_of_Defense_Fiscal_Year_2011_Annual_Report_on_Sexual_Assault_in_the_Military.pdf
- US Department of Education. (2012). *Evidence meets practice: Institutional strategies to increase college completion*. Washington, DC: Office of Postsecondary Education, Education Publication Center.
- US Department of Veterans' Affairs. (2007). *Women veterans: Past, present and future*. Washington, DC: Office of Policy and Planning.
- US Department of Veterans' Affairs. (2013a). *Post-9/11 GI Bill celebrates start of fourth year*. Washington, DC: Office of Public and Intergovernmental Affairs. Retrieved from: <http://www.va.gov/opa/pressrel/pressrelease.cfm?id=2366>
- US Department of Veterans' Affairs. (2013b). *Education program beneficiaries*. Washington, DC: Office of Public and Intergovernmental Affairs. Retrieved from: http://www.va.gov/vetdata/docs/QuickFacts/Education_Beneficiaries.pdf
- Vacchi, D. (2011, November). *Who are student veterans and what do they need? Demystifying this special population and framing an approach to understanding the needs of student veterans*. Scholarly paper presented at the annual conference of the Association for the Study of Higher Education (ASHE), Charlotte, NC.
- Vacchi, D. (2012). Considering student veterans on the twenty-first century college campus. *About Campus*, 17(2), 15–21.

- Vacchi, D. (2013, April). *Perceptions of veteran-friendliness: Giving student veterans a voice*. Research paper presented at the annual conference of the New England Educational Research Organization (NEERO), Portsmouth, NH.
- Van Dusen, R. (2012, November). *A study of student veteran persistence*. Research paper presentation at the annual conference of the Association for the Study of Higher Education ASHE, Las Vegas, NV.
- Van, D., & Stapel, D. (2009). Why people stereotype affects how they stereotype: The differential influence of comprehension goals and self-enhancement goals on stereotyping. *Personality and Social Psychology Bulletin*, 35(1), 101–113.
- Vasterling, J., Proctor, S., Friedman, M., Hoge, C., Heeren, T., King, L., & King, D. (2010). PTSD symptom increases in Iraq-deployed soldiers: Comparison with nondeployed soldiers and associations with baseline symptoms, deployment experiences, and post deployment stress. *Journal of Traumatic Stress*, 23(1), 41–51.
- Vreeland, R., & Bidwell, C. (1966). Classifying university departments: an approach to the analysis of their effects on undergraduates' values and attitudes. *Sociology of Education*, 39, 237–254.
- Watkins, S., & Sherk, J. (2008). *Who serves in the US military? Demographic characteristics of enlisted troops and of enlisted troops and officers* (CDA 08-05). Washington, DC: Heritage Foundation.
- Weidman, J. (1989). Undergraduate socialization: A conceptual approach. In J. C. Smart (Ed.), *Higher education: Handbook of theory and research* (Vol. 5). New York: Agathon.
- Woosley, S., Kock, J., & Lipnicki, S. (2011, March 14). *Supporting student success for active military and veterans*. Philadelphia, PA: Presentation at the NASPA National Convention.
- Zook, G. (1947). *Higher education for American democracy: A report of the President's Commission on Higher Education: Vol. 1–2*. Washington, DC: US Government Printing Office.

Chapter 4

The Changing Nature of Cultural Capital

Jenna R. Sablan and William G. Tierney

Cultural capital is one of the more complex theoretical notions at work with regard to inequality, yet also a deceptively simple term that appears in the everyday lexicon. On the one hand, researchers offer Pierre Bourdieu's theory of cultural capital as an explanation for a range of inequalities in education, including college access, higher education persistence, parental involvement, and other achievement differences (Callahan and Chumney 2009; Dumais 2002; Lareau 1987; Lee and Bowen 2006; McDonough 1997; Nora 2004; Strayhorn 2010; Tramonte and Willms 2010). On the other hand, it is commonplace to hear that low-income students "lack cultural capital" or that graduate students need to "acquire cultural capital" to achieve. Cultural capital also frequently gets employed as a synonym for social capital, or they are merged into one term such that individuals need "social and cultural capital if they are to succeed" (Musoba and Baez 2009).

Because of the abstract nature of cultural capital, the relationship between theory and practice is either denied or stripped of any theoretical power (Musoba and Baez 2009). In some respects, cultural capital parallels the old adage about pornography: "We know it when we see it." If a student recognizes certain words or ideas, then he or she has cultural capital. For example, "I saw Hamlet last night" presumably is a statement rich in cultural capital because the speaker is signaling his or her knowledge of (a) a play, (b) a famous enough play that its name alone is understandable, and (c) the author Shakespeare was renowned. If the respondent asked "What's Hamlet?" he or she would expose his or her lack of cultural capital.

From the perspective of this example, cultural capital involves cultural resources that are exchanged for social rewards such as recognition or academic advancement (Winkle-Wagner 2010). Deciphering exactly *what* resources cultural capital encompasses and *how* they confer advantages is still developing in the literature on cultural capital. For example, knowing Hamlet is a Shakespearean play itself is not

J.R. Sablan (✉) • W.G. Tierney

Pullias Center for Higher Education, University of Southern California,
3470 Trousdale Parkway, Waite Phillips Hall 701, Los Angeles, CA 90089, USA
e-mail: jrsablan@usc.edu; wgtiern@usc.edu

the signal of cultural capital—but the theory suggests that some sort of societal or educational advantage accompanies this knowledge.

Our concern is that an overwhelming amount of the literature conceptualizes cultural capital in static ways. Few works consider the possibility that cultural capital is dynamic in nature. While attending a classical music concert was once thought to be a predominant measure of cultural capital, listening to Beethoven on an iPod may be an alternative way of accessing canonical cultural resources. Perhaps we are wrong. Perhaps cultural capital is a static notion and what counts as cultural capital does not change over time. The purpose of our paper is to explore this notion: Is cultural capital a dynamic concept that changes by context and time, and if so, what are the implications for theory and practice?

We begin by outlining the major theoretical concepts of Bourdieu's cultural capital. These six parameters of cultural capital are (a) the objectified state, (b) the embodied state, (c) the institutionalized state, (d) field, (e) habitus, and (f) social reproduction. These aspects of cultural capital help demonstrate why the theory is such a popular explanatory tool for educational researchers and also reveal that many applications of cultural capital fail to consider the full parameters of the theory.

Accordingly, we provide an overview of the ways in which cultural capital has been employed in the educational literature given these six major determinants. We particularly discuss the predominance of high-status culture, the emergence of interactional forms of cultural capital, and the recognition of nondominant forms of capital. Based on this literature review, four analytical shortcomings are also presented. These shortcomings concern (a) the static applications of cultural capital, (b) an emphasis on structural determinism, (c) assumptions about a culture of poverty, and (d) the denial of agency. Our presentation of these shortcomings, while not the first to critique the use of the theory in educational literature, outlines how we conceive the static model of cultural capital, particularly given the constraints these concepts place on marginalized groups.

We conclude by suggesting a dynamic model of cultural capital. This dynamic model attempts to move conceptions of cultural capital away from static notions that place the oppressed forever in a bind of inequality. A key concept of our dynamic model is cultural integrity (Tierney 1999), which is related to funds of knowledge (Rios-Aguilar et al. 2011) and community cultural wealth (Yosso 2005). We further discuss the role of struggle and praxis in refuting static notions of cultural capital advantage. Voice and agency are considered to address the analytic shortcomings we present. These major notions form a dynamic conceptualization of cultural capital that moves the theory beyond reproduction of inequalities to one where actors can have more control of the cultural resources at their disposal.

Approach

To build our case in this synthetic review, we call upon three sources of literature: (a) empirical studies using cultural capital theory, (b) previous critical reviews of cultural capital, and (c) select original theoretical writings on cultural capital from Bourdieu.

We have reviewed approximately 50 empirical studies related to cultural capital and education. These studies apply cultural capital theory, in whole or in part, to an educational issue across K-12 and/or higher education, including some international contexts. The works encompass quantitative, qualitative, and mixed-design methodologies. While this literature base appears vast and broad covering a multitude of educational topics, this wide range of literature is central to our arguments concerning the challenges with the ubiquity of cultural capital theory in education. While the work is particularly focused on the applicability of the theory to issues in higher education, the range of educational perspectives from the articles reviewed provides insight into how close consideration of the theory is necessary when employed in the higher education field. Further, these works inform the classifications of cultural capital literature as well as the conclusions on the static aspects and dynamic potential of the theory.

Reviewing the literature on cultural capital becomes an exercise in not only appraising the empirical work utilizing Bourdieuan concepts but also acknowledging prominent criticisms of these works. Since at least the 1980s, scholars have debated the applicability of cultural capital to educational research and attempted to reconceptualize aspects of the theory to make it more relevant. This paper is thus not the first to assess critically the use of cultural capital in educational research or to consider its limitations (Kingston 2001; Lamont and Lareau 1988; Lareau and Weininger 2003; Winkle-Wagner 2010). These previous synthetic reviews and theoretical pieces are used to further support our assessment of the use of the theory, in addition to the empirical articles.

Bourdieu's original writings are also included. Using these works helps illustrate how the empirical articles mentioned above have failed to utilize the full parameters of Bourdieu's theory. However, this review is not meant to be an in-depth exploration into Bourdieu's philosophical work or life. Rather, these foundational pieces aid in contextualizing our arguments regarding the application of cultural capital theory in educational research. They are particularly useful when we outline the major determinants of cultural capital theory before moving into our major critiques and suggested models.

We obtained sources through academic databases and search engines such as ERIC and Google Scholar with the search term "cultural capital," as well as through citation searches based on reference lists. Journals cited are from educational disciplines and sociology, given the predominance of the theory in this subfield. Works range from the 1980s to the present, with a focus on the most recent studies. The intent is not solely to present the major findings of cultural capital research over the past three decades, but rather to consider critically the way this research has used theory. Before presenting an assessment of the literature, we provide an overview of Bourdieu's theory to clarify an abstract yet widely used concept.

Defining Cultural Capital

We are defining cultural capital as cultural resources that have a concealed exchange value and that enable or foster social and educational advancement. These resources are not just material resources such as books or computers, but can also exist in more subtle forms, such as the dispositions of upper classes. Their properties explain

the perpetuation of the privileged class's advantage. Before we describe the major determinants of cultural capital theory, we discuss the various forms of capital that explain social interaction according to social theory. This description delineates which aspects of cultural capital theory we are addressing in this review.

To explicate the concept of cultural capital, Bourdieu (1986) distinguished cultural capital from economic, human, and social capital. The forms of capital represent various types of resources that may confer economic advantage, particularly for the upper class. Although other forms of capital are not the focus of our review, we discuss them briefly in turn.

Economic capital refers to resources that are directly converted to money, such as property (Bourdieu 1986). Human capital pertains to the skills one acquires, frequently through schooling, which enables individuals to gain access to jobs. Social capital encompasses social obligations or connections that have the potential to form valuable networks.

Social and cultural capital are often considered synonymously, as if one term refers to another. However, a full understanding of cultural capital theory requires first distinguishing it from its social counterpart. After we contrast cultural and social capital, we explain how cultural capital fits into the larger Bourdieuan framework of capital studied in the educational literature.

Cultural Versus Social Capital

Cultural capital and social capital are commonly conflated in the literature (Musoba and Baez 2009). As such, while social capital is not the focus of our review, we briefly describe social capital to distinguish cultural capital for our purposes. Social capital exists in the structure of relationships among people (Portes 1998). Bourdieu (1986) offers his definition of social capital as

the aggregate of the actual or potential resources which are linked to a possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition—or in other words, to membership in a group—which provides each of its members with the backing of the collectivity-owned capital, a “credential” which entitles them to credit, in the various senses of the word. (p. 249)

Someone's social capital depends on the size of his or her network of connections and the volume of capital in this network. Social capital is directly tied to, and can be converted into, economic and cultural capital (Bourdieu 1986; Dika and Singh 2002); thus, social capital contributes to the advantage of more privileged groups.

Another oft-cited view of social capital (Dika and Singh 2002; Musoba and Baez 2009; Portes 1998) comes from James Coleman (1988). Coleman sees individual action within a social group with certain norms as the basis for social interaction (Coleman 1988). Social capital is “defined by its function” and “is not a single entity but a variety of different entities with two elements in common: they all consist of some aspect of social structures, and they facilitate certain actions of actors... within the structure” (Coleman 1988, p. S98). Social capital involves a system of

obligations, trustworthiness, and expectations among people and depends on information channels and norms to facilitate exchange.

How then are Bourdieu's and Coleman's views of social capital distinct? For one, Bourdieu's view of social capital places it in a larger frame of economic, cultural, and social capital, while Coleman focuses on the relationship between social and human capital (Dika and Singh 2002). Portes (1998) notes that "it is important to distinguish the resources themselves from the ability to obtain them by virtue of membership in different social structures, a distinction explicit in Bourdieu but obscured in Coleman" (p. 5). Bourdieu's treatment emphasizes the role of social reproduction (discussed in detail below) and symbolic power, while Coleman focuses on structure and function (Dika and Singh 2002). Coleman presents social capital as a collective good and a more "positive" form of social control rather than social reproduction (Adler and Kwon 2002; Dika and Singh 2002).

Bourdieu is interested in how social capital supports individuals' access to economic and cultural resources and requires investment of these resources (Portes 1998). As with cultural capital, his notion of social capital reveals how nonfinancial resources can also confer advantage for more privileged groups (Portes 1998). The social networks referenced in the theory are inherently reproductive in nature, as strong social capital brings forth relationships with institutional agents, or those individuals who can transmit resources and opportunities to others (Stanton-Salazar 1997).

Cultural capital, however, involves resources beyond those embedded in social interactions and networks. As we expand on later, the advantage that comes from cultural capital can exist in the form of material cultural resources, habits and dispositions, and formal education and credentials. Thus, while social and cultural capital both provide advantages to their holders and further the social reproduction of the dominant class, they are conceptually distinct. The similarities among the forms Bourdieu discusses create a full model of capital that seeks to explain social relations, particularly those found in schools and universities.

A Full Model of Capital

The four forms of capital (economic, human, social, and cultural) are, of course, interrelated. Cultural and social capital can be converted into economic capital, for example. If one has economic capital, the likelihood is greater that the individual will have access to cultural and social capital more than individuals who are poor. People rich in economic, social, and cultural capital can increase their human capital through investment in further education. Moving up in a career increases an individual's social capital. This lifelong accumulation of the various forms of capital is then transmitted generationally. These forms are still distinct—despite frequent conflation in literature.

This conflation reflects the intense interaction among the various forms of capital. That is, though the resources that constitute cultural capital may be separate from

those that make up economic capital, an individual's social position is determined by the combined volume of both economic and cultural forms (Bourdieu 1998). The cultural resources associated with the upper class as opposed to the lower classes represent in part the distinction between classes (Bourdieu 1998). In educational research, one or a combination of the forms of capital is a common framework to studies. Our focus is on cultural capital, but researchers have utilized both cultural and social capital frames in their exploration of educational issues (Auerbach 2004).

While we have discussed briefly other theories and theorists in capital literature, we proceed with a framework that reflects Bourdieu's approach to capital and specifically cultural capital. His approach to capital, in contrast to Coleman's, recognizes the interrelationship between economic, cultural, and social resources in perpetuating advantage among the dominant class (Dika and Singh 2002). While we focus on cultural capital and the way it has been used throughout the educational literature, we would be remiss to proceed with a critical view of cultural capital without acknowledging the role of other forms in Bourdieu's theory and educational scholarship.

Cultural capital is thus valued, taken for granted, and transmittable. But the transmission is something more than one individual handing capital to another as if exchanges occur absent a structural framework. One of its key values derives from the idea that like economic capital, cultural capital is a resource that can be exchanged for other benefits, advantages, or further resources such as advanced schooling. Maximizing cultural capital involves investments and knowledge about how to make the appropriate investments to succeed in higher education (McDonough 1997; Tierney 2002). Perhaps less like economic capital, cultural capital is more subtle—the taken-for-granted nature of social reproduction provides an institutionalized way for actions and features of the upper class to be rewarded, as if such exchanges are natural.

This institutionalization relates to cultural capital's transmission. Children receive cultural resources from their home and social positions, resources whose value and exchange rate are directly related to class position. Every social and economic class has cultural capital, but the upper classes possess the most valued forms, making cultural capital “the knowledge that elites value yet schools do not teach” (McDonough 1997, p. 9). The structural conditions of society distribute capital and in turn determine the criteria for success (Bourdieu 1986).

The “commonsense view,” according to Bourdieu, sees academic achievement as a function of individual skill, aptitude, or effort. However, this explanation for achievement ignores the differences in success and failure among different social classes. A cultural capital explanation acknowledges how class position facilitates achievement and progression through symbolic power and sustained privilege.

Determinants of Cultural Capital

To further clarify the theory of cultural capital, we offer descriptions of the six major determinants that Bourdieu posited in his writings (Bourdieu 1973, 1986; Bourdieu and Passeron 1990; Bourdieu and Wacquant 1992). Previous observers

have noted that some applications of cultural capital are incomplete or inaccurate in their presentation of Bourdieu's work (Winkle-Wagner 2010). Research may not consider all the components of the theory that we outline as key determinants.

Insofar as cultural capital is an abstract concept, it presents challenges to incorporating frameworks into research fully and adequately. Our intent is to clarify the concept of cultural capital by detailing its major determinants. The following are brief definitions of these determinants:

- *Objectified state*: The objectified state of cultural capital comes in the form of cultural goods, such as books (Bourdieu 1986).
- *Embodied state*: The embodied state is long-lasting dispositions (Bourdieu 1986), such as preferences and tastes for certain cultural goods (Kraaykamp and van Eijck 2010).
- *Institutionalized state*: The institutionalized state of cultural capital explains how institutions confer advantage, such as through credentials (Bourdieu 1986; Kraaykamp and van Eijck 2010).
- *Field*: Field refers to the space in which cultural dispositions, norms, and knowledge are produced and valued (Winkle-Wagner 2010); education and schooling could be considered a field.
- *Habitus*: Habitus pertains to a system of class-based dispositions or ideas about one's chances of success, such as a child's aspirations for a career (DiMaggio 1979; Dumais 2002; Nash 1999; Swartz 1990).
- *Social and cultural reproduction*: This concept explains how class positions are sustained through the perpetual awarding of upper-class advantage, including how schools reflect upper-class norms (Bourdieu 1973).

We elaborate on each these terms and provide illustrative examples in the following subsections (Table 4.1).

The Objectified State

The objectified state comes in the form of cultural goods, such as pictures, books, monuments, or instruments (Bourdieu 1986). The objectified state can be commonly measured in empirical work given that it represents tangible goods as opposed to the intangible aspects of capital reflected in other states. Acquiring objectified cultural capital, however, does not just entail acquiring material goods (Tierney 1999). These goods contain a *symbolic* value that is culturally and socially distinct. The goods themselves are resources, but also important are the advantages associated with these goods.

As noted above, *Hamlet* is not just cultural capital because it is a cultural good (a play). *Hamlet* is a cultural resource because of the distinguished value placed on Shakespeare's works in society and conventional curriculum. Having the knowledge, linguistics, and resources to decode the distinct value placed on these cultural

Table 4.1 Traditional determinants of cultural capital

Determinants	Definition	Example(s)	Example from research
<i>States of capital</i>			
Objectified state	Cultural goods	Books, such as Shakespeare	Roscigno and Ainsworth-Darnell (1999)
Embodied state	Long-lasting dispositions	Preference for classical music	DiMaggio and Mukhtar (2004)
Institutionalized state	Conferral of advantage	Bachelor's and graduate degrees	Dumais and Ward (2010)
Field	Space in which cultural dispositions, norms, or knowledge is produced and valued	Elementary school, religion, graduate school	Gopaul (2011)
Habitus	System of class-based dispositions	Postsecondary education plans or career aspirations	Dumais (2002)
Social and cultural reproduction	Sustained class positions, how upper-class advantage persists generationally	College admissions criteria	Kraaykamp and van Eijck (2010)

goods represents one's cultural capital (Bourdieu 1973) as much as the tangible resources themselves—material goods convey symbolic meaning. This idea is related to the notion of distinction and symbolic power that Bourdieu addressed throughout his work (Winkle-Wagner 2010).

Researchers typically identify the objectified state by measuring the physical resources in a student's household. Newspapers, encyclopedias, books, and dictionaries (Roscigno and Ainsworth-Darnell 1999) are examples of material goods that may be used to determine one's access to cultural capital. A more current list of examples might include computers, DVD players, or Internet access. If we apply our discussion of symbolic meaning, certain physical resources, such as newspapers and encyclopedias, may better represent objectified capital than others, such as popular magazines.

Since the mere possession of these resources is not the only determinant of cultural capital, considering an additional state—the embodied state—also provides insight into the forms and functions of the construct. Bourdieu (1986) writes that “cultural capital, in the objectified state, has a number of properties which are defined only in the relationship with cultural capital in its embodied form” (p. 246). Owning the resources may only reflect economic capital, while the symbolic appropriation of cultural goods represents cultural capital (Bourdieu 1986). Nevertheless, if these resources are absent, then the embodied state is less likely to come into play.

The Embodied State

The embodied state of cultural capital refers to the cultivation, inculcation, or incorporation of cultural capital. Bourdieu (1986) likens the embodiment of cultural capital to building muscles. Similar to exercise, acquisition of the embodied state of cultural capital is done firsthand and over time. For example, the appreciation for objectified cultural capital, such as classical music, becomes ingrained in the expressions of mind and body, or the embodied state. Whereas the transmission of objectified forms of cultural capital is material, the transmission of embodied cultural capital is more hidden and hereditary (Bourdieu 1986). A proclivity for classical music may begin in childhood with parents who expose their children to this objectified capital.

This state is commonly studied in extant empirical work; it is typically, but not always, conceptualized as highbrow arts participation (Dumais and Ward 2010). Examples of highbrow arts participation include examples we have mentioned previously, such as Shakespearean plays like *Hamlet* or classical music like Beethoven. Respondents may be asked how often they attend classical music concerts or visit art museums (Kraaykamp and van Eijck 2010). Such examples would be considered the embodied state of cultural capital because participation in such events communicates the cultivation—or “muscle building”—of cultural resources. Whereas identifying the objectified state involves measuring the resources themselves (Roscigno and Ainsworth-Darnell 1999), locating the embodied state requires attention to behaviors and expressions of preferences and tastes that reflect the cultivation of cultural capital.

For example, attending performances of *Hamlet* and becoming versed in the works of Shakespeare represent the embodied state of cultural capital. Not only are individuals aware or in possession of a highly valued cultural resource, but they also engage in behaviors that build their appreciation for and association with these resources over time. However, cultural capital has limited explanatory power for educational inequality if one only focuses on certain kinds of cultural forms and their expression. Also of importance is how the cultural resources that are deemed valuable become institutionalized in school and higher education settings. Why does a youth’s familiarity with and ability to decode *Hamlet* advantage him or her in school over knowledge of an alternative form of literature or entertainment? This process involves another state of cultural capital, institutionalized capital. The institutionalized state provides insight into how cultural capital translates to further advancement in formal educational settings.

The Institutionalized State

The institutionalized state of capital usually refers to educational attainment. Bourdieu (1986) writes that “by conferring institutional recognition on the cultural

capital possessed by any given agent, the academic qualification also makes it possible to establish conversion rates between cultural capital and economic capital by guaranteeing the monetary value of a given academic capital” (p. 248). That is, one way the cultural capital of the wealthy becomes valuable is through the institutionalization of educational attainment. With cultural resources to navigate higher education, the children of the wealthy may convert their cultural capital into economic through credentialed degrees that lead to successful occupations. Notably, the symbolic power associated with academic qualifications is dependent on the degrees’ scarcity (Bourdieu 1986).

In the embodied state of cultural capital, transmission is hereditary; youth embody resources from their parents and home life that are convertible for advancement or economic capital. Institutionalized capital can be measured similarly. Determining a student’s institutionalized cultural capital may involve examining whether his or her parents have a college degree, a formal measure of educational attainment (Dumais and Ward 2010; Kraaykamp and van Eijck 2010). This institutionalized state—parental education—is hypothesized to affect students’ accumulation of the other forms of cultural capital, such as possession of highbrow cultural goods, as well as schooling levels (Kraaykamp and van Eijck 2010). The association of parental education with students’ cultural capital explains why first-generation youth are thought to need additional cultural capital to persist through higher education.

The institutionalization of cultural capital involves credentialing differential levels of transmitted resources and accounts for the taken-for-granted nature of cultural capital. If individuals with the “right” kind of cultural capital acquire educational qualifications, their qualifications are a social signal of academic competence. Familiarity with *Hamlet* thus may be one component of a long list of qualifications necessary to advance through schooling—schooling that can ultimately result in a higher education credential. It is the credential’s signal, or institutionalized cultural capital, that cements upper-class advantage while masking the hereditary transmission of valued resources among the privileged.

For instance, saying “I attended Harvard” conveys a message distinct from “I went to Valley View Community College” even though the listener has no idea what either individual learned. Like the previous states described, the symbolic power is critical to this social distinction. In order for credentials or other forms of institutionalized cultural capital to have value, however, the value must be determined in an agreed upon way within a particular social space. The space we have used in our examples most resembles formal schooling in K-12 and higher education settings, but other areas in society examine capital as well. The social space that delineates the value of the three states of cultural capital is referred to as a field, another determinant of Bourdieu’s theory.

Field

Field refers to the context in which cultural resources are formed and given a price (Winkle-Wagner 2010). Field “may be defined as a network, or configuration, of

objective relations between positions” (Bourdieu and Wacquant 1992, p. 97). Musoba and Baez (2009) describe fields as the “spaces in which action and structure meet in a dialectical fashion” (p. 154). These “spaces of objective relations” are found throughout differentiated societies. Examples of fields provided by Bourdieu include the artistic, the religious, and the economic fields insofar as the acquisition and accumulation of capital may occur within these fields.

Bourdieu used the analogy of a game to describe the aspects of field and its relationship to cultural capital. A field follows particular rules or regulations. Specifically, it contains stakes, investment in the game, and *doxa*, or agreement in beliefs on the stakes (Bourdieu and Wacquant 1992). Episcopalians, for example, function within a field; one holds certain beliefs, and particular rules define how one participates in that field. Adults would not attend church barefooted, and they would not pull out a sandwich to eat during the service; if one acted in such a manner, others would know the individual does not belong in that field. Working in the Episcopalian’s field may confer advantage in some political fields, but not in others. With regard to technology in the early twenty-first century, Facebook may be considered a field, with rules governing appropriate actions that knowledgeable users are aware of and others are not.

Within a particular field, certain stakes determine the conditions of investment and severity of outcomes that players must make in the game through their actions and capital according to acknowledged rules. In addition, “a capital does not exist and function except in relation to a field” (Bourdieu and Wacquant 1992, p. 101). Thus, in order for cultural resources to contain an exchange value in society, there must be some social space containing rules and player investment. Research that ignores or de-emphasizes the field is missing a key theoretical piece.

Cultural capital may be useful in one field, or context, but not in another field because only certain individuals are able to exchange their resources for something of a certain value (Winkle-Wagner 2010). For example, Tamir (2010) claims that state officials use their power to devalue the knowledge, or cultural capital, of teacher educators in order to push their reform agenda in teacher certification policy debates. Teacher educators’ resources are not valued as cultural capital by state education officials within the field of teacher education policy (Tamir 2010). Another example of a cultural capital field that research has investigated is doctoral education (Gopaul 2011).

The wide use of cultural capital in educational research has taken place in various fields, which may contain different rules of play. While we may be tempted to think that cultural capital operates in the same—or static—manner throughout all aspects of education, the concept of field reminds us to consider the rules of the specific game that is being played. For example, studying access to higher education for first-generation students may use similar theoretical support as investigating the experiences of nontenure track faculty. However, the notion of field needs to be explored fully to do justice to the applicability of cultural capital theory to these different areas. In addition to the concept of field, the role of habitus is crucial to an understanding of cultural capital across different contexts.

Habitus

Habitus is defined as “systems of durable, transposable dispositions” (Bourdieu 1990, p. 53). One develops preferences and tastes for particular goods. Habitus is considered long-standing (Bourdieu 1973); it produces individual and collective practices or histories, which perpetuate the system of dispositions among classes over time (Bourdieu and Passeron 1990). These long-standing practices are thus reproduced, with certain forms of habitus conferring greater advantage among the upper class.

Habitus functions within fields. While fields are the social spaces where social practice occurs, habitus is the embodiment and expression of an individual’s social structure; habitus and field together form social action (Musoba and Baez 2009). Reading Shakespeare as a practice can represent a student’s habitus, or dispositions, which becomes valuable in a field such as an Advanced Placement high school English course, where *Hamlet* is part of the curriculum. Conversely, knowledge of literature from a nondominant culture may not be as valued according to the rules of the field.

Habitus can include unconscious ideas about one’s chances of success, particularly as a member of a social class (Swartz 1990). One such disposition could be students’ expected occupation (Dumais 2002) or expected higher education attainment. These measures reflect habitus because they speak to how students are disposed to certain ideas about their life chances and respective place in schooling. For example, from Bourdieu’s perspective, a student’s expected career would have a positive effect on grades or progress through education (Dumais 2002). Educational expectations represent one measure of habitus. Another example of measuring habitus includes students’ beliefs about whether they will succeed in school (Gaddis 2013). Dispositions toward schooling are directly related to the investments associated with cultural capital advantage; individuals need to be disposed to higher education in order to have necessary investments reflected in their behaviors and actions (McDonough 1997).

Cultural capital research has placed a particular emphasis on the role of habitus. Dumais (2002) sees habitus as a possible explanation for differences in college success among males and females. This research highlights the role of cultural capital in explaining differences in achievement by gender. Other research considers organizational habitus (McDonough 1997). The notion that organizations contain dispositions that influence decisions that impact students explicates the concept of habitus as a determinant of cultural capital—educational institutions themselves possess a collective class consciousness that affects achievement (McDonough 1997). The role of the school in rewarding certain kinds of habitus, which are first developed in the home, relates to the notion of reproduction, a critical component of cultural capital theory.

Social and Cultural Reproduction

Social and cultural reproduction represents the distribution structure of cultural capital. Cultural capital is reproduced through the relationship between families and

schools (Bourdieu 1998). Families from distinct classes have different levels of cultural capital and cultural investment that are in turn awarded differently in educational institutions (Bourdieu 1998). The education system reproduces the symbolic structure of power relationships between social classes by reproducing the structure of the distribution of cultural capital (Bourdieu 1973). Students enter the school system from different backgrounds, and the school awards academic advancement to students from families with the most cultural capital. These students' success through the educational system is transmitted to their children by heredity, further reproducing the advantage of cultural resources.

The transmission and acquisition of cultural capital are considered so much more hidden than economic capital that Bourdieu (1986) sees cultural capital as functioning largely as symbolic capital; the resources that classes have to convert into advantage are *not* recognized as capital per se, but individual skill, achievement, and competence (Bourdieu 1986). Symbolic capital contributes to social reproduction because behaviors and resources are not seen as privileges of the upper class but as inherent differences in ability. The notion of meritocracy awards these differences in ability while obfuscating the role of White, upper-class privilege in social advancement. Ideas of social and cultural reproduction also emphasize how economic structures such as capitalism maintain this status quo of privileging upper-class dispositions and habitus (Tierney 2002).

Reproduction expounds on the distribution system of cultural capital and cultural capital's role in maintaining class hierarchies. Scholars find fault in applications of cultural capital that ignore social and cultural reproduction (Winkle-Wagner 2010). Along with reproduction, the mentioned determinants are important considerations in the use of the theory and suggest that cultural capital does not exist and function in static ways.

Full Model of Cultural Capital

These six determinants are integrated in a full model that elucidates how cultural capital has become a dominant perspective in educational theory. For example, Tierney (1999) notes that students need embodied capital to interpret cultural objects, objectified capital to access and appreciate such cultural objects, and institutionalized capital such as bachelor's degrees to communicate their cultural knowledge for advanced positions. Students' predispositions to gain the cultural resources necessary for college admissions and success reflect their habitus, and the maldistribution of college-going habitus among the lower-classes reinforces notions of social and cultural reproduction. This interpretation is particularly applicable in the field of college access or admissions. Thus, these determinants provide a theoretical outline for a variety of issues considered within educational literature.

Cultural capital is an attractive concept to educational researchers seeking explanation for achievement differences among different class and ethnic groups. For example, the inaccessibility of college to underrepresented minority students is not

just due to financial constraints but also a lack of cultural capital to navigate admissions and academic institutions (Tierney 1999). Parents from the working class are less involved in their children's schooling because they do not have the cultural capital to interact with school officials (Lareau 1987). These are just a few examples of conventional applications of cultural capital theory to issues in educational research. One may wonder why inequalities persist from generation to generation and seek out a theoretical explanation to define key variables or offer a particular interpretation.

These illustrations of cultural capital can be useful in outlining the structural barriers facing oppressed groups, but they may ignore crucial components of change and agency. Thus, we are concerned with not only a lack of attention to the full determinants of cultural capital theory but also interpretations that may apply some or all of these determinants in static ways.

Cultural Capital in the Educational Literature

Before discussing our concerns with the applications of cultural capital, we first describe how cultural capital has been applied in contemporary educational literature. Much research is concerned with linking measures of cultural capital to various types of success in school. Success can be defined through metrics such as grades or the advantages students receive.

Three major types of cultural capital are presented. Highbrow cultural participation is frequently used to represent cultural capital. Other empirical applications of cultural capital theory emphasize interactional processes to illustrate how schools confer upper-class advantage. Another classification of literature in this area addresses potential nondominant forms.

Link Between Cultural Capital and Education Outcomes

Much of the empirical work attempts to establish a relationship between possession or activation of cultural capital and school outcomes. Measures of cultural capital found to influence educational outcomes include grades, participation in activities, college enrollment, and experiences in college remediation (Callahan and Chumney 2009; DiMaggio 1982; Dumais 2002; Kaufman and Gabler 2004; Strayhorn 2010; Tramonte and Willms 2010). For example, DiMaggio (1982) and Dumais (2002) have argued that quantitative measures of cultural capital are associated with students' grades in schools when controlling for other factors.

Another area of interest is parental involvement in children's education. The theory has been used as an explanation for differences in parental involvement, which is considered an important component of children's schooling success (Lareau 1987; Lareau and Horvat 1999; Lee and Bowen 2006; Tierney 2002). In

this line of research, parents' possession of cultural capital is tied to the amount and nature of their interactions with teachers and schools (Lareau 1987). Policies aimed at addressing working-class students and parents would need to take into account families' differential amounts of cultural resources. The results of studies such as these have supported the commonplace view we have discussed that youth need cultural capital in order to succeed. This view is supported by research as empirical relationships are drawn between measures of cultural capital possession and conventional educational outcomes.

In addition to these outcomes, measuring the construct is also of interest when considering the potential for the changing nature of cultural capital. Two major conceptualizations of cultural capital are considered: cultural capital as high-status culture and cultural capital as interactional processes. The notion of interactional processes as capital developed in response to the reliance on highbrow arts measures. These interactional conceptualizations relate to other so-called nondominant interpretations of cultural capital. These attempts seek to expand the construct beyond examples such as arts and museum attendance in order to capture fully the ways in which cultural capital and its reproduction maintains upper-class advantage and privilege.

This line of research and the conclusions have been critiqued in the past on methodological and interpretive grounds (Harrison and Waller 2010; Kingston 2001; Lareau and Weininger 2003). Our major concern with some, but not all, of the research relates to the relatively weak theoretical conceptualization of the concept. Cultural capital has been used at times to describe the lack of educational resources in poor communities. One reason for working our way through the components of capital in the previous section was to highlight the theoretical complexity of the term. The educational literature often turns such an emphasis on its head; authors are more concerned with practical implications of the lack of cultural capital and less with the theoretical implications. While we understand the interests of authors, we also acknowledge a degree of concern when highly theoretical and abstract terms are reduced to commonsensical notions.

Highbrow Cultural Participation

As such, how to measure cultural capital has become a key concern in the field. Moving from the theoretical concepts Bourdieu articulates to operationalization, research has taken the forms we discuss throughout our review. The predominance of the use of highbrow cultural participation as a measure of cultural capital in the literature is well documented (DiMaggio 1982; DiMaggio and Mukhtar 2004; Dumais 2002; Dumais and Ward 2010; Harrison and Waller 2010; Kalmijn and Kraaykamp 1996; Kaufman and Gabler 2004; Kingston 2001; Kraaykamp and van Eijck 2010; Lamont and Lareau 1988; Lareau and Weininger 2003; Ostrower 1998). Highbrow cultural practices include privileged forms of art, music, theater, and museums. Familiarity with these forms and the ability to decode them indicates

possessing cultural capital (Bourdieu 1973). *Hamlet*, in addition to reflecting the six determinants of cultural capital, also reflects this dominant, high culture interpretation of forms of capital. Classical music and opera may also be considered forms of highbrow culture and thus forms of cultural capital (Peterson and Kern 1996). A summer bridge program for underrepresented students that incorporates a cultural activity, such as a visit to the theater to see a play, is a practical example of how high-status arts as cultural capital is applied in practice. Measuring cultural capital via high-status culture is not independent of the determinants—objectified, embodied, institutionalized capital, field, habitus, and social reproduction can all be theoretically applied to these examples of research.

The association of cultural capital with arts and museum attendance in the literature traces its root to Bourdieu's writing. Although his work may be thought of in education as more theoretical than empirical, Bourdieu (1973) does use statistics on frequencies of visiting museums, reading books, watching plays, and attending concerts among different socioeconomic classes to build his case for social and cultural reproduction. Highbrow cultural goods and practices are more predominant among upper classes, suggesting that these forms of valued cultural capital are reproduced among the elite (Bourdieu 1973). These examples may be over exploited in the literature, which overemphasizes cultural participation without considering other important aspects of Bourdieu's conceptualizations.

However, simple knowledge of Beethoven or attendance at an opera was not how Bourdieu intended cultural capital to be employed. His use of ideas such as field and habitus was proposed to demonstrate how ideas interacted with, and fed back upon, one another. While objective capital may describe the cultural resources, and embodied capital the cultivation of these resources, institutionalized capital that rewards knowledge of Beethoven and operas in a socially reproductive way may be considered. At times, however, the literature of cultural capital reduces the idea to simple instrumentalities.

More contemporary applications of cultural capital have attempted to identify relationships between access to cultural resources and educational achievement or advancement mentioned above. DiMaggio (1982) investigated the relationship between cultural capital and grades of high school students. Cultural capital was measured through a composite of attitudes toward, participation in, and knowledge of art, music, and literature (DiMaggio 1982).

Kalmijn and Kraaykamp (1996) also employed measures of socialization in "high-status culture" (e.g., whether parents attended classical concerts, plays, and museums or encouraged reading) to explain achievement differences between Blacks and non-Hispanic Whites.

These studies provide examples of how researchers have attempted to measure cultural capital based on interpretations of Bourdieu's writings that are actually more nuanced. Notably, the instrumentality of cultural capital is not a reflection of weak research or poor methods. Bourdieu's work and his writing are particularly abstract, almost as if he did not intend for his theoretical notions to be tested; yet any theoretical formulation must be analyzed and interrogated if it is to have staying power.

Interactional Forms of Cultural Capital

Also discussed in the literature is an emphasis on what we classify as interactional processes. Lareau and Weininger (2003) argue for a focus on “micro-interactional processes through which individuals comply (or fail to comply) with the evaluative standards of dominant institutions” (p. 568). The emphasis on interactions and standards as a basis for cultural capital developed in response to the predominant measure of highbrow arts participation. Those who subscribe to the interactional view of cultural capital find fault in rigid applications due to the potential that an expanded conceptualization of cultural capital might have in guiding educational research (Lareau and Weininger 2003).

Interactional processes refer to the interactions between an individual’s use of knowledge and institutionalized standards of evaluation (Dumais and Ward 2010; Farkas et al. 1990; Lareau and Weininger 2003; Reay 2004; Roscigno and Ainsworth-Darnell 1999). These standards of evaluation dictate which forms of interaction most benefit which students. For example, a teacher may think highly of a student whose parent attends a parent-teacher conference, or a guidance counselor may be more willing to help a student who seeks out the college center. According to the interactional approach, cultural capital is ultimately that which confers advantages in dominant institutions, in a legitimized way, for those students most familiar with the sanctioned practices and standards. Building a resource center that targets working-class parents in an urban community might be thought of as an intervention that recognizes the capital aspects of family-school interactions.

In addition, Roscigno and Ainsworth-Darnell (1999) include measures of teachers’ “micro-political” evaluations of students’ placement and behaviors in a quantitative model of educational achievement. They find that the consideration of micro-political evaluations helps explain why black students experience lower returns from investments in cultural capital than do their Anglo counterparts. Their study supports the notion that capturing the association of cultural capital with educational achievement involves measures of institutional interactions and perceptions, not just measures of high-status cultural participation. Other social factors should be taken into account such as how students interact with institutions and personnel.

This perspective acknowledges that cultural capital is found as much embedded in social interaction as in cultural artifacts. However, an underlying theme in these studies is the assumption that lower classes lack some form of cultural capital, material or interactional, that affects their progress through conventional schooling. Missing from this line of thinking is recognition of capital that marginalized groups possess. The body of literature that we refer to as nondominant interpretations addresses this gap.

Nondominant Interpretations

Another developing area of research includes the consideration of nondominant cultural capital. Cultural capital is usually conceptualized in terms of dominant and

taken-for-granted ways, such as privileged dispositions toward certain cultural activities or institutional interactions. Scholars have also considered how youth activate cultural capital relevant in their home communities that is perhaps not validated in school settings (Carter 2003; Khalifa 2010; Yosso 2005).

Carter (2003) notes that, contrary to the notion that African American students who underachieve may lack cultural capital, minority youth may actually possess forms of cultural capital that are neither investigated nor valued. These forms are recognized neither by schooling institutions nor by much of the scholarly research on cultural capital and social reproduction (Carter 2003). Participants in her qualitative study of African American youth describe how they employ different forms of language depending on whether the context is dominant, such as school, or non-dominant (Carter 2003).

School authorities typically have the dominant culture's capital, but leaders can play a role in acknowledging and validating the cultural capital of students from nondominant cultures (Khalifa 2010). Multicultural education is an example of an initiative that can recognize the cultural resources that nondominant groups bring to schooling (Olneck 2000).

Yosso's (2005) concept of community cultural wealth underscores the pitfalls of using cultural capital to describe marginalized communities. Applications of cultural capital theory can further notions that students of color come to school with deficiencies and deficits that account for their failure (Yosso 2005). Instead, community cultural wealth acknowledges alternative forms of capital that students of color bring to schools, such as those representing communities' aspirations, language, kinship, resistance, or navigational abilities. From this perspective, cultural capital frameworks that emphasize dominant cultural resources are limiting. Olneck (2000) also interrogates the concept of a dominant culture's prevalence in the school curriculum, by maintaining that multicultural education could transform cultural capital through its acknowledgment of racial groups' struggle for social equality. Challenges exist to the potential of multicultural education to transform cultural capital, which further reflects the notion that the theory is examined primarily in terms of the dominant culture.

The idea that "everyone has cultural capital, but not all capital is valued" encounters some criticism in the literature (Lubienski 2003). Lubienski (2003) writes:

The shift to the notion that everyone has cultural capital is well intended, implying that no set of cultural practices should be valued more or less than another. However, the reality is that in our hierarchical society, White, middle-class practices are "worth more" for buying high-status social and economic opportunities. (p. 34)

Lubienski's point is salient when we consider the important determinants of Bourdieu's theory. While we would not go as far to say that perspectives such as Carter's (2003) or Yosso's (2005) are diluting the critical edge of cultural capital theory—they in fact further it—we sympathize with the appeal to acknowledge continually the role of social reproduction.

At the same time, nondominant interpretations do not deny that cultural capital theory is intimately tied to White, upper-class, and upper-middle-class dominance, but instead portray cultural capital as a concept embedded in social institutions and

interactions as opposed to discrete characteristics or behavior. These notions further the arguments described below that attempt to further dynamic notions of capital. Yosso (2005) recognizes this point, suggesting that community forms of capital “are not mutually exclusive or static, but rather are dynamic processes that build on one another as part of community cultural wealth” (p. 77). Just as the interpretation that youth “need cultural capital in order to succeed” reduces the theory to its instrumentalities, the phrase “everybody has cultural capital” appears similarly reductive. Instead, these nondominant approaches suggest that what constitutes cultural capital is not set in stone.

Acknowledging nondominant forms adds to the notion of cultural capital just as the interactional view expanded the theoretical concept beyond highbrow arts participation. The types of arts participation usually measured as cultural capital typically reflects the dominant class. However, as Carter (2003) and others have recognized, youth from marginalized communities also have cultural capital. For example, when an adolescent Pacific Islander is knowledgeable about indigenous legends and customs, he or she possesses forms of cultural capital that, while important to the home culture, are not valued in a dominant institution where literature such as *Hamlet* pervades curricular standards and assessments. Accounting for nondominant forms is more complex than saying the student needs cultural capital to succeed in class or that he or she has cultural capital, just not the right kind. Instead, one must consider the interaction between the determinants of cultural capital and the dynamic ways they describe social interactions and conditions.

Moving beyond a checklist of upper-class characteristics allows for conceptualizing cultural capital as more fluid. This paper builds on these arguments and further considers problems with static measures of cultural capital, structural determinism, a culture of poverty, and the role of agency.

Analytical Shortcomings

Limitations of using cultural capital in research have been alluded to above during our discussion on the ways in which cultural capital has been operationalized. Our purpose is not to critique methods per se, but to consider how these methods reflect applications of the theory that are inaccurate or limiting in their explanations of marginalized students’ experiences.

Many of the theoretical applications employ methodological formulations that are abstract or nonexistent. This problem reflects the abstract nature of Bourdieu’s theory. In terms of quantitative methodologies, measurement and operationalization of cultural capital as a construct indicates the appropriateness of a researcher’s interpretation and application of cultural capital theory. For qualitative methodologies, the theoretical linkages and implications for interpretive data are a central issue.

With regard to quantitative methodologies, one critique pertains to the predominance of highbrow arts participation as an indicator of cultural capital. An example

of this form of measurement might be a survey that asks students or parents how many classical music CDs, books, or newspapers/magazines they own or how many concerts, plays, or musicals they have attended. Other quantitative measures include activities such as discussions with parents, siblings, and peers (Strayhorn 2010). Discussing school activities with parents may represent cultural capital due to inter-generational transmission of educational advantage. Such cultural resources and activities could be the major independent variables, with typical dependent variables such as test scores and educational attainment as the outcomes of interest.

We recognize the potential motivations behind measuring cultural capital in this manner. With such an abstract presentation of the theory by Bourdieu, however, attempts to empirically test the theory require some tangible measurement to operationalize the term, particularly in quantitative work. The nature of this particular methodological tradition forces researchers to consider primarily the observable indicators of students' capital accumulation. Still, we suggest reconsidering the recycling of previous measures and developing models of cultural capital that implement the theory in the ways discussed here.

With regard to qualitative methodologies, assessing the theoretical linkages between a wide range of educational phenomena and the theoretical tenets is challenging. Winkle-Wagner (2010) notes that qualitative studies are unclear in exactly how cultural capital is employed. While these studies go beyond the traditional highbrow arts participation that predominate quantitative studies, they also maintain a dominant interpretation of what is and is not valued as cultural capital (Winkle-Wagner 2010). Although the interpretive nature of qualitative methodologies allows for the types of interactional and nondominant considerations mentioned above (Winkle-Wagner 2010), how cultural capital is specifically conceived can be lost when clear measures are not articulated. This criticism reiterates the importance of the determinants highlighted as well as the call for fuller considerations of theory when put into practice (Table 4.2).

These quantitative and qualitative methodological shortcomings arise in the application of this theory. We build on this discussion by offering four analytical shortcomings researchers might consider when applying cultural capital to their own analyses. We do not suggest that method is not important, but we focus on the application and utility of the theory to facilitate progress in the field. A scaffolding is being offered where cultural capital is conceptualized as a dynamic rather than static concept. We pursue this scaffolding by presenting these analytical shortcomings. Before discussing the theory's dynamic potential, the static notions are first presented.

For example, some articles that call upon cultural capital as an organizing framework fail to address social reproduction in their application despite its centrality to Bourdieu's theory (Winkle-Wagner 2010). Measuring cultural capital in static ways tends to ignore how privileged classes maintain their advantage from generation to generation. Other scholars take issue with the concept of habitus, finding the concept unclear and difficult to apply (Nash 1999). Further, suggesting that an upper-class advantage persists because individuals have the right kind of habitus to navigate school settings leaves little room for marginalized groups to participate in

Table 4.2 Overview of studies and methods used

Citation	Methodology	Methods/analysis
Andersen and Hansen (2011)	Quantitative	Regression
Auerbach (2004)	Qualitative	Participant observation and interviews
Callahan and Chumney (2009)	Qualitative	Case study
Carter (2003)	Qualitative	In-depth interviews
Clegg (2011)	Literature review/conceptual	
De Graaf et al. (2000)	Quantitative	Regression
De Graaf (1986)	Quantitative	Linear structural relations model
DiMaggio (1979)	Literature review/conceptual	
DiMaggio (1982)	Quantitative	Regression
DiMaggio and Mohr (1985)	Quantitative	Regression
DiMaggio and Mukhtar (2004)	Quantitative	Odds ratios
Dumais (2002)	Quantitative	Regression
Dumais and Ward (2010)	Quantitative	Regression
Farkas et al. (1990)	Quantitative	Regression
Gaddis (2013)	Quantitative	First difference models
Gopaul (2011)	Literature review/conceptual	
Grenfell and James (2004)	Literature review/conceptual	
Horvat and Davis (2011)	Qualitative	Interviews
Jæger (2011)	Quantitative	Regression/double fixed effect
Jenkins (1982)	Literature review/conceptual	
Kalmijn and Kraaykamp (1996)	Quantitative	Regression
Kaufman and Gabler (2004)	Quantitative	Regression
Khalifa (2010)	Qualitative	Ethnography
Kingston (2001)	Literature review/conceptual	
Kraaykamp and van Eijck (2010)	Quantitative	Regression
Lamont and Lareau (1988)	Literature review/conceptual	
Lareau (1987)	Qualitative	Participant observation and interviews
Lareau and Horvat (1999)	Qualitative	Participant observation and interviews
Lareau and Weininger (2003)	Literature review/conceptual/qualitative	Ethnography
Lee and Bowen (2006)	Quantitative	T-test, chi-square tests, and regression
Lubienski (2003)	Literature review/conceptual	
Massé et al. (2010)	Literature review/conceptual	
Musoba and Baez (2009)	Literature review/conceptual	
Nash (1999)	Literature review/conceptual	
Noble and Davies (2009)	Quantitative	Regression

(continued)

Table 4.2 (continued)

Citation	Methodology	Methods/analysis
Nora (2004)	Quantitative	Regression
Olneck (2000)	Literature review/conceptual	
Ostrower (1998)	Qualitative	Interviews
Ovink and Veazey (2011)	Qualitative	Case study
Paino and Renzulli (2012)	Quantitative	Regression
Perna (2000)	Quantitative	Regression
Peterson and Kern (1996)	Quantitative	Regression
Reay (2004)	Qualitative	Interviews
Reese et al. (2011)	Qualitative	Case study
Rios-Aguilar et al. (2011)	Literature review/conceptual	
Robbins (2005)	Literature review/conceptual	
Rodríguez (2009)	Qualitative	Dialogical pedagogy
Roscigno and Ainsworth-Darnell (1999)	Quantitative	Regression
Salisbury et al. (2010)	Quantitative	Regression
Stampnitzky (2006)	Qualitative	Document analysis
Strayhorn (2010)	Quantitative	Regression
Sui-Chu and Willms (1996)	Quantitative	HLM
Sullivan (2001)	Quantitative	Regression
Swartz (1990)	Literature review/conceptual	
Tamir (2010)	Qualitative	Case study
Tierney (1999)	Qualitative	Case study
Tierney (2002)	Literature review/conceptual	
Tramonte and Willms (2010)	Quantitative	HLM
Valadez (1993)	Qualitative	Ethnographic interviews
Wells and Serna (1996)	Qualitative	Case study
Wells (2008)	Quantitative	Regression
Wells (2009)	Quantitative	Regression
Wildhagen (2009)	Quantitative	Structural equation modeling
Yosso (2005)	Literature review/conceptual	
Zweigenhaft (1993)	Qualitative	Document analysis

activating or constructing cultural capital. This work may ignore the different fields that can place value on nondominant capital.

Bourdieu's work, while foundational, has led to major issues in research pertaining to cultural capital. Ultimately, then, we are suggesting that the predominant ways in which scholars have portrayed cultural capital in the literature tend to fall short because there is a seeming disconnect between abstract ideas and how (or whether) they get analyzed, studied, and ultimately operationalized.

First, aspects of cultural capital, such as the objectified state or embodied state, are argued to represent a static model of cultural resources. We then identify three analytical shortcomings of cultural capital theory related to concepts of (a) structural determinism, (b) culture of poverty, and (c) denial of agency.

Cultural Capital as a Static Model

Discussions about cultural capital frequently imply that capital never changes. Scholars often revert to a synchronic analysis of capital, as if the example of capital employed at one time has always existed. Yet notions of capital do change. What one means by a museum today is not what people meant a century, or even a half century, ago. Words utilized in a manner that assumes everyone understands them also change over time. “Beethoven,” “Shakespeare,” “Dickens” are words that people might employ as examples of someone having linguistic competency, but how one defines the ideas attached to those words is not static.

In effect, we are suggesting that rather than synchronic analyses of cultural capital, which seem inherently flawed, a more fruitful avenue is to think of capital as a diachronic process for which the researcher acknowledges changes over time. Not only do the same words have different meanings, but also we suggest that new words will come into the lexicon and others will leave. Two generations ago if one person had said, “I just bought Olivetti’s Selectric” and the other replied “I’m sticking with my Smith Corona,” it might have signified a degree of cultural capital by the speaker and respondent about the relative virtues of electronic typewriters. The statements might highlight the cultural literacy of the speakers and a context-specific need for electric typewriters.

Such statements today, of course, suggest nothing. If one substituted “Mac” or “Microsoft,” however, then the statements make greater temporal sense. This issue is methodological in that measuring cultural capital requires developing notions of what today’s schooling requires of students’ technological literacy. It is also theoretical in that applications of cultural capital do not take into account how the world’s technology alters people’s access to dominant valued forms of capital. For example, recent scholarship has noted that beyond just a “digital divide” of the have and have-nots in terms of digital resources, a more appropriate description of digital inequalities may be a participation gap (Hargittai and Walejko 2008; van Dijk and Hacker 2003). That is, mere possession of resources, such as a Mac, in addition to the knowledge and frequency of use reflects what individuals will get out of participation in the twenty-first-century culture. The point here, then, is the need for diachronic understandings of cultural capital (DiMaggio and Mukhtar 2004).

Related to this argument is work by Peterson and Kern (1996) on the development of the cultural “omnivore” in the late twentieth century. Whereas before elites were “snobbish” in their taste for highbrow arts as a form of distinction, contemporary upper-class groups are more eclectic in their tastes. Such individuals’ appropriate art forms once considered lowbrow or middlebrow, thus forming a mixed or “omnivore” taste (Peterson and Kern 1996). For example, while a pure highbrow person may only enjoy classical music and opera and shuns country music and rock, a highbrow omnivore can listen to both genres even as he or she is more likely to be a member of the White, upper class (Peterson and Kern 1996). “Primitive” art was once considered in the domain of “primitives,” whereas today, such art graces some of the most prestigious museums of the world and the analysis of that art speaks to its

complexity. Furthermore, access to information through the Internet and social media communication have the potential to alter someone's tastes or exposure to music and art forms.

The omnivore construct suggests that predominant applications of cultural capital, such as those involving highbrow arts participation, are flawed. These flaws are not just due to a misunderstanding of Bourdieu's original work. The emphasis on certain established forms of art or music represents a static model of prized cultural capital in its objectified and embodied states. However, norms of what are considered acceptable among upper-class individuals change over time. A model of cultural capital that focuses on the cultural artifacts themselves as stagnant, unchanging indicators of cultural resources ignores how individuals' social relations and actions alter notions of cultural capital, such as through appropriation.

In addition, the changing nature of technology and popular entertainment is ignored (DiMaggio and Mukhtar 2004; Harrison and Waller 2010). The use of the Internet has yet to fully be considered as a vehicle and transformer of cultural capital, although computer use at home is considered a cultural resource in terms of the objectified state (Roscigno and Ainsworth-Darnell 1999). Applications of cultural capital need to take into account the twenty-first-century, multiethnic environments of today's school-aged children (Harrison and Waller 2010), in large part because students acquire and develop new forms of capital.

The potential for conceiving of cultural capital in a static way relates to the methodological limitations we have identified. Avoiding the static conceptualization in a practical sense can involve various methodological considerations. For example, survey instruments require updating to reflect contemporary forms of cultural capital and resources in addition to those that have been traditionally measured. Updating the lexicon of cultural capital acknowledges that while Shakespeare has been a cornerstone of school curricula for generations, the ability to adapt to changes in society should also be taken into account.

The static nature of cultural capital does not merely ignore technology or changing trends in popular culture. More concerning are the implications for educational research on marginalized communities, scholarship that frequently employs a cultural capital framework. When one moves away from a static model, the potential exists for a less deterministic view of culture, where culture is a straitjacket with little leeway for the participant to change. This dynamic notion informs our analysis of the major shortcomings of educational research using the theory.

Cultural Capital as Structurally Deterministic

By structural determinism, we mean that individuals exist within a group—Bourdieu might say a field—that in effect predetermines where one is situated in society. We concur with critics who argue that a rigid application of cultural capital is too structurally deterministic (Jenkins 1982; Lareau 1987) and overlooks what Bourdieu defined as happening by way of habitus. While cultural capital may help explain

why oppression persists, the theory also suggests that students born into a context lacking dominant cultural capital cannot achieve without significant intervention or formal schooling (Musoba and Baez 2009; Yosso 2005). This aspect of cultural capital combines with our concern of a static conceptualization insofar as it implies consistent, predetermined effects for social classes. A student born into the lower class will face seemingly insurmountable barriers to social mobility (Tierney 2002). To be sure, even the most rigid Marxian interpretations (Musoba and Baez 2009) will acknowledge that a resilient individual may succeed, but the overall structure impedes significant change.

Social and cultural reproduction speaks to structural determinism within cultural capital theory, but our sense is that some critics overemphasize the reproductive aspects of society. Social and cultural reproduction implies the perpetuation of upper-class advantage. Because upper classes possess cultural capital most valued and rewarded in school settings, educational advancement becomes much less common in lower classes. Structures frame this advantage in a way that keeps the cultural capital of lower classes from becoming valued. Structural determinism surfaces through the assumption that lower-class youth will never advance because their cultural capital is forever caught in the least-valued position. Since cultural capital is transmitted through classes within families, this value persists from generation to generation.

Cultural capital is appealing as an explanation for consistent inequality in education. Why low-income, first-generation, and underrepresented students are less likely to matriculate and persist in college compared to their majority peers appears more understandable through social and cultural reproduction. However, the idea of cyclical inequality suggests that individuals' positions are forever determined by structural class position. Yet evidence exists that change has occurred. To be sure, inequality still exists, but those who have moved out of poverty and into the middle class over the last century are not singular exceptions.

And yet, even signs of progress play a part in the reproduction game. Bourdieu maintained that the meritocracy view that anyone with the right qualifications can advance through the education system is a mirage that further supports the taken-for-granted nature of cultural capital (Bourdieu 1973). For example, the expansion of multiple admissions criteria at elite universities, where colleges consider a combination of grades, test scores, leadership roles, and activities, is actually a reflection of cultural capital and the persistence of upper-class advantage (Stampnitzky 2006). Any number of criteria could be used to make admissions decisions, but the aspects considered are not because of merit, but rather because of the privileging of upper-class habitus. Furthermore, working-class students, according to Bourdieu, who appear successful in higher education proceed through the academy with language and mannerisms that are more "stilted" than those of their advantaged peers (Swartz 1990, p. 71). Class positions are locked in place because of the distribution system of cultural capital, and lower-class students face the seemingly insurmountable task of acquiring the "merit" deemed necessary to progress in higher education.

How then does one reconcile the need to acknowledge social reproduction with the tendency to imply structural determinism? We are clear that static, instrumental

notions of cultural capital are likely to place oppressed groups into a deficit position. This deficit position is antithetical to the theoretical notion of social reproduction in Bourdieu's framework. Acknowledging social reproduction is not meant to suggest that marginalized groups are forever locked in low-status positions, contrary to what many interpretations of Bourdieu suggest. Instead social reproduction highlights why upper-class advantages persist, but we offer later ways in which we can consider how to change the dominant uses of cultural capital in research and practice.

To be clear, we do not want to de-emphasize the importance of the social structure in affecting opportunities and outcomes for low-income students and students of color. However, we are wary of applications of cultural capital that evoke a culture of poverty, an additional analytical shortcoming discussed below.

Cultural Capital as a Culture of Poverty

Just as a static notion of capital has a relationship to structural determinism where little changes, the idea of a *culture of poverty* (Lewis 1961, 1998) is in some ways the inverse of structural determinism. Bourdieu's emphasis on lower-class children's "cultural incompetence" is sometimes seen as supporting a "culture of poverty" argument (Savage and Bennett 2005, p. 2). Social reproduction by its very nature frames those who do not succeed as lacking—lacking income, resources, and cultural knowledge. Marginalized communities inevitably end up in a deficit position, predisposed to lacking cultural capital and the skills for acquiring success (Yosso 2005).

Although Bourdieu did not intend to frame those without capital as incompetent, his analysis ultimately frames people in that manner. As discussed above, this perception ignores how communities may possess forms of cultural capital not sanctioned or rewarded by dominant institutions but nonetheless essential to an individual's social relations and negotiations (Carter 2003; Khalifa 2010; Yosso 2005). The potential for linking cultural capital theory and the culture of poverty has been suggested in previous literature (Lareau 1987).

The culture of poverty has origins in Lewis's (1961, 1998) ethnographic work on Mexican families, where he delineates various traits of a culture of poverty. Lewis describes those in the "culture of poverty" as helpless, dependent, marginal, and lacking a sense of history and class consciousness (Lewis 1998). These descriptions suggest that those born into poverty have distinct characteristics, which explain persistent social inequalities; working-class students have lower achievement because their values and social relationships differ from those of their upper-class counterparts (Lareau 1987).

In educational applications of the culture of poverty thesis, students' "culture" becomes a primary explanation for their failure (Ladson-Billings 2006). Bourdieu's proponents might attribute culture to the broader structure in which people are stuck, but this framing still enables critics to claim people are poor because of

cultural attributes. When combined with a society such as the United States that emphasizes individual accomplishment as the path to success, the result is that the poor are labeled poor because they do not work hard enough. In educational policy and research, students' deficits become the explanation for school failure, rather than structural and social considerations. Applications of cultural capital evoke outdated depictions of oppressed groups and leave little room for change.

While cultural capital may explain variation in school behavior among social classes (Lareau 1987), the reliance on factors inherent in students' and families' backgrounds suggest that cultural capital and culture of poverty are related within applications of cultural capital. The culture of poverty thesis posits that family's ethics and social organization, such as the value parents place on the importance of education, influence students' school success (Lareau 1987). Cultural capital theory states that a school's linguistic structure, curriculum, and authority benefit upper-class families that raise children more familiar with these norms (Lareau 1987).

The culture of poverty finds explanatory power in individuals' backgrounds and values, and cultural capital theory, with its emphasis on structuring structures, highlights the role of the institution in rejecting lower-class norms. However, in school settings, a common response to why students behave a certain way becomes "it's cultural," with "culture" being a common proxy for students' race (Ladson-Billings 2006) or other marginalized identities. Thus, cultural capital theory, despite its relative emphasis on institutional factors, still reflects how marginalized individuals' cultural backgrounds are a "deficit" (Yosso 2005). Like structural determinism, the culture of poverty dilutes the importance of social reproduction by reducing it to a static conceptualization of upper and lower classes, where one has the cultural capital to succeed and the other is inherently predisposed to disadvantage.

In these ways, cultural capital theory has the potential to "blame the victim" (Harvey and Reed 1996), which is commonly associated with the culture of poverty. Structural determinism and the culture of poverty deny the agency of this so-called victim. Considering the role of agency is a first step in developing a dynamic view of cultural capital.

Cultural Capital and the Role of Agency

Finally, we turn to a consideration of the role of *agency*. We think of agency as the ability of individuals and groups to activate resources that facilitate empowerment and overcome oppression. Human agency is "the power to act," and "these actions can support or transform society" (Robinson 2004, p. 1363). Individuals are "producers as well as products of social systems," and the individual and the social structure are interdependent (Bandura 2001, p. 15). Agency thus refers to how individuals can become active producers in their own social space, as opposed to passive recipients of conditions within social structures. Structural determinism and the culture of poverty perspectives diminish the role of agency. Indeed, agency is virtually absent except for the extraordinary few.

While reviews of cultural capital may deny or ignore the role of agency (Musoba and Baez 2009), we suggest that agency is central to Bourdieu's description of structure (Dumais and Ward 2010; Horvat and Davis 2011; Lamont and Lareau 1988; Winkle-Wagner 2010). One area of cultural capital theory that disregards agency is the concept of habitus (Horvat and Davis 2011). If habitus refers to predisposed expectations of success, the theory does not account for shifts in expectations or for conscious investments in education made by individuals (Swartz 1990, p. 31). However, structural determinism and cycle of poverty arguments deny agency in a static model of cultural capital. Students are not "agents struggling within cultures," but are instead conceptualized as "actors trapped in modern-day cages" that leads "to the reproduction of their social and economic conditions" (Tierney 1999, p. 84). Not only does this interpretation inhibit educational progress, but it also inaccurately applies Bourdieu's theory. Scholars who view Bourdieu's discussion of habitus as suggesting that there are no opportunities for movement among classes are misinformed (Horvat and Davis 2011).

Thus, consideration of agency potentially safeguards against implementing cultural capital frameworks in structurally deterministic ways that propagate a culture of poverty. Studies can focus on people not simply as individuals lacking appropriate cultural capital, but as actors negotiating environments given their resources. Denial of agency ignores students' backgrounds and cultures and neglects how struggle and voice shape individuals' social interactions. Our model of cultural capital reframes structural determinism, culture of poverty, and denial of agency to frame and operationalize cultural capital in dynamic, rather than static, ways.

Toward a Dynamic Model of Cultural Capital

The basis of our argument is that a static notion of cultural capital places the disempowered in a double bind: they are constantly viewed as living in a culture of poverty where their backgrounds are a deficit, and those in power reinforce privilege by reproducing cultural capital from generation to generation. In one sense, no one can quarrel that students need to acquire traditional forms of cultural capital as they progress through the education system. An understanding of *Hamlet* or Shakespeare, for example, probably is useful for those entering elite four-year institutions. From this perspective, one might think of cultural capital as symbolic and linguistic artifacts required for the poor to succeed; another similar way to think of cultural capital is as bricks that the rich collect that enable them to wall off the rest of society from entering. We understand such assumptions, and we recognize that students may need help so that they are not excluded simply because they do not know words such as *Hamlet* and the ideas behind them.

Yet, we remain troubled that those who write about cultural capital perpetuate inequality when "they" need to acquire what "we" have. To be sure, we want students not only to know about *Hamlet* but also *War and Peace* and *Ulysses*. But if the world is to change, do not those in power also need to know Kid Cudi or Drake?

Our point here is less that there is some sheet to be used that is a key to a cultural capital literacy test, but rather, that cultural capital can be a dynamic notion that facilitates social change rather than simply social reproduction. To do otherwise is to strip the idea of its theoretical underpinnings, abstract as they may be. Accordingly, we suggest the lineaments of a model of cultural capital that includes three ideas to enable the disempowered to gain cultural capital. These elements demonstrate that while the structural forces that maintain inequality that Bourdieu describes are real and significant, individuals' background, experience, and agency also contribute to the mechanisms of cultural capital theory.

Cultural Integrity/Cultural Wealth

The model of cultural capital proposed here reframes problems of structural determinism, culture of poverty, and denial of agency to ones that can be addressed through acknowledging the dynamic characteristics of student backgrounds and resources. The traditional assumptions of academic advancement imply that individuals from oppressed groups must abandon their original cultural backgrounds to assimilate into academic culture, and failure is the student's fault (Tierney 1999). We suggest there is another way to think about such issues.

An alternative approach draws from the idea of cultural integrity (Tierney 1999, 2002). This perspective, like funds of knowledge (González et al. 2005), acknowledges that students' backgrounds are important resources for their education, not less-valued dispositions (Tierney 2002). Funds of knowledge developed in response to "deficit thinking" about underrepresented students' disadvantage instead refer to the bodies of knowledge and resources that students bring from their families and life experiences (Rios-Aguilar et al. 2011). Recent scholarship has called for the integration of funds of knowledge with sociological capital theory to understand minority student experiences (Rios-Aguilar et al. 2011). An "expanded framework" of social and cultural capital is necessary as "continuing to study [educational] attainment solely from a capital perspective will further perpetuate a deficit literature" (Rios-Aguilar et al. 2011, p. 175). This integration brings together perspectives on power and transmission of advantage found in the cultural capital literature with the acknowledgment of students' positive cultural resources and background found in perspectives such as cultural integrity, funds of knowledge, and community cultural wealth.

Adopting approaches such as cultural integrity into the broader capital scholarship affirms rather than devalues the culture of the child (Tierney 2002). Cultural integrity reframes students' culture from representing a student deficit to reflecting a positive form of capital and student resources. This perspective supports a dynamic model of cultural capital by rejecting the idea that schools and educational interventions only reproduce structures by privileging certain types of cultural capital. Instead, the model suggests the possibility that educational and other social institutions could be flexible in the interpretation and servicing of students' backgrounds for academic success.

While Bourdieu may not fully address this potential in his theoretical work, we suggest that this recognition is critical for the use of the cultural capital theory in contemporary literature. Scholars have already considered recognizing the capital value of students' home communities (Carter 2003; Rios-Aguilar et al. 2011; Tierney 1999; Yosso 2005). Our suggestion is that research using models of cultural capital that do not recognize these considerations are limited in their explanation of educational and social problems. We acknowledge that pursuing a cultural capital framework that does not fall into the traps we have outlined is not necessarily an easy endeavor. We also consider the role of struggle and praxis in the implementation of dynamic cultural capital frameworks.

Struggle/Praxis

One of the challenges of Bourdieu's framework is that in large part he and his successors have not taken into account how, or even if, struggle exists such that praxis (Freire 1970) is possible. Indeed, the absence of the idea of praxis in Bourdieu's writings suggests that he views the world in light of our prior discussion: structures exist within which actors function. Although a few may graduate and go on to college, their success is the exception rather than the norm because the structure is overwhelmingly rigid. When individuals do not succeed, failure is attributed to their cultural identities rather than the structure of the system. The resulting assumption is that culture inhibits change rather than promotes change.

And yet, because Bourdieu's work is highly theoretical and abstract, scholars can only base his critique on the strength of his ideas. Although his work is sophisticated and elegant and remains remarkably useful, we wish to put forward an alternative notion based on our own work over the years (Tierney and Colyar 2009). If one's cultural background is not viewed as a deficit, then the potential exists that for individuals to obtain the tools to overcome oppression rather than merely adapt to it. Social institutions, especially educational organizations, have the ability to reframe notions of culture and power such that students are able to succeed without having to assimilate into the mainstream. Rather than viewing their background as a deficit, educational institutions may create conditions for empowerment so that those who are oppressed are able to succeed as individuals and the structures themselves are transformed. Freire's (1970) idea of praxis is in large part based on the precept that those who have been marginalized can overcome the structures in which they exist by gaining the knowledge to understand society; with this knowledge, marginalized individuals can change their lives and the broader society.

Although some literature has begun to consider these issues, the field is in need of further development. Horvat and Davis (2011) write that "few studies illustrate how the habitus can be changed" (p. 145). Their study of a high school dropout program seeks to explain how individuals can alter their habitus and move through a social hierarchy. Reflecting on how educational research and programs can acknowledge struggle and praxis furthers these kinds of dynamic interpretations.

Voice/Agency

Praxis exists by way of agency. The assumption is that the actors are able to come to terms with their conditions and gain the ability to overthrow that which oppresses them. True, the history of the marginalized is not one where success is inevitable, but the alternative assumption is equally problematic. Change has taken place, largely when individuals have used voice and agency to use cultural capital for their improvement rather than their marginalization. Careful applications of Bourdieu suggest that students who lack cultural capital have deficiencies that interfere with success, much like the culture of poverty thesis (Musoba and Baez 2009).

While we appreciate previous critiques of cultural capital where authors employed the idea in a simplistic and atheoretical manner, we also suggest that the use of a highly abstract theory that remains largely untested ought not to be seen as a straitjacket. This interpretation is consistent with previous observations that “although the structure does at times limit agency because of one’s unconscious acceptance of it, Bourdieu’s framework still has room for resistance” (Winkle-Wagner 2010, p. 16). The idea that communities can possess forms of capital that can further social justice through dynamic processes (Yosso 2005) also supports the potential incorporation of voice and agency into a model of cultural capital. Methodological and policy-related implications are important—but so too is ensuring that the theoretical framework acknowledges the role of voice and agency to truly account for the experiences of students (Clegg 2011).

We are arguing that cultural capital is a dynamic construct. If one works from the assumption that structures have the tendency to reproduce power relations, then the challenge is to conceive of how individuals and groups might develop the voice and agency to acquire cultural capital in a manner that creates change rather than maintains the status quo. Obviously, schools and postsecondary institutions, as fields, become dynamic sites for change—just as they are also repressive fields seeking to reproduce the status quo. Our assumption is that the possibility exists for change and that cultural capital is one key ingredient in enabling that change.

Next Steps

We have considered various aspects of cultural capital and presented a dynamic model to undergird future analyses. We also offer possibilities for further areas of research. One significant area that is underexplored concerns twenty-first-century technology. The Internet and social media technologies have yet to be investigated fully in the cultural capital scholarship (DiMaggio and Mukhtar 2004; Harrison and Waller 2010). There is significant potential in investigating how schools value and use these resources, how students access and interact with them, and how these resources promote schooling achievement and advantage, perhaps in socially reproductive ways. The digital divide and participation or usage gap is an area ripe for

theoretical linkages to a dynamic model of cultural capital and its determinants. Emerging work is suggesting that Bourdieu's theory may have a "digital dimension"—in an information age, effective computer use is a culturally competent skill that facilitates school performance (Paino and Renzulli 2012). Investigating the objectified capital of digital resources, the habitus and embodied capital of its use, and the reproductive implications in the field of technology are examples of future research topics.

This discussion of what could be considered dynamic cultural capital leads to a consideration of methods. One possible next step for quantitative methods might be additional testing of measures beyond those that have been traditionally employed. Survey designers might take into account questions on not just the acquisition of material goods, and in particular technological ones, but their uses as well. For example, assessing a "digital" cultural capital divide in just owning a computer is not sufficient—assessing the behaviors and activities of different students is also imperative. However, while updating the cultural capital "checklist" to the twenty-first century is an important step, this pursuit can fall into the same trap of only considering dominant forms of capital rather than the myriad ways that youth negotiate their circumstances. In this sense, quantitative and qualitative methodologies require clarification on the theoretical implications of twenty-first-century students' and schools' activities.

Conclusion

To review, we first outlined the major theoretical concepts of Bourdieu's cultural capital. We situated cultural capital theory as related to other forms of capital and clarified distinctions, particularly between cultural and social capital. We discussed six determinants of the idea: the embodied state, the objectified state, the institutionalized state, field, habitus, and social and cultural reproduction. We explored these concepts because they are essential for understanding his theoretical framework; all too frequently, the concepts are overlooked or misunderstood by some who apply cultural capital frameworks.

After reviewing and categorizing previous research, we considered prior critiques of cultural capital and pointed out our major concern: the notion of cultural capital is static. The lack of a dynamic notion of capital leads to what we have defined as structural determinism, a culture of poverty, and a denial of agency. As opposed to a static notion, we argued that cultural capital has the potential to change over time. If we are to employ the concept in a manner that simply does not reproduce social inequality, then we also need to consider its dynamic nature. The changing nature of cultural capital has implications for encouraging cultural integrity, enabling praxis, and affording greater agency to groups.

Acknowledgments The authors would like to thank Rachelle Winkle-Wagner, Marilyn Amey, Jason Perkins, and Julia Duncheon for comments on an earlier version of this paper.

References

- Adler, P. S., & Kwon, S.-W. (2002). Social capital: Prospects for a new concept. *The Academy of Management Review*, 27, 17–40.
- Andersen, P. L., & Hansen, M. N. (2011). Class and cultural capital—The case of class inequality in educational performance. *European Sociological Review*, 28, 607–621. doi:10.1093/esr/jcr029.
- Auerbach, S. (2004). Engaging Latino parents in supporting college pathways: Lessons from a college access program. *Journal of Hispanic Higher Education*, 3, 125–145. doi:10.1177/1538192703262514.
- Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology*, 52, 1–26. doi:10.1146/annurev.psych.52.1.
- Bourdieu, P. (1973). Cultural reproduction and social reproduction. In R. Brown (Ed.), *Knowledge, education, and cultural change: Papers in the sociology of education* (pp. 71–112). London: Tavistock Publications Limited.
- Bourdieu, P. (1986). The forms of capital. In J. G. Richardson (Ed.), *Handbook of theory and research for the sociology of education* (pp. 241–258). New York: Greenwood Press.
- Bourdieu, P. (1990). *The logic of practice*. Stanford: Stanford University Press.
- Bourdieu, P. (1998). *Practical reason*. Stanford: Stanford University Press.
- Bourdieu, P., & Passeron, J. C. (1990). *Reproduction in education, society, and culture*. London: Sage.
- Bourdieu, P., & Wacquant, L. J. D. (1992). *An invitation to reflexive sociology*. Chicago: University of Chicago Press.
- Callahan, M. K., & Chumney, D. (2009). “Write like college”: How remedial writing courses at a community college and a research university position “At-Risk” students in the field of higher education. *Teachers College Record*, 111, 1619–1664.
- Carter, P. L. (2003). “Black” cultural capital, status positioning, and schooling conflicts for low-income African American youth. *Social Problems*, 50, 136–155. doi:10.1525/sp.2003.50.1.136.
- Clegg, S. (2011). Cultural capital and agency: Connecting critique and curriculum in higher education. *British Journal of Sociology of Education*, 32, 93–108.
- Coleman, J. S. (1988). Social capital in the creation of human capital. *American Journal of Sociology*, 94, S95–S120.
- De Graaf, P. M. (1986). The impact of financial and cultural resources on attainment in the Netherlands. *Sociology of Education*, 59, 237–246.
- De Graaf, N. D., De Graaf, P. M. D., & Kraaykamp, G. (2000). Parental cultural capital and educational attainment in the Netherlands: A refinement of the cultural capital perspective. *Sociology of Education*, 73, 92–111.
- Dika, S. L., & Singh, K. (2002). Applications of social capital in educational literature: A critical synthesis. *Review of Educational Research*, 72, 31–60.
- DiMaggio, P. (1979). Review essay: On Pierre Bourdieu. *The American Journal of Sociology*, 84, 1460–1474. doi:10.1086/226948.
- DiMaggio, P. (1982). Cultural capital and school success: The impact of status culture participation on the grades of U.S. high school students. *American Sociological Review*, 47, 189–201. doi:10.2307/2094962.
- DiMaggio, P., & Mohr, J. (1985). Cultural capital, educational attainment, and marital selection. *American Journal of Sociology*, 90, 1231–1261.
- DiMaggio, P., & Mukhtar, T. (2004). Arts participation as cultural capital in the United States, 1982–2002: Signs of decline? *Poetics*, 32, 169–194. doi:10.1016/j.poetic.2004.02.005.
- Dumais, S. A. (2002). Cultural capital, gender, and school success: The role of habitus. *Sociology of Education*, 75, 44–68. doi:10.2307/3090253.
- Dumais, S. A., & Ward, A. (2010). Cultural capital and first-generation college success. *Poetics*, 38, 245–265. doi:10.1016/j.poetic.2009.11.011.
- Farkas, G., Grobe, R. P., Sheehan, D., & Shuan, Y. (1990). Cultural resources and school success: Gender, ethnicity, and poverty groups within an urban school district. *American Sociological Review*, 55, 127–142. doi:10.2307/2095708.

- Freire, P. (1970). *Pedagogy of the oppressed*. New York: Continuum International Publishing Group.
- Gaddis, S. M. (2013). The influence of habitus in the relationship between cultural capital and academic achievement. *Social Science Research*, 42, 1–13. doi:<http://dx.doi.org/10.1016/j.ssresearch.2012.08.002>.
- González, N., Moll, L. C., & Amanti, C. (2005). *Funds of knowledge: Theorizing practices in households, communities, and classrooms*. Mahwah: L. Erlbaum Associates.
- Gopaul, B. (2011). Distinction in doctoral education: Using Bourdieu's tools to assess the socialization of doctoral students. *Equity & Excellence in Education*, 44, 10–21. doi:[10.1080/10665684.2011.539468](https://doi.org/10.1080/10665684.2011.539468).
- Grenfell, M., & James, D. (2004). Change in the field: Changing the field: Bourdieu and the methodological practice of educational research. *British Journal of Sociology of Education*, 25, 507–523.
- Hargittai, E., & Walejko, G. (2008). The participation divide: Content creation and sharing in the digital age. *Information, Communication & Society*, 11, 239–256. doi:[10.1080/13691180801946150](https://doi.org/10.1080/13691180801946150).
- Harrison, N., & Waller, R. (2010). We blame the parents! A response to 'Cultural capital as an explanation of variation in participation in higher education' by John Noble and Peter Davies. *British Journal of Sociology of Education*, 31, 471–482. doi:[10.1080/01425692.2010.484922](https://doi.org/10.1080/01425692.2010.484922).
- Harvey, D. L., & Reed, M. H. (1996). The culture of poverty: An ideological analysis. *Sociological Perspectives*, 39, 465–495.
- Horvat, E. M., & Davis, J. E. (2011). Schools as sites for transformation: Exploring the contribution of habitus. *Youth & Society*, 43, 142–170. doi:[10.1177/0044118x90358846](https://doi.org/10.1177/0044118x90358846).
- Jæger, M. M. (2011). Does cultural capital really affect academic achievement? New evidence from combined sibling and panel data. *Sociology of Education*, 84, 281–298. doi:[10.1177/0038040711417010](https://doi.org/10.1177/0038040711417010).
- Jenkins, R. (1982). Pierre Bourdieu and the reproduction of determinism. *Sociology*, 16, 270–281. doi:[10.1177/0038038582016002008](https://doi.org/10.1177/0038038582016002008).
- Kalmijn, M., & Kraaykamp, G. (1996). Race, cultural capital, and schooling: An analysis of trends in the United States. *Sociology of Education*, 69, 22–34. doi:[10.2307/2112721](https://doi.org/10.2307/2112721).
- Kaufman, J., & Gabler, J. (2004). Cultural capital and the extracurricular activities of girls and boys in the college attainment process. *Poetics*, 32, 145–168. doi:[10.1016/j.poetic.2004.02.001](https://doi.org/10.1016/j.poetic.2004.02.001).
- Khalifa, M. (2010). Validating social and cultural capital of hyperghettoized at-risk students. *Education and Urban Society*, 42, 620–646. doi:[10.1177/0013124510366225](https://doi.org/10.1177/0013124510366225).
- Kingston, P. W. (2001). The unfulfilled promise of cultural capital theory. *Sociology of Education*, 74, 88–99. doi:[10.2307/2673255](https://doi.org/10.2307/2673255).
- Kraaykamp, G., & van Eijck, K. (2010). The intergenerational reproduction of cultural capital: A threefold perspective. *Social Forces*, 89, 209–232. doi:[10.1353/sof.2010.0087](https://doi.org/10.1353/sof.2010.0087).
- Ladson-Billings, G. (2006). It's not the culture of poverty, it's the poverty of culture: The problem with teacher education. *Anthropology & Education Quarterly*, 37, 104–109. doi:[10.1525/aeq.2006.37.2.104](https://doi.org/10.1525/aeq.2006.37.2.104).
- Lamont, M., & Lareau, A. (1988). Cultural capital: Allusions, gaps and glissandos in recent theoretical developments. *Sociological Theory*, 6, 153–168. doi:[10.2307/202113](https://doi.org/10.2307/202113).
- Lareau, A. (1987). Social class differences in family-school relationships: The importance of cultural capital. *Sociology of Education*, 60, 73–85. doi:[10.2307/2112583](https://doi.org/10.2307/2112583).
- Lareau, A., & Horvat, E. M. (1999). Moments of social inclusion and exclusion race, class, and cultural capital in family-school relationships. *Sociology of Education*, 72, 37–53. doi:[10.2307/2673185](https://doi.org/10.2307/2673185).
- Lareau, A., & Weininger, E. B. (2003). Cultural capital in educational research: A critical assessment. *Theory and Society*, 32, 567–606. doi:[10.1023/B:RYSO.0000004951.04408.b0](https://doi.org/10.1023/B:RYSO.0000004951.04408.b0).
- Lee, J.-S., & Bowen, N. K. (2006). Parent involvement, cultural capital, and the achievement gap among elementary school children. *American Educational Research Journal*, 43, 193–218. doi:[10.3102/00028312043002193](https://doi.org/10.3102/00028312043002193).

- Lewis, O. (1961). *The children of Sánchez: Autobiography of a Mexican family*. New York: Vintage Books.
- Lewis, O. (1998). The culture of poverty. *Society*, 35, 7–9. doi:10.1007/bf02838122.
- Lubienski, S. D. (2003). Celebrating diversity and denying disparities: A critical assessment. *Educational Researcher*, 32, 30–38.
- Massé, J. C., Perez, R. J., & Posselt, J. R. (2010). Revisiting college predisposition: Integrating sociological and psychological perspectives on inequality. *Equity & Excellence in Education*, 43, 279–293.
- McDonough, P. M. (1997). *Choosing colleges: How social class and schools structure opportunity*. Albany: State University of New York Publishing.
- Musoba, G., & Baez, B. (2009). The cultural capital of cultural and social capital: An economy of translations. In J. C. Smart (Ed.), *Higher education: Handbook of theory and research* (Vol. 24, pp. 151–182). Dordrecht: Springer.
- Nash, R. (1999). Bourdieu, ‘habitus’, and educational research: Is it all worth the candle? *British Journal of Sociology of Education*, 20, 175–186. doi:10.1080/0142569995399.
- Noble, J., & Davies, P. (2009). Cultural capital as an explanation of variation in participation in higher education. *British Journal of Sociology of Education*, 30, 591–605.
- Nora, A. (2004). The role of habitus and cultural capital in choosing a college, transitioning from high school to higher education, and persisting in college among minority and nonminority students. *Journal of Hispanic Higher Education*, 3, 180–208. doi:10.1177/1538192704263189.
- Olneck, M. (2000). Can multicultural education change what counts as cultural capital? *American Educational Research Journal*, 37, 317–348.
- Ostrower, F. (1998). The arts as cultural capital among elites: Bourdieu’s theory reconsidered. *Poetics*, 26, 43–53. doi:10.1016/s0304-422x(98)00010-2.
- Ovink, S., & Veazey, B. (2011). More than ‘getting us through’: A case study in cultural capital enrichment of underrepresented minority undergraduates. *Research in Higher Education*, 52, 370–394. doi:10.1007/s11162-010-9198-8.
- Paino, M., & Renzulli, L. A. (2012). Digital dimension of cultural capital: The (in)visible advantages for students who exhibit computer skills. *Sociology of Education*. doi:10.1177/0038040712456556.
- Perna, L. W. (2000). Differences in the decision to attend college among African Americans, Hispanics, and Whites. *Journal of Higher Education*, 71, 117–141.
- Peterson, R. A., & Kern, R. M. (1996). Changing highbrow taste: From snob to omnivore. *American Sociological Review*, 61, 900–907. doi:10.2307/2096460.
- Portes, A. (1998). Social capital: Its origins and applications in modern sociology. *Annual Review of Sociology*, 24, 1–24.
- Reay, D. (2004). Education and cultural capital: The implications of changing trends in education policies. *Cultural Trends*, 13, 73–86. doi:10.1080/0954896042000267161.
- Reese, L., Arauz, R. M., & Bazán, A. R. (2011). Mexican parents’ and teachers’ literacy perspectives and practices: Construction of cultural capital. *International Journal of Qualitative Studies in Education*, 1–21. doi:10.1080/09518398.2011.594818.
- Rios-Aguilar, C., Kiyama, J. M., Gravitt, M., & Moll, L. C. (2011). Funds of knowledge for the poor and forms of capital for the rich? A capital approach to examining funds of knowledge. *Theory and Research in Education*, 9, 163–184. doi:10.1177/1477878511409776.
- Robbins, D. (2005). The origins, early development and status of Bourdieu’s concept of ‘cultural capital’. *The British Journal of Sociology*, 56, 13–30. doi:10.1111/j.1468-4446.2005.00044.x.
- Robinson, R. L. (2004). Human agency, negated subjectivity, and white structural oppression: An analysis of critical race practice/praxis. *American University Law Review*, 53, 1361–1419.
- Rodríguez, L. F. (2009). Dialoguing, cultural capital, and student engagement: Toward a Hip Hop pedagogy in the high school and university classroom. *Equity & Excellence in Education*, 42, 20–35.
- Roscigno, V. J., & Ainsworth-Darnell, J. W. (1999). Race, cultural capital, and educational resources: Persistent inequalities and achievement returns. *Sociology of Education*, 72, 158–178. doi:10.2307/2673227.

- Salisbury, M., Paulsen, M., & Pascarella, E. (2010). To see the world or stay at home: Applying an integrated student choice model to explore the gender gap in the intent to study abroad. *Research in Higher Education*, 51, 615–640. doi:10.1007/s11162-010-9171-6.
- Savage, M., & Bennett, T. (2005). Editors' introduction: Cultural capital and social inequality. *The British Journal of Sociology*, 56, 1–12. doi:10.1111/j.1468-4446.2005.00043.x.
- Stampnitzky, L. (2006). How does 'culture' become 'capital'? Cultural and institutional struggles over 'character and personality' at Harvard. *Sociological Perspectives*, 49, 461–481. doi:10.1525/sop.2006.49.4.461.
- Stanton-Salazar, R. D. (1997, Spring). A social capital framework for understanding the socialization of racial minority youth. *Harvard Educational Review*, 1997, 1–40.
- Strayhorn, T. L. (2010). When race and gender collide: Social and cultural capital's influence on the academic achievement of African American and Latino Males. *The Review of Higher Education*, 33, 307–332. doi:10.1353/rhe.0.0147.
- Sui-Chu, E. H., & Willms, J. D. (1996). Effects of parental involvement on eighth-grade achievement. *Sociology of Education*, 69, 126–141.
- Sullivan, A. (2001). Cultural capital and educational attainment. *Sociology*, 35, 893–912. doi:10.1017/S0038038501008938.
- Swartz, D. (1990). Pierre Bourdieu: Culture, education, and social inequality. In K. J. Dougherty & F. M. Hammack (Eds.), *Education and society*. San Diego: Harcourt Brace Jovanovich.
- Tamir, E. (2010). Capital, power and the struggle over teacher certification. *Educational Policy*, 24, 465–499. doi:10.1177/0895904809335105.
- Tierney, W. G. (1999). Models of minority college-going and retention: Cultural integrity versus cultural suicide. *The Journal of Negro Education*, 68, 80–91. doi:10.2307/2668211.
- Tierney, W. G. (2002). Parents and families in precollege preparation: The lack of connection between research and practice. *Educational Policy*, 16, 588–606. doi:10.1177/0895904802016004007.
- Tierney, W. G., & Colyar, J. E. (2009). *Urban high school students and the challenge of access: Many routes, difficult paths*. New York: Peter Lang Publishing.
- Tramonte, L., & Willms, J. D. (2010). Cultural capital and its effects on education outcomes. *Economics of Education Review*, 29, 200–213. doi:10.1016/j.econedurev.2009.06.003.
- Valadez, J. (1993). Cultural capital and its impact on the aspirations of nontraditional community college students. *Community College Review*, 21, 30–43. doi:10.1177/009155219302100304.
- van Dijk, J., & Hacker, K. (2003). The digital divide as a complex and dynamic phenomenon. *The Information Society*, 19, 315–326. doi:10.1080/01972240309487.
- Wells, R. (2008). The effects of social and cultural capital on student persistence: Are community colleges more meritocratic? *Community College Review*, 36(1), 25–46.
- Wells, R. (2009). Social and cultural capital, race and ethnicity, and college student retention. *Journal of College Student Retention*, 10, 103–128.
- Wells, A. S., & Serna, I. (1996). The politics of culture: Understanding local political resistance to detracking in racially mixed schools. *Harvard Educational Review*, 66, 93–119.
- Wildhagen, T. (2009). Why does cultural capital matter for high school academic performance: An empirical assessment of teacher-selection and self-selection mechanisms as explanations of the culturalcapitaleffect. *Sociological Quarterly*, 50, 173–200. doi:10.1111/j.1533-8525.2008.01137.x.
- Winkle-Wagner, R. (2010). Cultural capital: The promises and pitfalls in education research. *ASHE Higher Education Report*, 36(1), 1–144. doi:10.1002/aehe.3601.
- Yosso, T. J. (2005). Whose culture has capital? A critical race theory discussion of community cultural wealth. *Race Ethnicity and Education*, 8, 69–91. doi:10.1080/1361332052000341006.
- Zweigenhaft, R. L. (1993). Prep school and public school graduates of Harvard: A longitudinal study of the accumulation of social and cultural capital. *Journal of Higher Education*, 64, 211–225.

Chapter 5

The Culturally Engaging Campus Environments (CECE) Model: A New Theory of Success Among Racially Diverse College Student Populations

Samuel D. Museus

Almost half of all college students who enter a four-year postsecondary institution will fail to complete a bachelor's degree within 6 years of entering higher education (National Center for Education Statistics [NCES] 2012). In addition, students of color face substantial racial and ethnic disparities in college persistence and degree attainment. Indeed, while 62 % of White students who begin college at a four-year institution complete a bachelor's degree within 6 years of matriculation, that figure is only 39, 40, and 50 % for American Indian and Alaskan Native, Black, and Latino students, respectively (NCES 2012). Although Asian Americans and Pacific Islanders (APIs) exhibit high levels of educational attainment in the aggregate, many Southeast Asian American and Pacific Islander ethnic groups within the larger AAPI racial category suffer from drastic racial and ethnic disparities in degree attainment as well. For example, Vietnamese (26 %), Hmong (14 %), Cambodian (13 %), and Laotian (12 %) Americans, as well as Chamorros (21 %), Native Hawaiians (17 %), Guamanians (13 %), Fijians (11 %), Tongans (11 %), Samoans (10 %), and Micronesians (4 %) all hold bachelor's degrees at rates lower than the national average of 28 % (Museus 2013a).

These low rates of degree attainment among college students in general, and the especially low rates of success¹ among populations of color in particular, have significant negative consequences for individual students and society at large (Baum et al. 2010). The negative individual ramifications that result from these low success rates, for example, include lower lifetime earnings and higher rates of poverty. Moreover, the negative consequences that accrue to larger society, due to these low

¹For the purposes of this chapter, I use "success" to denote persistence and degree completion. However, I acknowledge that success can be defined in other ways, including by learning and developmental outcomes. Therefore, the proposed model can be used to examine influences on learning and developmental outcomes as well.

S.D. Museus, Ph.D. (✉)
Morgridge College of Education, University of Denver,
1999 E. Evans Ave., Denver, CO 80208, USA
e-mail: Sam.Museus@du.edu

rates of success, include lower tax revenues, higher rates of incarceration, and lower rates of civic participation throughout society (Baum et al. 2010; Swail 2004). Given the aforementioned low rates of bachelor's degree attainment and the negative consequences that are associated with them, understanding how to maximize success among racially diverse college student populations² should be of paramount importance to postsecondary education researchers, policymakers, and practitioners.

The Need for New Tools and Lines of Inquiry into Success Among Diverse College Student Populations

Several higher education scholars have now called for new theoretical frameworks and assessment instruments that better reflect the experiences of racially diverse student populations or begun developing such tools and using them to pursue new lines of inquiry into college success (e.g., Dowd et al. 2011; Hurtado and Carter 1997; Museus and Quaye 2009; Olivas 2011; Tierney 1992, 1999). These calls and efforts to construct new tools and pursue fresh lines of scholarly inquiry around student success have, at least in part, emanated from increased attention given to the limitations of existing dominant theoretical perspectives of college success and the research that they have catalyzed. For example, one such limitation is the lack of explicit attention that traditional theories and the research that examines those theoretical perspectives give to the racial and cultural realities faced by populations of color in college (Dowd et al. 2011). The failure of these frameworks to adequately account for such racial and cultural realities can contribute to inaccurate assumptions that racial and cultural bias does not shape institutional environments, programs, and practices or ultimately impact the experiences and outcomes of racially diverse populations.

The aforementioned assumption is problematic, given the large and growing body of empirical research that illuminates the racial and cultural bias that students encounter on college campuses. Indeed, over the last two decades, a substantial amount of scholarship has examined the impact of institutional environments on the experiences and outcomes of racially diverse college student populations. This body of evidence has illuminated both the *types* of racial and cultural challenges faced by diverse undergraduates and their *effects* on those students' success in postsecondary education. I present three major themes in this body of research herein, which underscore racial hostility experienced by students of color, cultural challenges faced by these students, and the reality that these racial and cultural realities influence college outcomes.

First, a wide range of qualitative and quantitative empirical studies indicate that all students can encounter unwelcoming campus environments in college, but students of color more frequently report encountering hostile racial climates than their White counterparts (Ancis et al. 2000; Hurtado 1992; Harper and Hurtado 2007; Lewis

²For the purposes of this chapter, the term "racially diverse student populations" does not refer only to students of color. Rather, I use the term to refer to all students, including White and students of color, and emphasize the racial diversity as a key characteristic of these populations.

et al. 2000; Nora and Cabrera 1996). Indeed, several qualitative studies illuminate the nature of the racism that students of color experience in college (Feagin 1992; Feagin et al. 1996; Lewis et al. 2000). Lewis et al. (2000), for example, interviewed 75 students of color at a predominantly White institution and found that those students often encountered racial hostility from their White peers.

In addition, a substantial body of quantitative research sheds light on the disproportionate frequency of college students of color encountering such racial hostility compared to their white peers (e.g., Allen 1992; Ancis et al. 2000; Hurtado 1992; Nora and Cabrera 1996; Rankin and Reason 2005). For example, Ancis et al. (2000) surveyed 578 students at one predominantly White institution and found that Black students reported significantly more racial conflict, differential treatment, and pressure from racial stereotypes than their White peers. Nora and Cabrera conducted a quantitative analysis of 831 students at a single predominantly White institution and found that students of color reported more negative campus climates, higher levels of discrimination from faculty, and greater insensitivity in the classroom than their White peers. Similarly, Rankin and Reason surveyed 7,347 students across 10 campuses and found that students of color in their study perceived their campuses to be more racist and less tolerant than their White counterparts.

Second, several existing qualitative investigations illuminate the reality that, while college students in general must go through an adjustment process when they enter higher education, undergraduates of color often report encountering significant cultural challenges throughout this adjustment process (Kuh and Love 2000; Lewis et al. 2000; Museus 2008a; Museus and Quaye 2009). Lewis et al. (2000), for example, found that their participants of color encountered contradictory pressures to represent their respective racial or ethnic groups while simultaneously experiencing pressure to assimilate into the mainstream cultures of their respective campuses. Similarly, Museus and Quaye (2009) interviewed 30 students of color and concluded that they experienced cultural dissonance – or tension that results from incongruence between their cultural meaning-making system and new cultural information that they encounter in their environment (Museus 2008a) – which can cause these students to disengage from their campus cultures and inversely impact their success in college.

Finally, existing qualitative and quantitative research underscores the fact that campus racial climates and cultures influence the adjustment, engagement, and success of racially diverse populations in profound ways (Cabrera et al. 1999; Guiffrida 2003; Guiffrida et al. 2012; Hurtado and Carter 1997; Museus 2007, 2008a, b, 2011a, b; Museus et al. 2008, 2012; Museus and Quaye 2009; Nora and Cabrera 1996). Indeed, scholars have qualitatively underscored the ways in which campus cultures and subcultures shape racially diverse students' experiences, connections to their institutions, and eventual success in complex ways (González 2003; Guiffrida 2003; Kiang 2002, 2009; Lewis et al. 2000; Museus 2008b; Museus et al. 2012; Museus and Quaye 2009). For instance, González used a concept-modeling approach to conduct an in-depth qualitative analysis of two Chicano college students at a predominantly White institution and found that these students encountered significant challenges in the social (e.g., interactions, political power, group

process, and language spoken on campus), physical (e.g., architecture, campus artwork, and other physical symbols), and epistemological (e.g., the knowledge that exists and is exchanged within the campus) aspects of the campus culture. Alternatively, researchers have qualitatively illuminated the ways in which ethnic subcultures on campus can work to provide safe havens within the larger campus context and facilitate racially diverse student populations' connections to their institutions and success by engaging their cultural backgrounds, validating their cultural identities, and responding to the needs of their cultural communities (González 2003; Guiffrida 2003; Kiang 2002, 2009; Museus 2008b; Museus et al. 2012; Museus and Quaye 2009).

Similarly, postsecondary education scholars have quantitatively analyzed both single-institution and nationally representative samples and found campus racial climates and cultural influences to be significant predictors of college adjustment, persistence, and degree completion (Cabrera et al. 1999; Hurtado and Carter 1997; Museus et al. 2008; Museus and Maramba 2011; Nora and Cabrera 1996). Museus et al., for example, conducted a longitudinal analysis of a nationally representative sample of 8,492 first-time, full-time four-year college students and concluded that perceptions of the campus climate influenced those students' academic and social involvement and eventual degree completion outcomes, although the nature of those relationships varied across racial subpopulations within their larger national sample.

In sum, a substantial body of existing empirical research offers compelling evidence that the racial and cultural realities within college and university environments shape the experiences and outcomes of racially diverse student populations. This body of scholarship also reinforces the importance of acknowledging and addressing the aforementioned limitation of traditional college success theories and the research examining them, which revolves around those perspectives' tendency to give insufficient attention to these racial and cultural contexts as critical factors in explanations of student success. As Dowd et al. (2011) have pointed out, the reliance on such traditional theoretical models and assessment instruments, without meaningful consideration of the racial and cultural realities discussed above, can mislead policymakers and educators into thinking that they are developing comprehensive understandings of college success, when they might only be acquiring a partial picture of reality. And, a failure to consider the racial and cultural realities discussed above can have harmful consequences for historically underrepresented college student populations, as it can lead to the crafting of educational policies and programs that fail to take into account some of the most salient influences on the experiences and outcomes of racially diverse student populations in college.

Purpose and Outline of the Current Chapter

In light of the realities discussed above, scholars have called for the development of more racially and culturally responsive theoretical models and assessment tools that can help educators better understand success among diverse populations in higher

education (Dowd et al. 2011; Museus and Quaye 2009; Tanaka 2002). Moreover, they have asserted that such efforts should be pursued with a sense of urgency so that institutions can reverse the effects of institutionalized racial and cultural bias that can adversely affect the experiences and outcomes of diverse student populations (Dowd et al. 2011). The current chapter was conceptualized and composed with this sense of urgency in mind and it has two overarching purposes. First, the current discussion is intended to provide a comprehensive analysis of existing theories and perspectives that are designed to explain college student success. Second, the current chapter is aimed at presenting a new Culturally Engaging Campus Environments (CECE) model of college success among diverse college student populations, which can potentially provide the foundation for a new body of future research and discourse on student success in postsecondary education.

In the following section, I introduce Tinto's (1975, 1987, 1993) theory of student departure, which has dominated discourse on college student success for over three decades. I both highlight the contributions of Tinto's theory and delineate four major critiques of his model, which underscore its limitations in explaining success among racially diverse student populations (Guiffrida 2006; Hurtado and Carter 1997; Kuh and Love 2000; Museus et al. 2008; Museus and Quaye 2009; Nora and Cabrera 1996; Rendón 1994; Rendón et al. 2000; Swail et al. 2003; Tierney 1992, 1999). I also briefly discuss two other traditional perspectives that have been used to analyze and understand the role of college student behaviors on their success outcomes – namely, the concepts of student involvement and engagement (Astin 1993, 1999; Kuh et al. 2005). In doing so, I argue that these college student involvement and engagement perspectives both have made substantial contributions to existing knowledge regarding the college experience and share some of the noteworthy limitations of Tinto's theory in their application to diverse populations.

Next, I provide an overview of some culturally relevant alternative perspectives of success among diverse student populations that have been derived from the voices of racially diverse students and proposed over the last two decades. I highlight how these perspectives have advanced current levels of understanding regarding the success of diverse students but also underscore the reality that researchers have not yet widely adopted, examined, and (in)validated any of these perspectives in higher education scholarship. In doing so, I argue that these alternative frameworks, while making significant contributions to the knowledgebase and giving more sufficient attention the racial and cultural realities faced by diverse populations, fall short of accomplishing the three following tasks: (1) addressing all of the shortcomings of traditional perspectives of college student success, (2) offering a comprehensive model derived from the substantial body of literature on diverse college student populations, and (3) providing a model comprised of a set of easily quantifiable and testable hypotheses. I assert that the development of a new model that does accomplish these three tasks is warranted to catalyze a new line of research and discourse that can help advance knowledge about campus environments and success among racially diverse student populations in postsecondary education.

Then, I propose a new CECE Framework of success among racially diverse colleges' student populations. The CECE model takes into account the limitations of

traditional success perspectives, is derived from the voices of racially diverse populations, and consists of a set of interconnected hypotheses that can be quantified, tested, and (in)validated by higher education scholars. I conclude the chapter with a discussion of the implications of this new theory of college success for future research and practice in postsecondary education.

Tinto's Theory of College Student Success

Tinto's (1975, 1987, 1993) theory of college student departure is the most widely cited theory of college student persistence and degree completion. His theory posits that students enter higher education with an initial level of commitment to their goals and their institutions. Students' levels of commitment determine their degree of integration into the academic and social subsystems of their respective campuses. In turn, students' levels of integration into the academic and social subsystems of their campuses shape their subsequent commitments to their goals and their institution. These subsequent commitments, in turn, determine students' likelihood of success. While much of the research testing Tinto's integration theory is focused on analyzing whether academic and social integration predict college persistence and degree completion (see Braxton 2000; Braxton et al. 1997), the theory is founded on a set of important cultural foundations that were developed in the field of anthropology.

Tinto's (1987, 1993) integration theory is partly based on Van Gennep's (1960) stages of cultural transition. Van Gennep asserted that individuals go through three stages of transition from one status to another within a particular culture. First, individuals go through *separation*, or detachment from their former selves. Second, these individuals occupy a position of *liminality*, which denotes the transition period from the first to the second status. Finally, the stage of *incorporation* includes the adoption of the values and norms of the newly acquired status. Adopting this conceptual foundation, Tinto (1993) asserted that students must "physically as well as socially dissociate from the communities of the past" to fully integrate into academic life and succeed (p. 96). Thus, the underlying conceptual foundations of Tinto's theory are based on an assumption that students who fail to sever ties with their cultures and communities of origin and assimilate into the cultures of their campuses are less likely to persist and complete college (Hurtado and Carter 1997; Kuh and Love 2000; Tierney 1992, 1999).

Tinto's (1975, 1987, 1993) integration theory has provided the foundation for a substantial body of empirical research and dominated research on college success for over 30 years. Indeed, Braxton and Hirschy (2005) asserted that the theory has reached near paradigmatic status. While Tinto's theory has certainly helped advance knowledge of the student persistence process in meaningful ways, scholars have also underscored several critiques and limitations of the theory, particularly in its application to the experiences and outcomes of racially diverse student populations (Guiffrida 2006; Hurtado and Carter 1997; Rendón et al.

2000; Tierney 1992, 1999), which I discuss in more detail in the next section. Despite these critiques, Tinto's theory continues to shape discourse around college student success.

Before moving forward, it is important to note that the continuing influence of Tinto's (1987, 1993) theory on college success discourse could be due, at least in part, to the fact that his model was one of the earliest published theories on college success and the heavy reliance on inter-citation in the field of higher education (Bensimon 2007). Indeed, the early presentation of Tinto's theory (1975, 1987) and the existence of the substantial body of subsequent research that examines it, coupled with the fact that it is often viewed as the theoretical foundation upon which current and future research on persistence and degree completion should build, might contribute to the tendency of higher education researchers to focus on his theory by critiquing and revising it, rather than establishing alternative, independent, empirically grounded, and testable theoretical models. The current chapter is based on the notion that, to advance college success theory and research to a new evolutionary phase, it is imperative that higher education scholars create and examine new theoretical models that are both grounded in empirical literature on diverse college students and can themselves constitute the underlying foundation for new bodies of future research on success among racially diverse student populations in higher education.

Four Critiques of Tinto's Theory of College Student Success

At least four major critiques of Tinto's (1975, 1987, 1993) theory have been discussed in existing literature. The *cultural foundations critique* refers to what scholars have noted as the culturally biased foundations of Tinto's integration theory. The *self-determination critique* focuses on the limitations of the self-deterministic nature of the theory. The *integration viability critique* underscores the questionable validity of the concepts of academic and social integration as viable predictors of college student success outcomes. Finally, the *psychological dimension critique* highlights the fact that much of the empirical research examining Tinto's theory does not account for psychological dimensions of students' sense of connection to their institutions. It is important to note that these four critiques are not intended to be an exhaustive list and are not necessarily mutually exclusive (i.e., that they overlap with one another).

It is also important to clarify that the purpose of this review of the limitations of Tinto's (1975, 1987, 1993) integration theory is not done to discount the value of his framework. Many would argue that understandings of student success within the field of higher education would not be as advanced as they are today without this theory and the work that it has catalyzed. Rather, this review of the critiques of Tinto's theory is carried out to offer a useful way to categorize and understand the different critiques of the integration theory so that readers can comprehend how they informed the model that is proposed later in this chapter.

Cultural Foundations Critique

First, scholars have noted that the cultural foundations of Tinto's (1975, 1987, 1993) theory are culturally biased and disproportionately disadvantage students of color (Attinasi 1989; Rendón et al. 2000; Tierney 1992, 1999). For example, it has been over 20 years since Tierney (1992) noted major concerns with regard to the cultural foundations of Tinto's theory and their application to understanding college student success. Tierney asserted that, given that students of color are more likely to come from cultures and communities that are markedly different from those found on their college campuses, expecting undergraduates of color to sever ties with their cultural heritages places an unfair burden on these students to dissociate from communities of the past that are important in their lives and assimilate into the cultures of predominantly White institutions. Tierney (1992) called for new theoretical perspectives that deviate from the integrationist perspective and "conceive of universities as multicultural entities where difference is highlighted and celebrated" (p. 604). Since Tierney offered this appraisal, the cultural foundations critique has attracted much attention in the higher education literature.

In addition, the cultural foundations critique has provided important groundwork for higher education researchers who have made efforts to reconceptualize the relationship between campus cultures and students of color (e.g., Dowd et al. 2011; Hurtado and Carter 1997; Kuh and Love 2000; Museus 2011b; Museus and Quaye 2009; Rendón 1994; Rendón et al. 2000; Tierney 1999). In contrast to framing cultures of origin as something from which students must detach and conceptualizing postsecondary institutions as having cultures into which students must assimilate, these scholars have provided alternative perspectives that both take into account the value in students' cultural backgrounds and shed light on the more complex ways that campus cultures interact with students' cultures of origin to mutually shape their experiences and outcomes (Kuh and Love 2000; Museus and Quaye 2009; Rendón 1994; Rendón et al. 2000). Nevertheless, as I discuss in more depth below, despite the emergence of these perspectives, what continues to be missing is a holistic, easily quantifiable, and testable explanatory model that provides a more balanced view regarding how students' cultures of immersion and cultures of origin interact to mutually shape their college experiences.

Self-Determination Critique

Second, closely related to the culturally biased foundations critique is the self-determination critique of Tinto's theory. Specifically, scholars note that Tinto's theory is self-deterministic in that it overemphasizes students' roles in succeeding in college, without adequately acknowledging the responsibility of institutions to foster these students' success (Bensimon 2006; Rendón et al. 2000). Indeed, such perspectives are problematic because they can function to blame underserved students (e.g., low-income students and students of color), who are less likely to

possess the capital or have access to support than their peers, for their struggles by attributing their failures to their individual behaviors and not acknowledging how their institutional environments might also hinder their progress toward positive educational outcomes (Valencia 1997). This is a critical critique of Tinto's integration theory, given that existing evidence suggests that the ways that institutions structure campus environments and college educators approach their work can and do, in fact, play a role in shaping the failure or success of their undergraduates (Bensimon 2006; Guiffrida 2003; Jayakumar and Museus 2012; Museus 2011b; Museus and Neville 2012; Museus and Ravello 2010).

Indeed, scholars have conducted qualitative inquiries that illuminate *how* postsecondary institutions and institutional agents (e.g., college faculty and staff) can and do foster success among racially diverse student populations (Guiffrida 2003; Museus and Neville 2012; Museus and Quaye 2009; Rendón 1994; Rendón et al. 2000; Tierney 1999). Museus and Neville, for example, conducted a qualitative examination of 60 undergraduates of color across four predominantly White institutions and concluded that institutional agents who contributed to the success of these students shared common ground with participants, incorporated a human element into participants' educational experiences, provided participants with holistic support, and espoused proactive philosophies in their approach to serving these undergraduates. This body of research has only begun to unpack how specific types of environments and educators' approaches to delivering programs and services can and do promote positive outcomes among racially diverse undergraduate populations, and more empirical research is warranted to better understand these processes. Moreover, this research is primarily qualitative in nature and examines small samples, and quantitative research that tests the impact of these types of environments and approaches to delivering educational programs and services on success among larger populations would help fill an important persisting void in the scholarship on success among diverse student populations in college.

Integration Viability Critique

Third, the integration viability critique refers to researchers' questioning of the viability of both the academic and social integration constructs as predictors of success (Braxton and Lien 2000; Braxton et al. 1997; Hurtado and Carter 1997; Swail et al. 2003). For example, comprehensive reviews of existing literature have concluded that empirical support for the salience of academic integration in predicting college persistence is modest (Braxton and Lien 2000; Braxton et al. 1997). Similarly, extensive reviews of extant empirical research examining the viability of the social integration construct suggest that the relevance of social integration is questionable on commuter campuses (Swail et al. 2003). In addition, existing empirical evidence of the predictive validity of both the academic and social integration constructs on the persistence and degree completion of two-year college students is mixed (see Crisp 2010).

Moreover, it is important to acknowledge that most measurements of social integration have failed to include modes of social participation that are common among students of color (e.g., participation in ethnic student organization and cultural activities) (Hurtado 1994). As a result, researchers have operationalized the social integration construct in ways that measure behaviors that are more common among White college students and more accurately capture White undergraduates' experiences than their peers of color (Hurtado and Carter 1997). This trend can be considered problematic, because it can lead to college educators structuring environments, programs, and practices around evidence that is not based on the realities of historically underrepresented college student populations.

It is also important to note that the dichotomization of academic and social connections that students make with their institutions might be artificial and unwarranted in certain higher education contexts. For example, educators can and do sometimes develop academic programs, spaces, projects, and activities that simultaneously foster both academic and social connections between students and their institutions (Museus 2011b; Museus et al. 2012; Tinto 1998). In doing so, they blur the lines between the academic and social spheres of college life. In fact, it has been argued that activities that include academic and social elements, when coupled with cultural relevance and responsiveness, can be powerful tools in simultaneously strengthening students' academic and social connections to their institutions while allowing them to maintain important ties with their cultural communities (Museus 2011b). Moreover, it is important to note that, for students who spend most of their time on campus in class, the "academic" connections that are made in the classroom might be the lens through which they assess their sense of "social" cohesion or membership on campus. Given these realities, rather than focusing on two distinct and dichotomous forms of integration, it might be more useful for researchers to focus on the quality and quantity of students' connections to individual and collective agents on their campuses or their overall connectedness to their campus cultures, regardless of whether they are academic, social, or both academic and social in nature (e.g., Hurtado and Carter 1997; Kuh and Love 2000; Museus and Quayle 2009).

Psychological Dimension Critique

The fourth and final critique of Tinto's theory presented herein is the psychological dimension critique. Hurtado and Carter (1997) underscore the failure of much of the research that is focused on examining Tinto's theory to account for the psychological dimension of students' connections to their institutions. They note that, in the first application of the concept of integration to understand college student success, Spady (1971) discussed the importance of *perceived* social integration and that this construct "encompassed students' subjective sense of belonging and 'fitting in' on campus" (Hurtado and Carter 1997, p. 325). Despite this original

application of the concept of integration, the psychological dimension of students' connectedness to their institutions has been lost in the vast majority of research examining Tinto's theory (for review, see Braxton et al. 1997). Indeed, researchers testing Tinto's (1975, 1987, 1993) model have often relied on behavioral measurements of academic and social integration (Hurtado and Carter 1997). This overreliance on academic and social behaviors can be problematic because students from different racial groups can experience the same activities within their campus environments, and their involvement in these activities, in very different ways (Harper and Hurtado 2007). Therefore, it is important to note that students' perceptions of the quality of their connections with the cultures of their respective campuses might be just as important as considering the quantity of these linkages (Hurtado and Carter 1997; Museus and Quaye 2009). Yet, because empirical research that examines Tinto's theory has not typically incorporated a psychological dimension or an element of quality into measurements of students' connections to their institutions, it has failed to generate a sufficient understanding regarding how various *types* of environments, curricula, programs, and practices affect success among diverse populations.

A Word on Other Traditional Frameworks of College Success

It is important to acknowledge that, over the past two decades, additional perspectives have been proposed to explain behaviors that facilitate college success among the general college student population and garnered a significant amount of attention in the higher education scholarly arena (Astin 1984, 1999; Kuh et al. 2005). For example, Astin (1984, 1999) has offered the concept of college student involvement, which highlights the importance of the quality and quantity of students' involvement in college in predicting educational outcomes. According to Astin's theory, college students' involvement is associated with higher levels of satisfaction with the college experience, persistence, and completion. He argues that students are at the center of the learning process, and postsecondary educators can enhance their learning and success by increasing their involvement in college activities and opportunities. Specifically, this theory of involvement suggests that experiences in college, such as interaction with faculty members and membership in student groups, are associated with learning and success outcomes.

In addition, the concept of student engagement has been offered to explain the impact of students' experiences in college on their learning and success outcomes (Kuh et al. 2005). And, a growing body of empirical research has examined the impact of engagement in college on those educational outcomes. The concept of student engagement suggests that it is high-impact practices that promote students' participation in educationally purposeful activities and enhance those students' levels of learning and likelihood of success in college. Kuh et al. (2005) have provided a framework to understand the kinds of high-impact practices that facilitate

educationally purposeful student engagement. Specifically, they delineated the following types of educationally purposeful engagement (NSSE 2005):

1. *Level of academic challenge* includes the level of students' engagement in academically rigorous activity, including studying, paper composition, and the analysis, synthesis, and application of ideas to meet the expectations of their faculty.
2. *Active and collaborative learning* includes active engagement in class discussions and presentations, studying and working on projects with peers inside and outside of class, service-learning opportunities, and academic discussions outside of the classroom.
3. *Student-faculty interaction* emphasizes interaction with faculty around academics, and it includes discussion of ideas from courses, discussion about career plans, and working on committees and projects with faculty.
4. *Enriching educational experiences* includes engagement in cross-cultural interaction, foreign language learning, student organizations, community service work, internships, learning communities, and international (e.g., study abroad) opportunities.
5. *Supportive campus environment* includes access and utilization of academic and social support and the quality of relationships with students, faculty, administrators, and staff.

Similar to Tinto's (1975, 1993) theory, these concepts of involvement and engagement have provided a valuable foundation for a substantial body of research and discourse on college student success. In doing so, they have advanced current levels of understanding regarding the ways in which institutions of higher education can facilitate success among their students by promoting various types of activities on campus that lead to positive educational outcomes. These perspectives, however, also share important limitations with Tinto's theory.

For example, the concepts of involvement and engagement, as well as the empirical research that employs and analyzes them, have most frequently been examined by using quantitative measurements of college students' behaviors (e.g., the frequency with which students engage in certain types of activities). Consequently, this body of research does not include a sufficient consideration of racial and cultural context (e.g., the nature of the campus cultures within which students' involvement or engagement behaviors occur) in its explanations of student success and, therefore, does not sufficiently reflect the racial and cultural realities faced by students of color in postsecondary education (Dowd et al. 2011). Given that the significant body of empirical research discussed above demonstrates that racial and cultural contexts are critical in shaping the experiences and outcomes of diverse student populations, ignoring such realities and adopting de-racialized or a-cultural perspectives of undergraduate success could be considered culturally biased in and of itself. Indeed, Tanaka (2002) underscores the limitations and potential negative consequences of utilizing de-racialized and a-cultural frameworks that focus on measuring student behavior because such perspectives can

be misused by researchers if they choose not to examine the underlying cultural norms of the institution, thinking simply that the more you immerse yourself in the general activities of the campus, the more likely you are to “persist” and do well academically. But by ascribing to every campus the same “universal” quality of a culturally neutral space, that researcher would run the risk of under-estimating the differential effects of campus culture on students who are not members of the dominant group and a parallel risk of over-estimating the importance of effort where students in fact think that further engagement would only harm their sense of self-worth. (p. 277)

Therefore, it is important that researchers generate perspectives that explicitly take these realities into account (Dowd et al. 2011).

Second, similar to Tinto’s (1987, 1993) integration theory, the concepts of student involvement and engagement focus on underscoring the importance of the availability of specific types of activities and fall short of delineating *how* institutions can and should structure environments, programs, and practices maximize success among diverse populations most effectively. When shifting this institutional responsibility to the foreground, several questions abound, such as what makes active and collaborative learning activities effective? Or, what kinds of support are most useful in efforts to foster success among diverse populations? Thus, in disproportionately focusing on students’ behaviors, these traditional perspectives might not sufficiently emphasize the responsibility of postsecondary institutions to construct and maintain the types of environments that promote success among their racially diverse student populations or help generate sufficient understandings regarding how campuses can create and perpetuate such environments (Rendón et al. 2000). Thus, new frameworks that can provide a foundation for examining and understanding how postsecondary institutions and educators working within them can construct particular types of environments to enhance the connections between racially diverse populations and their respective institutions are warranted.

Finally, as mentioned, it has been argued that existing empirical research that examines Tinto’s (1987, 1993) integration theory does not shed sufficient light on the psychological components of college students’ connections to their respective institutions (Hurtado and Carter 1997). Similarly, it could be argued that typical analyses of student involvement and engagement via measuring student behaviors also insufficiently account for the subjective psychological aspects of students’ experiences participating in various types of activities in college. For example, the concept of student engagement implies that frequency of faculty-student interactions will enrich the college experience and facilitate success. Of course, however, if those frequent interactions consistently send signals to students that their cultural identities are devalued, they are second-class citizens, or the faculty member does not care about their success, such experiences might not have a positive influence on the college experience or success at all. As such, frameworks that consider the qualitative aspects of the environments in which students are immersed and activities in which they participate are warranted.

Again, the intent here is not to discount the importance of this extensive body of higher education theory and research. On the contrary, the scholarly field of higher education is much more advanced than it was two decades ago as a result of the

involvement and engagement perspectives and the bodies of scholarship that they have catalyzed. Rather, the point of this discussion is to underscore the reality that, like all theoretical perspectives and conceptual frameworks, the involvement and engagement perspectives have limitations. And, these limitations reinforce the importance of the development and testing of more culturally responsive models that sufficiently incorporate current levels of understanding regarding the role of cultural context, reflect the responsibility of institutions, and acknowledge the psychological dimensions of students' experiences in their explanations of college success.

Culturally Relevant Frameworks of Success Among Racially Diverse Student Populations

The aforementioned critiques of Tinto's (1987, 1993) theory have catalyzed a growing body of literature on alternative frameworks for understanding the success of racially diverse college student populations (e.g., Cabrera et al. 1990, 1992b; Down et al. 2011; Guiffrida 2006; Hurtado et al. 2012; Hurtado and Carter 1997; Kuh and Love 2000; Museus 2011b; Museus et al. 2008; Museus and Quaye 2009; Nora and Cabrera 1996; Rendón 1994; Rendón et al. 2000; Tierney 1992, 1999). These alternative frameworks can be easily separated into three categories. First, a number of scholars have offered *revisions of Tinto's theory* (e.g., Cabrera et al. 1990, 1992b, 1999; Museus 2010; Museus et al. 2008; Nora and Cabrera 1996; Swail et al. 2003). Second, researchers have offered *conceptual divergences from Tinto's theory* that shed additional light on the factors that promote college persistence and completion, but do not necessarily constitute alternative holistic frameworks for understanding success among racially diverse college student populations (e.g., Hurtado and Carter 1997; Museus 2011b; Museus et al. 2012; Rendón et al. 2000; Tierney 1992, 1999). Third, higher education scholars have proposed *new alternative perspectives* that are independent of Tinto's theory to better understand the persistence process (e.g., Kuh and Love 2000; Museus and Quaye 2009; Rendón 1994). These three types of frameworks and their contributions and limitations are delineated in this section.

Model Revisions

As early as the 1990, higher education scholars began constructing and testing revised versions of the Tinto model (Cabrera et al. 1990, 1992b, 1999; Guiffrida 2006; Museus et al. 2008; Nora and Cabrera 1996; Swail et al. 2003). Nora and Cabrera (1996), for example, developed a model that incorporated the concepts of family influences and racial prejudice and discrimination, in addition to academic and social integration, to explain persistence. They tested the model using a sample of 831 students from a single four-year institution and concluded that students'

maintenance of connections to their home cultures were important in their success, and experienced prejudice and discrimination exhibited an indirect effect on persistence. Such revised models have made critical contributions to the knowledgebase by addressing some of the limitations of Tinto's theory and highlighting the importance of considering environmental and other important factors in persistence processes.

Most of these revisions address some limitations of Tinto's (1975, 1987, 1993) theory, but do not holistically rectify all of the four aforementioned critiques. For example, Nora and Cabrera (1996) addressed the psychological dimension critique by measuring students' perceptions of the quality of their interactions with the academic and social subsystems of campus, rather than frequency of students' behaviors. It could be argued, however, that their model does not completely address the culturally biased foundations, self-determinism, and integration viability critiques of Tinto's theory. That is, while Nora and Cabrera's model brings attention to the role of family influences and institutional environments in college success, it still relies on the concept of integration and falls short of invoking the wide range of literature on racially diverse college student populations to offer more comprehensive explanations of the ways in which campuses can and do construct environments that positively and negatively shape the experiences and outcomes of students of color. The fact that these revisions fall short of sufficiently addressing the culturally biased foundations and integration viability critiques could be due to the fact that most of these models were developed at a time when scholars were just beginning to critique Tinto's integration theory and the empirical research illuminating the voices of students of color was still in its infancy.

While these revisions of Tinto's model have made important contributions to the knowledgebase, insofar as it is deemed important to address all of the major critiques of Tinto's (1987, 1993) theory, it might be more desirable to generate new frameworks of success that are independent from the integration model. Indeed, in the context of identity development theory, McEwen et al. (1990) have argued that revising foundational theories that are based on values and assumptions of European Americans to fit the experiences of students of color might be inappropriate and it may be more desirable to create new independent theories instead. Applying this logic to theories explaining the success of racially diverse populations, in order to address the culturally biased foundations and integration viability critiques of Tinto's integration theory in more comprehensive and effective ways, new theoretical frameworks that take into account the experiences and voices of people of color might be necessary.

Conceptual Divergences

In contrast to the aforementioned revisions of Tinto's (1987, 1993) theory, which build on his integration model, scholars have offered new concepts that were derived from the experiences of students of color, diverge from Tinto's model, and shed

additional light on the success of students of color (e.g., Dowd et al. 2011; Hurtado and Carter 1997; Museus 2011b; Rendón et al. 2000; Tierney 1992, 1999). Some of these researchers who have diverged from Tinto's model have borrowed concepts from outside of the field of higher education and applied them to generate alternative ways of understanding the experiences and outcomes of undergraduates of color. For example, Tierney (1999) applied Deyhle's (1995) concept of *cultural integrity* to students of color in college to advocate for institutions to affirm their cultural backgrounds and identities through programs and practices that engage those backgrounds and identities in positive ways (Tierney 1999). Similarly, building on the research of Bollen and Hoyle (1990) in psychology and sociology, Hurtado and Carter (1997) applied the concept of *sense of belonging* (i.e., students' overall perception of social cohesion within the campus environment) to better understand the experiences and outcomes of students of color. Rendón et al. (2000) presented the concept of *bicultural socialization* to highlight that students can learn how to effectively navigate multiple cultures (e.g., campus and home cultures) simultaneously. Museus (2011b) presented the concept of *cultural integration*, which is distinct from Tinto's (1975, 1987, 1993) concepts of academic and social integration and which he defined as the incorporation of all three major aspects (i.e., academic, social, and cultural) of students' lives into specific academic programs, courses, spaces, and activities. Finally, Tanaka (2002) and Dowd et al. (2011) have proposed *intercultural effort* as a concept that can provide the foundation for understanding how institutions of higher education and individual students invest effort needed to counter the negative pressures experienced by racially marginalized groups in college. And, existing research offers evidence that many of these new concepts might help explain the success of students of color (Berryhill and Bee 2007; Deyhle 1995; Harper and Quaye 2007; Hausmann et al. 2007; Helm et al. 1998; Johnson et al. 2007; Museus 2008a; Museus and Maramba 2011; Museus and Quaye 2009; Tierney 1992).

These conceptual divergences from Tinto's theory and the research that examines them have made significant contributions to current levels of understanding regarding the experiences and outcomes of college students of color. These divergent concepts, however, also have noteworthy limitations, such as the fact that they do not constitute holistic models that explain the process by which campus environments and college educators shape students' experiences and outcomes. For example, while Tierney's (1992) initial critique of the integration perspective addresses many of the limitations of Tinto's theory, Braxton et al. (1997) note that Tierney fell short of articulating a more valid explanation of persistence processes among students of color. Tierney's (1999) later work and introduction of the concept of *cultural integrity* provided an alternative lens through which to view the relationship between institutions and their students, but again fell short of articulating a more holistic explanatory framework for examining and understanding this relationship. Similarly, while Hurtado and Carter's (1997) *sense of belonging* construct addresses the integration viability critique by using a different conceptualization of connectedness to institutions (i.e., overall sense of cohesion), responds to the psychological dimension critiques of Tinto's theory by measuring perceptions of that cohesion,

and advances existing understandings of success among undergraduates of color, it does not constitute a comprehensive theoretical model that incorporates the extensive body of literature on diverse populations and the sense of belonging concept into a set of interrelated hypotheses that attempt to explain success among racially diverse student bodies.

Holistic Alternative Perspectives

A few researchers have attempted to generate new holistic frameworks of success among diverse populations that are independent of Tinto's theory and explain the student persistence and completion process (e.g., Baird 2000; Kuh and Love 2000; Museus and Quaye 2009; Rendón 1994). Kuh and Love (2000), for example, offered a *cultural perspective* of student departure consisting of eight culturally based propositions that help explain minority student persistence. They posited that the level of incongruence between students' precollege cultures and dominant campus cultures is negatively related to persistence, and students who experience a high level of distance between those two cultures must either acclimate to the dominant culture of their campus or become immersed in one or more subcultures to successfully find membership in and persist through college. They also posited that, when those subcultures value academic achievement, they are more conducive to the success of their members. Museus and Quaye (2009) subsequently analyzed Kuh and Love's cultural perspective, existing literature, and the voices of 30 students of color to confirm, revise, and build upon various elements of the aforementioned cultural perspective. The result of this analysis was a refined *intercultural perspective* that is derived from the voices and grounded in cultural realities of students of color. For example, Museus and Quaye's intercultural perspective suggests that it is extreme *cultural dissonance* – tension resulting from incongruence between students' cultural knowledge and the new cultural information that they encounter – that is inversely related to success. They also noted that, while Kuh and Love focused on the importance of connecting with subcultures that value achievement, connections to both collective and individual agents that value achievement and validate students' cultural backgrounds can facilitate students' success.

These new alternative and more holistic perspectives of success among racially diverse college student populations provide valuable alternatives to Tinto's model. However, they also have important limitations. Specifically, these more holistic alternative perspectives either do not take into account the extensive body of literature on how campus cultures and cultures of origin interact to mutually shape the outcomes of racially diverse populations (e.g., Baird 2000) or do not offer a set of easily quantifiable constructs and propositions that can be tested and (in)validated (e.g., Kuh and Love 2000; Museus and Quaye 2009).

For instance, Museus and Quaye's (2009) intercultural perspective addresses each of the four major critiques of Tinto's (1975, 1987, 1993) integration model outlined above. The intercultural perspective addresses the cultural foundations and

self-determinism critiques by underscoring institutional responsibility in validating the cultural backgrounds of college students of color, and it addresses the social integration critique by focusing on connections to collective and individual cultural agents regardless of whether they happen inside or outside the classroom. Finally, the perspective responds to the psychological dimension critique by acknowledging that students' cultural meaning-making systems shape their experience, their experienced cultural dissonance represents a barrier to success, and the extent to which their cultures are validated positively impacts their success. Yet, while it is possible for scholars to create models to test specific elements of the intercultural perspective (e.g., Museus and Maramba 2011), the perspective itself does not intuitively translate into a holistic framework of success among racially diverse students. Given the important role of quantitative analyses in the testing and (in)validation of theory in education research, such perspectives have important utility but also have limited impact unless they can be easily converted into quantifiable and testable models.

In summation, the aforementioned culturally relevant alternatives to Tinto's (1975, 1987, 1993) integration theory have made important contributions to the knowledgebase but have not garnered attention equivalent to that given to his model. The limited attention given to these alternatives could be due to many reasons, such as higher education researchers' overemphasis on examining the validity of Tinto's integration theory despite its limitations and other factors discussed above (e.g., the heavy reliance of inter-citation in the field), and a holistic discussion of such reasons is beyond the scope of this chapter. However, this discussion is intended to clarify that the limited attention given to these alternatives could also partially be due to the fact that these more culturally relevant perspectives exhibit their own significant limitations (e.g., Cabrera et al. 1990, 1992b; Guiffrida 2006; Hurtado and Carter 1997; Kuh and Love 2000; Museus et al. 2008; Museus and Quayle 2009; Nora and Cabrera 1996; Rendón 1994; Rendón et al. 2000; Tierney 1992, 1999). Indeed, the revisions of Tinto's theory do not address all four of the aforementioned major critiques of his perspective, the conceptual divergences from Tinto's model that have emerged address the critiques of his theory but do not offer holistic alternative perspectives of success among diverse populations, and more holistic alternative perspectives do not provide comprehensive models with sets of easily quantifiable and testable hypotheses that can guide new lines of empirical inquiry. Moreover, most of the aforementioned model revisions, conceptual divergences, and new perspectives do not reflect, in a comprehensive way, the existing and growing body of empirical knowledge on the experiences and outcomes of racially diverse student populations.

A Culturally Engaging Campus Environments (CECE) Model of College Success Among Racially Diverse Student Populations

In this section, I utilize existing research on racially diverse college student populations to generate and present a Culturally Engaging Campus Environments (CECE) model of success among diverse populations (see Fig. 5.1). This theoretical model

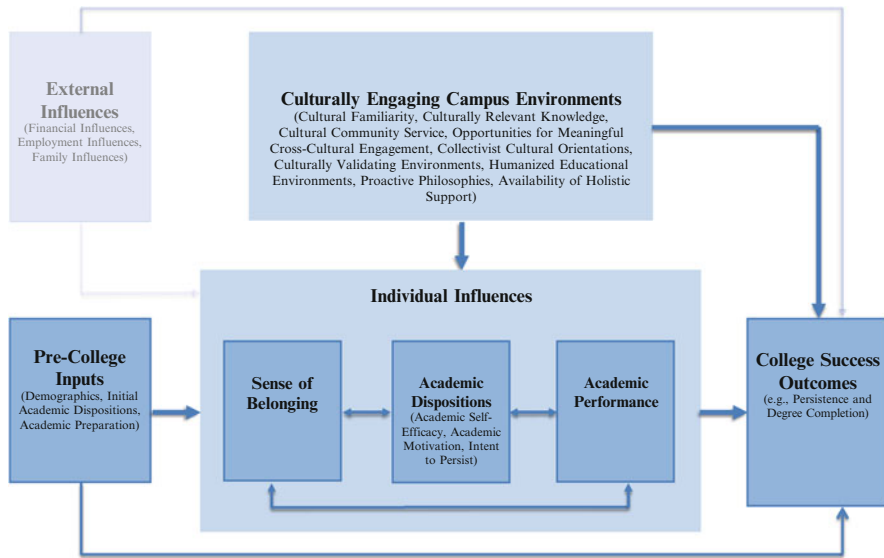


Fig. 5.1 The Culturally Engaging Campus Environments (CECE) model of college success

(1) takes the four main critiques of Tinto's theory and other traditional perspectives into account, (2) incorporates the actual voices of diverse populations into its explanation of success in college, and (3) offers a theoretical model that can be quantified and tested for its applicability to racially diverse college student populations, examined for its power to explain college success, and (in)validated.

The CECE model posits that a variety of external influences (i.e., finances, employment, family influences) shape individual influences (i.e., sense of belonging, academic dispositions, and academic performance) and success among racially diverse college student populations (Fig. 5.1). The model also suggests that college students enter higher education with precollege inputs (i.e., demographic characteristics, initial academic dispositions, academic preparation) that influence individual influences and success. The focal point of the model underscores the environmental (i.e. culturally engaging campus environments) and individual influences on college success. Specifically, the focal area of the model suggests that the degree to which culturally engaging campus environments exist at a particular postsecondary institution is positively associated with more positive individual factors and ultimately greater college student success. Finally, the model posits that the aforementioned individual influences are positively associated with greater likelihood of college persistence and degree attainment.

In the following subsections, I provide an overview of the various constructs in this new emergent theory and discuss evidence that provides the rationale their inclusion in the proposed CECE model. The first two subsections very briefly discuss contextual influences (i.e., *external influences* and *precollege inputs*) within the framework, which do not constitute the focal point of the CECE model but are important to acknowledge for their influences on college student success outcomes

and control in analyses of the CECE Framework. The following two sections delineate the focal constructs in the model. Specifically, the third subsection outlines the nine indicators of *culturally engaging campus environments* that are hypothesized to influence success among racially diverse college student populations. The last subsection focuses on *individual influences*, including college students' sense of belonging, academic dispositions (i.e., academic self-efficacy, academic motivation, and intent to persist), and academic performance.

Before delineating the specific components of the CECE model in greater detail, it is important to underscore that the nine CECE indicators that comprise the CECE construct within the model are intended to be the most salient contribution of this framework to college success discourse. These nine CECE indicators constitute a synthesis of the elements of campus environments that existing evidence suggests promote success among racially diverse populations, the primary construct upon which future analyses of the CECE model should focus, and a centerpiece that can facilitate thinking and discourse around what types of environments college educators should invest time and energy cultivating on their campuses.

External Influences

The CECE model acknowledges that external influences (e.g., financial factors, employment, and family influences) shape the success of racially diverse student populations. Indeed, there is a plethora of evidence that finances have an impact on the experiences and success of college students in general (Pascarella and Terenzini 1991, 2005). For example, most studies on the relationship between the cost of college and success indicate that *tuition costs* are inversely related to college success (Cofer and Somers 1999; Paulsen and St. John 2002; St. John and Starkey 1994, 1995a, b). In addition, a significant body of evidence indicates that receipt of *financial aid awards* is positively associated with a greater likelihood of success among students (e.g., Astin 1993; Cabrera et al. 1990; Chen and DesJardins 2010; Dynarski and Scott-Clayton 2013; Ishitani and DesJardins 2002; McKinney and Novak 2013; Wei and Horn 2002). Moreover, existing research indicates that *grants and scholarships* are positively related to persistence and degree completion among college students (Alon 2011; Astin 1993; DesJardins et al. 2002; Gross 2011; Heller 2003). Alternatively, empirical investigations that examine the impact of the receipt of *loans* and *work study* on college success provide mixed findings, with some inquiries showing that they exhibit both complex positive influences and others concluding that they exhibit negative effects on success (Dowd and Coury 2006; Dwyer et al. 2012; Gross 2011; Museus 2010; Pascarella and Terenzini 2005). Finally, a handful of inquiries illuminate the positive relationship between *ability to pay* for college and success in higher education (e.g., Choy 2000; St. John et al. 2000).

In addition to financial factors, existing empirical evidence suggests that *employment* during college, including the number of hours undergraduates work and the location of their jobs, is a significant predictor of success in higher education (Pascarella and Terenzini 1991, 2005). For example, existing empirical research indicates that, as the number of hours that students work off campus increases, the likelihood that these undergraduates will begin or continue to enroll full time, persist, and graduate decreases (Astin 1993; Choy 2000; Nora et al. 1996). Finally, as briefly discussed above, existing evidence suggests that *family influences* (e.g., family encouragement and support) also shape the experiences and outcomes of racially diverse college student populations (Museus 2013a; Kiang 2002, 2009; Museus and Maramba 2011; Nora and Cabrera 1996).

Precollege Inputs

The CECE model also acknowledges that the characteristics that racially diverse undergraduates bring with them to college (i.e., demographic factors, initial academic dispositions, and academic preparation) influence their experiences and outcomes in higher education. Indeed, consistent with the proposed model, research suggests that *demographic factors* (e.g., age, race, socioeconomic status, gender, parental education) influence individual factors in college (e.g., sense of belonging, subsequent academic dispositions, and academic performance) and college success outcomes (e.g., Bowen and Bok 1998; Massey et al. 2006; Pascarella and Terenzini 1991, 2005). In addition, the model indicates that the *initial academic dispositions* (i.e., academic self-efficacy, academic motivation, intent to persist and graduate) that students bring to higher education influence individual factors (e.g., sense of belonging, subsequent academic dispositions, and academic performance) in college and success. I discuss the influence of these individual factors in the section below, where I provide an overview of the ways that they influence college experiences and outcomes. Finally, consistent with the CECE model, a substantial body of existing literature indicates that *academic preparation* is a significant predictor of student success in higher education (Abraham 1992; Chancey and Farris 1991; Schudde 2011).

The aforementioned external factors and precollege inputs constitute important context for the focal point of the proposed model, which underscores the campus environmental and individual factors that influence college student success. Specifically, the *culturally engaging campus environments* construct focuses on the extent to which campus environments engage the cultural identities of racially diverse student populations and reflect the needs of these students. The *individual influences* variable includes the academic and psychosocial factors that impact *success* among racially diverse populations. The remainder of this discussion describes these environmental and individual factors that comprise this focal point of the current model.

Culturally Engaging Campus Environments

The CECE model posits that undergraduates who encounter more culturally engaging campus environments are more likely to (1) exhibit a greater sense of belonging, more positive academic dispositions, and higher levels of academic performance and ultimately (2) be more likely to persist to graduation. In addition, the CECE model suggests that there are nine indicators of culturally engaging campus environments. Put another way, the CECE model hypothesizes that there are nine indicators of culturally engaging campus environments that engage students' racially diverse cultural backgrounds or identities, reflect their diverse needs as they navigate their respective institutions, and facilitate their success in college.

CECE Indicator #1: Cultural Familiarity

First, the CECE model posits that the extent to which college students have opportunities to physically connect with faculty, staff, and peers with whom they share common backgrounds on their respective campuses is associated with greater likelihood of success. This hypothesis is consistent with existing research that indicates that students who are able to establish connections with institutional agents who have similar backgrounds and experiences as them are more likely to succeed in college (Burrell 1980; Guiffrida 2003, 2005; Harper and Quaye 2007; Museus 2008b, 2010, 2011a, b; Museus and Neville 2012; Museus and Quaye 2009; Museus and Ravello 2010; Sedlacek 1987). For example, several qualitative inquiries have demonstrated how college students of color benefit from connections with same-race agents on their respective campus, as well as different-race institutional agents who have shared and understand their background or individual experiences (e.g., Guiffrida 2005; Harper and Quaye 2007; Museus and Neville 2012).

CECE Indicator #2: Culturally Relevant Knowledge

Second, the CECE model indicates that postsecondary institutions that offer opportunities for their students to cultivate, sustain, and increase knowledge of their cultures and communities of origin can positively impact their experiences and success. Specifically, the extent to which students have opportunities to create, maintain, and strengthen epistemological connections to their home communities through spaces that allow them to acquire knowledge about their communities of origin is associated with increased likelihood of success. For White students from low-income backgrounds, for example, access to social sciences courses that provide opportunities to learn about class inequalities and oppression might offer those students opportunities to develop epistemological cultural connections. For college students of color, involvement in ethnic studies courses, culturally relevant courses and programming, and ethnic student organizations on campus might

be salient vehicles for the development and maintenance of epistemological cultural connections. This proposition is congruent with existing qualitative research that suggests that, when students have opportunities to learn and share knowledge about the issues within and needs of their own communities of origin, it can be associated with stronger connections to their respective institutions, higher levels of motivation, and greater likelihood of success (e.g., Guiffrida 2003, 2005; Harper and Quaye 2007; Kiang 2002, 2009; Museus 2008b, 2011b; Museus et al. 2012).

CECE Indicator #3: Cultural Community Service

Third, the CECE Framework hypothesizes that cultural community service positively impacts the experiences and success of racially diverse populations. Cultural community service manifests when institutions provide students with spaces and tools to give back to and positively transform their cultural communities via various mechanisms, including activities aimed at spreading awareness about issues in their respective communities, engaging in community activism, participating in community service and service-learning opportunities, or engaging in problem-based research projects that aim to solve problems within their cultural communities. The model suggests that the level of access that students have to opportunities to develop such transformational cultural connections is positively associated with success. And, this concept of transformational cultural connections is congruent with extant empirical research, which suggests that activities allowing both White students and students of color to give back to their communities are linked to stronger connections to their respective campuses, which are related to higher levels of success in college (Astin and Sax 1998; Eyer and Giles 1999; Guiffrida 2003; Harper and Quaye 2007; Museus 2008b, 2011b; Museus et al. 2012; Museus and Quaye 2009).

CECE Indicator #4: Opportunities for Meaningful Cross-Cultural Engagement

Fourth, the CECE Framework indicates that students' access to opportunities for meaningful cross-cultural engagement is positively associated with their success in college. The model indicates that opportunities to engage in positive and purposeful interactions with peers from disparate cultural origins can have a positive impact on college experiences and success. Although research examining the relationship between meaningful cross-cultural engagement and persistence and attainment in college is difficult to find, existing literature does offer substantial evidence that campus environments that promote meaningful cross-cultural engagement are conducive to many positive outcomes in college. For example, a plethora of quantitative inquiries suggest that environments that promote such engagement lead to higher levels of learning, development, and cultural awareness (e.g., Antonio 2004; Antonio et al. 2004; Astin 1993; Chang 2001; Chang et al. 2004; Gruenfeld et al. 1998; Gurin et al. 2003; Hurtado 2005; Jayakumar 2009; Locks et al. 2008; Milem

et al. 2005; Nelson-Laird et al. 2005; Pettigrew and Tropp 2006; Sáenz et al. 2007; Zuniga et al. 2005). In addition, this evidence indicates that campus environments that are conducive to meaningful cross-cultural engagement are also associated with higher levels of self-confidence, satisfaction, and sense of belonging among both White students and students of color in college – which are related to greater levels of success.

CECE Indicator #5: Collectivist Cultural Orientations

Fifth, the CECE model proposes that college students who encounter institutional environments that are based on more collectivist cultural orientations, as opposed to more individualistic ones, are more likely to succeed. This proposition is congruent with existing evidence indicating that both White students and students of color from communities with more collectivist cultural orientations might encounter salient challenges adjusting to and navigating colleges and universities with more individualistic orientations (Dennis et al. 2005; Thompson and Fretz 1991). In addition, researchers have underscored the potential positive impact of collective environments on the success of racially diverse student populations (Fullilove and Treisman 1990; Guiffrida 2006). However, heretofore, scholarship that actually empirically tests the relationship between collectivist cultures and success outcomes is difficult to find.

CECE Indicator #6: Culturally Validating Environments

Sixth, the CECE model postulates that culturally validating environments are positively related to success in college. Specifically, the CECE Framework suggests that students who are surrounded by postsecondary educators who validate their cultural backgrounds and identities will have more positive experiences and be more likely to succeed in college (Barnett 2011a, b; Museus and Quaye 2009; Nora et al. 2011; Rendón and Muñoz 2011; Rendón 1994). Cultural validation can be considered the extent to which postsecondary institutions and educators convey that they value the cultural backgrounds and identities of their diverse college student populations. The inclusion of cultural validation in the CECE model is congruent with a small and growing body of empirical scholarship that suggest that such validation has a positive impact on the adjustment, sense of belonging, academic dispositions, and success of racially diverse students in college (Barnett 2011a; Gloria et al. 2005; Museus and Quaye 2009; Rendón 1994; Rendón et al. 2000; Tierney 1992, 1999). For instance, Barnett (2011b) examined a sample of 263 community college students using linear regression analysis and concluded that faculty validation of two-year college students was a significant, strong, and positive predictor of intent to persist.

CECE Indicator #7: Humanized Educational Environments

Seventh, the CECE model hypothesizes that the extent to which students encounter humanized educational environments on their campuses is related to more positive experiences and a greater likelihood of success. The concept of humanized educational environments refers to campus environments that are characterized by institutional agents who care about, are committed to, and develop meaningful relationships with their students. The incorporation of humanized educational environments within the CECE model is consistent with a small and growing body of qualitative and quantitative evidence that such environments are related to more positive experiences and greater likelihood of success among racially diverse student populations (Guiffrida 2003; Rendón and Muñoz 2011; Museus 2011a; Museus and Neville 2012; Museus and Ravello 2010; Nora 2001; Nora and Crisp 2009). For example, Museus qualitatively analyzed the campus cultures of three institutions that exhibited high and equitable persistence and degree completion rates among their Asian American, Black, Latino, and White students. He concluded that the cultures of these institutions were, in part, characterized by “a belief in humanizing the educational experience” – which was characterized by the aforementioned caring, commitment, and relationships – contributed to the success of undergraduates on those campuses (p. 10).

CECE Indicator #8: Proactive Philosophies

Eighth, the CECE model indicates that the existence of proactive philosophies at postsecondary institutions is positively associated with the likelihood of success among racially diverse college student populations on their respective campuses. That is, the model indicates that, when faculty and staff go beyond making information and support available to making extra efforts to bring that information and support to students and maximize their likelihood of success, they can increase the rates of persistence and attainment of among the racially diverse college student populations they serve. This construct is congruent with existing evidence that highlights the positive influences of such proactive philosophies and practices (Guiffrida 2005; Jenkins 2006; Museus and Neville 2012; Museus and Ravello 2010; Rendón 1994; Rendón and Muñoz 2011). Indeed, multiple qualitative studies of success among students of color have concluded that proactive philosophies and approaches to serving undergraduates were associated with greater likelihood of success among their participants (Guiffrida 2005; Jenkins 2006; Museus and Neville 2012; Museus and Ravello 2010).

CECE Indicator #9: Availability of Holistic Support

Finally, the CECE Framework posits that the availability of holistic support on college and university campuses is positively associated with levels of success among their respective student bodies. The availability of holistic support is characterized by the extent to which postsecondary institutions provide their students with access to one or

more faculty or staff members that they are confident will provide them with the information they seek, offer the help that they require, or connect them with the information or support that they need. While research examining the impact of holistic support is limited, the literature that does exist suggests that this type of support facilitates success among racially diverse college student populations (e.g., Guiffrida 2005; Jenkins 2006; Museus and Ravello 2010). More specifically, evidence suggests that, when students are not always expected to hunt down the information and support they require on their own, but rather can access one or more institutional agents that function as conduits to broader support networks on their campuses, those students are more likely to succeed in college (Museus and Neville 2012).

Individual Influences

The final construct that constitutes a predictor of success among racially diverse student populations in the CECE model is *individual influences*. Specifically, the CECE Framework model posits that students' sense of belonging, academic dispositions, and academic performance exhibit significant influences on their college persistence and degree completion.

Sense of Belonging

The CECE Framework postulates that *sense of belonging* is positively associated with success among racially diverse student populations in college. Indeed, higher education scholars have offered the sense of belonging construct as an alternative to Tinto's concepts of academic and social integration (Hurtado and Carter 1997). And, existing research is consistent with the incorporation of the sense of belonging construct in the CECE model. While scholarship that examines the relationship between sense of belonging and persistence and completion outcomes is difficult to find, a handful of studies indicate that sense of belonging is both a valid construct among racially diverse student populations and a significant predictor of success in college (Hausmann et al. 2007; Hoffman et al. 2002; Lee and Davis 2000; Locks et al. 2008; Museus and Maramba 2011; Strayhorn 2012). For instance, Hausmann et al. controlled for a variety of background, integration, commitment, and support variables, and they analyzed a single-institution sample of 365 Black and White students using growth-modeling techniques. The authors concluded that sense of belonging was a positive significant predictor of intent to persist.

Academic Dispositions

A second individual influence variable included in the CECE model is *academic dispositions*. A substantial body of research indicates that students' academic dispositions influence their success in college. For example, extant evidence suggests that

academic self-efficacy (i.e., students' confidence in their own intellectual abilities to succeed in the academic arena) is significantly and positively associated with success in college. Indeed, prior research demonstrates that higher levels of academic self-efficacy are positively related to both academic performance (e.g., grades) and persistence (Bong 2001; Brown et al. 1989; Gloria and Kurpius 1996; Hackett et al. 1992; Lent et al. 1984, 1986, 1987; Multon et al. 1991; Robbins et al. 2004). Robbins et al. (2004), for instance, conducted a meta-analysis of 109 empirical inquiries, and they concluded that college students' confidence in their own academic abilities is a significant predictor of college persistence and degree attainment.

Another academic disposition that has been positively associated with college outcomes is *academic motivation* (Guiffrida 2006). Although only a few existing studies examine the relationship between academic motivation and academic outcomes, such as grade-point average and persistence, they suggest that there is a significant and positive relationship between these constructs (Allen 1999; Côté and Levine 1997; Dennis et al. 2005; Vallerand and Bissonnette 1992). For example, Allen (1999) examined a sample of 1,000 first-year students' backgrounds, motivation, performance, and persistence and found that motivation was a significant, positive, and strong predictor of college persistence among students of color. Therefore, although more empirical research examining the salience of academic motivation is needed, the research that does exist indicates that it is a significant predictor of student success in college.

A final academic disposition included in the CECE model is *intent to persist* to graduation. The inclusion of the intent to persist variable in the CECE model is consistent with both common sense and existing scholarship suggesting that the intent to persist is a positive and powerful predictor of persistence and degree completion in college (Cabrera et al. 1992a, 1993). For instance, Cabrera et al. utilized a single-institution sample of 2,459 first-year college students and structural equation modeling techniques to examine the influence of a range of background, financial, and experiential variables on first-year persistence in college. They concluded that intent to persist was the most powerful predictor of first-year persistence in their analysis.

Academic Performance

The final individual influence included in the CECE model is *academic performance*. Existing empirical evidence shows that academic performance is one of the strongest predictors of college persistence and degree completion (e.g., Museus 2010; Museus et al. 2008; Nora and Cabrera 1996). Byun et al., for example, conducted a logistic regression analysis of a nationally representative sample of 6,000 four-year college students from urban, rural, and suburban geographic origins and concluded that college GPA was one of the most powerful predictors of bachelor's degree attainment for all three subgroups. In sum, existing research suggests that the individual influences within the CECE model are important predictors of persistence and degree completion in higher education.

A Few Important Considerations

Before discussing the implications of the CECE model, a couple important caveats are warranted. First, a clarification regarding the nature of the student population that the model is intended to serve is in order. At the beginning of this chapter, I define racially diverse college student populations as a term inclusive of both White students and undergraduates of color. At the same time, given the reality that one of the intended outcomes of the CECE model is to address limitations of traditional college success perspectives, the vast majority of empirical research that I use to justify the importance of the CECE model and much of the research used to create the key CECE construct within the framework are empirical inquiries that examine the experiences of various populations of color in college. In recognition that this discrepancy could cause some confusion or be perceived as an inconsistency, it is important to clarify herein that the CECE model is hypothesized to explain how environments influence success among racially diverse populations, including both White students and students of color.

The hypothesis that the CECE model is applicable to the racial majority might seem counterintuitive to some readers because some of the CECE variables are derived primarily from research that excavates the voices of racial minority students and, at least on the surface, might appear to be more relevant to students of color than their White counterparts. For example, students' connections to their cultural communities have primarily been discussed in the literature on students of color in college (e.g., Kuh and Love 2000; Museus 2011b; Museus et al. 2012; Museus and Maramba 2011; Museus and Quaye 2009; Rendón et al. 2000; Tierney 1992, 1999). However, it is important to acknowledge that, as mentioned above, such environmental factors could influence success among White college students as well. The intent herein is not to make definitive claims about the validity of this model among any racial group, but instead to propose that this is a framework of success that researchers can examine and (in)validate among both racial majority and minority populations through future empirical inquiries. Therefore, framing the model as a tool to examine racially diverse populations in general is done to call on researchers to test the framework among White students, as well as their counterparts of color. Of course, until research does examine the validity of the model among different racial groups, conclusions about its applicability to any racial population should be made with caution.

Second, it is important to say a word about the focus on environmental factors that *promote* success among diverse student populations in the CECE model, rather than the negative environmental pressures that might *hinder* the success of those students. As discussed above, extant research underscores the negative pressures that students of color, in particular, experience in the context of predominantly White colleges and universities. And, Dowd et al. (2011) have recently underscored the need for taking those negative pressures into account in the development of college success models. Their perspective, at least in part, is based on (1) their recognition of the importance of centering racial and cultural context in success frameworks

and (2) the premise that high-impact practices that facilitate positive behaviors that are central to traditional perspectives (e.g., engagement in educationally purposeful activities) can be present simultaneously with negative and harmful racial and cultural environments. For example, they assert that, “a constructivist curriculum based on active learning can still be color-blind and fail to be culturally inclusive” (p. 19). Thus, they underscore that only measuring the former reality and not the latter can lead to the acquisition of a partial de-racialized and a-cultural picture and potentially misleading conclusions regarding the ways that college curricula, programs, and practices are affecting college student outcomes on their respective campuses.

It is important to note that I share Dowd et al.’s (2011) perspective regarding the importance of accounting for the negative environmental pressures that students might encounter in college. However, their analysis was offered in the context of a discussion about the limitations of student engagement and other traditional success perspectives, which omit intricate considerations of the role of racial and cultural contexts from their explanations of success. Unlike these traditional frameworks, the CECE model includes the CECE indicators, which indirectly account for the potentially negative aspects of the campus environment. The CECE model and indicators indirectly account for those negative pressures because the underlying assumption of the CECE model is that the greater the extent to which students encounter campus environments that are characterized by the CECE indicators, the less likely they are to encounter the aforementioned negative pressures. To borrow and build upon Dowd et al.’s (2011) example for purposes of illustration, where students frequently encounter elements of culturally engaging campus environments – such as environments that provide opportunities to gain culturally relevant knowledge and engage in cultural community service, perpetuate collectivist values, and validate their cultural backgrounds and identities – they are less likely to perceive those environments as exclusionary, experience hostile climates, and feel excluded within the cultures of their respective campuses.

In addition, in structuring the CECE model around positive aspects of campus environments that existing research suggests promote success among racially diverse populations, the intent is to provide a set of indicators that might be able to guide institutional action toward positive transformation. Just as much of the value of the concept of student engagement can be found in its ability to stimulate dialogue about where educators can invest their energies to enrich the college experience for their students (Wolf-Wendel et al. 2009), the potential value of the CECE indicators is a function of their ability to stimulate discourse and constitute a roadmap for institutions that are serious about maximizing success among racially diverse student populations – a point to which I return in the concluding section below.

Finally, the CECE model is not intended to replace other existing frameworks of student success. The model’s primary focus is on disentangling and explaining the nature of campus environments that can promote success among racially diverse student populations. Useful frameworks have been generated to explain the impact of other factors, such as finances and student behavior, on student success in college. And, the CECE model is designed to compliment these earlier perspectives by

stimulating the development of a new body of scholarship where a significant gap currently exists. Thus, it might be most useful for higher education researchers, policymakers, and practitioners to use the CECE model in conjunction with other theoretical perspectives when seeking to acquire more holistic understandings of the variety of factors that influence success outcomes in postsecondary education.

Conclusion

The current chapter proposes a new theoretical perspective that is designed to provide a foundation for future research on diverse college students' success and contribute to ongoing conversations that continue to move the field of higher education toward a new generation of research on college success. In this final section, I conclude the chapter with a handful of implications for future higher education research and practice.

In order for the CECE model to be a useful tool in advancing theory and research in higher education, future scholarship must quantify, test, and (in)validate the framework among racially diverse college student populations. First, future empirical research must examine the validity and reliability of the CECE indicators within the CECE model among different student subpopulations (e.g., different genders, racial and ethnic populations, and socioeconomic groups) and in various institutional contexts (e.g., four- and two-year postsecondary institutions, commuter and residential college and university campuses, public and private institutions, and postsecondary campuses with varying racial and ethnic compositions).

Second, examinations of whether and to what extent the CECE model predicts persistence and degree completion must be conducted. Indeed, the predictive validity of the CECE model should be examined with samples that include aggregated college student populations in general, as well as with disaggregated samples of specific racial and ethnic groups in order to assess the proposed theory's applicability to various racial and ethnic communities. For the higher education research community to advance knowledge of college success in ways that more accurately reflect the realities of diverse populations, catalyze fresh lines of scholarly inquiry that will catapult our field into the next generation of research on diverse student bodies, and shift perspectives about college success among diverse populations in positive directions, postsecondary education scholars must adopt, test, and (in)validate new theoretical models of student success, such as the one presented herein.

Third, because the CECE model is somewhat complex and includes a wide range of variables and hypotheses, for heuristic purposes, it might be useful to magnify the focal point of the CECE Framework that highlights key variables and relationships on which future research should focus. Figure 5.2 displays the focal constructs and relationships within the CECE model. The dark unidirectional lines represent hypothesized causal relationships, while the lighter and more transparent bidirectional lines represent correlational relationships. While the latter are important, the causal relationships displayed in this figure are of primary concern, and future empirical inquiries should focus energies on testing the extent to which these

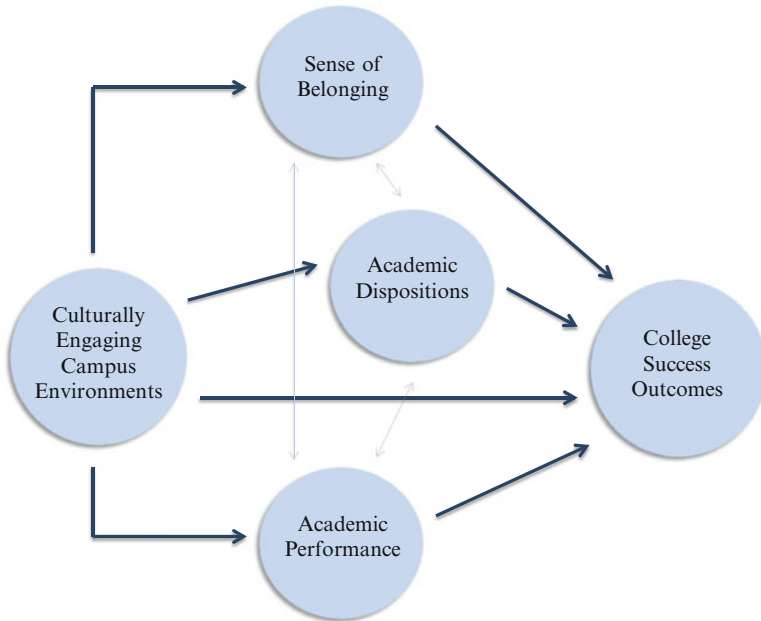


Fig. 5.2 Focal point of the Culturally Engaging Campus Environments (CECE) model

relationships are present. It should be noted that analyses of these relationships among various demographic groups within varied institutional settings are under way, and the results of these inquiries will soon shed much light on the utility of the CECE model and its corresponding CECE indicators.

Moreover, if assessment specialists and college educators who aim to design institutional environments, curricula, programs, and practices adopt the CECE model, this framework could have critical implications for policy and practice at postsecondary institutions. For example, the CECE model could be a useful tool for institutional leaders to better understand the ways in which their respective campus environments might be influencing the experiences and outcomes of their diverse students. The framework can also serve as an important tool for institutional leaders, assessment specialists, and college educators to utilize in efforts to assess their respective campus environments, pinpoint areas for improvement, and construct holistic intervention efforts aimed at transforming their institutions in ways that better serve their racially diverse student populations. Specifically, the CECE model can provide a useful conceptual lens for college educators to examine and illuminate the extent to which the environments on their respective campuses reflect the CECE indicators, assess which indicators are associated with success at their institutions, and clarify how they can cultivate more culturally engaging campus environments to maximize success among their racially diverse student populations – all critical components of holistic efforts to promote institutional transformation toward the end of maximizing college success outcomes.

References

- Abraham, A. (1992). *College remedial studies: Institutional practices in the SREB states*. Atlanta: Southern Regional Education Board.
- Allen, W. R. (1992). The color of success: African-American college student outcomes at predominantly White and Historically Black public colleges and universities. *Harvard Educational Review*, 62(1), 26–44.
- Allen, D. (1999). Desire to finish college: An empirical link between motivation and persistence. *Research in Higher Education*, 40(4), 461–485.
- Alon, S. (2011). Who benefits most from financial aid? The heterogeneous effects of need-based grants on students' college persistence. *Social Science Quarterly*, 92(3), 807–829.
- Ancis, J. R., Sedlacek, W. E., & Mohr, J. J. (2000). Student perceptions of campus cultural climate by race. *Journal of Counseling and Development*, 78(2), 180–185.
- Antonio, A. L. (2004). Diversity and the influence of friendship groups in college. *The Review of Higher Education*, 25(1), 63–89.
- Antonio, A. L., Chang, M. J., Hakuta, K., Kenny, D. A., Levin, S., & Milem, J. F. (2004). Effects of racial diversity on complex thinking in college students. *Psychological Science*, 15(8), 507–510.
- Astin, A. W. (1984). Student involvement: A developmental theory for higher education. *Journal of College Student Personnel*, 25, 297–308.
- Astin, A. W. (1993). *What matters in college? Four critical years revisited*. San Francisco: Jossey-Bass.
- Astin, A. W. (1999). Student involvement: A developmental theory for higher education. *Journal of College Student Development*, 40(5), 518–529.
- Astin, A. W., & Sax, L. J. (1998). How undergraduates are affected by service participation. *Journal of College Student Development*, 39(3), 251–263.
- Attinasi, L. C., Jr. (1989). Getting in: Mexican Americans' perceptions of university attendance and the implications for freshman year persistence. *Journal of Higher Education*, 60(3), 247–277.
- Baird, L. L. (2000). College climate and the Tinto model. In J. M. Braxton (Ed.), *Reworking the student departure puzzle* (pp. 62–80). Nashville: Vanderbilt University Press.
- Barnett, E. A. (2011a). Faculty validation and persistence among nontraditional community college students. *Enrollment Management Journal: Student Access, Finance, and Success in Higher Education*, 5(2), 97–119.
- Barnett, E. A. (2011b). Validation experiences and persistence among community college students. *The Review of Higher Education*, 34(2), 193–230.
- Baum, S., Ma, J., & Payea, K. (2010). *Education pays, 2010: The benefits of higher education for individuals and society*. New York: The College Board.
- Bensimon, E. M. (2007). The underestimated significance of practitioner knowledge in the scholarship on student success. *The Review of Higher Education*, 30(4), 441–469.
- Berryhill, J. C., & Bee, E. K. (2007). Ethnically diverse college students' psychological sense of community: Do their perceptions of campus racial climate influence it? *College Student Affairs Journal*, 27(1), 76–93.
- Bollen, K. A., & Hoyle, R. H. (1990). Perceived cohesion: A conceptual and empirical examination. *Social Forces*, 69(2), 479–504.
- Bong, M. (2001). Role of self-efficacy and task-value in predicting college students' course performance and future enrollment intentions. *Contemporary Educational Psychology*, 26(4), 553–570.
- Bowen, W. G., & Bok, D. (1998). *The shape of the river: Long-term consequences of considering race in college and university admissions*. Princeton: Princeton University Press.
- Braxton, J. M. (2000). Introduction. In J. M. Braxton (Ed.), *Reworking the student departure puzzle* (pp. 1–8). Nashville: Vanderbilt University Press.
- Braxton, J. M., & Hirschy, A. S. (2005). Theoretical developments in the study of college student departure. In A. Seidman (Ed.), *College student retention: Formula for student success* (pp. 61–87). Westport: Praeger.

- Braxton, J. M., & Lien, L. A. (2000). The viability of academic integration as a central construct in Tinto's interactionist theory of student departure. In J. M. Braxton (Ed.), *Reworking the student departure puzzle* (pp. 11–28). Nashville: Vanderbilt University Press.
- Braxton, J. M., Sullivan, A. S., & Johnson, R. M. (1997). Appraising Tinto's theory. In J. C. Smart (Ed.), *Higher education: Handbook of theory and research* (Vol. 12, pp. 71–96). San Francisco: Jossey-Bass.
- Brown, S. D., Lent, R. D., & Larkin, K. C. (1989). Self-efficacy as a moderator of scholastic aptitude-academic performance relationships. *Journal of Vocational Behavior*, *35*, 64–75.
- Burrell, L. F. (1980). Is there a future for Black students on predominantly White campuses? *Integrate Education*, *18*, 23–27.
- Cabrera, A., Stampen, J., & Hansen, W. (1990). Exploring the effects of ability to pay on persistence in college. *The Review of Higher Education*, *13*(3), 306–366.
- Cabrera, A. F., Castañeda, M. B., Nora, A., & Hengstler, D. S. (1992a). The convergence between two theories of college persistence. *Journal of Higher Education*, *63*(2), 143–164.
- Cabrera, A. F., Nora, A., & Castañeda, M. B. (1992b). The role of finances in the persistence process: A structural model. *Research in Higher Education*, *33*(5), 571–594.
- Cabrera, A. F., Nora, A., & Castañeda, M. B. (1993). College persistence: Structural equation modeling test of an integrated model of student retention. *Journal of Higher Education*, *64*(2), 123–139.
- Cabrera, A., Nora, A., Pascarella, E. T., Terenzini, P. T., & Hagedorn, L. (1999). Campus racial climate and the adjustment of students to college: A comparison between White students and African-American students. *Journal of Higher Education*, *70*, 134–160.
- Chancey, B., & Farris, E. (1991). *Survey on retention at higher education institutions* (Higher Education Abstracts No 14). Washington, DC: U.S. Department of Education.
- Chang, M. J. (2001). Is it more than about getting along? The broader educational relevance of reducing students' racial biases. *Journal of College Student Development*, *42*(2), 93–105.
- Chang, M. J., Astin, A. W., & Kim, D. (2004). Cross-racial interaction among undergraduates: Some consequences, causes and patterns. *Research in Higher Education*, *45*(5), 529–552.
- Chen, R., & DesJardins, S. L. (2010). Investigating the impact of financial aid on student dropout risks: Racial and ethnic differences. *Journal of Higher Education*, *81*(2), 179–208.
- Choy, S. (2000). *Low-income students: Who they are and how they pay for their education*. Washington, DC: U.S. Department of Education, Office of Educational Research and Improvement, National Center for Education Statistics.
- Cofer, J., & Somers, P. (1999). An analytical approach to understanding student debt load response. *Journal of Student Financial Aid*, *29*, 25–44.
- Côté, J. E., & Levine, C. (1997). Student motivation, learning environments, and human capital acquisition: Toward an integrated paradigm of student development. *Journal of College Student Development*, *38*(3), 229–243.
- Crisp, G. (2010). The impact of mentoring on the success of community college students. *The Review of Higher Education*, *34*(1), 39–60.
- Dennis, J. M., Phinney, J. S., & Chuateco, L. I. (2005). The role of motivation, parental support, and peer support in the academic success of ethnic minority first-generation college students. *Journal of College Student Development*, *46*(3), 223–236.
- DesJardins, S. L., Ahlburg, D. A., & McCall, B. P. (2002). A temporal investigation of factors related to timely degree completion. *Journal of Higher Education*, *73*(5), 555–581.
- Deyhle, D. (1995). Navajo youth and Anglo racism: Cultural integrity and resistance. *Harvard Educational Review*, *65*(3), 403–444.
- Dowd, A., & Coury, T. (2006). The effect of loans on the persistence and attainment of community college students. *Research in Higher Education*, *47*(1), 33–62.
- Dowd, A. C., Sawatzky, M., & Korn, R. (2011). Theoretical foundations and a research agenda to validate measures of intercultural effort. *The Review of Higher Education*, *35*(1), 17–44.
- Dwyer, R. E., McCloud, L., & Hodson, R. (2012). Debt and graduation from American universities. *Social Forces*, *90*(4), 1133–1155.

- Dynarski, S., & Scott-Clayton, J. (2013). *Financial aid policy: Lessons learned from research*. Cambridge, MA: National Bureau of Economic Research.
- Eyler, J. S., & Giles, D. E., Jr. (1999). *Where's the learning in service-learning?* San Francisco: Jossey-Bass.
- Feagin, J. R. (1992). The continuing significance of racism: Discrimination against Black students in White colleges. *Journal of Black Studies*, 22(4), 546–578.
- Feagin, J. R., Vera, H., & Imani, N. (1996). *The agony of education: Black students at White colleges and universities*. New York: Routledge.
- Fullilove, R. E., & Treisman, E. M. (1990). Mathematics achievement among African American undergraduates at the University of California, Berkeley: An evaluation of the mathematics workshop program. *The Journal of Negro Education*, 59(3), 463–478.
- Gloria, A. M., & Kurpius, S. E. R. (1996). The validation of the cultural congruity scale and the university environment scale with Chicano/a students. *Hispanic Journal of Behavioral Sciences*, 18(4), 533–549.
- Gloria, A. M., Castellanos, J., López, A., & Rosales, R. (2005). An examination of academic non-persistence decisions of Latino undergraduates. *Hispanic Journal of Behavioral Sciences*, 27, 202–223.
- González, K. P. (2003). Campus culture and the experiences of Chicano students in a predominantly White university. *Urban Education*, 37(2), 193–218.
- Gross, J. P. K. (2011). Promoting or perturbing success: The effects of aid on timing to Latino students' first departure from college. *Journal of Hispanic Higher Education*, 12(3), 317–330.
- Gruenfeld, D. H., Thomas-Hunt, M. C., & Kim, P. H. (1998). Cognitive flexibility, communication strategy, and integrative complexity in groups: Public versus private reactions to majority and minority status. *Journal of Experimental Social Psychology*, 34(2), 202–226.
- Guiffrida, D. A. (2003). African American student organizations as agents of social integration. *Journal of College Student Development*, 44(3), 304–319.
- Guiffrida, D. A. (2005). Othermothering as a framework for understanding African American students' definitions of student-centered faculty. *Journal of Higher Education*, 76(6), 701–723.
- Guiffrida, D. A. (2006). Toward a cultural advancement of Tinto's theory. *The Review of Higher Education*, 29(4), 451–472.
- Guiffrida, D. A., Kiyama, J. M., Waterman, S., & Museus, S. D. (2012). Moving from individual to collective cultures to serve students of color. In S. D. Museus & U. M. Jayakumar (Eds.), *Creating campus cultures: Fostering success among racially diverse student populations* (pp. 68–87). New York: Routledge.
- Gurin, P. Y., Dey, E. L., Gurin, G., & Hurtado, S. (2003). How does racial/ethnic diversity promote education? *Western Journal of Black Studies*, 27(1), 20–29.
- Hackett, G., Betz, N. E., Casas, J. M., & Rocha-Singh, I. A. (1992). Gender, ethnicity, and social cognitive factors predicting the academic achievement of students in engineering. *Journal of Counseling Psychology*, 39(4), 527–538.
- Harper, S. R., & Hurtado, S. (2007). Nine themes in campus racial climates and implications for institutional transformation. In S. R. Harper & L. D. Patton (Eds.), *Responding to the realities of race on campus: New directions for student services* (Vol. 120, pp. 7–24). San Francisco: Jossey-Bass.
- Harper, S. R., & Quayle, S. J. (2007). Student organizations as venues for Black identity expression and development among African American male student leaders. *Journal of College Student Development*, 48(2), 127–144.
- Hausmann, L. R. M., Schofield, J. W., & Woods, R. L. (2007). Sense of belonging as a predictor of intentions to persist among African American and White first-year college students. *Research in Higher Education*, 48(7), 803–839.
- Heller, D. E. (2003). *Informing public policy: Financial aid and student persistence*. Boulder, CO: Western Interstate Commission for Higher Education.
- Helm, E. G., Sedlacek, W. E., & Prieto, D. O. (1998). The relationship between attitudes toward diversity and overall satisfaction. *Journal of College Counseling*, 1(2), 111–120.

- Hoffman, M., Richmond, J., Morrow, J., & Salomone, K. (2002). Investigating “sense of belonging” in first-year college students. *Journal of College Student Retention*, 4(3), 227–256.
- Hurtado, S. (1992). The campus racial climate: Contexts and conflict. *Journal of Higher Education*, 63(5), 539–567.
- Hurtado, S. (1994). Graduate school racial climates and academic self-concept among minority graduate students in the 1970s. *American Journal of Education*, 102(3), 330–351.
- Hurtado, S. (2005). The next generation of diversity and intergroup relations. *Journal of Social Issues*, 61(3), 595–610.
- Hurtado, S., & Carter, D. (1997). Effects of college transition and perceptions of the campus racial climate on Latina/o college students’ sense of belonging. *Sociology of Education*, 70, 324–345.
- Hurtado, S., Alvarez, C. L., Guillermo-Wann, C., Cuellar, M., & Arellano, L. (2012). A model for diverse learning environments: The scholarship on creating and assessing conditions for student success. In M. B. Paulsen (Ed.), *Higher education: Handbook of theory and research* (Vol. 27, pp. 41–122). New York: Springer.
- Ishitani, T. T., & DesJardins, S. L. (2002). *A longitudinal investigation of dropout from college in the United States*. Paper presented at the Annual Meeting of the Association for Institutional Research, Toronto, ON.
- Jayakumar, U. M. (2009). Can higher education meet the needs of an increasingly diverse and global society? Campus diversity and cross-cultural workforce competencies. *Harvard Educational Review*, 78(4), 615–651.
- Jayakumar, U. M., & Museus, S. D. (2012). Mapping the intersection of campus cultures and equitable outcomes among racially diverse student populations. In S. D. Museus & U. M. Jayakumar (Eds.), *Creating campus cultures: Fostering success among racially diverse student populations* (pp. 1–27). New York: Routledge.
- Jenkins, D. (2006). *What community college policies and practices are effective in promoting student success? A study of high- and low-impact institutions*. New York: Community College Research Center.
- Johnson, D. R., Soldner, M., Leonard, J. B., Alvarez, P., Inkelas, K. K., Rowan-Kenyon, H., & Longerbeam, S. (2007). Examining sense of belonging among first-year undergraduates from different racial/ethnic groups. *Journal of College Student Development*, 48(5), 525–542.
- Kiang, P. N. (2002). Stories and structures of persistence: Ethnographic learning through research and practice in Asian American Studies. In Y. Zou & H. T. Trueba (Eds.), *Advances in ethnographic research: From our theoretical and methodological roots to post-modern critical ethnography* (pp. 223–255). Lanham: Rowman & Littlefield.
- Kiang, P. N. (2009). A thematic analysis of persistence and long-term educational engagement with Southeast Asian American college students. In L. Zhan (Ed.), *Asian American voices: Engaging, empowering, enabling* (pp. 21–58). New York: NLN Press.
- Kuh, G. D., & Love, P. G. (2000). A cultural perspective on student departure. In J. M. Braxton (Ed.), *Reworking the student departure puzzle* (pp. 196–212). Nashville: Vanderbilt University Press.
- Kuh, G. D., Kinzie, J., Schuh, J. H., Whitt, E. J., & Associates. (2005). *Student success in college: Creating conditions that matter*. San Francisco: Jossey-Bass.
- Lee, R. M., & Davis, C. (2000). Cultural orientation, past multicultural experience, and a sense of belonging on campus for Asian American college students. *Journal of College Student Development*, 41(1), 110–115.
- Lent, R. W., Brown, S. D., & Larkin, K. C. (1984). Relation of self-efficacy expectations to academic achievement and persistence. *Journal of Counseling Psychology*, 31(3), 356–362.
- Lent, R. W., Brown, S. D., & Larkin, K. C. (1986). Self-efficacy in the prediction of academic performance and perceived career options. *Journal of Counseling Psychology*, 33(3), 265–269.
- Lent, R. W., Brown, S. D., & Larkin, K. C. (1987). Comparison of three theoretically derived variables in predicting career and academic behavior: Self-efficacy, interest congruence, and consequence thinking. *Journal of Counseling Psychology*, 34(3), 293–298.

- Lewis, A. E., Chesler, M., & Forman, T. A. (2000). The impact of “colorblind” ideologies on students of color: Intergroup relations at a predominantly White university. *The Journal of Negro Education*, 69(1/2), 74–91.
- Locks, A. M., Hurtado, S., Bowman, N. A., & Oseguera, L. (2008). Extending notions of campus climate and diversity to students’ transition to college. *The Review of Higher Education*, 31(3), 257–285.
- Massey, D. S., Charles, C. Z., Lundy, G. F., & Fischer, M. J. (2006). *The source of the river: The social origins of freshmen at America’s selective colleges and universities*. Princeton: Princeton University Press.
- McEwen, M. K., Roper, L. D., Bryant, D. R., & Langa, M. J. (1990). Incorporating the development of African American students into psychosocial theories of student development. *Journal of College Student Development*, 31(5), 429–436.
- McKinney, L., & Novak, H. (2013). The relationship between FAFSA filing and persistence among first-year community college students. *Community College Review*, 41(2), 63–85.
- Milem, J. F., Chang, M. J., & Antonio, A. L. (2005). *Making diversity work on campus: A research-based perspective*. Washington, DC: Association of American Colleges and Universities.
- Multon, K. D., Brown, S. D., & Lent, R. W. (1991). Relation of self-efficacy beliefs to academic outcomes: A meta-analytic investigation. *Journal of Counseling Psychology*, 38(1), 30–38.
- Museus, S. D. (2007). Using qualitative methods to assess diverse institutional cultures. In S. R. Harper & S. D. Museus (Eds.), *Using qualitative methods in institutional assessment: New Directions for Institutional Research* (Vol. 136, pp. 29–40). San Francisco: Jossey-Bass.
- Museus, S. D. (2008a). Focusing on institutional fabric: Using campus culture assessments to enhance cross-cultural engagement. In S. R. Harper (Ed.), *Creating inclusive environments for cross-cultural learning and engagement in higher education* (pp. 205–234). Washington, DC: National Association of Student Personnel Administrators.
- Museus, S. D. (2008b). The role of ethnic student organizations in fostering African American and Asian American students’ cultural adjustment and membership at predominantly White institutions. *Journal of College Student Development*, 49(6), 568–586.
- Museus, S. D. (2010). Understanding racial/ethnic differences in the direct and indirect effects of loans on degree completion. *Journal of College Student Retention: Theory, Research, and Practice*, 11(4), 499–527.
- Museus, S. D. (2011a). Generating Ethnic Minority Success (GEMS): A collective-cross case analysis of high-performing colleges. *Journal of Diversity in Higher Education*, 4(3), 147–162.
- Museus, S. D. (2011b). Using cultural perspectives to understand the role of ethnic student organizations in Black students’ progress to the end of the pipeline. In D. E. Evensen & C. D. Pratt (Eds.), *The end of the pipeline: A journey of recognition for African Americans entering the legal profession* (pp. 162–172). Durham: Carolina Academic Press.
- Museus, S. D. (2013a). Asian Americans and Pacific Islanders: A national portrait of growth, diversity, and inequality. In S. D. Museus, D. C. Maramba, & R. T. Teranishi (Eds.), *The misrepresented minority: New insights on Asian Americans and Pacific Islanders, and their implications for higher education*. Sterling: Stylus.
- Museus, S. D. (2013b). Unpacking the complex and multifaceted nature of parental influences on Southeast Asian American college students’ educational trajectories. *Journal of Higher Education*, 84(5), 708–738.
- Museus, S. D., & Maramba, D. C. (2011). The impact of culture on Filipino American Students’ sense of belonging. *The Review of Higher Education*, 34(2), 231–258.
- Museus, S. D., & Neville, K. (2012). Delineating the ways that key institutional agents provide racial minority students with access to social capital in college. *Journal of College Student Development*, 53(3), 436–452.
- Museus, S. D., & Quaye, S. J. (2009). Toward an intercultural perspective of racial and ethnic minority college student persistence. *The Review of Higher Education*, 33(1), 67–94.
- Museus, S. D., & Ravello, J. N. (2010). Characteristics of academic advising that contribute to racial and ethnic minority student success at predominantly White institutions. *NACADA Journal*, 30(1), 47–58.

- Museus, S. D., Nichols, A. H., & Lambert, A. (2008). Racial differences in the effects of campus racial climate on degree completion: A structural model. *The Review of Higher Education*, 32(1), 107–134.
- Museus, S. D., Lam, S., Huang, C., Kem, P., & Tan, K. (2012). Cultural integration in campus subcultures: Where the cultural, academic, and social spheres of college life collide. In S. D. Museus & U. M. Jayakumar (Eds.), *Creating campus cultures: Fostering success among racially diverse student populations* (pp. 106–129). New York: Routledge.
- National Center for Education Statistics [NCES]. (2012). *Graduation rates of first-time postsecondary students who started as full-time degree/certificate-seeking students, by sex, race/ethnicity, time to completion, and level and control of institution where student started: Selected cohort entry years, 1996 through 2007*. Retrieved from http://nces.ed.gov/programs/digest/d11/tables/dt11_345.asp
- National Survey of Student Engagement. (2005). *Exploring different dimensions of student engagement: 2005 annual survey results*. Bloomington: Indiana University.
- Nelson-Laird, T. F., Engberg, M. E., & Hurtado, S. (2005). Modeling accentuation effects: Enrolling in a diversity course and the importance of social engagement. *Journal of Higher Education*, 76(4), 448–476.
- Nora, A. (2001). The depiction of significant others in Tinto's "rites of passages": A reconceptualization of the influence of family and community in the persistence process. *Journal of College Student Retention*, 3(1), 41–56.
- Nora, A., & Cabrera, A. (1996). The role of perceptions of prejudice and discrimination on the adjustment of minority students to college. *Journal of Higher Education*, 67, 119–148.
- Nora, A., & Crisp, G. (2009). Hispanics and higher education: An overview of research, theory, and practice. In J. C. Smart (Ed.), *Higher education: Handbook of theory and research* (Vol. XXIV, pp. 317–353). New York: Springer.
- Nora, A., Cabrera, A., Hagedorn, L., & Pascarella, E. T. (1996). Differential impacts of academic and social experiences of college-related behavioral outcomes across different ethnic and gender groups at four-year institutions. *Research in Higher Education*, 37(4), 427–451.
- Nora, A., Urick, A., & Cerecer, P. D. (2011). Validating students: A conceptualization and overview of its impact on student experiences and outcomes. *Enrollment Management Journal: Student Access, Finance, and Success in Higher Education*, 5(2), 97–119.
- Olivas, M. A. (2011). If you build it, they will assess it. *The Review of Higher Education*, 35(1), 1–15.
- Pascarella, E. T., & Terenzini, P. T. (1991). *How college affects students: Findings and insights from twenty years of research*. San Francisco: Jossey-Bass.
- Pascarella, E. T., & Terenzini, P. T. (2005). *How college affects students: A third decade of research*. San Francisco: Jossey-Bass.
- Paulsen, M., & St. John, E. (2002). Social class and college costs: Examining the financial nexus between college choice and persistence. *Journal of Higher Education*, 73(2), 189–236.
- Pettigrew, T. F., & Tropp, L. R. (2006). A meta-analytic test of intergroup contact theory. *Journal of Personality and Social Psychology*, 90(5), 751–783.
- Rankin, S. R., & Reason, R. D. (2005). Differing perceptions: How students of color and White students perceive campus climate for underrepresented groups. *Journal of College Student Development*, 46(1), 43–61.
- Rendón, L. I. (1994). Validating culturally diverse students: Toward a new model of learning and student development. *Innovative Higher Education*, 19(1), 33–51.
- Rendón, L. I., & Muñoz, S. M. (2011). Revisiting validation theory: Theoretical foundations, applications, and extensions. *Enrollment Management Journal: Student Access, Finance, and Success in Higher Education*, 5(2), 12–33.
- Rendón, L. I., Jalomo, R. E., & Nora, A. (2000). Theoretical considerations in the study of minority student retention in higher education. In J. Braxton (Ed.), *Reworking the student departure puzzle* (pp. 127–156). Nashville: Vanderbilt University Press.
- Robbins, S. R., Lauver, K., Le, H., Davis, D., & Langley, R. (2004). Do psychosocial and study skill factors predict college outcomes? A meta-analysis. *Psychological Bulletin*, 130(2), 261–288.

- Sáenz, V. B., Ngai, H. N., & Hurtado, S. (2007). Factors influencing positive interactions across race for African American, Asian American, Latino and White college students. *Research in Higher Education*, 48(1), 1–38.
- Schudde, L. T. (2011). The causal effect of campus residency on college student retention. *The Review of Higher Education*, 34(4), 581–610.
- Sedlacek, W. E. (1987). Black students on White campuses: 20 years of research. *Journal of College Student Personnel*, 28, 485–495.
- Spady, W. (1971). Dropouts from higher education: Toward an empirical model. *Interchange*, 2, 38–62.
- St. John, E., & Starkey, J. (1994). The influence of costs on persistence of traditional college-age students in community colleges. *Community College Journal of Research and Practice*, 18(2), 201–213.
- St. John, E., & Starkey, J. (1995a). An alternative to net price: Assessing the influences of prices and subsidies on within-year persistence. *Journal of Higher Education*, 66(2), 156–186.
- St. John, E., & Starkey, J. (1995b). The influence of prices on the persistence of adult undergraduates. *Journal of Student Financial Aid*, 25(2), 7–17.
- St. John, E. P., Cabrera, A. F., Nora, A., & Asker, E. H. (2000). Economic influences on persistence reconsidered: How can finance research inform the reconceptualization of persistence models? In J. M. Braxton (Ed.), *Reworking the student departure puzzle* (pp. 29–47). Nashville: Vanderbilt University Press.
- Strayhorn, T. L. (2012). *College students' sense of belonging: A key to educational success for all students*. New York: Routledge.
- Swail, W. S. (2004). *The art of student retention: A handbook for practitioners and administrators*. Washington, DC: Education Policy Institute.
- Swail, W. S., Redd, K., & Perna, L. W. (2003). Retaining minority students in higher education: A framework for success. *ASHE-ERIC Report*, 30(2). San Francisco: Jossey-Bass.
- Tanaka, G. (2002). Higher education's self-reflexive turn: Toward an intercultural theory of student development. *Journal of Higher Education*, 73(2), 263–296.
- Thompson, C. E., & Fretz, B. R. (1991). Predicting the adjustment of Black students at predominantly White institutions. *Journal of Higher Education*, 62(4), 437–450.
- Tierney, W. G. (1992). An anthropological analysis of student participation in college. *Journal of Higher Education*, 63(6), 603–618.
- Tierney, W. G. (1999). Models of minority college-going and retention: Cultural integrity versus cultural suicide. *The Journal of Negro Education*, 68(1), 80–91.
- Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research*, 45(1), 89–125.
- Tinto, V. (1987). *Leaving college: Rethinking the causes and cures of student attrition*. Chicago: University of Chicago Press.
- Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition* (2nd ed.). Chicago: University of Chicago Press.
- Tinto, V. (1998). Colleges as communities: Taking research on student persistence seriously. *The Review of Higher Education*, 21(2), 167–177.
- Valencia, R. R. (1997). Conceptualizing the notion of deficit thinking. In R. R. Valencia (Ed.), *The evolution of deficit thinking: Educational thought and practice*. Washington, DC: The Falmer Press.
- Vallerand, R. J., & Bissonnette, R. (1992). Intrinsic, extrinsic, and amotivational styles as predictors of behavior: A prospective study. *Journal of Personality*, 60(3), 599–620.
- Van Gennep, A. (1960). *The rites of passage* (M. B. Vizedom & G. I. Chaffee, Trans.). Chicago: University of Chicago Press.
- Wei, C. C., & Horn, L. (2002). *Persistence and attainment of beginning students with Pell Grants*. Washington, DC: National Center for Education Statistics.

- Wolf-Wendel, L., Ward, K., & Kinzie, J. (2009). A tangled web of terms: The overlap and unique contribution of involvement, engagement, and integration to understanding college student success. *Journal of College Student Development, 50*(4), 407–428.
- Zuniga, X., Williams, E. A., & Berger, J. B. (2005). Action-oriented democratic outcomes: The impact of student involvement with campus diversity. *Journal of College Student Development, 46*(6), 660–678.

Chapter 6

Organizational Identity in Higher Education: Conceptual and Empirical Perspectives

David J. Weerts, Gwendolyn H. Freed, and Christopher C. Morphey

The American higher education system is extraordinarily diverse, with US colleges and universities varying significantly by historical and legal foundations, size, reputation, values, culture, processes, and programs (Birnbaum 1983). As Trow (1989) summarized, a combination of legal and cultural factors “constituted a kind of license for unrestrained individual and group initiative in the creation of colleges of all sizes, shapes, and creeds” (Cohen and Kisker 2010). The unique character of US colleges and universities was also shaped by the distinctive and sometimes competing visions of academic leaders, industrialists, and clergy vying to define the purposes of higher education (Cohen and Kisker 2010). Most noteworthy, the German university model emphasizing research and the production of scholars began to supercede the English model adopted by the early colonial colleges. This shift elevated knowledge creation as a salient purpose of higher education in addition to preserving culture (Rudolph 1962).

The massification of higher education in the USA—which occurred earlier than in other developed countries—and the diversity of the American population also played powerful roles in promoting distinctive organizational identities for colleges and universities. Women’s colleges, for example, gained prominence during the progressive era in the early twentieth century, while black colleges were

D.J. Weerts, Ph.D. (✉)

Department of Organizational Leadership, Policy, and Development,
University of Minnesota-Twin Cities, 330 Wulling Hall, 86 Pleasant Street SE,
Minneapolis, MN 55344, USA
e-mail: dweerts@umn.edu

G.H. Freed, Ph.D.

Division of Institutional Advancement, Cornish College of the Arts,
1000 Lenora Street, Seattle, WA 98121, USA
e-mail: free0303@umn.edu

C.C. Morphey, Ph.D.

Department of Educational Policy and Leadership, University of Iowa,
N491B Lindquist Center, Iowa City, IA 52242, USA
e-mail: christopher-morphey@uiowa.edu

developed with support from mission organizations and industrialists (Anderson 1997). Junior colleges—later known as community colleges—found their unique roles in serving students who were diverted away from selective institutions that increasingly focused on research (Brint and Karabel 1991). The diversity of the system allowed an elite group of research universities to emerge and turn their attention more fully to knowledge creation. By the middle of the twentieth century, the USA had developed recognizable sectors of higher education that reflected the unique values of their founders, regional contexts, and overall place in the developing educational landscape.

Despite the emergence of a robust system of colleges and universities in the USA, it was not until the mid-twentieth century that a formal literature on higher education would appear (Peterson 1998). Prior to World War II, research-based writing on organization, governance, and leadership of higher education was largely limited to institutional anthologies, reports, or unpublished studies often written by significant university leaders or statesmen such as Thomas Jefferson, Charles Eliot, and Robert Hutchins. As the scholarly literature on higher education developed in the 1960s, so did more formal and conceptual analyses about attributes of distinctive colleges and universities. Yet, literature on this topic has produced a fragmented set of studies only loosely connected to the broad concept of organizational identity. This continues to create a conundrum for scholars who seek to situate their research within the larger frame of institutional diversity in higher education.

Recognizing these conceptual challenges, the purpose of this chapter is to examine the evolution of scholarly perspectives, methodologies, and narratives that constitute the body of literature on organizational identity in higher education. Key questions to be investigated in this chapter include the following: “How has organizational identity been defined in scholarship on higher education?” “How have conceptions of organizational identity in higher education changed over time?” and “What are the implications of these changes for future research on this topic?” Addressing these questions, the primary contribution of this chapter is to introduce a framework to distinguish among perspectives and assumptions that have guided research on organizational identity in higher education. In doing so, the chapter illuminates ways in which the concept has anchored past studies and may inform the next generation of research on this topic.

The concept of organizational identity has its roots in social psychology and organization science. First introduced in 1985 by Albert and Whetten, the term has taken on multiple meanings, assumptions, and interpretations over time. Examining two decades of research on organizational identity, Puusa (2006) suggests that the concept is best understood by distinguishing between inner and outer levels of analysis. At the inner level, scholars have primarily examined how organizational members understand the central and enduring features of their organizations. Such studies largely examine internal belief systems that inform sensemaking and subsequent action among members (Albert and Whetten 1985; Gioia 1998; Mael and Ashforth 1992). At the outer level, scholars studying organizational identity primarily concentrate on institutional attempts to signal and project meaning—through logos, symbols, branding, and other marketing and

communication strategies—to those outside the organization. At this level, the intent of the analysis is “to help an organization’s stakeholders and shareholders both to identify the organization and to distinguish it from other companies with the help of external characteristics” (Puusa 2006, p. 26). Organizational identity, from this perspective, is closely linked to the concept of organizational image, which explores how external stakeholders perceive and make sense of an organization (Albert 1998; Puusa 2006).

Puusa’s (2006) inner and outer level distinctions are informative in this chapter as we distinguish between the organizational identity literature focused on and directed to the organization’s internal constituents and the organizational identity literature constructed to project meaning to external audiences. Internally oriented work has largely addressed and shaped how faculty, students, and administrators understand and express their institution’s identity. This literature is perhaps most prominent and important within sectors that serve underrepresented groups, such as historically black colleges and universities (HBCUs) (see Gasman et al. 2008), but is also present in college and university histories across all institutional types. Meanwhile, externally oriented studies primarily focus on how colleges and universities are (or would like to be) viewed by the public and key external constituencies such as prospective students, legislators, community leaders, and alumni. Higher education scholarship in the domain of institutional marketing and branding is linked to this perspective (Anctil 2008; Boyles 2007; Litten 1980; Litten and Brodigan 1982; Hartley and Morpew 2008).

This chapter organizes the scholarship on organizational identity into four discrete narratives we label as *storytelling*, *saga*, *strategy*, and *market responsiveness*. Using this lens, we examine organizational identity across various historical periods and discuss conceptual frameworks used to guide a broad and diverse body of work from each perspective. Each of the four sections describes common research methodologies and the strengths and limitations of these analytic approaches. We situate each narrative within the larger higher education context, including key economic, demographic, social, and political forces that influence language and underlying assumptions. We conclude the chapter by identifying gaps in the literature and proposing future directions for research on organizational identity in higher education.

Organizational Identity as Storytelling

We classify early organizational identity literature as storytelling. In this era, external audiences were treated to popular, colorful narratives of collegiate life while internal constituents developed loyalty and a shared sense of purpose via institutional histories. This literature was developed in two distinct streams from the Civil War to World War II. We situate the first stream, popular media’s take on collegiate culture and campus life, as those pieces written for external audiences. Capitalizing on rising middle-class interest in college going at the turn of the

century, articles, novels, advertisements, radio shows, and movies focused on campus life. Mostly earnest or lighthearted, rarely explicitly critical, this work communicated to the public that college was a significant rite of passage for those fortunate enough to partake of it. While leading scholars of the day debated the intellectual, moral, and public purposes of education (Dewey 1916; Hutchins 1936; Veblen 1918), popular media sought to project both the cachet and entertainment value of higher learning to wide audiences.

Institutional histories comprise the second major stream of research relevant to organizational identity before World War II. These works, which were internally focused, were often written by individuals with close ties to the institutions. Histories were important in defining and influencing individual and group behavior around a common mission. They helped members to make sense of, and derive meaning from, their organizations (Rudolph 1962).

Higher Education in the Popular Media: The Birth of the Collegiate Ideal

In the late nineteenth and early twentieth centuries, colleges and universities eschewed advertising, but still enjoyed exposure via popular media, which was awash in all things collegiate (Thelin 1976, 2004; Thelin and Townsend 1988). Novels, films, and magazine articles projected images of individual colleges and of the field as a whole and had a significant impact on the public's view of what higher education and campus life meant. Thus, any review of organizational identity literature in higher education necessarily includes artifacts of popular culture from this period.

Colleges and universities were portrayed by the popular media to a largely uninitiated public before World War II. Prior to the massification of higher education that occurred later in the twentieth century, the general public's image of higher education was formed primarily from the outside, looking in at a relatively elite and rarified world. Very few adults had, after all, experienced campus life. In 1869, when the federal government began collecting participation data, just one percent of young adults attended college. That proportion had grown to only two percent in 1900 and 10 % in 1940 (National Center for Education Statistics 1993).

Until the latter part of the nineteenth century, the US economy was fueled primarily by agriculture and small business. People worked the farms they were born on or in the trades in which they apprenticed. Relatively few men other than the independently wealthy or those training for the educational and clerical professions had much use for the classical and theological curricula promoted by many colleges (Cohen and Kisker 2010). Influential Americans, wrote Riesman (1956), "worshipped the plainly practical, the self-made, the ruggedly unscholarly" (p. 29). To the extent that typical Americans thought about colleges, they thought of them in a mostly negative light (Clark 2010).

The years between 1860 and 1944 transformed the higher education field and, simultaneously, the public's conception of its utility and value. Fueled by population growth, territorial expansion, railroad construction, rapid industrialization, discovery of natural resources, establishment of frontier communities, and technological innovation in agriculture and manufacturing, a growing, more professionally minded middle class came to see college as practically, economically, and socially useful (Cohen and Kisker 2010). This period saw the "rise of a more elaborate educational structure" (Brubacher and Rudy 1997, p. 143). Institutions became more diverse in many ways. The need for new knowledge, especially in science, led to the founding of functional, German-inspired institutions such as Cornell University (1865) and Johns Hopkins University (1876). During the same era, new groups began to participate in higher education. Women's colleges such as Vassar (1861) and Smith College (1871) were established, and Howard University (1867) and Spelman College (1881) were among the dozens of historically black colleges and universities (HBCUs) that opened their doors. Denominational and "hilltop" schools dotted the frontier landscape. In turn, the public began to revise old ways of thinking about opportunity, status, and success (Bledstein 1976). A "revolution" was afoot in US higher education (Metzger 1955, p. 3).

The boosterism and tradition-building on college campuses that marked this period captured the public's attention in new ways and birthed the concept of the "collegiate ideal." The adoption of institutional colors and mascots, hymns, anthems, also called 'alma maters,' [was] "designed to make one feel part of a campus tribe at athletic events and reunions," (Thelin 2004, p. 160) even if you weren't a student or alumnus. Campus life was newly invigorated, with an emphasis on joining and belonging. Clubs proliferated. A *cappella* ensembles were born, starting with the Whiffenpoofs at Yale, and imitated by the Dartmouth Aires, Princeton Nassoons, and Smith College Smiffenpoofs. Harvard's Hasty Pudding burlesque shows, founded in 1795, attracted national attention. During this "golden age of the college," (Thelin 2004, p. 155) the American public was captivated by the "elusive institutional spirit" widely on display (p. 157).

Collegiate life during this period was marked by exciting new traditions and events that served to highlight institutional uniqueness. Campus calendars were filled with events promoting ceremony, pageantry, and large crowds, including newly established Founder's days and Homecoming weekends. Many were short-lived, but some of those deemed not too dangerous, unsafe, expensive, or culturally inappropriate survive today. The Princeton-Rutgers game of 1869, for example, paved the way for public affection for intercollegiate athletics. Cornell University's annual Dragon Day, born in 1901, continues to feature a giant creature imagined, built, and paraded through campus by architecture students. Carnegie Mellon University's Buggy Sweepstakes, established in 1920 and still popular today, encourages feats of engineering and levity as student groups compete to design and race pushcarts.

This national preoccupation with college was initially stoked by colleges themselves, but soon thereafter, college mania was manufactured for mass consumption by people and entities outside higher education. Madison Avenue

copywriters, Hollywood film producers, radio personalities, and New York literary agents were among those painting a picture of college life that was at once glamorous, manly, and madcap. This amounted to scarcely less than a total image makeover of higher education's image in the media (Clark 2010). For most of the nineteenth century, magazines had disparaged the "college man" as indolent, pretentious, and effeminate. In contrast, as the century drew to a close and the twentieth century began, the same individual was heralded as jaunty and destined for success. A 1908 advertisement in *Collier's Weekly*, for example, featured "Harvard Clothes" that were said to "mark a new era in the proper appareling of young men. They possess exclusively a snap, dignity, and correctness that is best described by the phrase 'well groomed.'" A contemporary issue of *The Saturday Evening Post* hawked "Adler's Collegian Clothes," which claimed to "possess every desirable feature of present-day fashion, but no indication of 'freakish' extremes" (Clark 2010, p. 168).

Movies of the day brought the college man to life. *Brown of Harvard* (Conway 1926) featured a handsome athletic hero, a scrawny but loyal sidekick, a professor's beautiful daughter, and a wholesome moral message. In *The Plastic Age* (Ruggles 1925), shot at Pomona College, a clean-cut scholar athlete was nearly corrupted by a flirty flapper played by Clara Bow. Frank Merriwell was the prototype for the genre, the lead character for a series of stories first appearing in *Tip Top* magazine in 1896, later in radio shows, and ultimately in the serial film, *The Adventures of Frank Merriwell* (Smith 1936). Merriwell was the fictionalized collegiate ideal: a humble, temperate, yet indomitable Yale athlete who solves mysteries and rescues people from harm while keeping up with his studies.

Other popular films relished the opportunity to poke fun at such clichés and, in the process, highlighted the new activities gaining popularity on campus. In *Jack Spurlock, Prodigal* (Harbaugh 1918), the protagonist was expelled for bringing his pet bear to college. Hollywood's biggest stars routinely portrayed fun-loving, mischievous students during the 1930s and 1940s. Jack Benny's Babbs Babberly, a student at Oxford, impersonated an old woman in *Charley's Aunt* (Mayo 1941). Mickey Rooney and Esther Williams swirled through collegiate romantic misadventures in *Andy Hardy's Double Life* (Seitz 1942). Laurel and Hardy took aim at college pranks in *A Chump at Oxford* (Goulding 1940). In *Blondie Goes to College* (Strayer 1942), Blondie's husband Dagwood enrolls in college to keep his job at Dithers Construction Company; typical of Dagwood, he made the crew team but ended up in jail. Judy Garland debuted in *Pigskin Parade* (Butler 1936), in which the Yale football team was trounced by Texas State University. In perhaps the best-known football farce of the period—if not all time—the Marx Brothers' *Horse Feathers* (McLeod 1932) concludes with Chico, Harpo, Groucho, and Zeppo charging through the end zone in a horse-drawn chariot.

Compared with what was portrayed on the silver screen, novels of this era presented a more nuanced and complex version of college. They offered scholars some important perspectives on the field (Anderson and Thelin 2009; Lyons and Moore 1962; Kramer 2004) and valuable points of triangulation with other data from the period (Thelin and Townsend 1988). Novels opened a window into the

“customs, rituals, jargon, fashions, and rounds of life within the American campus” (Thelin and Townsend 1988, p. 202). Leveraging the increased access to higher education, some stories offered hope for characters struggling to overcome class barriers, as in Thomas Hardy’s *Jude the Obscure* (1895) and William Faulkner’s *Absalom, Absalom!* (1936). Still, college was often presented through a lens of privilege, as in Flandrau’s *Harvard Episodes* (1897) and Fitzgerald’s *This Side of Paradise* (1996, 1920). In the latter, protagonist Amory Blaine mused, “I think of all Harvard men as sissies, like I used to be, and all Yale men as wearing big blue sweaters and smoking pipes ... and Princeton as being lazy and good-looking and aristocratic—you know, like a spring day. Harvard seems sort of indoors—” (p. 17).

Nonfiction literature from the period also asserted points of differentiation among specific colleges with regard to culture, commitment, and ethos. Starting in the 1890s, for example, magazines and book publishers produced “campus portraits” of individual colleges, meant to highlight their unusual or unique features. These vignettes foreshadowed later attempts by the popular press to produce college guides. As Thelin observed (1976):

Journalists assumed the role of amateur anthropologists who explained to laymen the unique patterns, customs, and activities of a given college. Writers recognized that public interest in these institutions was not confined to forms and functions but also involved and demanded discussion of the elusive institutional spirit. (p. 9)

The media’s portrayal of higher education during this period of great growth and promise penetrated the national psyche and contributed significantly to prevailing popular notions about college. Neither scholarly nor marketing-driven, these offerings entertained and built the stature and identity of colleges and universities. From the lilac silk neckties sported by the fictional freshman Dink Stover at Yale (Johnson 1911) to Buster Keaton’s flailing courtship and athleticism at make-believe Clayton College (Horne 1927), to the caps, canes, and banjos advertised in *Colliers and the Saturday Evening Post* (Clark 2010), media artifacts of the period projected some real, and many fanciful, images to external audiences. They imposed and shaped public notions about the central, enduring, and distinctive identities of individual colleges and college life as folklore.

Institutional Histories: A Single Grand Story Line

Rich and varied institutional histories aimed at internal audiences emerged in the late nineteenth and early twentieth century. These volumes represent the first attempts by colleges and universities to tell their own stories. They remain today among the most interesting and readily available secondary sources on institutional identity in higher education. Typically written by institutional administrators, faculty, or clergy for internal constituents including students, parents, and alumni, their purpose was to establish historical record and build pride of association. Known as “house histories” (Rudolph 1962, p. xviii), they were sometimes written in the first person plural and—like today’s more sophisticated marketing materials—often

included photos or drawings of cherished founders, texts of first lessons, auspicious inaugural addresses, mottos, and fight songs. If there is a purpose to be discerned from institutional histories of the era, it is that they brought together people and events in a single grand story line. They identified and amplified central commitments, triumph over adversity, and sense of legacy—even destiny. In organizational identity terms, the house history enabled a college to proclaim “this is who we are” by showing “this is who we have always been.”

A Denison University centennial history (Shepardson 1931) is typical of the genre in its coverage of the ebbs and flows of institutional vitality. Written by a descendent of one of the school’s early deacons, the book chronicled Denison’s founding as a denominational literary and theological institute under the Jackson administration and recounted 100 years of personalities, crises, and resolutions. Milestones included the “stress and storm” of an early presidency (p. 61); uncertainty as to where to permanently situate the campus; a name change in honor of a local farmer who contributed \$10,000; successful “agitation” for the admission of female students (p. 181); tensions over the “Christian character” of the faculty (p. 308); and “dark years” of low enrollment, “when friends were scarce and the future of the college seemed doubtful” (p. 417). Excerpts of speeches and correspondence capture the distinctiveness of Denison’s collective personality, described as its “divine purpose” by the incoming president of 1926 (p. 352).

Meant for audiences that had experienced life on campus, institutional histories from this era attached special—even spiritual—significance to campus ethos, tradition, values, symbols, places, or events. Many histories brim (or even run over) with pride, metaphor, and sentimentality. For example, *Yale College: An Educational History* (Pierson 1952) opened: “Yale was a name: a living legend. And Yale College was its center” (p. 3). Another history, *Berea’s First Century* (Peck 1955) began more lyrically:

Berea’s Fay Forest may well stand as a symbol of the College, for out in the hills regardless of winter’s cold hand on oaks and anemones alike the forest continues to live because of its underground roots in the soil. In the Berea story, buildings, equipment, courses of study, labor adjuncts, and even instruction itself depend for their value upon the underlying intellectual and spiritual roots. (p. vii)

Beyond the turn of the twentieth century, institutional histories remained a vital component of identity literature geared toward institution building. One hundred years after many land-grant, denominational, and hilltop colleges were established, histories were published as part of centennial celebrations (Dethloff 1975; Lund 1963; Miller 1952; Ross 1958). Two hundred years after the founding of the earliest colleges, still more histories also appeared (Curran 1993; Dyer 2004; Ellison 2009; Miner 1954). These celebratory volumes often had titles evoking place, tradition, or spirit. Centennial histories of Manhattan College and Calvin Colleges, for example, were titled *The Tree Bore Fruit* (Gabriel 1953) and *Promises to Keep* (Timmerman 1975), respectively. A bicentennial history of Middlebury College was titled *The College on the Hill* (Bain 1999). Marking the 125th anniversary of Gustavus Adolphus College, the institution’s chaplain wrote a book of reflections under the title *Kingdom of Identity* (Elvie 1987).

Overall, the collection of works we place in the storytelling frame largely exists to increase pride and loyalty for the institution and inculcates organizational members with a sense of purpose, long-term narrative, and legacy to future generations. Institutional histories were very important to mission building and strengthening campus culture before 1960, and they remain so today. These writings remind constituents of deeply held values that are important to their communities and alma maters. They help to build internal loyalty and pride, and for members of campus communities, they help to answer the question “who are we?” (Albert and Whetten 1985).

Methodology and Analytic Approaches

The identity-related literature in higher education prior to 1960—whether a popular portrayal of campus life or institutional history—is largely informal, historical, and qualitative in nature. That which was not commercially derived came from individuals often deeply embedded in institutions. The work has limitations, typically as a function of its lack of methodological rigor and the subjectivity and varying interests of those who left it behind. That said, the material is extensive, includes many voices, and reaches across media. Without the benefit of large datasets, surveys, case studies, and statistical or critical analysis, and without generating theory of note, the work reveals much to scholars of organizational identity. It shows how colleges and universities were perceived from the outside and experienced from within. Uniqueness, mission, and narrative come through in a composite picture of extraordinary richness. Without scholarly methods of formal analysis, the work nevertheless lays a useful foundation for later work in the field of organizational studies.

Organizational Identity as Saga

The second perspective on organizational identity in higher education appeared in the mid-twentieth century and is characterized by the first studies that drew on social science theories and formal methodologies to examine institutional identity in higher education. These studies extended the storytelling work of the previous era by unpacking from a sociological perspective how identity was understood and negotiated within the walls of the academy.

During this period, colleges and universities began expressing their identities in new and innovative ways. As Kerr noted at the time, “universities in America are at a hinge of history; while connected with their past, they are swinging in another direction” (2001, 1963, p. xi). For some time, higher education’s new directions had been uncertain. External conditions had changed dramatically, placing new expectations, pressures, and constraints on higher learning. The country had emerged from

the war economically and militarily strong, but Cold War tensions brought the need for greater technological and scientific competitiveness. The atomic bomb prompted the urgent call for international peace and cooperation while Sputnik challenged the USA's global preeminence in science. The majority of Americans enjoyed greater opportunity and prosperity, but racism, sexism, and poverty suffered by a minority highlighted a raft of social ills. For solutions to these and other problems, Americans turned to higher education.

In response, universities expanded and became significantly more diverse between 1945 and 1970. Multiplication and differentiation of institutions was fueled by returning veterans, greater access for women and minorities, increased government financial aid, and baby boomer matriculation (Geiger 1999). Federal and state support to institutions reached new highs (Witkowski 1974). Graduate programs expanded. The job and compensation outlook for faculty was never better. Colleges found themselves in a "seller's market" with no bubble in sight (Hefferlin 1970, p. 519).

The growth of higher education and its acknowledged importance in real and metaphorical arms races exposed a paucity of data and analysis on its operations and outcomes (Sanford 1962). Recognizing this, government agencies and other groups began to collect data and disseminate reports with frequency and rigor. Under the aegis of the National Center for Education Statistics, the first Higher Education General Information Survey (HEGIS) was fielded in 1966, to gather comprehensive data on US colleges and universities. In 1967, Clark Kerr took the helm of the fledgling Carnegie Commission on Higher Education, whose purpose was to evaluate US higher education and make suggestions for its improvement. The Commission's reports during this period significantly influenced scholarly research in the field (Elton and Smart 1983).

Higher education, at this time, was largely an unstudied field. Much of the higher education research conducted during this period concerned such fundamental topics as financing, governance, participation, curricula, and the student experience. Sociological inquiry into organizations was in its infancy, and the rise of this disciplinary work created methods with which to study colleges and universities in a more scholarly way. Work undertaken in economics, psychology, sociology, and business would also have a bearing on the study of organizational identity in general and in higher education in specific.

Colleges and Universities as Social Systems

A distinctive feature of this era was the application of organizational science to better understand the inner workings of colleges and universities. In the 1950s, Talcott Parsons and Philip Selznick were among the thinkers who contributed a foundational understanding of organizations and whose work helped create mechanisms through which to study colleges and universities in a more scholarly way. Parsons asserted the "primacy of orientation to the attainment of a specific goal" as

the feature that sets organizations apart from other social groups (1956, p. 64). Citing governments, hospitals, and universities as exemplars, he defined the organization in a specifically environmental context:

An organization is a system which, as the attainment of its goal, “produces” an identifiable something which can be utilized in some way or another by the “system”; that is, the output of the organization is, for some other system, an input. (p. 65)

Similarly, Selznick (1957) distinguished between the “technical” and “natural” dimensions of organizations and specified how an organization or organizational type can take on values and become something more:

As an organization acquires a self, a distinctive identity, it becomes an institution. This involves the taking on of values, ways of acting and believing that are deemed important for their own sake. From then on self-maintenance becomes more than bare organizational survival; it becomes a struggle to preserve uniqueness in the face of new problems and altered circumstances. (p. 21)

The work of Parsons, Selznick, and others suggested the need to study colleges and universities as social institutions. Others took up the call. In 1962, Sanford edited a volume of essays under the title *The American College: A Psychological and Social Interpretation of the Higher Learning*. Although its main topics included students, academic programs, interactions between students and faculty, the effects of college, and higher education in the societal context, Sanford called for the development of more theory regarding the “structure and functioning of institutions” in their social setting and “intensive, probably also long-term studies of the inner workings of educational institutions” (pp. 1012–1013).

In a paper called “The College as a Social System,” Pervin (1967) described higher education organizations as systems and organisms and highlighted the importance of integration and agreement on goals. Referencing the anthropologist Margaret Mead, he underscored the challenges of reconciling “human impulses” and “social forms” and stressed the need for compatibility between individuals and their environments (p. 318). In a similar vein, Pettigrew (1979) investigated the internal languages and long-running stories of organizations, bringing to the foreground the “expressive social tissue” that “gives tasks meaning” (p. 574).

During the 1960s and 1970s, as social scientists asserted the value of normative and interpersonal togetherness in organizations, it was noted that higher education organizations presented idiosyncratic barriers to cohesion, loyalty, and identification. One of these idiosyncrasies centered on the role of faculty and the nebulous nature of academic work. Some scholars of this era noted the “slowness” and “sogginess” of academe and its impact on organizational leadership (Bennis 1973, p. 393) while others bemoaned “guild” loyalty among faculty (Gardner 1965, p. 393). Ikenberry (1972) cited the tension in academic communities between organizational and individual allegiances. He blamed unclear goals arising from the “intangible nature of the task, its extreme complexity and variability, and the tendency of the end product to be highly perishable” (p. 25). Calling educational organizations “loosely coupled systems,” Weick (1976) asserted that professional faculty identify more closely with their individual disciplinary fields than with their educational institutions.

Amid such lines of inquiry and commentary, Burton Clark published *The Distinctive College* (1970). Influenced by Selznick and other organizational theorists, Clark was fascinated by the college as an organizational form. The book offered rich and deep ethnographic exploration of the historic and contemporary organizational essence of three iconic and distinctive colleges: Antioch, Swarthmore, and Reed. The work was groundbreaking, not least for its qualitative case study methodology, which helped to uncover important but largely informal and nonrational dimensions of life in these extraordinary communities.

Clark's thesis was that distinctiveness derives from a college's passion, personality, and commitment to ideas and principles. He proposed that a unique and compelling institutional narrative, or "saga," results from innovative and charismatic leadership, inspired personnel, original programs that align with deeply held values, a strong network of social support, and robust student subcultures. A distinctive institution breeds a type of "quiet fanaticism," he wrote (1970, p. 253), and this spirit becomes part of the organization, contributing to its unique values and structures. Defining the essence at the core of a college, Clark used several terms, including not only *distinctiveness* and *saga* but also *character*. Concluding his introduction to the original edition, he summed up with language that built on Selznick's: "The organization with a saga is only secondarily a social entity characterized by plan and reason. It is first of all a matter of the heart, a center of personal and collective identity" (p. 9).

Preparing *The Distinctive College*, Clark immersed himself in college histories and gathered firsthand accounts from individuals associated with his three particularly unusual and storied institutions. He reported an almost cult-like phenomenon within these college communities, in which members "behave as if they knew a beautiful secret that no one outside the lucky few could ever share" (p. 235) and where institutional traditions and myths have the "capacity to make strong men cry in the glare of the afternoon gathering as well as in the darkness of the lonely hours" (p. 235). Clark's piercing analysis was a watershed in the development of literature on organizational identity in higher education.

Clark's conceptualization of the construct of organizational saga departed from the descriptive and celebratory nature of institutional histories in important ways. First, his method of analysis employed social science techniques and rigorous qualitative methods. Institutional histories, as noted earlier in the chapter, were generally descriptive works designed to celebrate rather than critique the college or university in question. Histories were designed for internal audiences, as a means of marshaling sentiment and building excitement. *The Distinctive College*, on the other hand, was an application of contemporary organizational theory and was instrumental in making the point that organizations can become institutions if infused with values and character that outlast their leaders. Perhaps most importantly, institutional histories were a story told from *within*, while Clark's organizational saga was "discovered" by a third-party observer conducting ethnographic-like analysis of a central phenomenon that could be documented and shown to be credible.

Importantly, Clark's work on the distinctive college also appeared as a journal article in *Administrative Science Quarterly* in 1972. His article, entitled "The

Organizational Saga in Higher Education” is considered by many as being part of the early canon of higher education literature. In discussing the initiation and fulfillment of saga, Clark (1972) summarized this concept in understanding the ethos of distinctive colleges:

An organizational saga is a powerful means of unity in the formal place. It makes links across internal divisions and organizational boundaries as internal and external groups share their common belief. With deep emotional commitment, believers define themselves by their organizational affiliation, and in their bond to other believers they share an intense sense of the unique. (p. 183)

Works by scholars such as Selznick, Parsons, Pervin, and Clark formed a legacy that would serve as a central starting point for other scholars for studying higher education as formal organizations. These scholars provided a bridge from the earlier era of informal storytelling to examining colleges and universities as distinctive entities, important to developing the expanding organizational theory literature. In doing so, scholars of the era helped to formalize the study of organizational identity in higher education, providing new analytic frames and methodological tools to assess and understand institutional culture and identity.

Organizational Identity as Strategy

While the decade of the 1960s was known as higher education’s “golden age,” the sector would be referred to as a “troubled giant” a decade later (Jencks and Riesman 1977; Thelin 2004). The shift in fortune for higher education after the 1960s can be attributed to a number of challenges the mature industry faced, including an uncertain economy, demographic changes, and loss of public confidence. Legislators and the general public were reeling from the aftermath of student protests and discontent on campus. The violence, language, and unconventional dress of students of the period raised questions among politicians about whether rebellious college students were worth the expenditure. These perspectives coincided with economic instability, as the US economy of the 1970s and 1980s faced soaring inflation, high unemployment, oil crises, wage and price controls, loss of markets to Japanese and German goods, and corporate downsizing (Lazerson 1997).

New reports calling into question the income returns to higher education were issued and higher education faced a crisis of confidence. Among the most prominent of these works was Freeman’s (1976), *The Overeducated American*, which made the case that a college degree was no longer a safe bet for economic success and might not represent a worthwhile investment. Such perspectives were captured by national media outlets such as *Newsweek*, which that ran an eye-catching headline asking “Who Needs College?” (*Newsweek*, April 26, 1976).

A growing number of voices criticizing the management and priorities of the academy fueled this growing uncertainty. Complaints grew that undergraduate teaching was being neglected and that college was inaccessible to a growing number of minority students (Lazerson 1997). Colleges and universities became

increasingly bloated, impersonal, bureaucratic, and fragmented (Simpson 1979; Thelin 2004). The massification of the era gave way to accusations of institutional irrelevance and alienation (Goldberg and Linstromberg 1969). Reports such as *The New Depression in Higher Education* (Cheit 1971) called into question whether higher education could manage itself, suggesting that approximately two-thirds of the nation's public and private, two-year and four-year colleges were in financial trouble.

The greatest fear of all, however, was the forecast of the decline in the number of traditional students available for college. Due to the "birth dearth" of the era, experts forecasted that between 10 and 30 % of America's 3,100 colleges would merge or close by 1995, many of them small private liberal arts colleges that were unique to the US higher education system (Astin and Lee 1972). Predictions of declining enrollment and a weaker employment outlook for graduates prompted many colleges and universities to brace for a more competitive marketplace. By the mid-1970s, "the age of the professor gave way to the age of the student or client" (Mayhew 1974, p. 166).

As the higher education sector matured in the 1970s and 1980s, so did the scholarship on organizational identity in higher education. This section describes several organizational identity works from the 1970s through roughly 2000 that were primarily written for internal audiences, namely, faculty and college administrators. Compared to the storytelling and saga literature of an earlier era, these works more carefully considered the external environment that was shaping institutional priorities and strategies. As discussed in the next sections, open systems perspectives began to guide the literature, and identity studies in higher education increasingly focused on institutional culture and the growing phenomenon of academic drift.

An Open Systems View of Higher Education

The challenges of the 1970s and 1980s produced scholarship examining colleges and universities in the context of changing environmental forces. As Peterson (1998) explained, colleges and universities were no longer conceived just as purposeful, rational, or collegial organizations relatively free of external influence or conflict. Instead, they came to be viewed as political organizations with competing stakeholders at multiple levels—campus, state, and national (Baldrige 1971; Millett 1975; Bailey 1975). During this period, open systems theory became increasingly popular in the organizational theory literature, emphasizing the interdependence of the organization and its environment. The environment was viewed as the ultimate source of materials, energy, and information to maintain the survival of an organization (Scott 1992).

A series of studies with the open systems perspective sounded alarms about the need for college leaders to be more strategic in their management and operations. The most prominent of these works was George Keller's 1983 book, *Academic Strategy: The Management Revolution in American Higher Education*. In the

opening pages, Keller spoke of the “specter of decline and bankruptcy” (p. 3) facing higher education, detailing a list of financial and enrollment troubles faced by the public and private sectors. He described what he called a leadership crisis facing higher education, arguing that academic administrators must develop a skill set in planning and strategic decision-making. A particular problem was academic governance in that it was slow to respond to the new challenges of the area, leaving administrators alone to retrench their campuses (Fincher 1982).

In his foreword to Keller’s book, Richard Cyert (former President of Carnegie Mellon University) acknowledged the skepticism of academics toward strategic management. Still, he touted how scholarly contributions in the areas of finance, operations, decision-making, marketing, social forecasting, and strategic planning made it possible for colleges to thrive in this new environment. *Academic Strategy* was a precursor to a body of scholarship on the subject of institutional adaptation, which explored ways in which colleges and universities were beginning to adapt to a changing environment and new management practices. This work explored higher education’s salient environmental features, including the economy, politics, and technology (Cameron and Tschirhart 1992; Dill and Sporn 1995; Gumpert and Pusser 1997; Gumpert and Sporn 1999; Massy 1996; Peterson and Dill 1997). Adaptation studies explored retrenchment (Cameron and Tschirhart 1992; Zusman 1994), restructuring, (Gumpert 1993; Rhoades 1995; Slaughter 1995), improved performance, reorganization, and redefined missions (Dill and Sporn 1995; Gumpert and Pusser 1997; Peterson 1995). The majority of these studies were both descriptive and prescriptive and explored ways that institutions might adapt to environmental changes. Not all were as positive about the utility of the new knowledge cited by Cyert. Many studies were explicit in identifying and criticizing the ways in which strategic planning, for example, was used subjectively to eliminate programs that traditionally enrolled more women or minorities (Gumpert 1993; Morphew 2000; Slaughter and Silva 1985).

Organizational Identity and Culture

Only 2 years after the publication of *Academic Strategy*, the term “organizational identity” was officially coined by Albert and Whetten (1985) to describe aspects of organizations viewed as enduring or central to organizational actors. Soon research emanating from this perspective provided evidence about the power of organizational culture in achieving strategic interests of an organization. For example, studies found that organizational identity fostered loyalty among employees (Adler and Adler 1987; Bhattacharya et al. 1995) and decreased turnover (O’Reilly and Chatman 1986). Contributing to this concept, Ashforth and Mael (1989) suggested that the perception of oneness with an organization ties the individual to organizational successes and failures. For example, research that examined the behavior of Port Authority employees in response to the problem of homelessness found that organizational members gain self-esteem from their organizations and are motivated

personally to preserve a positive organizational image or repair a negative one that is consistent with the essence of the organization (Dutton and Dukerich 1991). Studies like this one provided evidence about the importance of leveraging institutional cultures to achieve institutional goals.

The emerging body of work on organizational identity appeared in tandem with several popular works that elevated organizational culture as a salient topic within the field of organizational studies. *In Search of Excellence* (Peters and Waterman 1982), *Theory Z* (Ouchi 1981), *Corporate Cultures* (Deal and Kennedy 1982), and *Organizational Culture and Leadership* (Schein 1985) became popular management books throughout the 1980s and examined how organizational belief systems, attitudes, rituals, and traditions shaped organizational life and performance. Cameron and Ettington (1988) were among the first group of higher education scholars to investigate how campus cultures related to various outcomes. They found that clan cultures within 4-year institutions were associated with high morale of faculty, staff, and students while ad-hocracy cultures more easily adapted to the environment. Market cultures were associated with resource acquisition. Using a two-stage randomized design, Smart and Hamm (1993) found similar patterns among two-year colleges, suggesting that campus culture may be leveraged to help achieve various institutional outcomes.

Campus culture continued as a theme in the organizational studies of the early 1980s. It often focused on how organizational actors made sense of the innovation and mission expansion that challenged the values and structure of their colleges and universities. This was especially present in the literature on liberal arts colleges, which explored how identities of independent institutions were changing in light of market forces and new pressures to survive (see Martin 1984; Jonsen 1984). Two particular studies illustrate classic examples of analyses that focused on how internal actors navigated changes in institutional identity. First, a qualitative study conducted by Wells and Picou (1982) explored the transition of a small, southern, white “finishing school” that eventually became a biracial, co-ed institution featuring innovative educational programs. The case study articulated the struggles in transformational change and shifting notions of the essence or centrality of the institution in transition.

Similarly, Chaffee’s (1984) case study of three liberal arts colleges exposed how organizational actors were involved in adaptive changes within their institutions. She concluded that institutions making successful management changes were those where participants viewed the organization as both a social contract and organism. In such settings, leaders attend to participants’ sense of meaning and satisfaction derived from membership in the organization while also attending to changing needs of the market. In her conclusions, Chaffee prescribed a combination of adaptive (sensitive to market) and interpretative approaches (values affirming) in helping distinctive colleges to succeed in the new landscape.

In the public sector, Levine’s (1980) book, *Why Innovation Fails*, examined the interplay between organizational identity and adoption of innovative practices at SUNY-Buffalo. Employing case study methodology, Levine began his book by explaining that organizations possess unique personalities that are shaped by a

distinctive set of norms, values, and goals. He posited that boundary establishment was a tool through which organizations guard against external forces that may violate these commonly held norms, values, and goals.

Levine concluded that innovation occurs when “environmental change makes existing boundaries unworkable, when the organization fails to achieve desired goals, or when it is thought that goals can be better satisfied in another manner” (p. 12). For this to happen, the innovation must be both compatible with institutional values and be viewed as profitable to the organization generally or to organizational actors individually.

All three of the studies above are examples of works from the early 1980s that examined organizational identity in the context of adaptive changes within colleges and universities. On one hand, the findings illustrate how “what is central” to the organization may be leveraged to make changes within the institutions. On the other hand, they suggest that distinctive institutions may reject innovations that fail to incorporate interpretive approaches or are seen as incompatible or generally unprofitable to the institution (Chaffee 1984; Levine 1980).

Academic Drift

Studies of “academic drift” or “mission creep” are good examples of analyses focusing on identity changes within the academy. Such studies explored how institutional missions were evolving as colleges and universities responded to a changing environment. Specifically, many institutions with traditional missions began adding degree programs and expanding their portfolio of academic offerings in an effort—sometimes strategic, sometimes reactive and normative—to become more like their most successful brethren. Depending on where one chooses to look, the concept of academic drift may have originated in several places. One likely birthplace is David Riesman’s *Constraint and Variety in American Education*, which was published in 1956. Riesman painted the famous description of the tendency of American higher education institutions to mimic others as a “snakelike procession.” As an example, he cited the growth of the public comprehensive university, which, at the time he was writing, had morphed from normal school to state university:

Once one enters, let us say, the state university league, this involves the full line of departments. People who come into the league to teach, having done graduate work elsewhere, bring with them an image of what a proper university should look like—and this image consists truly of castles in the air, not located on a particular, carefully studied terrain. (p. 36)

Riesman’s (1956) conception of academic drift was echoed by Guy Neave (1979), who described it as “that process by which categories of students, usually of sub-degree level, are sloughed off the better to concentrate the resources of the institute upon degree—and in some cases, postgraduate—work” (p. 144). Riesman described the ongoing struggle between “locals” and “cosmopolitans” and how the practices and values of one (typically more prestigious) institution might seed other

campuses if the “itinerants” from places such as Oxford, Cambridge, or even Ames were able to overcome the tendency of the “home-guarders” to focus on activities tied to the institution’s historic mission. Riesman’s argument highlighted prestige and the primary role of faculty in governance and academic decision-making as the reason that “there will eventually be priest accountants and Notre Dame-trained physicists” (p. 58).

The concept of academic drift has been refined and discussed many times since Riesman’s (1956) initial undertaking. In particular, work on the subject has highlighted the role of faculty and the pursuit of prestige and competition among universities, particularly those that aspire to research university status. Empirical work on the subject has used both qualitative and quantitative methods and several conceptual frameworks, including neo-institutional theory. While American scholars have worked on the topic, a significant amount of the research has been conducted in Europe.

The vast majority of the empirical work on the subject of academic drift has occurred since 1980. A concern among those who studied the tendency of colleges and universities to emulate the missions of more comprehensive and prestigious institutions was isomorphism or a loss of institutional diversity. One of the earliest empirical studies on academic drift in the USA diagnosed the problem as “vertical extension,” because the authors concluded that the primary impetus for institutional mission change was the pursuit of graduate degree programs and their accordant status and that public institutions were even more susceptible to the drift disease (Schultz and Stickler 1965). Similarly, Robert Birnbaum’s (1983) findings from a study of the US higher education system between 1960 and 1980 documented a loss of diversity in several institutional types, including those that served only undergraduate students, as private and public colleges strove toward university status. These studies and others (Berelson 1960; Lachs 1965; McConnell 1962) confirmed that while academic drift gained greater attention in the 1970s and 1980s, the phenomenon was very much present and perhaps related to the disorganized growth noted by Keller (1983) and other strategic planning advocates.

Research on academic drift sometimes focused on its function and outcomes in public higher education systems. Many state governing, planning, and coordinating boards had been established primarily as a shield against duplication of expensive degree programs—exactly the type of activity that institutions engaged in academic drift pursued as part of their expansion (Berdahl 1985; Millett 1975). The same concerns were echoed at the national level in countries where the federal government had primary responsibility for delivering and managing higher education and where there was evidence that the creation or reform of higher education systems contributed to greater isomorphism of mission (Meek 1991; Neave 1979).

Much like Riesman (1956), scholars who examined the phenomenon of academic drift with data—quantitative or qualitative—came to the conclusion that faculty and institutional norms that rewarded the dominant behavior of the group Riesman referred to as the “cosmopolitans” were the primary drivers of academic drift. For example, research using the 1987 National Survey of Postsecondary Faculty (NSOPF) identified salary mechanisms that served disproportionately to

reward faculty, even those at undergraduate teaching institutions, for their research productivity (Fairweather 1997). Likewise, interviews with faculty members involved in the creation of new undergraduate and graduate degree programs during the 1970s and 1980s that duplicated those already offered within their state or national system of higher education revealed that these faculty members were consciously striving to become more like their colleagues at more comprehensive or prestigious universities and were well aware that university ambitions and salary structures would reward their behavior (Morphew 1996; Morphew and Jenniskens 1999).

In sum, the demographic, economic, and political challenges facing higher education after the 1960s gave way to a growing body of higher education scholarship that focused on managing environmental uncertainties. Within this literature, scholars embarked on internally focused studies that explored ways in which institutional actors understood the essence of their institutions in the midst of innovation and change (Chaffee 1984; Levine 1980; Wells and Picou 1982). Researchers writing from this perspective documented shifts in the shape of higher education sectors, most notably liberal arts colleges that began to drift from their distinctive missions to accommodate career and professional education (Martin 1984; Jonsen 1984; Finkelstein et al. 1984; Pfnister 1984). Such studies foreshadowed later studies that explored the significance of organizational identity in relation to change strategies (Hatun and Pettigrew 2004; Whetten and Godfrey 1998).

Institutional Strategy and Communication with External Audiences

While internally focused works of the era called on colleges and universities to rethink their practices, new scholarship emerged analyzing how colleges and universities built their image with key stakeholders. This shift to the external reflected a new focus on strategic positioning for the purpose of distinguishing one institution from another in an increasingly competitive marketplace. Recruiting students and enhancing institutional prestige were the primary purposes of these studies.

Externally focused studies were largely linked to the field of marketing and had strong linkages to research on organizational image (Albert 1998; Puusa 2006). Institutional image was always an important component of higher education, but this began to accelerate with the emergence of reputational rankings marking institutional prestige. College and university rankings emerged as early as 1966 with national associations beginning to assign identity to certain types of institutions, based on reputation. Peterson (1998) observed that the American Council on Education may have legitimized the use of reputational studies as a way to bolster higher education's battered image (Cartter 1966; Roose and Anderson 1970). The work on academic drift demonstrated that even absent external rankings, faculty and institutional norms already promoted the tendency of colleges and universities to adopt programs and practices that mimicked more successful and prestigious institutions.

The growing pressure to become more prestigious, comprehensive, and selective prompted higher education scholarship that began to examine how institutions generated their “customer base” through marketing and communication. As early as 1972, higher education leaders predicted that institutions with stronger consumer orientation, better marketing research, and more sophisticated communication techniques would fare best in a resource-scarce environment (Krachenberg 1972). Thompson (1979) wrote that “institutional administrators can no longer afford to base resource allocations—course or program mix, faculty allocation, etc.—on vague notions or intradepartmental equity or campus balance” (p. 83). They must instead focus on what its customers want most “and adopt a market orientation” (p. 84).

By the early 1980s, companies like American College Testing (ACT) and the College Board offered marketing analysis services and admissions officers surveyed applicants about perceptions of their campus (Trusheim, Crouse, and Middaugh 1990). Litten (1980) was among the researchers who provided an early primer about marketing for academic audiences. In his article appearing in the *Journal of Higher Education*, he acknowledged that many academics eschewed marketing in collegiate contexts, but noted the growing place of marketing and its language in the academy:

A new vocabulary is gaining respectability in academia. The terms have been appropriated from the field of Marketing and, although they still stick in many an academic throat, they are spreading rapidly through the system. Deans make references to “market research.” “Market penetration,” “positioning,” and “market audits” spill from the lips of up-to-date admissions officers. Committees of various stripes ponder “strategies” appropriate to various “market segments.” In the face of very real challenges, Marketing and Market Research have caught the fancy of academic administrators. (p. 40)

Litten’s (1980) article was largely conceptual and examined the benefits and risks associated with marketing in higher education. At its most basic level, it was a “how to” and “what to avoid” piece that described common marketing strategies and warned academicians about some of the pitfalls.

A more sophisticated body of literature investigating marketing related themes began to emerge on the topic of college choice. Chapman (1981) provided one of the early conceptual pieces, theorizing that choice related to student background characteristics (aspirations/performance) and a set of external influences including people (parents, peers), and college characteristics. Importantly, his framework included institutional efforts to communicate with students through written materials and recruitment. However, he also noted that there was scant evidence suggesting that marketing was important in directing students’ choice of college, perhaps due to the unsophisticated nature of marketing efforts during this period. Studies of the recruitment and promotional materials produced by colleges and universities during this period found that they were either written at too technical a level for most high school students or simply inaccurate (Johnson and Chapman 1979; Stark and Marchese 1978).

Scholars soon began to build and test statistical models to understand higher education enrollment patterns. In the majority of these studies, the students

themselves were the primary unit of analysis, with the aim of understanding what would lead them to select a particular college. For example, Cook and Zallocco (1983) examined students' criteria for selecting their colleges and universities, documenting the importance of academic reputation and faculty-student association in the recruiting process and its implications for marketing. Litten (1979) used frequency distributions and regression analyses to better understand a college's market position with students from specific geographic segments. Likewise, Trusheim, Crouse, and Middaugh (1990) specified a linear compensatory model to examine college applicants' attitudes and how they impacted enrollment decisions. The model suggested that students' attitudes and perceptions about specific colleges predicted enrollment outcomes.

Studies focused on colleges and universities as the unit of analysis investigated how sectors differentiated from one another according to reputation and other attributes. For example, Rowse and Wing (1982) employed factor analysis to investigate competing groups of campuses and attributes of prospective students in relation to various segments. They investigated whether students could be swayed to consider many campuses and the general stability of competitive groups within the SUNY system. Bruggink and Gambhir (1996) investigated the probability of students enrolling in various sets of institutions based on college reputation and student background characteristics. These studies highlighted the enrollment outcomes for institutions that rose or fell in prestige.

Some of these externally focused identity studies examined the congruence between institutional image among internal and external stakeholder groups. For example, Reiner and Robinson (1970) published results of an image perception survey where trustees and older alumni of a liberal arts college gave it higher ratings than did students and faculty. Beyer and Stevens (1975) developed and tested four models for predicting variability in perceptions of university departments and concluded that no individual group of factors can reliably predict the rise or fall of perceived prestige across all disciplines. At the state level, Biggs, Brown, and Kingston (1977) conducted a factor analysis of responses to a stratified, random sample survey and found a relationship between citizens' educational values and their satisfaction with a state university. Such studies made a link between state cultures and the perceived value of higher education.

Some scholars sought to understand how colleges fashioned their images with external constituents. Such studies typically focused on marketing materials. For example, Ragan and McMillan (1989) conducted a discourse analysis of 28 liberal arts viewbooks to understand the themes that guided communication with outside audiences. The authors found that the rhetoric of liberal arts colleges had adapted to the new needs of the consumer while aiming to preserve the uniqueness of the college. A more recent study of 48 viewbooks produced by a diverse set of colleges and universities produced more damning findings, suggesting that higher education institutions may have set aside distinctive messages in favor of more generic messages (Hartley and Morphew 2008).

Mission statements were another fruitful area of analysis. For example, Delucchi (1997) analyzed mission statements to assess the degree of uniqueness among 300

baccalaureate colleges. Unusual among the organizational identity literature for its utilization of quantitative methods, the study showed that liberal arts traditions were highlighted in the mission statements of even baccalaureate colleges that had evolved from liberal arts college to become dominated by professional programs. Delucchi (1997) speculated that accentuating the liberal arts tradition is not meant for internal audiences but rather to “highlight the repertoire of accepted rationalities for a higher education” (p. 423). The study suggests that mission statements communicate a broad set of interests among diverse stakeholders including accrediting agencies, rating guides, applicants, and the general public. Two recent studies of mission statements built on these findings suggested that colleges and universities use mission statements to signal identity to important external stakeholders while being careful to employ terms that are strategic in their nebulosity (Morphew and Hartley 2006; Taylor and Morphew 2010).

Another group of externally focused analyses critiqued marketing efforts of colleges within the context of their effects on prospective students. The most prominent example, a study of college choice by McDonough (1994), used extensive fieldwork, interviews, and a review of popular literature to understand the impact of the burgeoning admissions industry and how students navigated this process. Her research concluded that among high SES students, college choice was no longer a process of soul-searching but was becoming a high-stakes process drawing on professional support services to gain admission to colleges of their choice. Overall, McDonough (1994) suggested that high school students were increasingly “commodified” by enrollment managers, which represented a significant shift from previous generations. More recent qualitative studies of enrollment management and college choice have supported and fine-tuned McDonough’s claims (Steinberg 2002; Stevens 2007).

Methodology and Analytic Approaches

Three groups of methods and analytic approaches were primarily used to forward studies of institutional strategy. Narrative, prescriptive works emerged as a “wake-up call” for institutions to be more strategic in their management and operations. Keller’s (1983) book was among the most prominent of these pieces, which provided some strategies institutional leaders in moving their campuses ahead in a time of great uncertainty. Similarly, pieces like Litten’s (1980) article on marketing provided a prescription to help college leaders think about how marketing and communications could bolster enrollment. These works provided an important primer for college leaders in strategic management but did not formally evaluate ways to infuse such ideas into academic culture.

In response to these limitations, a group of organizational identity studies emerged that relied on qualitative methods—often case studies—to describe how organizational actors negotiated changing institutional identities. Many of these works focused on internal notions of organizational identity, including Levine

(1980), Chaffee (1984), and Wells and Picou (1982), who investigated ways in which distinctive cultural aspects of colleges either leverage or thwart institutional change efforts. A unique strength of these studies is that they provided thick descriptions about the complex set of cultural and political processes associated with the preservation of identity. In this way, scholars began to understand the essence of the organization (Albert and Whetten 1985) and the role the campus actors played in preserving an overall system of beliefs. In some cases, qualitative studies were also being used to shed light on the new world of enrollment management and its impact on students and families (McDonough 1994).

Research on academic drift relied on positivistic frameworks and used both quantitative and qualitative methods to identify where and how academic drift was occurring at the institutional and system levels. Neo-institutional theory, propelled by DiMaggio and Powell's (1983) edited volume and Meyer and Rowan's (1977) important work, emerged in the late 1970s and 1980s as a dominant perspective among organizational sociologists and was used by scholars in several fields interested in understanding academic drift and the organizational behavior of universities (Covaleski and Dirsmith 1988; Galaskiewicz and Wasserman 1989; Haveman 1993; Morphey 1996; Morphey and Jenniskens 1999; Huisman 1997). The "iron cage" of isomorphism detailed by DiMaggio and Powell (1983) was a natural fit for the higher education arena, because it featured multiple and complementary forces that reinforced each other. There was general agreement in the field that government (coercive), faculty (normative), and prestige (mimetic) played prominent predictive roles in explaining how and why academic drift occurred. Resource dependence theory and economic frameworks were also used to demonstrate how academic drift could be explained by labor markets or reward structures (Fairweather 1997; Tolbert 1981).

Quantitative analysis emerged in the 1980s and 1990s and aimed to help campus leaders understand their target markets and probability of enrolling certain types of students. These studies examined both students as the unit of analysis (Cook and Zallocco 1983; Trusheim et al. 1990) and institutions themselves to create strategies for reaching intended markets (Rowse and Wing 1982; Bruggink and Gambhir 1996). Many of these studies were anchored within the topic of college choice, which investigated an array of individual, social, and institutional factors associated with choice decisions. The benefit of these studies is that they began to use large databases (including datasets produced the National Center for Education Statistics) to understand enrollment patterns among students and how institutional identity impacted these choices.

Organizational Identity as Market Responsiveness

Beginning with the new millennium, scholars documented how institutions began to engage in even more aggressive market-positioning and image-building strategies. This literature explored how institutions aimed to differentiate themselves

from competitors, attract students, grow revenue, and communicate to internal and external audiences about distinctive characteristics of their institutions. This perspective reflected a growing uneasiness and curiosity about ways in which colleges and universities were adapting to changing political, fiscal, and market realities. The resultant scholarship analyzed and lamented changes in the character of higher education.

The central force precipitating more intense market-focused activity relates to the changing context of financing public higher education. Mountains of commentaries, reports, and articles have documented declining state support for higher education, often expressing regret about the strained relationship between states and public colleges and universities. Between 1990 and 2010, the amount states spent on higher education per full-time equivalent enrollment (FTE) declined by 26.1 % (Quintero 2012). Most recently, the “Great Recession” of 2008 has resulted in 29 states spending less on higher education than they did in the prior 5 years (Kelderman 2012). Summarizing the plight, many public university presidents have quipped, “We used to be state-supported, then we became state-assisted, and now we are state-located” (Breneman 2002, p. B7).

These seismic shifts in the financial landscape of public higher education have resulted in the emergence of market-sensitive, entrepreneurial institutions that are more aggressive in their pursuit of diverse forms of revenue. Hearn’s (2003) report for the American Council on Education (ACE) discussed a range of creative revenue generating strategies that would have been inconceivable among most campuses only a decade earlier. These include categories of nontax support including instructional revenue (lifelong learning, test preparation, workforce training); research revenue (tech transfer, start-ups, business partnerships, incubators, research parks); pricing initiatives (user fees, differential pricing); human resources (compensation for revenue generation); franchising and sponsorship (tours, camp, logos); auxiliaries, facilities, real estate (athletic facility rental, debit cards, alumni services); and donors (appeals to donors in the USA and abroad). The adoption of these strategies would have important implications for a college or university’s identity.

Governance changes that emerged from institutional attempts to seek greater fiscal autonomy from states had a significant impact on organizational identity in the early 2000s. The most prominent of these initiatives was the 2005 Restructuring Act in the Commonwealth of Virginia, which made Virginia institutions eligible for increased independence in exchange for meeting 11 performance goals. Governance changes such as these often prompted discussions about the changing character of public colleges and universities and what it would mean for the future of public higher education (Couturier 2006).

The influence of rankings on college and university behavior became more evident during this period. By 2007, *U.S. News & World Report’s* “America’s Best Colleges” website was generating millions of page views each month (Marklein 2007). Because of the power of *U.S. News* and other commercial outlets, colleges and universities became increasingly conscious about rankings, reputation, and prestige as it relates to attracting students and securing their identity among competing institutions.

The rise of for-profit higher education also prompted institutions to more carefully examine and communicate their unique place in the market. Online education expanded as technology improved during the 1990s, and enrollments began outpacing traditional colleges and universities during that decade (Cohen and Kisker 2010). Between 2000 and 2010, bachelor's degrees awarded by for-profit institutions grew by 418 % (Thompson 2011). In most cases, for-profit institutions were not viewed as having head-on competition with traditional institutions. Instead, they expanded the higher education market by developing unique niches among previously underserved groups (Breneman 2002; Winston 1999). Winston (1999) forecasted, however, that the competition would affect colleges unevenly, with institutions with meager financial resources and modest student subsidies having the most to lose. Meanwhile, he suggested that wealthier institutions would be forced to clarify “what it is they sell” and “who is allowed to produce it” (p. 18). Winston's prognosis was prophetic: subsequent scholarship demonstrated that colleges and universities of all types became increasingly sensitive about their market niche and how this was communicated to external audiences.

The precipitous shift toward market-like activity challenged some higher education leaders of the era to launch a national conversation about the civic roles of US colleges and universities. This occurred because students were increasingly regarded as customers, and their overall levels of civic involvement diminished. An emphasis on earnings—the private benefits of higher education—defined the primary value of going to college (Hartley 2009). In an attempt to reverse these trends, dozens of initiatives were started by networks of higher education practitioners and scholars to reclaim the civic identities of colleges and universities. Among them, Campus Compact, a coalition of campuses supporting the civic roles of higher education, was launched by three college presidents in 1985. As of 2008, Campus Compact had grown to over 1,100 members, representing a quarter of all higher education institutions (Hartley 2009).

Fueling this civic resurgence were several reports that declared civic engagement to be a salient feature of twenty-first-century higher education (American Association of State Colleges and Universities 2002; Boyte and Hollander 1999; Kellogg Commission 1999). By 2006, the Carnegie Foundation for the Advancement of Teaching created a new classification of “community-engaged institutions” that were characterized by their commitment to the principles of engagement. The first classification included 77 institutions in 2006 and has since grown to 312 institutions included under the broad category of “community engagement, outreach, and partnerships” (Carnegie Foundation 2013).

A Struggle for the Heart and Soul of Higher Education

With the surge of changes underway in the twenty-first century, college leaders faced the difficult challenge of successfully weaving together their historic identities and civic responsibilities with new fiscal and market realities. In this context,

many organizational identity works appeared as full-length books that critiqued these changes, seeking to understand how they might be interpreted from both internal and external perspectives. Internally focused analyses and critiques were written for academic audiences to make sense of the changes underway in their own departments and broader campuses. To that end, these works largely examined how internal organizational actors (faculty, students, and administrators) derived meaning, understanding, and interpretations about events within their institutions. Such accounts were typically disapproving, often condemning the privatization or corporatization of public higher education and how such changes were adversely affecting the life of students, scholars, and the historic missions of state institutions. Overall, they challenged readers to consider and protect “what is central” in their institutions as it relates to traditionally held educational values and practices (Lyll and Sell 2005).

One group of internally focused works intensely criticized the corporatization of the academy, articulating its adverse impact on academic values central to traditional colleges and universities. Among the most theoretically grounded pieces was Slaughter and Leslie’s (1999) *Academic Capitalism: Politics, Policies, and the Entrepreneurial University*. In this book, the authors introduced the theory of academic capitalism, which broadly argues that the academy has shifted from serving broader public needs to focus on profit acquisition, leveraged through the diverse products of the academy. The authors cited evidence about the growing number of patents, faculty equity in companies, peer review that now included industry as peers, and institutions being more closely linked to economic development initiatives. The authors warned readers about a shift to an academic capitalist regime, which was fundamentally changing the identity of American colleges and universities as stewards of the public good. These themes were echoed in more recent (and less scholarly) books with provocative titles such as *University, Inc.: The Corporate Corruption of Higher Education* (Washburn 2005) and *The Lost Soul of Higher Education: Corporatization, the Assault on Academic Freedom, and the End of the American University* (Schrecker 2010).

Another group of internally focused studies were broader in scope, examining the changing character of public higher education and the implications of becoming quasi-privatized entities. For example, books authored by economists, *What’s Happening to Public Higher Education?* (Ehrenberg 2007) and *The True Genius of America at Risk: Are We Losing Our Public Universities to De Facto Privatization?* (Lyll and Sell 2005), used quantitative data to illustrate how declines in state support for higher education were affecting public colleges and universities. The authors documented the inverse relationship between declining state support and increasing tuition, tightening enrollments, cuts in financial aid, increased attrition rates, declining faculty salaries, and diminishing capacity to serve the public good. Such accounts warned public university colleagues about how public higher education was changing dramatically from previous eras of sustained support.

Still, other works in this genre were more strategic and instructional, offering a broader view about ways in which institutions might understand and leverage their identity to assist campus planning. Zemsky et al. (1997), for example, developed a

model for mapping market segments of higher education which ranged from convenience/user-friendly colleges to name-brand colleges. Based on their quantitative analysis of several student factors (e.g., yield, selectivity, tuition), the strategic mapping tool was designed to help institutional leaders understand their segment and likely competitors in each sector. The taxonomy was espoused as a way to track changes in the market and facilitate purposeful planning to strengthen one's market niche. Similarly, DesJardins (2002) created predictive models to segment an institution's most promising group of prospective students to target for recruitment and telemarketing efforts. His work offered leaders insights on ways to make more efficient use of limited recruiting and marketing resources.

Derek Bok's (2003) *Universities in the Marketplace: The Commercialization of Higher Education* was less tactical and more philosophical, examining how institutions might preserve their values in the face of inevitable entrepreneurism. The book, written by the former Harvard president, explored the origins of commercialization in the academy and detailed some of the strengths and limits of adapting business models to academic settings. Bok examined the benefits and costs of commercialization and ultimately emphasized setting limits, protecting research integrity, and preserving educational values. Similarly, Kirp's (2003) *Shakespeare, Einstein, and the Bottom Line* featured a series of vignettes about institutions that were leveraging prestige, branding, and market forces to move them ahead in the academic pecking order. The book invoked questions about how institutions might harness entrepreneurism without compromising core institutional principles.

Another group of studies examined organizational identity as it relates to "striving institutions" seeking to move up in the prestige hierarchy (O'Meara 2007, p. 122). These studies highlighted the latent consequences of prestige maximization and academic drift. These consequences include mismatched faculty behavior and rewards (Dubrow et al. 2006; Melguizo and Strober 2007) and institutional reallocations away from core functions (Morphew and Baker 2004). Gonzales's (2013) study of faculty sensemaking at a striving Hispanic-Serving Institution (HSI) highlights the gap between faculty expectations, historic mission, and administrative intentions. Thacker's (2005) book, *College Unranked: Ending the College Admissions Frenzy*, provides an unflattering exposé into how admissions practices have been altered to increase rankings, fed by pressures to maximize prestige and revenue.

In summarizing this literature, we note that the notion of "what is central" in an organization (Albert and Whetten 1985) was increasingly viewed as malleable, normative, and influenced by external forces, primarily related to market influences. Specifically, many of these works challenge the notion that organizational identity can be viewed as a single unifying notion but instead might consist of multiple identities that are reshaped and negotiated. One study explored this perspective in the context of departmental mergers, examining how structural changes within a college related to identity formation of a new department. In framing their analysis, Mills et al. (2005) summarized their perspective about organizational identity in the context of change:

The process of identification is complicated because neither the individual nor the organization has a single identity or even consistency among identities. Just as more

nuanced views of organizational culture go beyond an integrationist perspective to allow for multiplicity of meanings in differentiation fragmentation perspectives (Martin 1992, 2002), the conception of organizational identity has moved beyond something that people take to be central, distinctive, and enduring about an organization (Albert and Whetten 1985) to thinking about identity as a social construction susceptible to variation and change. (Gioia 1998; Humphreys and Brown 2002; Wenger 2000) (as cited in Mills et al. 2005, p. 600)

Mills et al.'s (2005) research was anchored on Hatch and Schultz's (1997) view of organizational identity, focusing on organizational culture as the basis for the creation and maintenance of identity. It documented the challenges of merging academic departments, suggesting that simply designing new administrative structures does not ensure fostering a cohesive organizational identity at the departmental level. Ultimately, mergers may not always result in intended outcomes such as cost savings, revitalization, or cross-disciplinary collaborations given the cultural considerations that may impede the creation of cohesive institutional identity. Alternatively, other research suggested that core identity can be maintained throughout such transitions. Specifically, one study conducted in Scandinavia concluded that institutions that had undergone extensive structural changes, resource reallocation, and reorientations were able to preserve unique characteristics of their institutions (Huisman et al. 2002). Stensaker and Norgård (2001) explain that such institutions were able to successfully "edit" their identity and attach meaning to changes as they unfolded on their campuses.

Finally, we identify another set of internally focused works of the era that examined how institutions could refashion their identities and practices to be more attuned to addressing society's most pressing problems. At the forefront of these contributions was *Scholarship Reconsidered: Priorities of the Professoriate* (Boyer 1990), which challenged academicians to expand the definition of scholarship around discovery, integration, and application. This work would be rebranded later as the scholarship of engagement, which further emphasized community partners playing a significant role in creating and sharing knowledge (Boyer 1996). Scholarship in this realm examined the changing identity of "engaged institutions" as they transformed traditional teaching, research, and service activities to adopt principles of engagement (Kellogg Commission 1999). Sandmann et al.'s (2009) monograph, for example, examined characteristics of the first wave of Carnegie classified engaged institutions and how engagement was being institutionalized on these campuses via leadership, structural changes, rewards, marketing, and fund-raising. Several works during the last decade provided leaders guidance to express their civic identities especially in the domain of student learning and democratic education (Ehrlich 2000; Jacoby and Associates 2009; Saltmarsh and Hartley 2011) and faculty scholarship (Fitzgerald et al. 2010; Glassick, Huber, and Maeroff 1997).

In sum, the internally focused organizational identity works of the last two decades reveal a struggle for the heart and soul of higher education and how internal stakeholders seek to understand, harness, or buffer external pressures influencing the academy. Such pieces often engaged academic audiences around the changing nature of higher education in a market-driven world and how it was changing the

identity of public higher education in the USA around the globe. While some of these works offered a new vision for higher education, many of them merely critiqued the state of higher education under new market realities and often lamented the negative consequences of institutional change to conform. All challenged the notion of organizational identity as a single construct in defining the “essence” of an institution among competing beliefs, values, and emerging views of the academy. The core question of “who are we?” (Albert and Whetten 1985) became more complicated and contested within higher education than ever before.

Institutional Image and Reputation

As the literature on organizational identity grew, many studies began to bridge internal perspectives (what is salient among internal actors) with external perspectives (how external stakeholders view an organization). In doing so, this literature began to encompass several fields, drawing on perspectives from organizational behavior, public relations, sociology, communications, and advertising. Salient questions of interest focused on what individuals believe about an organization (both internal/external stakeholders), how an organization uses or changes this information, and how individuals might respond to what they believe about an organization (Brown et al. 2006). Within the higher education literature, these broad concepts have been grouped together by some as “university identity” which incorporates organizational identity (internal cultural dimensions), “symbolic identity” (aesthetic dimensions of the campus), and “external reputation” (Steiner et al. 2013).

Toma et al.’s (2005) *The Use of Institutional Culture: Strengthening Identification and Building Brand Equity in Higher Education* provides a good example of scholarship that bridges internally and externally focused identity studies. In this monograph, the authors make a case for the importance of leveraging institutional identity and image in ways that yield benefits to the institution. In doing so, they link the concepts of institutional identity, brand equity (clarifying external image), and institutional culture as mutually reinforcing concepts. They summarize, “The notion is straightforward: people want to associate with places they view as distinctive, central, and enduring and want to know that others view them in the same way” (p. vii). The authors reinforce the notion that organizational identity has utility in higher education as it engenders loyalty, cooperation, and contact with the organization.

Empirical evidence supporting these claims could be found in emerging research on alumni bonds with their alma mater. Specifically, Mael and Ashforth’s (2006) study of alumni from a private college noted that one’s organizational identity predicted financial contributions, willingness to advise one’s son to attend, and willingness to advise others to attend one’s alma mater. The authors found that institutional traditions, myths, metaphors, and sagas were important to making membership salient and providing images of what an institution represents. In discussing their findings, the authors linked their findings to a broader body of literature suggesting that distinctive organizational identities could be leveraged to stimulate

member support for an organization (Albert and Whetten 1985; Cameron and Ulrich; 1986; Chaffee 1984; Clark 1972; Stern 1988). This work was extended in other alumni studies that found positive relationships between organizational identification and alumni involvement, perception of educational effectiveness, and perception of prestige (Caboni 2003; Okunade and Berl 1997). In the same vein, organizational identity has also been linked to retention and faculty satisfaction. One study found institutional image and reputation to be correlated with persistence among business school students (Nguyen and LeBlanc 2001) while another found a relationship between prestige of faculty appointment and job satisfaction. This particular study suggested that graduates of highly prestigious PhD programs were most likely to value prestige while graduates of low prestige programs valued salary more highly (Morrison et al. 2011).

Similarly, research on college rankings reinforced the notion that leveraging institutional identity could yield positive benefits for an institution. Bowman and Bastedo (2009) found that moving onto the front page of *U.S. News & World Report* rankings resulted in a significant improvement in an institution's admissions indicators. They concluded that appearing on the front page of the *U.S. News* rankings served as a filter for many top students in categorizing their top college prospects. Their work mirrored other studies suggesting a relationship between rankings, selectivity, yield, and average SAT score (Meredith 2004; Monks and Ehrenberg 1999; Volkwein and Sweitzer 2006). Volkwein and Sweitzer (2006) discussed rankings and prestige in relation to resource dependency theory, which suggests that organizations act in ways that enhance their acquisition of financial and human resources (Pfeffer and Salancik 1978). Both public and private university budgets are significantly enrollment driven, and thus, institutions are motivated to enhance prestige to attract students. Collectively, the burgeoning literature on college rankings, prestige, and alumni loyalty illustrate the salience of externally focused identity studies in understanding how image may be leveraged to improve institutional prospects and outcomes. A distinguishing attribute of the "organizational identity as market responsiveness" era was that these linkages became even more explicit.

Branding

The literature on higher education branding focuses on how colleges and universities communicate their unique identity to external audiences. Branding relates to product awareness and asks the central question, "When a person hears our name, what does he or she think about? (Anctil 2008, p. 35). The concept of branding has long been viewed as a "dirty word" in higher education because it implies a push toward persuasion and commercialism that are at odds with traditional images of college as pursuing the greater good (Weisbuch 2007).

In the context of higher education, branding is often a contested exercise since it calls for precision, consistency, and commitment of institutional identity (Waeraa and Solbakk 2008). Branding may, in fact, be more important and difficult for organizations

like colleges and universities that offer numerous intangible products to diverse constituencies (Ancil 2008; Johnson and Sallee 1994). As such, understanding and agreeing on “what is central” is complicated and often disputed when seeking to summarize in a brand identity. In attempting to reconcile these tensions, Stensaker (2007) summarizes the need to anchor branding processes within the beliefs of internal actors:

Branding should be viewed as a process of mobilizing the best marketers there are—the staff and students of the institution—not least because they represent central links between the outside and the inside, sometimes associated with the organizational identity, while at other times visualizing the image of the institution. For them to buy into the branding process, the image sought must be rooted in the distinctive institutional characteristics staff and students think are, and that they feel comfortable exposing to others outside the institution. (p. 13)

The importance of anchoring the brand in the perceptions of the organization’s core constituents is illustrated in Waeraa and Solbakk’s (2008) case study of the branding process at a regional Norwegian university. The authors explain that the precision and consistency required by the branding exercise generated resistance from faculty members opposed to a single espoused view of the institution. Their analysis draws on Selznick’s (1949) notion of institutional theory, suggesting that organizations become institutional patterns of interaction through which meaning emerges. Through this conceptual lens, they suggest that identity is a product of one’s history and is difficult to change by top management. This is further illustrated in an anecdotal account of the University of Dayton, in which faculty criticized their leaders for initiating a bold brand which was out of step with its understated culture and catholic tradition (Ashburn 2008).

The tension articulated by these scholars has shown to be salient in other non-profit contexts. For example, Voss et al.’s (2006) quantitative study of 113 nonprofit theaters found that lower ticket sales and net revenues were associated with divergent views of organizational identity among leaders. Low performance occurred when disagreement about identity was extreme. The authors pointed out that artistic values and market values can come into conflict, suggesting that leaders should try to foster a single identity that would be consistently expressed in marketing and fund-raising. Yet, the issue is further complicated when refreshing institutional identity may be critical to an institution’s survival. In the case of the University of Dayton, branding changes were credited with buoying enrollments (Ashburn 2008), suggesting a delicate dance in revitalizing institutional image to improve market share while preserving what is central to the organization.

These tensions were conceptualized in Waeraa and Solbakk’s (2008) literature review on the branding process in relation to organizational identity. They point out that aspects of organizational identity are dynamic rather than fixed, making it difficult to assign the most prominent aspects of identity in an organization (Corley et al. 2000; Gioia et al. 2000). The presence of multiple identities creates disagreements about what is central in an organization (Pratt and Foreman 2000), and conflicts arise when identity is viewed as holistic by managers (Humphreys and Brown 2002). Even Albert and Whetten’s (1985) foundational article suggests that a single organizational identity may be untenable in certain contexts. This may be especially true in “striving

institutions” (O’Meara 2007) that often have divisions among local and cosmopolitan faculty about the purposes of an institution (Birnbaum 1988; Riesman 1956).

Image and Reputation

Much of the branding literature rests on the assumption that such exercises are a salient feature of defining external image and reputation. Yet, other research sheds light on the complexity of how external entities understand institutional image. These images are shaped by media, personal experience, and anecdotes about campus experiences. The results of these studies suggest that image creation is a messy process, shaped by many factors. For example, an empirical study by Kazoleas et al. (2001) found that an institution’s image was primarily the function of personal relationships or actual experiences of the university, not media campaigns or coverage. In examining proximity on perceptions of image, the authors concluded that community relations and serving clients well are more important than marketing campaigns in deriving institutional image. Their findings relate to other studies suggesting that public institutions that demonstrate a strong commitment to their communities have been successful in leveraging public and private support for their campuses. Such institutions are typically regional, urban universities that have distinguished themselves from their sister land-grant institutions (Langseth and McVeety 2007; Weerts 2007, 2010). As “engaged institutions,” these campuses have branded themselves—formally and informally—by modeling the values of reciprocity and mutual benefit (Weerts and Sandmann 2008).

With the growth of the civic engagement movement in higher education, institutions of all types have used community engagement as a market-positioning strategy. In doing so, they communicate to stakeholders about conceptualizations of engagement that fit most appropriately with their missions and image. Research documents, for example, how private liberal arts colleges and research universities articulate their engagement mission in terms of “transforming the world, and improving the human condition.” Conversely, regional public universities and community colleges typically describe their work in more practical, place-based terms such as “serving business and industry, public schools, and social service agencies.” These studies conclude that language is important in communicating image and engagement and signaling an institution’s most salient stakeholders such as legislators, alumni, prospective students, and boards of trustees (Morphew and Hartley 2006; Weerts and Hudson 2009).

Methodology and Analytic Approaches

The scholarship we categorize within organizational identity as market responsiveness features a diverse array of scholarly approaches. Many of these works have

been authored by leaders in the field whom have held roles as campus presidents or CEOs of higher education associations (e.g., Bok 2003; Boyer 1990; Boyte and Hollander 1999; Erhlich 2000; Lyall and Sell 2005). While some of these leaders relied on data to advance their arguments (notably economists), others were more philosophical and reflective in their discussions about the changing character of higher education. Such works tended toward the descriptive. Still other pieces, more anecdotal, were practitioner-oriented, providing vignettes to animate the changes in campus practices related to entrepreneurialism, branding, and enrollment management (see Kirp 2003; Thacker 2005). Slaughter and Leslie's (1999) work on academic capitalism was among the few full-length works that provided a rigorous and conceptual analysis of changes in the sector. Our review suggests that the most prominent works within the domain of organizational identity were not empirical in nature, but rather promoted awareness of changes underway in the academy, suggesting ways in which leaders might think about these changes.

Empirical studies on the topic relied on a diverse range of methodologies to add new knowledge on organizational identity in higher education. A number of qualitative studies were informative to understand sensemaking that takes place when institutional identities are challenged in response to external forces. Such cases were evident at the department and institutional levels (Gonzales 2013; Mills et al. 2005; Morphew and Jenniskens 1999; Waeraa and Solbakk 2008), often examining faculty responses to branding exercises and organizational change. Work on college and university promotional materials relied on discourse analysis or content analysis, with the rare quantitative analysis (Delucchi 1997; Hartley and Morphew 2008; Morphew and Hartley 2006; Taylor and Morphew 2010). Quantitative studies were more likely to be focused on strategic practices such as market positioning (Zemsky et al. 1997) or enrollment management (DesJardins 2002). A series of multivariate studies also examined the impact of prestige maximization on changing revenue streams and priorities of the academy (Morphew 2002; Volkwein and Sweitzer 2006) and ways in which alumni identified with their alma mater (Ashforth and Mael 1989; Caboni 2003). Overall, a diverse set of methodologies was employed in addressing organizational identity through internal and external perspectives within the branding frame.

Conclusions and New Directions for Research

This chapter posed three primary questions: How has organizational identity been defined in scholarship on higher education? "How have conceptions of organizational identity in higher education changed over time?" and "What are the implications of these changes for future research on this topic?" In addressing the first two questions, this chapter offered a conceptual and chronological framework to categorize identity-related literature in the field of higher education during the last several decades. Popular conceptions of identity suggest that the concept refers to the enduring and durable qualities or character of an organization, however, the

scholarship on organizational identity proposes that the concept is much more dynamic. More specifically, the concepts of identity and image—which some scholars suggest are mirrors of one another—are often intertwined in higher education scholarship.

Table 6.1 provides a summary of the four frames discussed in this chapter, illustrating ways in which the literature might be understood and differentiated in its focus on internal and external audiences and depictions of organizational identity. The table also provides a historical context for understanding each of the frames. Our depiction of the frames illustrates how assumptions, language, and conceptualization about organizational identity have changed in relationship to an evolving national context.

Table 6.1 demonstrates clearly that conceptions of organizational identity in scholarship on higher education have been dynamic. The table and our description of these changing conceptions also suggest that in the literature on higher education, identity and image are often intertwined. This is consistent with the work of scholars such as Gioia et al. (2000) who argue that identity and image play reciprocal roles. Their research and our discussion of organizational identity document how organizations can work to change their images—how they are portrayed and understood by external groups—and then how these changed images of themselves affect organizational identity. This is true in the cases of organizational identity as strategy and market responsiveness, for example. In the former case, colleges and universities responded to their images as poorly managed organizations by adopting businesslike practices such as strategic plans. Such practices transformed institutional identity as internal constituents adopted these new structures and policies as part of their organization's new identity. The same is true in the case of organizational identity as market responsiveness: the identity of colleges and universities has undeniably changed as a function of their responses to changes in state appropriations, students' expectations, and rankings.

As summarized in Table 6.1, the storytelling frame represents the earliest identity works (pre-1960s) that relied on rich narratives to convey distinctiveness and values that defined the essence of early colleges, many of them liberal arts institutions. Internally focused studies between the Civil War and World War II relied on rich and colorful narratives to describe unique traditions, values, and lore that defined distinctive colleges of the era. Such studies built loyalty and cohesion around unique institutional values and enduring characteristics. Meanwhile, externally focused pieces of the era were largely media driven, providing a colorful glimpse into college experience for many who would never experience it. Journalists and Hollywood producers conspired to create some of the most memorable imagery of college life, helping to embed notions of the "collegiate way" into the psyche of the American public. Together, the internally and externally focused works within the storytelling frame were less critical, often boosting the image of college among internal and external stakeholders. While less rigorous methodologically, these works played an important role in painting an intriguing portrait of American higher education.

Table 6.1 Four frames of organizational identity in higher education scholarship

	<i>Pre-1960</i>	<i>1960–1980</i>	<i>1980–2000</i>	<i>2000–present</i>
	Organizational identity as storytelling	Organizational identity as saga	Organizational identity as strategy	Organizational identity as market responsiveness
Underlying assumptions and values	Our college/university is unique; mission matters; who we are is informed by our past	Institutional history and leadership matter; sagas/stories can act as organizational glue, even as leaders change	Higher education can and must learn from business; with fewer students, we must compete and organize ourselves more efficiently	Marketing is a must: attract all the students you can; maximize prestige; tell your story
National context	Higher education still elite; collegiate ideal appealing to maturing nation	Evidence of stratification is more apparent; baby boom; post WWII government involvement	Student market shrinks; many question value of higher education; competition for traditional and nontraditional students increases	Publics seek elite status; state appropriations reduced; for-profits rise; rankings become important; marketing linked to college choice
Audience orientation	<i>Internal</i> Clarify values, engender loyalty, develop institutional culture, and build mission	<i>Internal</i> Assist scholars in applying evolving organizational theory to collegiate context	<i>Internal</i> Criticism of higher education as poorly managed, and drifting from character and mission. Emerging vision of engaged colleges	<i>Internal</i> Challenges of finding identity salience in complex institutions
Methodologies	<i>External</i> Media and Hollywood portrayal of the “collegiate way”	Largely qualitative; analytical; neutral; smaller datasets or single cases	<i>External</i> Leverage and edit identity to be more strategic in responding to market forces and public needs	<i>External</i> Clarify market niche and corresponding brand identity
	Institutional histories; mission centrality; narrative; less critical		Qualitative and quantitative, incorporating business language/concepts case studies	Qualitative and quantitative, increasingly critical and complex; larger datasets

The literature we categorize within the saga frame represents a shift to a more scholarly analysis of colleges and universities as complex organizations. Burton Clark and other social scientists led the way in developing a research agenda on the broad topic of college distinctiveness and institutional diversity. These scholars were the first to develop theoretical frameworks and rigorous methodological approaches to understand enduring aspects of organizations and how higher education institutions might be understood in this context. Such studies formally demonstrated the importance of institutional history and leadership in understanding organizational life within colleges and universities. Unlike the storytelling literature of the previous era, empirical studies within the saga era were less celebratory or promotional, typically neutral in developing theory around colleges and universities as complex entities. Subsequently, the audiences for the saga-oriented studies were typically social scientists and higher education leaders (e.g., internal audiences) who hoped to make sense of colleges and universities as distinctive organizations.

As illustrated in Table 6.1, the shift from the saga to strategic era is delineated by a shifting political and economic context that pushed the organizational identity literature in new directions. After the turbulent 1960s, the stakes became higher for higher education. Due to the need to attract students and quell public scrutiny of the academy, scholars and higher education leaders began to more critically explore the relationship between identity, strategy, and outcomes. To that end, more diverse methodologies were employed to understand complex relationships, including the relationship between institutional image and college choice.

As literature within the strategic era developed, theories such as resource dependency and isomorphism became more salient, challenging organizational identity literature that traditionally focused on examining the enduring attributes of colleges and universities. Many scholars writing from this perspective sought to understand how leaders might leverage and even edit institutional identities to survive in an increasingly uncertain world. But not all scholars took this view. Beginning with the strategic era, authors—typically higher education insiders and former leaders—condemned the changing character of higher education as too captive to market forces. Still, other scholars took a more assets-building view, envisioning how the academy might reinvent itself to be more productively involved in addressing society's most pressing problems. The literature on academic drift, college rankings, civic engagement, and academic capitalism is illustrative of these tensions that continue to exist today.

Finally, the market responsiveness frame represents a set of more sophisticated works examining institutional image formation and market niche. In particular, literature within this category began to bridge internally and externally focused scholarship, exploring how identity could be leveraged to create brand equity and loyalty. Ranging from the empirical to the anecdotal, these pieces continue to gain prominence as financial pressures force institutions to compete more aggressively for students and the loyalty of external stakeholders. The studies that were internally focused within this frame often explored the tensions associated with branding and identity salience within complex universities. Other studies explored whether cohesive identities could be retained with structural changes resulting from mergers.

Compared to literature in the strategic era, internally and externally focused pieces in the branding frame became more harmonious in their purpose, illustrating more sophisticated approaches to understanding the relationship between identity, image, and institutional outcomes.

In comparing these four frames, we note the symbiotic relationship between institutional identity and external influences that shape the identity of the sector as a whole. Specifically, the literature reviewed for this chapter suggests that organizational identity is malleable and mutually reinforcing, with colleges and outside agents playing important roles in shaping and reshaping identity to match contemporary contexts. Examples can be seen in each of the four frames articulated in this chapter. For example, literature within the storytelling and saga perspectives illustrates that notions of the “collegiate way” were perpetuated by both internal and external stakeholders. The collective influence of institutional historians and an imaginative media gave rise to an enduring view of collegiate life that permeates our understanding of higher education today.

Likewise, the strategy and market responsiveness frames illustrate how market forces and changing politics of education have led colleges and universities to be viewed in less benevolent ways than the past. Due to changing fiscal and political realities, colleges and universities have become more concerned about revenue generation and acquisition of paying customers. Paradoxically, as institutions have responded to these forces, it has reinforced the image—often negative—that colleges and universities primarily exist to profit themselves. This is evident in a recent poll by Public Agenda suggesting that 6 out of 10 Americans believe that colleges are “mostly like businesses and mainly care about the bottom line” (Immerwahr et al. 2010, p. 2). Such examples reveal that organizational identity in higher education is a complex process of co-creation between internal and external forces in articulating “what is central”. Simply put, colleges and universities wittingly or unwittingly conspire with external stakeholders to create and co-create an identity for the sector as a whole.

Implications for Future Research

We now turn our attention to the final question posed in this chapter: “What are the implications for future research on the topic of organizational identity in higher education?” We suggest that the next generation of literature on this topic may take several discrete paths conceptually and empirically. Following the form of this chapter, these studies might be grouped into internally and externally focused works.

From an internal perspective, we suggest that the changing national context will continue to shape studies exploring the shifting identity of colleges and universities. Rapidly increasing costs, the emergence of massive open online courses (MOOCs), and a changing demographic profile of college students are altering the higher education landscape significantly. In this context, small private colleges with

distinctive identities are particularly vulnerable, evidenced by declining market share and susceptibility to closure (Marcus 2013). Hunter (2012) explains that such institutions “do not have the enrollment volume, endowment strength and reputational clout to resist internal and environmental fluctuations or competition” (p. 3). In a recent blog post, Pamela Reid, President of St. Joseph College, connected this phenomenon to Darwin’s theory of natural selection:

According to Charles Darwin, “It is not the strongest of the species that survives, nor the most intelligent that survives. It is the one that is the most adaptable to change.” If we apply this pronouncement to higher education, our focus turns to small private colleges and universities. These institutions exist across the nation in settings from urban to rural; many were founded with religious affiliations or backgrounds; and they often serve disproportionately more first-generation students, students with special needs, and those for whom personal attention is essential. (Reid 2012)

As the unique niche for small distinctive colleges shrinks, intriguing questions emerge about the relationship between organizational identity and survival of these institutions. In framing such questions, population ecology may provide a fruitful conceptual grounding for future research. Pioneered by Hannan and Freeman (1977), the concept focuses on how organizations adapt to changing environments and examines the birth, growth, and death of organizations that occur in these environments. The theory might inform future research on organizational identity in higher education as it contributes to our understanding about growth or demise of distinctive colleges. Central questions might include the following: “What role might organizational identity play in the closure of a college? What role does organizational identity play in sustaining the health and vibrancy of a vulnerable college?” Interviews with faculty, alumni, trustees, and administrators could be triangulated with archived reports, meeting minutes, and other documents to understand these contexts and relationships. Larger datasets might be constructed and used to test models predicting what types of colleges and universities can be expected to survive and whether leadership qualities or specific institutional traits (e.g., resources, location in an urban setting) play a role in predicting survival. Quantitative techniques such as event history analysis may be particularly appropriate for these types of studies.

In the public sector, we suggest that more research is needed to understand the relationship between institutional image and public funding and/or voluntary support for higher education. This is especially important since a prevailing narrative exists among many higher education leaders that additional marketing or “telling our story better” is the most promising way to restore state budgets for higher education (Weerts 2011). Yet, there is a wide gulf in perceptions among academic and public audiences about the value and impact of higher education in society. For example, expensive economic reports sponsored by university relations office have been scrutinized for their inaccuracy and are often “taken with a grain of salt” by state officials. It remains unclear how such studies help institutions in the face of budget deficits and competing interest groups vying for a diminishing share of state funds (Potter 2003). Furthermore, national polling data suggest that Americans are increasingly skeptical about the continual pleas for more tax money among college

leaders. Many believe that colleges and universities are not doing enough to control costs (Immerwahr et al. 2010). Others suggest that marketing about higher education's commitment to public needs often does not match reality. A report authored by the American Association of State Colleges and Universities (2002) explained, "While the idea of public engagement is frequently embraced by university presidents, there is considerable evidence that deep engagement is rare—there is more smoke than fire, more rhetoric than reality" (p. 13).

The above examples suggest that there is incongruence between espoused images crafted by institutional leaders and the beliefs and impressions held by important external stakeholders. Wan and Schnell (2007) discussed this concept in the private sector, suggesting the need to understand symmetry in co-creating organizational image among stakeholders:

If corporate image functions as an ideal two-way mirror reflecting the public's expectations of a good company on the one hand and how the company would like to be perceived on the other, then the congruency between the two would thus meet the requirement of a symbolic relationship that is as close to symmetrical as possible. Of course, the premise for this condition to occur is that an image must be the truthful representation of the substantial organizational behaviors, and not an illusion with no basis in reality. (p. 39)

The notion of symmetry or congruence is also discussed by Treadwell and Harrison (1994) who discussed the ethics of communication and the need to reconcile internal and external images of an organization. The authors suggested that two-way communication may help expand participation in crafting the image, which may result in long-term image stability. Nonaka (1994) took this a step further, suggesting that standards must be in place for judging truthfulness among various parties.

Future research on organizational identity in higher education might examine congruence between images held by higher education internal and external stakeholders. Questions to be addressed may include the following: "To what extent does the espoused image of an institution match those of the public or other key stakeholders? To what degree does organizational image align with the reality of what is central to the organization in terms of its priorities and alignment of resources?" Central to addressing these questions is understanding the extent to which loosely coupled organizations (Weick 1976) such as colleges and universities may manage and negotiate multiple images held by external stakeholders. For example, in the realm of institutional commitment to community engagement, it is often the case that some units or academic departments are highly engaged while others are disengaged. Thus, espousing engagement as a core component of institutional identity may or may not match stakeholder perceptions of reality depending on their point of entry into the institution.

To address these broad sets of issues, future research may employ multiple sets of methodologies. For example, national public opinion data might be matched against state higher education funding data to examine whether public opinion is related to changes in levels of state support for higher education. Such studies could take into account how public opinion interacts with larger economic and political shifts that may predict levels of investment in higher education. These studies could

be linked to earlier works that have examined changing rationales for funding higher education over the past several decades (see St. John and Parsons 2004).

Other research might focus more directly on how external stakeholders derive their perceptions of higher education, and specific institutions in this larger context. These studies might examine image formation among various types of institutions and how alumni, legislators, and community partners develop notions about a certain set of campuses. Such work might be qualitative in nature and could be used to inform institutional strategies regarding core priorities and branding strategies to match these priorities. In addition, studies might use national opinion data—such as the Public Agenda publications noted above—as dependent variables or covariates in models in order to determine what role colleges and universities play in shaping public opinion about themselves. Such studies might seek to determine whether higher education institutions' embrace of businesslike strategies actually accelerates the public's changing perception of higher education's businesslike nature, for example.

Finally, there is much more to be known about the interaction between organizational identity and college choice. Our discussion of organizational identity began with institutional histories and the role these narratives played in building internal cohesion. Traditionally, organizational identity has been used as a kind of organizational glue, but it is unclear how this adhesive works on prospective students. The contemporary higher education sector is chock full of claims that specific marketing practices and organizational trappings build community and a sense of identity on campus and with prospective students, but we have little empirical or conceptual evidence to substantiate these claims. A fruitful area of analysis in the near future might involve testing these claims with studies that use qualitative or quantitative (or mixed) methods to assess how a college's organizational identity is affected by the addition of, for example, big-time sports or the addition of graduate courses on what was an undergraduate campus and how changes in organizational identity affect its ability to recruit prospective students.

References

- Adler, P., & Adler, P. (1987). *Membership roles in field research* (Qualitative research methods series). Thousand Oaks: Sage.
- Albert, S. (1998). The definition and metadefinition of identity. In D. A. Whetten & P. C. Godfrey (Eds.), *Identity in organizations: Building theory through conversations* (pp. 1–13). Thousand Oaks: Sage.
- Albert, S., & Whetten, D. (1985). Organizational identity. In J. M. T. Balmer & S. A. Greyser (Eds.), *Revealing the corporation: Perspectives on identity, image, reputation, corporate branding, and corporate-level marketing* (pp. 77–105). New York: Routledge. (Reprinted from *Research in Organizational Behavior*, 7, 263–295.)
- American Association of State Colleges and Universities. (2002). *Stepping forward as stewards of place*. Washington, DC: AASCU.
- Anctil, E. J. (2008). Selling higher education: Marketing and advertising America's colleges and universities. *ASHE Higher Education Report*, 34(2). Hoboken, NJ: Wiley Periodicals.

- Anderson, J. D. (1997). Training the apostles of liberal culture: Black higher education, 1900–1935. In L. Goodchild & H. Wechsler (Eds.), *The history of higher education* (pp. 474–497). Needham Heights: Pearson Custom Publishing.
- Anderson, C. K., & Thelin, J. R. (2009). Campus life revealed: Tracking down the rich resources of American collegiate fiction. *Journal of Higher Education*, 80(1), 106–113.
- Ashburn, E. (2008, September 12). Once-Quiet U of Dayton pushes a bold brand. *Chronicle of Higher Education*. Retrieved from <http://chronicle.com/article/Once-Quiet-U-of-Dayton-Pushes/12775/>
- Ashforth, B. E., & Mael, F. (1989). Social identity theory and the organization. *Academy of Management Review*, 14, 20–39. (Reprinted in Jatch, M. J., & Schultz, M. (Eds.). (2004). *Organizational identity: A reader* (pp. 134–160). Oxford: Oxford University Press.)
- Astin, A. W., & Lee, C. B. T. (1972). *The invisible colleges: A profile of small, private colleges with limited resources*. New York: McGraw-Hill.
- Bailey, S. K. (1975). *Educational interest groups in the Nation's Capitol*. Washington, DC: American Council on Education.
- Bain, D. H. (1999). *The college on the hill: A browser's history of Middlebury College 1800–2000*. Middlebury: Middlebury College Press.
- Baldrige, J. V. (1971). *Power and conflict in the university: Research in the sociology of complex organizations*. New York: Wiley.
- Bennis, W. (1973). An O. D. expert in the cat bird's seat. *Journal of Higher Education*, 44(5), 389–398.
- Berdahl, R. (1985). Strategy and government: U.S. state systems and institutional role and mission. *International Journal of Institutional Management in Higher Education*, 9(3), 301–307.
- Berelson, B. (1960). *Graduate education in the United States*. New York: McGraw-Hill.
- Beyer, J. M., & Stevens, J. M. (1975). Factors associated with change in prestige of university departments. *Research in Higher Education*, 7, 229–255.
- Bhattacharya, C. B., Rao, H., & Glynn, M. (1995). Understanding the bond of identification: An investigation of its correlates among art museum members. *Journal of Marketing*, 59, 46–57.
- Biggs, D. A., Brown, J., & Kingston, G. (1977). Citizens' educational values and their satisfaction with a state university. *Research in Higher Education*, 6, 157–167.
- Birnbaum, R. (1983). *Maintaining diversity in higher education*. San Francisco: Jossey-Bass.
- Birnbaum, R. (1988). *How colleges work: The cybernetics of academic organization and leadership*. San Francisco: Jossey-Bass.
- Bledstein, B. J. (1976). *The culture of professionalism: The middle class and the development of higher education in America*. New York: W. W. Norton and Company.
- Bok, D. (2003). *Universities in the marketplace: The commercialization of higher education*. Princeton: Princeton University Press.
- Bowman, N. A., & Bastedo, M. N. (2009). Getting on the front page: Organizational reputation, status signals, and the impact of *U.S. News and World Report* Rankings on student decisions. *Research in Higher Education*, 50, 415–436.
- Boyer, E. L. (1990). *Scholarship reconsidered: Priorities of the professoriate*. Princeton: Carnegie Foundation.
- Boyer, E. L. (1996). The scholarship of engagement. *Journal of Public Service and Outreach*, 1(1), 11–20.
- Boyles, D. R. (2007). Marketing sameness: Consumerism, commercialism, and the status quo. In J. C. Smart (Ed.), *Higher education: Handbook of theory and research* (Vol. XXII, pp. 537–582). Bronx: Agathon Press.
- Boyte, H. & Hollander, E. (1999). *Wingspread declaration on the civic responsibilities of research universities*. Providence: Campus Compact. Retrieved from <http://www.compact.org/initiatives/trucen/wingspread-declaration-on-the-civic-responsibilities-of-research-universities/>
- Breneman, D. W. (2002, June 14). For colleges, this is not just another recession. *Chronicle of Higher Education*, B2.
- Brint, S., & Karabel, J. (1991). *The diverted dream: Community colleges and the promise of educational opportunity in America, 1900–1985*. New York: Oxford University Press.

- Brown, T. J., Dacin, P. A., Pratt, M. G., & Whetten, D. A. (2006). Identity, intended image, construed image, and reputation: An interdisciplinary framework and suggested terminology. *Journal of the Academy of Marketing Science*, 34(2), 99–106.
- Brubacher, J. S., & Rudy, W. (1997). *Higher education in transition: A history of American colleges and universities* (4th ed.). New Brunswick: Transaction Publishers.
- Bruggink, T. H., & Gambhir, V. (1996). Statistical models for college admission and enrollment: A case study for a selective liberal arts college. *Research in Higher Education*, 37(2), 221–239.
- Butler, D. (Director). (1936). *Pigskin parade* [Motion picture]. Los Angeles: Twentieth Century Fox.
- Caboni, T. C. (2003, November 12–16). *Organizational identification and voluntary support of higher education*. Paper presented at the Association of Higher Education annual meeting, Portland.
- Cameron, K. S., & Ettington, D. R. (1988). The conceptual foundations of organizational culture. In J. C. Smart (Ed.), *Higher education: Handbook of theory and research* (Vol. 4, pp. 356–396). New York: Agathon Press.
- Cameron, K. S., & Tschirhart, M. (1992). Postindustrial environments and organizational effectiveness in colleges and universities. *Journal of Higher Education*, 63(1), 87–108.
- Cameron, K. S., & Ulrich, D. O. (1986). Transformational leadership in colleges and universities. In J. C. Smart (Ed.), *Higher education: Handbook of theory and research* (Vol. 2, pp. 1–42). New York: Agathon Press.
- Carnegie Foundation. (2013). Community engagement elective classification. http://classifications.carnegiefoundation.org/descriptions/community_engagement.php
- Cartter, A. M. (1966). *An assessment of quality in graduate education: A comparative study of quality in graduate departments in 29 academic disciplines*. Washington, DC: American Council on Education.
- Chaffee, E. E. (1984). Successful strategic management in small private colleges. *Journal of Higher Education*, 55(2), 212–239.
- Chapman, D. W. (1981). A model of student college choice. *Journal of Higher Education*, 52(5), 490–505.
- Cheit, E. F. (1971). *The new depression in higher education: A study of financial conditions at 41 colleges and universities*. Berkeley: Carnegie Commission on Higher Education.
- Clark, B. (1970). *The distinctive college*. New Brunswick: Transaction Publishers; Clark first appeared.
- Clark, B. (1972). The organizational saga in higher education. *Administrative Science Quarterly*, 17(2), 178–184.
- Clark, D. A. (2010). *The college man: American mass magazines and middle-class manhood 1890–1915*. Madison: University of Wisconsin Press.
- Cohen, A. M., & Kisker, C. B. (2010). *The shaping of American higher education: Emergence and growth of the contemporary system*. San Francisco: Jossey-Bass. p. 12.
- Conway, J. (Director). (1926). *Brown of Harvard* [Motion picture]. Los Angeles: Metro-Goldwyn-Mayer.
- Cook, R. W., & Zallocco, R. L. (1983). Predicting university preference and attendance: Applied marketing in higher education administration. *Research in Higher Education*, 19(2), 197–211.
- Corley, K. G., Gioia, D. A., & Fabbri, T. (2000). Organizational identity in transition over time. In D. Rousseau & C. Cooper (Eds.), *Trends in organizational behavior* (pp. 95–110). Chichester: Wiley.
- Couturier, L. (2006). *Checks and balances at work: The restructuring of Virginia's public higher education system*. San Jose: National Center for Public Policy and Higher Education. Retrieved from http://www.highereducation.org/reports/checks_balances/virginia.pdf
- Covaleski, M. A., & Dirsmith, M. W. (1988). An institutional perspective on the rise, social transformation, and fall of a university budget category. *Administrative Science Quarterly*, 33(4), 562–587.
- Curran, R. E. (1993). *The bicentennial history of Georgetown University: From academy to university, 1789–1889*. Washington, DC: Georgetown University Press.
- Deal, T. E., & Kennedy, A. A. (1982). *Corporate cultures: The rites and rituals of corporate life*. New York: Perseus Publishing.
- Delucchi, M. (1997). “Liberal arts” colleges and the myth of uniqueness. *Journal of Higher Education*, 68(4), 414–426.

- DesJardins, S. L. (2002). An analytic strategy to assist institutional recruitment and marketing efforts. *Research in Higher Education*, 43(5), 531–553.
- Dethloff, H. C. (1975). *A centennial history of Texas A & M University 1876–1976*. College Station: Texas A & M University.
- Dewey, J. (1916). *Democracy and education: An introduction to the philosophy of education*. New York: Free Press; Dewey originally published *Dem in Am* in 1916; my version is recent.
- Dill, D. D., & Sporn, B. (1995). The implications of a postindustrial environment for the university: An introduction. In D. D. Dill & B. Sporn (Eds.), *Emerging patterns of social demand and university reform: Through a glass darkly* (pp. 1–19). Oxford: Pergamon.
- DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48(2), 147–160.
- Dubrow, G., Moseley, B., & Dustin, D. (2006). Life at mission creep U: What you can do when your college changes focus in the middle of your career? *Academe*, 93, 24–28.
- Dutton, J., & Dukerich, J. (1991). Keeping an eye on the mirror: Image and identity in organizational adaptation. *Academy of Management Journal*, 34, 517–554.
- Dyer, T. G. (2004). *The University of Georgia: A bicentennial history 1785–1985*. Athens: University of Georgia Press.
- Ehrenberg, R. G. (Ed.). (2007). *What's happening to public higher education? The shifting financial burden*. Baltimore: Johns Hopkins University Press.
- Ehrlich, T. (Ed.). (2000). *Civic responsibility and American higher education*. Westport, CT: American Council on Education/Orynx Press.
- Ellison, C. W. (2009). *Miami University 1809–2009: Bicentennial perspectives*. Athens: Ohio University Press.
- Elton, C. F., & Smart, J. C. (1983). Scholarly significance of the Carnegie Commission sponsored research reports: A citation analysis. *Journal of Higher Education*, 54(2), 164–179.
- Elvie, R. Q. (1987). *Gustavus Adolphus College: Kingdom of identity*. St. Peter: Gustavus Adolphus College.
- Fairweather, J. S. (1997). The relative value of teaching and research. In H. Wechsler (Ed.), *The NEA 1997 almanac of higher education* (pp. 43–62). Washington, DC: The National Education Association.
- Faulkner, W. (1936). *Absalom, Absalom!* New York: Random House; *Absalom* appeared 1936; my edition is later.
- Fincher, C. (1982). The missing link in institutional evolution. *Research in Higher Education*, 17(1), 93–96.
- Finkelstein, M. J., Farrar, D., & Pfnister, A. O. (1984). The adaptation of liberal arts colleges to the 1970s: An analysis of critical events. *Journal of Higher Education*, 55(2), 242–268.
- Fitzgerald, F. S. (1920). *This side of paradise*. New York: Charles Scribner's Sons.
- Fitzgerald, H. E., Burak, C., & Seifer, L. (2010). *Handbook of engaged scholarship: Vol. 1. Institutional change. Contemporary landscapes, future directions*. East Lansing: Michigan University Press; Fitzgerald's *This side of paradise* first appeared 1920; mine is 1996.
- Flandrau, C. M. (1897). *Harvard episodes*. Boston: Copeland and Day.
- Freeman, R. B. (1976). *The overeducated American*. New York: Academic.
- Gabriel, B. C. (1953). *The tree bore fruit: Manhattan College 1853–1953*. Riverdale: Manhattan College.
- Galaskiewicz, J., & Wasserman, S. (1989). Mimetic processes within an organizational field: An empirical test. *Administrative Science Quarterly*, 34(3), 454–479.
- Gardner, J. W. (1965). Agenda for the colleges and universities. *Journal of Higher Education*, 36(7), 359–365.
- Gasman, M., Baez, B., & Turner, C. S. (Eds.). (2008). *Understanding minority-serving institutions: New interdisciplinary perspectives*. Albany: SUNY Press.
- Geiger, R. (1999). The ten generations of American higher education. In P. G. Altbach, P. J. Gumpert, & R. O. Berdahl (Eds.), *American higher education in the twenty-first century: Social, political, and economic challenges* (pp. 38–69). Baltimore: Johns Hopkins University Press.

- Gioia, D. A. (1998). From individual to organizational identity. In D. A. Whetten & P. C. Godfrey (Eds.), *Identity in organizations: Building theory through conversations* (pp. 17–31). Thousand Oaks: Sage.
- Gioia, D. A., Schultz, M., & Corley, K. G. (2000). Organizational identity, image, and adaptive instability. *The Academy of Management Review*, 25(1), 63–81.
- Glassick, C. E., Huber, M. T., & Maeroff, G. I. (1997). *Scholarship assessed: Evaluation of the professoriate*. San Francisco: Jossey-Bass.
- Goldberg, K., & Linstromberg, R. C. (1969). The university as an anachronism. *Journal of Higher Education*, 40(3), 193–204.
- Gonzales, L. D. (2013). Faculty sensemaking and mission creep: Interrogating institutionalized ways of knowing and doing legitimacy. *The Review of Higher Education*, 36(2), 179–209.
- Goulding, A. J. (Director). (1940). *A chump at Oxford* [Motion picture]. Beverly Hills: United Artists.
- Gumport, P. J. (1993). The contested terrain of academic program reduction. *Journal of Higher Education*, 64(3), 283–311.
- Gumport, P., & Pusser, B. (1997). Restructuring the academic environment. In M. Peterson, D. Dill, & L. A. Mets (Eds.), *Planning and management for a changing environment: A handbook on redesigning postsecondary institutions*. San Francisco: Jossey-Bass.
- Gumport, P., & Sporn, B. (1999). Institutional adaptation: Demands for management reform and university administration. In J. C. Smart (Ed.), *Higher education: Handbook of theory and research* (Vol. XIV). Bronx/New York: Agathon Press. (Reprinted from Peterson, M., Mets, L., Trice, A., & Dill, D. (Eds.). (1999). *Planning and institutional research* (pp. 103–145). Needham Heights: Pearson Publishing).
- Hannan, M. T., & Freeman, J. (1977). The population ecology of organizations. *American Journal of Sociology*, 83, 929–964.
- Harbaugh, C. (Director). (1918). *Jack Spurlock, prodigal* [Motion picture]. Los Angeles: Fox Film.
- Hardy, T. (1895). *Jude the obscure*. New York: St. Martin's Press; Jude the obscure originally appeared 1892.
- Hartley, M. (2009). Reclaiming the democratic purpose of American higher education: Tracing the trajectory of the civic engagement movement. *Learning and Teaching*, 2(3), 11–30.
- Hartley, M., & Morphew, C. C. (2008). What's being sold and to what end? A content analysis of college viewbooks. *Journal of Higher Education*, 79(6), 671–691.
- Hatch, M. J., & Schultz, M. (1997). Relations between organizational culture, identity, and image. *European Journal of Marketing*, 31(5/6), 356–365.
- Hatun, A., & Pettigrew, A. (2004). Adaptation under environmental turmoil: Organizational flexibility in family-owned firms. *Family Business Review*, 17(3), 237–258.
- Haveman, H. A. (1993). Follow the leader: Mimetic isomorphism and entry into new markets. *Administrative Science Quarterly*, 38(4), 593–627.
- Hearn, J. C. (2003). *Diversifying campus revenue streams: Opportunities and risks*. Report for the American Council on Education series Informed Practice: Syntheses of Higher Education Research for Campus Leaders, Washington, DC.
- Hefferlin, J. B. L. (1970). Ritualism, privilege, and reform. *Journal of Higher Education*, 41(7), 516–523.
- Horne, J. W. (Director). (1927). *College* [Motion picture]. New York: Joseph M. Schenk Productions.
- Huisman, J. (1997). Differentiation and diversity in higher education systems. In J. C. Smart (Ed.), *Higher education: Handbook of theory and research* (Vol. 13). New York: Agathon Press.
- Huisman, J., Norgard, J., Gulddahl-Rasmussen, J., & Stensaker, B. (2002). Alternative universities revisited: A study of the distinctiveness of universities established in the spirit of 1968. *Tertiary Education and Management*, 8(3), 316–332.
- Humphreys, M., & Brown, A. D. (2002). Narratives of organizational identity and identification: A case study of hegemony and resistance. *Organization Studies*, 23(3), 421–447.
- Hunter, J., M. (2012). *An integrated framework for understanding the financial health of small, private colleges*. Unpublished doctoral dissertation, University of Minnesota-Twin Cities, Minneapolis.
- Hutchins, R. M. (1936). *The higher learning in America*. New Haven: Yale University Press; Hutchins' Higher Learning in America first appeared 1936.

- Ikenberry, S. O. (1972). The organizational dilemma. *Journal of Higher Education*, 43(1), 23–34.
- Immerwahr, J., Johnson, J., Ott, A., & Rochkind, J. (2010). *Public agenda, squeeze play 2010: Continued public anxiety on costs, harsher judgments on how colleges are run*. National Center for Public Policy and Higher Education and Public Agenda. Retrieved from www.publicagenda.org/pages/squeeze-play-2010
- Jacoby, C., & Associates. (2009). *Civic engagement in higher education: Concepts and practices*. San Francisco: Jossey-Bass.
- Jencks, C., & Riesman, D. (1977). *The academic revolution*. Chicago: University of Chicago Press; Jencks and Riesman first appeared 1977.
- Johnson, O. (1911). *Stover at Yale*. New York: Grosset and Dunlap.
- Johnson, R. H., & Chapman, D. W. (1979). An assessment of college recruitment literature: Does the high school senior understand it? *Research in Higher Education*, 11(4), 309–319.
- Johnson, J., & Sallee, D. (1994). Marketing your college as an intangible product. *The Journal of College Admission, Summer*, 144, 16–20.
- Jonsen, R. W. (1984). Small colleges cope with the eighties: Sharp eye on the horizon, strong hard on the fillter. *Journal of Higher Education*, 55(2), 171–183.
- Kazoleas, D., Kim, Y., & Moffitt, M. A. (2001). Institutional image: A case study. *Corporate Communications: An International Journal*, 6(4), 205–216.
- Kelderman, E. (2012, January 23). State support for higher education falls 7.6 percent in 2012 fiscal year. *Chronicle of Higher Education*. Retrieved from <http://chronicle.com/article/State-Support-for-Higher/130414/>
- Keller, G. (1983). *Academic strategy: The management revolution in American higher education*. Baltimore: Johns Hopkins University Press.
- Kellogg Commission on the Future of State and Land-Grant Universities. (1999). *Returning to our roots: The engaged institution*. Washington, DC: National Association of State Universities and Land Grant Colleges.
- Kerr, C. (2001). *The uses of the university* (5th ed.). Cambridge: Harvard University Press. First published 1963.
- Kirp, D. L. (2003). *Shakespeare, Einstein, and the bottom line: The marketing of higher education*. Cambridge, MA: Harvard University Press.
- Krachenberg, A. R. (1972). Bringing the concept of marketing to higher education. *Journal of Higher Education*, 43(5), 369–380.
- Kramer, J. E. (2004). *The American college novel* (2nd ed.). Lanham/Oxford: Scarecrow Press.
- Lachs, J. (1965). The question of new graduate programs. *Journal of Higher Education*, 36(3), 158–162.
- Langseth, M. N., & McVeety, C. S. (2007). Engagement as a core university leadership position and advancement strategy: Perspectives from an engaged institution. *International Journal of Educational Advancement*, 7, 117–130.
- Lazerson, M. (1997). *Discontent in the field of dreams: American higher education, 1945–1990* (Publication Number NCPI-3-01). Stanford: Stanford University, National Center for Postsecondary Improvement.
- Levine, A. (1980). *Why innovation fails: The institutionalization and termination of innovation in higher education*. Albany: State University of New York Press.
- Litten, L. H. (1979). Market structure and institutional position in geographic market segments. *Research in Higher Education*, 11(1), 59–83.
- Litten, L. H. (1980). Marketing higher education: Benefits and risk for the American academic system. *Journal of Higher Education*, 51(1), 40–59.
- Litten, L. H., & Brodigan, D. L. (1982). On being heard in a noisy world: Matching messages and media in college marketing. *College & University*, 57(3), 242–264.
- Lund, D. A. (1963). *Gustavus Adolphus College: A centennial history 1862–1962*. St. Peter: Gustavus Adolphus College.
- Lyall, K. C., & Sell, K. R. (2005). *The true genius of America at risk: Are we losing our public universities to de facto privatization?* (American Council on Education/Praeger Series on Higher Education). Westport: Praeger.

- Lyons, J. O., & Moore, H. T. (1962). *The college novel in America*. Carbondale: Southern Illinois University Press.
- Mael, F. A. & Ashforth, B. E., (1992). Organizational identity and strategy as a context for the individual. In J. A. C. Baum & J. E. Dutton (Eds.), *Advances in strategic management* (Vol. 13, pp. 19–64). Greenwich: JAI Press.
- Mael, F., & Ashorth, B. E. (2006). Alumni and their alma mater: A partial test of reformulated model of organizational identification. *Journal of Organizational Behavior*, 13(2), 103–123.
- Marcus, J. M. (2013, April 14). Why some small colleges are in big trouble. *The Boston Globe*. <http://www.bostonglobe.com/magazine/2013/04/13/are-small-private-colleges-trouble/ndLY-SWVGFAUjYVVWkqjnfK/story.html>
- Marklein, M. B. (2007, April 9). Race, wealth affect significance given to college rankings. *USA Today*. http://usatoday30.usatoday.com/news/education/2007-04-09-college-rankings_N.htm
- Martin, W. (1984). Adaptation and distinctiveness. *Journal of Higher Education*, 55(2), 286–296.
- Martin, J. (1992). *Cultures in organizations: Three perspectives*. New York: Oxford University Press.
- Martin, J. (2002). *Organizational culture: Mapping the terrain*. Thousand Oaks: Sage.
- Massy, W. F. (1996). *Resource allocation in higher education*. Ann Arbor: University of Michigan Press.
- Mayhew, L. B. (1974). The steady seventies. *Journal of Higher Education*, 45(3), 163–173.
- Mayo, A. (Director). (1941). *Charley's aunt* [Motion picture]. Los Angeles: Twentieth Century Fox.
- McConnell, T. R. (1962). *A general pattern for American public higher education*. New York: McGraw-Hill.
- McDonough, P. M. (1994). Buying and selling higher education: The social construction of the college applicant. *Journal of Higher Education*, 65(4), 427–446.
- McLeod, N. Z. (Director). (1932). *Horse feathers* [Motion picture]. Los Angeles: Paramount Pictures.
- MEEK, V. L. (1991). The transformation of Australian higher education from binary to unitary system. *Higher Education*, 21(4), 461–494.
- Melguizo, T., & Strober, M. H. (2007). Faculty salaries and the maximization of prestige. *Research in Higher Education*, 48(6), 633–668.
- Meredith, M. (2004). Why do universities compete in the ratings game? An empirical analysis of the effects of U.S. News and World Report college rankings. *Research in Higher Education*, 45(5), 443–461.
- Metzger, W. P. (1955). *Academic freedom in the age of the university*. New York: Columbia University Press.
- Meyer, J. W., & Rowan, B. (1977). Institutionalized organizations: Formal structure as myth and ceremony. *American Journal of Sociology*, 83, 340–363.
- Miller, R. E. (1952). *Light on the hill: A history of Tufts College 1852–1952*. Boston: Beacon.
- Millett, J. D. (1975). State coordinating boards and statewide governing boards: State government coordination versus institutional independence. In R. O. Berdahl (Ed.), *Evaluating statewide boards* (New directions for institutional research, no. 5). San Francisco: Jossey-Bass.
- Mills, M., Bettis, P., Miller, J. W., & Nolan, R. (2005). Experiences of academic unit reorganization: Organizational identity and identification in organizational change. *The Review of Higher Education*, 28(5), 597–619.
- Miner, D. C. (1954). *A history of Columbia College on Morningside: The bicentennial history of Columbia University*. New York: Columbia University Press.
- Monks, J., & Ehrenberg, R. G. (1999). *The impact of U.S. News and World Report rankings on admissions outcomes and pricing policies at selective private universities* (CHERI Working Paper # 1). Retrieved from <http://digitalcommons.ilr.cornell.edu/cheri/1>
- Morphew, C. C. (1996). *Statewide governing boards and program duplication: A longitudinal study of seven public systems of higher education*. Unpublished doctoral dissertation, Stanford University, Stanford.
- Morphew, C. C. (2000). Institutional diversity, program acquisition, and faculty members: Examining academic drift at a new level. *Higher Education Policy*, 3, 55–77.

- Morphew, C. C. (2002). A rose by any other name: Which colleges became universities. *The Review of Higher Education*, 25(2), 207–224.
- Morphew, C. C., & Baker, B. D. (2004). The cost of prestige: Do new Research I universities incur higher administrative costs? *The Review of Higher Education*, 27(3), 365–384.
- Morphew, C. C., & Hartley, M. (2006). Mission statements: A thematic analysis of rhetoric across institutional type. *Journal of Higher Education*, 77(3), 456–471.
- Morphew, C. C., & Jenniskens, C. G. M. (1999). Assessing institutional change at the level of the faculty; Examining faculty motivations and new degree programmes. In B. Jongbloed, P. Maasen, & G. Neave (Eds.), *From the eye of the storm: Higher education's changing institution* (pp. 95–120). Dordrecht: Kluwer Academic Publishers.
- Morrison, E., Rudd, E., Picciano, J., & Nerad, M. (2011). Are you satisfied? PhD education and faculty taste for prestige: The limits of the prestige value system. *Research in Higher Education*, 52(1), 24–46.
- National Center for Education Statistics. (1993). *120 years of American education: A statistical portrait*. Washington, DC: U.S. Department of Education Office of Research and Improvement.
- Neave, G. (1979). Higher education and regional development. *Higher Education Review*, 11(3), 10–26.
- Newsweek. (1976, April 26). Who needs college? *Newsweek*, 60–69.
- Nguyen, N., & LeBlanc, G. (2001). Image and reputation of higher education institutions in students' retention decisions. *International Journal of Educational Management*, 15(6), 303–311.
- Nonaka, I. (1994). A dynamic theory of organizational knowledge creation. *Organization Science*, 5(1), 14–37.
- O'Meara, K. A. (2007). Striving for what? Exploring the pursuit of prestige. In J. C. Smart (Ed.), *Higher education: Handbook of theory and research* (Vol. 12, pp. 121–179). New York: Springer.
- O'Reilly, C., & Chatman, J. (1986). Organizational commitment and psychological attachment: The effects of compliance, identification, and internalization on prosocial behavior. *Journal of Applied Psychology*, 71(3), 492–499.
- Okunade, A. A., & Berl, R. L. (1997). Determinants of charitable giving of business school alumni. *Research in Higher Education*, 38(2), 201–214.
- Ouchi, W. G. (1981). *Theory Z: How American business can meet the Japanese challenge*. Reading: Addison-Wesley; Originally appeared 1981.
- Parsons, T. (1956). Suggestions for a sociological approach to the theory of organizations I. *Administrative Science Quarterly*, 1(1), 63–85.
- Peck, E. S. (1955). *Berea's first century 1855–1955*. Lexington, KY: University of Kentucky Press.
- Pervin, L. A. (1967). The college as a social system: A fresh look at three critical problems in higher education. *Journal of Higher Education*, 38(6), 317–322.
- Peters, T. J., & Waterman, R. H. (1982). *In search of excellence: Lessons from America's best-run companies*. New York: HarperCollins.
- Peterson, M. W. (1995). Images of university structure, governance, and leadership: Adaptive strategies for the new environment. In D. D. Dill & B. Sporn (Eds.), *Emerging patterns of social demand and university reform: Through a glass darkly* (pp. 140–158). Bingley, UK: Emerald Group.
- Peterson, M. W. (1998). *Improvement to emergence: An organization-environment research agenda for a postsecondary knowledge industry*. Stanford: Stanford University, National Center for Postsecondary Improvement.
- Peterson, M. W., & Dill, D. D. (1997). Understanding the competitive environment of the postsecondary knowledge industry. In M. W. Peterson, D. D. Dill, & L. A. Mets (Eds.), *Planning and management for a changing environment: A handbook on redesigning postsecondary institutions* (pp. 3–29). San Francisco: Jossey-Bass.
- Pettigrew, A. M. (1979). On studying organizational cultures. *Administrative Science Quarterly*, 24, 570–581.
- Pfeffer, J., & Salancik, G. (1978). *The external control of organizations: A resource dependence perspective*. New York: Harper & Row; P&S first appeared 1978.
- Pfnister, A. O. (1984). The role of the liberal arts college: A historical overview of the debates. *Journal of Higher Education*, 55(2), 145–170.

- Pierson, G. W. (1952). *Yale College: An educational history, 1871–1921*. New Haven: Yale University Press.
- Potter, W. (2003, May 9). Public colleges try to show their value to states, but not everyone is convinced. *Chronicle of Higher Education*.
- Pratt, M. G., & Foreman, P. O. (2000). Classifying managerial responses to multiple organizational identities. *Academy of Management Review*, 25(1), 18–42.
- Puusa, A. (2006). Conducting research on organizational identity. *Electronic Journal of Business Ethics and Organization Studies*, 11(2), 24–28.
- Quinterno, J. (2012, April). *The great cost shift: How higher education cuts undermine the future of the middle class*. New York: Demos.
- Ragan, S. L., & McMillan, J. J. (1989). The marketing of the liberal arts: the rhetoric of antithesis. *Journal of Higher Education*, 60(6), 682–703.
- Reid, P., (2012, May 25). Small private colleges: Endangered species? *Huffington Post*. http://www.huffingtonpost.com/pamela-t-reid/small-colleges-closing-_b_1545670.html
- Reiner, J. R., & Robinson, D. W. (1970). Perceptions of college environment and contiguity with college environment. *Journal of Higher Education*, 41(2), 130–139.
- Rhoades, G. (1995). Rethinking restructuring in universities. *Journal of Higher Education Management*, 10(2), 17–30.
- Riesman, D. (1956). *Constraint and variety in American education*. Garden City: Doubleday; Riesman first appeared 1956.
- Roose, K. D., & Anderson, C. J. (1970). *A rating of graduate programs*. Washington, DC: American Council on Education.
- Ross, E. D. (1958). *The land-grant idea at Iowa State College: A centennial trail balance*. Ames: The Iowa State College Press.
- Rowse, G. L., & Wing, P. (1982). Assessing competitive structures in higher education. *Journal of Higher Education*, 53(6), 656–686.
- Rudolph, F. (1962). *The American college and university: A history*. New York: Knopf; Rudolph first appeared 1962.
- Ruggles, W. (Director). (1925). *The plastic age* [Motion picture]. New York: B. P. Schulberg Productions.
- Saltmarsh, J., & Hartley, M. (Eds.). (2011). *To serve a larger purpose: Engagement for democracy and transformation of higher education*. Philadelphia: Temple University Press.
- Sandmann, L. R., Thornton, C. H., & Jaeger, A. J. (2009). *Institutionalizing community engagement in higher education: The first wave of Carnegie classified institutions* (New directions for higher education no. 147). San Francisco: Jossey-Bass.
- Sanford, N. (1962). *The American college: A psychological and social interpretation of the higher learning*. New York: Wiley.
- Schein, E. H. (1985). *Organizational culture and leadership*. San Francisco: Jossey-Bass.
- Schrecker, E. (2010). *The lost soul of higher education: Corporatization, the assault on academic freedom, and the end of the American university*. New York: The New Press.
- Schultz, R. E., & Stickler, W. H. (1965, Summer). Vertical extension of academic programs in institutions of higher education. *Educational Record*, 231–241.
- Scott, W. R. (1992). *Organizations: Rational, natural, and open systems* (3rd ed.). Englewood Cliffs: Prentice Hall; Scott originally appeared 1981.
- Seitz, G. B. (Director). (1942). *Andy Hardy's double life* [Motion picture]. Los Angeles: Metro-Goldwyn Mayer.
- Selznick, P. (1949). *TVA and the grass roots: A study in the sociology of formal organization*. Berkeley: University of California Press; Selznick first appeared in 1949, later version on Amazon has diff subtitle, publisher.
- Selznick, P. (1957). *Leadership in administration: A sociological interpretation*. Berkeley: University of California Press; Selznick first appeared 1957.
- Shepardson, F. W. (1931). *Denison University 1831–1931: A centennial history*. Granville: Denison University.
- Simpson, G. (1979). Bureaucracy, standardization, and liberal arts: Evidences of mass production in higher education. *Journal of Higher Education*, 50(4), 504–513.

- Slaughter, S. (1995). Criteria for restructuring postsecondary education. *Journal of Higher Education, 10*(2), 250–282.
- Slaughter, S., & Leslie, L. L. (1999). *Academic capitalism: Politics, policies, and the entrepreneurial university*. Baltimore: Johns Hopkins University Press.
- Slaughter, S., & Silva, E. (1985). Towards a political economy of retrenchment: The American public research universities. *Review of Higher Education, 8*(4), 295–318.
- Smart, J. C., & Hamm, R. E. (1993). Organizational effectiveness and mission orientations of two-year colleges. *Research in Higher Education, 34*(4), 489–502.
- Smith, C. (Director). (1936). *The adventures of Frank Merriwell* [Motion picture]. Los Angeles: Universal Pictures.
- St. John, E. P., & Parsons, M. D. (2004). *Public funding of higher education: Changing contexts and new rationales*. Baltimore: John Hopkins University Press.
- Stark, J. S., & Marchese, T. J. (1978). Auditing college publications for prospective students. *Journal of Higher Education, 49*(1), 82–92.
- Steinberg, J. (2002). *The gatekeepers: inside the admissions process of a premier college*. New York: Vikings.
- Steiner, L., Sundström, A., & Sammalisto, K. (2013). An analytical model for university identity and reputation strategy work. *Higher Education, 65*(4), 401–415.
- Sensaker, B. (2007). The relationship between branding and organisational change. *Higher Education Management and Policy, 19*(1), 13–19.
- Sensaker, B., & Norgård, J. D. (2001). Innovation and isomorphism: A case-study of university identity struggle 1969–1999. *Higher Education, 42*, 473–492.
- Stern, S. (1988). Symbolic representation of organizational identity: The role of emblem at Garrett Corporation. In M. O. Jones, M. D. Moore, & R. C. Snyder (Eds.), *Inside organizations: Understanding the human dimensions*. Newsberz Park, CA: Sage.
- Stevens, M. L. (2007). *Creating a class: College admissions and the education of elites*. Cambridge: Harvard University Press.
- Strayer, F. R. (Director). (1942). *Blondie goes to college* [Motion picture]. Culver City: Columbia Pictures.
- Taylor, B. J., & Morphew, C. C. (2010). An analysis of baccalaureate mission statements. *Research in Higher Education, 51*(5), 483–503.
- Thacker, L. (2005). *College unranked: Ending the college admissions frenzy*. Cambridge: Harvard University Press.
- Thelin, J. R. (1976). *The cultivation of the ivy: A saga of the college in America*. Cambridge, MA: Schenkman Publishing Company.
- Thelin, J. R. (2004). *A history of American higher education*. Baltimore: Johns Hopkins University Press.
- Thelin, J. R., & Townsend, B. K. (1988). Fiction to fact: College novels and the study of higher education. In J. C. Smart (Ed.), *Higher education: Handbook of theory and research* (Vol. 4). New York: Agathon Press.
- Thompson, F. (1979). The cost and value of marketing analysis. *Research in Higher Education, 10*(1), 83–92.
- Thompson, D. (2011, June 1). For-profit colleges: First and last victims of higher education “bubble?” *The Atlantic*. Retrieved from <http://www.theatlantic.com/business/archive/2011/06/for-profit-colleges-first-and-last-victims-of-higher-education-bubble/239765/>
- Timmerman, J. J. (1975). *Promises to keep: A centennial history of Calvin College*. Grand Rapids: Calvin College and Seminary with William B. Eerdmans Publishing Company.
- Tolbert, P. (1981). *Determinants of social movement participation*. Presented at the American Sociological Association meetings, Toronto.
- Toma, J. D., Dubrow, G., & Hartley, M. (2005). *The uses of institutional culture: Strengthening identification and building brand equity in higher education*. San Francisco: Jossey-Bass.
- Treadwell, D., & Harrison, T. (1994). Conceptualizing and assessing organizational image: Model images, commitment, and communications. *Communication Monographs, 61*(1), 63–85.
- Trow, M. (1989). American higher education: Past, present and future. *Educational Researcher, 17*(3), 13–23.

- Trusheim, D. W., Crouse, J., & Middaugh, M. F. (1990). College applicants' attitudes and enrollment decisions. *Research in Higher Education*, 31(3), 295–305.
- Veblen, T. (1918). *The higher learning in America: A memorandum on the conduct of universities by business men* (2005 ed.). New York: Cosimo.
- Volkwein, J. F., & Sweitzer, K. V. (2006). Institutional prestige and reputation among research universities and liberal arts colleges. *Research in Higher Education*, 47(2), 129–148.
- Voss, Z. G., Cable, D. M., & Voss, G. B. (2006). Organizational identity and firm performance: What happens when leaders disagree about “who we are?”. *Organization Science*, 17(6), 741–755.
- Waeraa, S. A., & Solbakk, M. N. (2008). Defining the essence of a university: Lessons from higher education branding. *Higher Education*, 57, 449–462.
- Wan, H. H., & Schell, R. (2007). Reassessing corporate image: An examination of how image bridges symbolic relationships with behavioral relationships. *Journal of Public Relations Research*, 19(1), 25–45.
- Washburn, J. (2005). *University, Inc.: The corporate corruption of higher education*. New York: Basic Books.
- Weerts, D. J. (2007). Transforming campuses and communities through public engagement: Emerging roles for institutional advancement. *International Journal of Educational Advancement*, 7(2), 79–103. London: Palgrave.
- Weerts, D. J. (2010, November 19). *Can community engagement leverage state appropriations for higher education?* Research paper presentation, Association for the Study of Higher Education, Indianapolis.
- Weerts, D. J. (2011). “*If only we told our story better...*”: *Re-envisioning state-university relations through the lens of public engagement* (WISCAPE Viewpoints). Madison: University of Wisconsin–Madison, Wisconsin Center for the Advancement of Postsecondary Education (WISCAPE).
- Weerts, D. J., & Hudson, E. (2009). Engagement and institutional advancement. In L. R. Sandmann, C. H. Thornton, & A. J. Jaeger. (Eds.), *Institutionalizing community engagement in higher education: The first wave of Carnegie classified institutions* (New directions for higher education. no. 147, pp. 65–74). San Francisco: Jossey-Bass/Wiley.
- Weerts, D. J., & Sandmann, L. R. (2008). Building a two-way street: Challenges and opportunities for community engagement at research universities. *Review of Higher Education*, 32(1), 73–106.
- Weick, K. E. (1976). Educational organizations as loosely coupled systems. *Administrative Science Quarterly*, 21(1), 1–19.
- Weisbuch, R. A. (2007, January 22). Branding isn't a dirty word. *Chronicle of Higher Education*. Retrieved from <http://chronicle.com/article/Branding-Isnt-a-Dirty-Word/46660/>
- Wells, R. H., & Picou, J. S. (1982). The becoming place: A study of educational change in a small college. *Research in Higher Education*, 17(1), 15–32.
- Wenger, E. (2000). Communities of practice and social learning systems. *Organization*, 7(2), 225–246.
- Whetten, D. A., & Godfrey, P. C. (Eds.) (1998). *Identity in organizations: Building theory through conversations*. Thousand Oaks: Sage.
- Winston, G. C. (1999). Subsidies, hierarchies, and peers: The awkward economics of higher education. *Journal of Economic Perspectives*, 13(1), 13–36.
- Witkowski, E. H. (1974). The economy and the university: Economic aspects of declining enrollments. *Journal of Higher Education*, 45(1), 48–61.
- Zemsky, R., Shaman, S., & Iannozzi, M. (1997). In search of strategic perspective: A tool for mapping the market in postsecondary education. *Change*, 29(6), 23–38.
- Zusman, A. (1994). Current and emerging issues facing higher education in the United States. In R. Altbach (Ed.), *Higher education in American Society*. Amherst: Prometheus Books.

Chapter 7

Student Ratings of Instruction in College and University Courses

Stephen L. Benton and William E. Cashin

Introduction

The history of research on student ratings probably dates back to the 1920s, beginning with E. T. Guthrie's work at the University of Washington (Murray 2005). The topic has been studied more than any other in higher education, perhaps because of the role student ratings play in evaluating teaching and the availability of large datasets to analyze on most college campuses. The surge in studies began in the 1970s and continued into the 1990s. Whereas much of the student ratings research during those decades was published in higher education mainstream journals, many of the recent studies have appeared in discipline-specific publications (e.g., marketing, business). In addition, student ratings have found their way into the popular press. In some cases, authors have disparaged them and called for other measures of teaching effectiveness (e.g., value-added measures, peer ratings). They have written of the limitations in ratings—especially when used as the sole measure of teaching quality—often without making reference to the decades of research supporting their value when used appropriately.

In this chapter, we elaborate upon a previous publication: *IDEA Paper No. 50 Student Ratings of Teaching: A Summary of Research and Literature* (Benton and Cashin 2012). Some of the content in *IDEA Paper No. 50* is retained where no subsequently published study has changed its basic conclusions.¹ However, we include studies or reviews of the literature that provide questions, modifications, or

¹Content contained in IDEA Paper No. 50 is reprinted by permission of The IDEA Center.

S.L. Benton, Ph.D. (✉)

The IDEA Center, 301 South Fourth St., Suite 200, Manhattan, KS 66502, USA

e-mail: steve@theideacenter.org

W.E. Cashin, Ph.D.

Kansas State University, Manhattan, KS, USA

e-mail: billcashin@md.metrocast.net

further support for its conclusions. New topics contained here but not covered in Benton and Cashin (2012) include the validity of self-reported data, issues to consider in reviewing student ratings research, correlating ratings with achievement in a subsequent course, and the effect of instructor first impressions. In addition, we elaborate upon and challenge the misconceptions that permeate discussions of student ratings.

We summarize the conclusions of major studies and reviews of the literature from the 1970s to 2013, a literature that is extensive and complex. We acknowledge, however, that this handbook chapter can offer only broad, general summaries and limited citations. At the end of 2012, there were 3,048 references in the ERIC database using the descriptor “student evaluation of teacher performance,” the ERIC descriptor for student ratings of teaching/student evaluations of teaching (SRT/SET). By adding the descriptor “higher education,” the number was reduced to 1,874. Restricting our search to the years 1994–2012 yielded 564 references. No major summary of the student ratings research was found in those 564 references, only specific studies. However, ERIC no longer includes chapters from the annual *Higher Education: Handbook of Theory and Research* or compilations of chapters from *Effective Teaching in Higher Education: Research and Practice* (Perry and Smart 1997) or *The Scholarship of Teaching and Learning in Higher Education: An Evidence-Based Perspective* (Perry and Smart 2007). We also searched PsycINFO, restricting the search to 2009–2012 publications in scholarly journals. This resulted in 329 hits, only 16 of which were relevant.

We found especially useful the following chapters published in the book by Perry and Smart (2007): Abrami et al. (2007), Feldman (2007), Marsh (2007), Murray (2007), and Theall and Feldman (2007). Those interested are encouraged to read these reviews as well as Hativa’s (2013a, b) recent textbooks for more details. For readers with less time, Davis (2009), Forsyth (2003), Svinicki and McKeachie (2011), and Wachtel (1998), as well as earlier works by Braskamp and Ory (1994) and Centra (1993), have sections summarizing student ratings research.

Although the ERIC descriptor for student ratings is “student evaluation of teacher performance,” we prefer the term *student ratings of instruction* (SRI). Whereas “evaluation” has a definitive and terminal connotation of determining worth, “ratings” refer to data that need interpretation. Using the term “rating” rather than “evaluation” helps to distinguish between the people who provide the information (sources of data) and those who interpret it (evaluators) in combination with other sources of information. Viewing student ratings as data rather than as evaluations puts them in their proper perspective.

Writers on faculty evaluation are almost universal in recommending the use of multiple sources of data. No single source of information—including student ratings—provides sufficient evidence to make a valid judgment about an instructor’s overall teaching effectiveness. Further, there are important aspects of teaching that students are not competent to rate (e.g., subject-matter knowledge, course design, curriculum development, commitment to teaching, goals and content of the course, quality of student evaluation, support of department’s accreditation

and program review requirements). For elaborations on these and other issues, we advise reading several sources (Abrami et al. 2007; Arreola 2006; Braskamp and Ory 1994; Cashin 1989, 2003; Centra 1993; Davis 2009; Forsyth 2003; Hativa 2013a, b; Marsh 2007; Svinicki and McKeachie 2011).

Although multiple sources of information are essential for making valid judgments of teaching effectiveness, no source of information is more reliable than student ratings, because they are based on multiple students who observe instruction on multiple occasions. Most higher education institutions, therefore, have some system in place for collecting student ratings data from classes on a systematic basis. This is because it is a relatively simple method for gauging student impressions of the course and the teacher's effectiveness. Moreover, students—who are the ones personally affected by instruction—have substantial opportunity to assess actual teaching behaviors, which enhances SRI validity. This may be why McKeachie (1979) calls student ratings the single most valid source of data collected on teaching effectiveness.

In spite of such advantages, considerable opposition to student ratings persists. One must acknowledge that some student ratings instruments are not well constructed and have little evidence of reliability or validity. Oftentimes, administrative procedures are not standardized, which prevents fair comparability among faculty. Some systems do not control for factors outside the instructor's control that affect student ratings, such as student motivation and work habits, and class size (Hoyt and Pallett n.d.). Most troublesome is the practice of making student ratings the only source of evidence for assessing teaching effectiveness. Multiple sources of information should always be collected to triangulate evidence (Berk 2005; Hativa 2013b; Hobson and Talbot 2001).

Validity of Self-Reported Data

Both authors have made numerous presentations about student ratings on college and university campuses where they have sometimes encountered skepticism from some faculty about whether self-reported student ratings can be trusted. Researchers across a variety of behavioral and social sciences have investigated the accuracy of self-reported data (e.g., Brener et al. 2003; Costin et al. 1971; Del Boca and Noll 2002; Kuncel et al. 2005). A review of the literature reveals that, in general, self-report can be interpreted validly under certain conditions (Babor et al. 2000; Babor and Del Boca 1992; Patrick et al. 1994; Freier et al. 1991; Midanik 1988; Cooper et al. 1981). First, validity depends on the sensitivity of the information being sought. For example, asking about course assignments is less sensitive than asking about the overall quality of teaching. The sensitivity of student ratings depends on the instructor's and institution's commitment to confidentiality, the reporting of only class averages, and the assurance the instructor cannot view the class report until after final grades are submitted. Second, the validity of self-report can

be enhanced when paired with other forms of evidence. Additional indicators of teaching effectiveness (e.g., peer ratings, student learning outcomes) should be collected to confirm the validity of student ratings, especially when the information is sensitive. Third, preparing students to complete the ratings can help to improve validity. The instructor should take time to encourage students to take the process seriously. Students should be informed that the ratings are used to make important decisions about the course. The instructor should administer ratings when students are alert, engaged, and have adequate time to complete the process. Fourth, instruments with multiple items usually have more validity than those with only a few items, because teaching effectiveness is a complex construct. Students' responses to many questions should be collected to obtain a complete picture of their impressions of the teaching and learning experience. Moreover, ratings aggregated across students lead to greater reliability (Ray 1987).

Misconceptions About Student Ratings

In spite of the evidence supporting the reliability and validity of student ratings, misconceptions persist. According to cognitive psychologists, people develop misconceptions for several reasons. Sometimes they arise out of confirmation bias—the tendency to look for information that confirms our existing beliefs and ignore or discredit information that contradicts them. Instructors who focus on the occasional negative written comment or a lower than expected overall rating of the course may overlook the formative value of student feedback. Another possibility is that we may hold a personal or emotional investment in a belief (e.g., that we are an above average teacher). If we get average or low ratings, then there must be something wrong with either the students or the student ratings instrument. In addition, people can hold misconceptions because their beliefs are consistent with their experience. For example, some instructors perceive pressure from students to assign high grades. At the same time, they may feel pressure within their department to receive high student ratings. The juxtaposition of those two feelings could lead one to make a cause-effect connection. Another reason an individual might hold on to a misconception is because it follows from a general worldview. If someone believes, for example, that students are just not capable of being objective, then that colors his or her faith in the interpretability of ratings.

Regardless of why misconceptions endure, they should be recognized for what they are—incorrect or partial information. Several authors have brought to light misconceptions about student ratings that are unsupported by research and that make improved practice difficult (Aleamoni 1987; Feldman 2007; Kulik 2001; Svinicki and McKeachie 2011; Theall and Feldman 2007). What follows are some of the more common misconceptions about student ratings and what the research literature generally says about them. In later sections of this chapter, we address most of them more specifically.

Students Are Not Competent Enough to Rate Teaching

Students observe classroom teaching behaviors more than anyone else. For that reason alone, it makes sense to consider what they have to say. In the section on “[Validity](#),” we summarize research that finds student ratings correlate positively with other measures of teaching effectiveness. Examples include student achievement measures (e.g., final exam scores, standardized tests); motivation for future learning and attitude change; the teacher’s self-ratings of multiple sections of the same course; and ratings by administrators, colleagues, alumni, and trained observers.

Students Cannot Make Consistent Judgments

Students are very consistent in their ratings of teacher behaviors, their own learning, and of overall impressions of the course and teacher. In the section on “[Reliability](#),” we review evidence that shows agreement among students rating the same instructor/course, stability in ratings of the same instructors across time, and generalizability of ratings across the same course and different courses taught by the same instructor.

Student Ratings Are Just Popularity Contests

The effects of teacher personality traits (e.g., enthusiasm) on student ratings are weak. The effects are most likely explained by the behaviors the instructor exhibits in class rather than by who they are as a person. This research (e.g., Braskamp and Ory 1994; Centra 1993) is found in the section on instructor variables not related to student ratings. Student ratings instruments that are backed by reliability and validity evidence typically assess more than what students think of the teacher. Students rate teaching methods, how much they have learned, various aspects of the course, quality of teaching, and their overall impressions of the course.

Students Will Not Appreciate Good Teaching Until They Are Out of College a Few Years

As addressed in the section on correlating student ratings with other criteria, alumni retrospective ratings of instructors correlate positively with those given by current students.

Students Just Want Easy Courses

Ratings are actually higher when students report the instructor sets high achievement standards for the course. The relationship between ratings and course difficulty is

curvilinear. Ratings tend to be lower when the class is either too easy or too difficult and highest when the class is appropriately challenging. The solution is to discover what is “just right.” We review much of the research behind these findings in the section on student variables that correlate with ratings.

Student Feedback Cannot Be Used to Help Improve Instruction

Combining consultation with feedback from student ratings is more useful for improving instruction than providing feedback alone. The greatest improvement comes when feedback and consultation target teacher behaviors that address problems students identify. We review this research in the section on “[Usefulness of Student Ratings](#).”

Emphasis on Student Ratings Has Led to Grade Inflation

The grade students expect to receive in a course actually has little effect on student ratings. Even when low correlations are observed, it may not necessarily indicate grading leniency on the part of the instructor. It could be that students who learn more earn higher grades and, therefore, give higher ratings. Or student characteristics, such as interest and motivation, may lead to more learning, higher grades, and better ratings. We review this research in the section on “[Student Variables Related to Student Ratings That May Require Control](#).”

Because Students of the “Millennial Generation” Are Different from Previous Generations, Student Ratings Are no Longer Valid

Nilson (2013) has argued that students of the “millennial generation” feel entitled to receiving high grades without putting out much effort. The implication is that contemporary students award low ratings to instructors who have high standards and grade strictly. Actually, the evidence is very clear that across the years, students have not changed markedly in their perceptions of teaching, the course, or their learning. Ratings on average tend to be high (Benton et al. 2010a, b, 2012a; Hoyt and Lee 2002a). Moreover, contrary to what some might expect, students rate the quality of the instructor and course higher when they perceive the instructor has high standards and expects them to share responsibility for their own learning (Benton et al. 2013). Students also assign higher ratings of teaching effectiveness when the instructor encourages them to think for themselves (Zhao and Gallant 2012).

Such misconceptions about student ratings ignore more than 50 years of credible research. They persist, unfortunately, largely due to ignorance of the research, personal biases, suspicion, fear, and general hostility toward any evaluation process (Theall and Feldman 2007).

Issues to Consider When Evaluating Student Ratings Research

With the recent increase in studies investigating student ratings, some care should be exercised in assessing their quality. Numerous issues should be considered in evaluating the credibility of any study, and we refer interested readers to a couple of classic sources (Campbell and Stanley 1963; Krathwohl 1998). A key consideration is whether the researcher has offered a *credible rationale* for the design of the study. For example, does the tone of the article suggest a bias either for or against student ratings? If so, then the reader must carefully scrutinize the article by reading details about the methods, analyses, and conclusions (which one should do anyway). Related to this is whether the explanation or rationale for the study is built upon previous research and thinking in the field. A reference, for example, to the “Dr. Fox” effect—where a professional actor who delivered a dramatic lecture but with little meaningful content received high ratings—without also citing research critical of that study would show a failure to examine previous thinking on the subject (see section on “Expressiveness” under “[Instructor Variables Related to Student Ratings That May Require Control](#)”).

The reader should also examine *how credibly the study was conducted*. If data were collected from college students, how representative were they of most students? Did the study take place in a single classroom or across multiple classrooms? Was evidence provided regarding the reliability and validity of the measures used in the study? If student learning/achievement was an outcome variable, how was it defined and measured? Also of concern is whether one could reasonably replicate the procedures in a typical college setting. For example, some campuses have more control than others over how students are assigned to different course sections.

A third consideration is the *credibility of the empirical evidence* provided. Is there cause to question the authenticity of the evidence? For example, were student ratings administered in the presence of the instructor? (This is something not recommended—see section on “[Manipulating Administrative Procedures](#).”) If so, how might this have affected the results?

The reader should also determine whether the author has reasonably attempted to address or eliminate rival explanations for the findings. Although researchers try to control extraneous variables, there are usually alternative explanations for the outcome beyond that which was hypothesized. A careful researcher ponders rival explanations in advance and then designs the study in a way to make them less plausible.

In the sections that follow, we briefly summarize research that provides evidence of the reliability and validity of student ratings of instruction. We also examine extraneous student, instructor, and course characteristics that are either unrelated or related to ratings. Finally, we review research that compares ratings administered online versus on paper and between courses conducted online versus face-to-face. We conclude by discussing the usefulness of student ratings.

Reliability

Reliability refers to the consistency, stability, and generalizability of student ratings data. Of primary concern is the *consistency* in ratings among students in the same class rating the same instructor. Reliability coefficients typically range from .00 to 1.00 with higher values indicating greater consistency. Standard errors of measurement (SEM), which should be reported along with reliability coefficients, indicate the amount of error or spread (+ or -) in the scores. Reliability estimates vary, depending upon the number of students completing the ratings. As the number of students responding increases, reliability (or consistency in the scores) increases, and the amount of spread in the scores (error) decreases.

Researchers have found consistency in ratings completed by students in the same class. Average split-half reliability coefficients for the *Individual Development and Educational Assessment* (IDEA) student ratings items range from .78 for small class sizes (10–14 students) to .94 for classes with 50 or more students (Hoyt and Lee 2002a). Cronbach alpha internal consistency coefficients for the five IDEA teaching style subscales range from .84 to .94. Marsh (1984) reported average coefficients for the *Student Evaluation of Educational Quality* (SEEQ) ranging from .74 for classrooms with 10 students to .95 for those with 50. The greater the number of students completing the ratings, the higher the reliability; lengthier instruments generally tend to have higher reliability than shorter ones.

Stability pertains to the amount of agreement in ratings across time. Ratings of the same instructor across semesters tend to be similar (Braskamp and Ory 1994; Centra 1993). Marsh and Hocevar (1991) conducted a longitudinal study, using the SEEQ. They compared an average of 30 ratings each for 195 teachers across 13 years and found almost no systematic changes across time among those with little, intermediate, or substantial teaching experience.

Generalizability refers to how reliably ratings reflect the instructor's general teaching effectiveness, not just how effectively he or she taught a particular course in a given term. Marsh and Bailey (1993) employed multivariate profile analysis on the SEEQ to develop unique profiles for each teacher evaluated across a 13-year period. The unique teacher profiles of SEEQ factors were consistent across courses. Hativa and Raviv (1996) found similar results in a sample of physics and chemistry instructors who administered ratings eight times across a 2-year period. The authors identified a teaching profile for each instructor that was stable across time.

Reliability is especially relevant when making personnel decisions about an instructor's general teaching effectiveness. Administrators should consult additional information beyond student ratings when making such decisions (see Cashin 1996, 2003). If the instructor teaches only one course (e.g., part-time instructors), then consistent ratings from two different terms may be sufficient. For most instructors, however, ratings from a variety of courses are necessary, preferably two or more courses from every term, for at least 2 years, totaling six to eight courses. If there are fewer than 10 raters per class, we recommend collecting data from 10 to 12 classes.

Validity

As with reliability, validity is not a characteristic inherent in a student ratings instrument. Validity is determined by how the ratings are used—how they are interpreted and what actions follow from those interpretations—referred to as the consequential basis of validity (Messick 1989). Notably, McKeachie (1997) cautioned that faculty and administrators need to be educated about how to use ratings appropriately (i.e., validly).

Student ratings typically serve several valid functions. They help faculty to improve their teaching and courses, help administrators make decisions about salary and promotion, help committee members select recipients of teaching awards, help institutions conduct program reviews, and help students select courses. When used in combination with other measures of teaching effectiveness, ratings can support all of these functions. However, when misused for other purposes (e.g., to base course content on student ratings form content, to make administrative decisions based on ultrafine discriminations in ratings), validity is threatened (Ory and Ryan 2001).

Researchers traditionally take one of several approaches to investigating the validity of student ratings. They correlate ratings from multiple sections of the same course with student achievement on a common examination; correlate ratings with other criteria (e.g., alumni ratings, peer ratings, or self-ratings); examine bias by correlating ratings with student, instructor, and course characteristics; manipulate administrative procedures; conduct experiments in nonnatural settings; and analyze the underlying dimensions of ratings (Ory and Ryan 2001). Evidence from all such studies supports *construct* validity (Messick 1995), which enables meaningful interpretation of the data collected.

In educational measurement, the basic question related to validity is: Does the test—the variable—measure what it is supposed to measure? For student ratings, this translates into: To what extent do student ratings items measure some aspect of teaching effectiveness? Unfortunately, there is no agreed-upon definition of what student ratings measure or any single, all-embracing criterion of effective teaching (see, e.g., Cashin 2003; Hativa 2013b). However, across multiple factor-analytic studies (Braskamp and Ory 1994; Feldman 1989a; Hativa et al. 2001; Marsh 1987; Murray 1997), the perceived teacher behaviors most highly correlated with effective instruction include organization, clarity, enthusiasm/expressiveness, and rapport/interactions (summarized in Hativa 2013a). In examining the items from student ratings instruments used in those studies, the following elements of effective teaching emerge:

1. Organization—course materials and teacher well prepared; lessons linked to overall course framework
2. Clarity—simplified explanations; understandable; links to students' prior knowledge
3. Enthusiasm/expression—being enthusiastic about the subject or about teaching; making dynamic presentations; using humor
4. Rapport/interactions—encouraging students to ask questions, to discuss and share ideas, and to invite a variety of viewpoints

Although these teacher characteristics are associated with effective teaching, researchers should continue to pursue various approaches to examining the validity of student ratings. They can do so by collecting data that either support or contest the conclusion that student ratings reflect effective teaching. In the paragraphs that follow, we summarize research to date employing these various approaches.

Correlating Student Ratings with Achievement in the Current Course

Perhaps the best indicator of effective teaching is student learning. Other things being equal, the students of more effective teachers should learn more. A number of researchers have attempted to examine this hypothesis by correlating student achievement with ratings across multi-section courses. The instructors use the same syllabus and textbook, in some cases the same assignments, and, most importantly, the same *external* final exam (i.e., an exam developed by someone *other* than the instructors). Student ratings of the course and instructor are then correlated with final exam scores. For example, Beleche and colleagues (Beleche et al. 2012) correlated students' ratings with performance on a final exam common to multiple sections of a remedial college course. The points students received on the measure of their learning correlated positively with global ratings of the overall excellence of the course.

Not only are global course ratings related to student achievement, but student ratings of their own learning also correlate positively with their actual performance. Benton and colleagues (Benton et al. 2011) examined student ratings in multiple sections of the same course taught by the same instructor. They correlated students' ratings of progress on objectives the instructor identified as relevant to the course with their performance on exams tied to those objectives. The instructor selected 2 of 12 learning objectives as relevant, using the IDEA *Faculty Information Form*. Students rated their progress on all 12 of the IDEA learning objectives. All exam items were tied to content related to the two relevant objectives selected for the course: "gaining factual knowledge (terminology, classifications, methods, trends)" and "learning fundamental principles, generalizations, or theories." The chair of the department, not the instructor, administered the ratings at the end of the semester. Student ratings of progress made on the two relevant objectives were positively correlated with their exam performance on content connected with the objectives ($r = .32$ and $.33$). In contrast, the average correlations between student ratings of the 10 other less relevant objectives and exam performance were negligible (average $r = -.03$).

Cohen (1981, 1987) and Feldman (1989b) reviewed several multi-section studies and, for each one, correlated final exam scores with various student ratings items.²

²The authors converted various summary statistics reported in the multi-section studies into Pearson product-moment correlations.

Table 7.1 Correlations between student final exam performance and various dimensions of student ratings

Student ratings of:	Average correlations with final exam across three studies		
	Cohen (1981)	Cohen (1987)	Feldman (1989b)
Achievement/learning	.47	.39	.46
Overall course	.47	.49	–
Overall instructor	.44	.45	–
Teacher skill	.50	.50	–
Course preparation	–	–	.57
Clarity of objectives	–	–	.35
Teacher structure	.47	.55	–
Understandableness	–	–	.56
Teacher rapport	.31	.32	–
Availability	–	–	.36
Respect for students	–	–	.23
Teacher interaction	.22	.52	–
Encouraging discussion	–	–	.36
Evaluation	–	.30	–
Feedback	–	.28	–
Interest/motivation	–	.15	–
Difficulty	–	–.04	–

Table 7.1 presents the average correlations as they were reported in Cohen (1981, 1987) and Feldman (1989b). Both researchers identified the instructional dimensions (e.g., teacher preparation and course organization, teacher clarity, teacher stimulation of student interest, and students' perceived impact or outcome of the course) most highly correlated with student achievement. (See also Abrami 2001, and Kulik 2001, for support of the relationship between student learning and student ratings.)

In a follow-up study, Feldman (2007) reported the average correlations between a measure of student achievement and 24 specific instructional dimensions frequently measured by student ratings instruments. In a separate table, he also compared the correlations of various instructional dimensions with *student achievement* and *students' overall evaluation of the teacher*. The correlations with achievement and overall evaluations of teaching were not always of the same magnitude (e.g., quality and frequency of feedback correlated only .23 with student achievement but .87 with overall evaluation), but they showed the positive contribution of various instructional dimensions to the measure of their learning.

Given the restricted range in most student ratings scales, and the less than perfect reliability of classroom exams, the correlations reported in this section are impressive. Moreover, because teachers are not the only cause of student learning, and probably not the most important one, one would not expect students' ratings of instruction to correlate perfectly with how much they learn in a course (Hativa 2013b). Even so, the multi-section studies consistently show that classes in which the students gave the instructor higher ratings were the ones where the students learned more (i.e., scored higher on the exam).

Moreover, the correlations reported here are within the range of correlations found between *teachers' judgments* of students' achievement and students' actual achievement (see Sudkamp et al. 2012 for a meta-analysis of 75 studies). Although Sudkamp et al. reviewed studies conducted only with secondary teachers, one might predict that college and university instructors—who typically face larger enrollments, have less frequent student contact, and typically have less preparation than secondary teachers in how to create valid and reliable assessments—would make even poorer predictions of their students' achievement. We hypothesize that the accuracy of their predictions of how well their students would perform on achievement tests would be no better than students' own estimations of how much they have learned.

In spite of the evidence that student ratings correlate with achievement, several authors have reported little or no relationship. For example, Galbraith and colleagues (Galbraith et al. 2012) conducted a multi-section analysis that examined correlations between a business school's Standardized Learning Outcome Assessment Test (SLOAT) and average student ratings on two measures. According to the authors, "The School's SLOAT exams are developed individually for each course in each program by a committee of content experts in the subject area..." (p. 358). So, unlike the studies reviewed thus far in this section, the SLOAT was not a common exam. The second measure, which they called "Course," was an average of eight items taken from the Student Perception of Teaching Effectiveness (SETE). However, the authors provided no information about the reliability and validity of either of these measures. Without such information, the meaning behind the low correlations reported between the SETE measures and the SLOAT is unclear. Moreover, because the course section was the unit of analysis, the sample size for each analysis was extremely small (ranged from 8 to 13 sections). When the authors conducted the analysis at the pooled level (i.e., putting all sections together), the sample size increased and the correlations were low and positive, which is similar to Feldman's (1989b) and Cohen's (1981, 1987) findings.

Similarly, McCarthy and colleagues (McCarthy et al. 2011) contend that student ratings do not provide evidence of student learning. Notably, the authors made no reference to Cohen (1981, 1987) or Feldman (1989b). They recommend that "embedded assessments"—analysis of formative measures of student learning (e.g., exams, papers)—are better measures of learning than student ratings, an idea long ago strongly recommended by Centra (1979, 1993), Braskamp and Ory (1994), Arreola (2006), and Cashin (1989, 2003).

In a meta-analysis of studies of the relationship between SRIs and measures of learning, Clayson (2009) reviewed 17 articles with 42 datasets, containing 1,115 course sections. He found, in general, a small positive association between measures of learning and SRIs, which is consistent with previous research. He concluded that the association between learning and SRIs is valid "to the extent that the student's perception of learning is valid" (p. 27). We agree. We would also argue that the learning/SRI association is more valid and stronger to the extent that the instructor's measure of learning is reliable and valid. This may be why he found higher correlations reported in studies published in education/psychology journals. Unlike their colleagues in other colleges, researchers in education and psychology

have typically been educated in educational/psychological measurement, which includes knowledge of how to construct reliable and valid tests. When the reliability of the assessment used to measure learning is higher, the correlation between learning and SRIs is higher, other things being equal.

Correlating Ratings with Achievement in a Subsequent Course

Another way of testing validity is to correlate student ratings in a prior course with grades in a subsequent course. In general, researchers have found only weak correlations (e.g., Beleche et al. 2012; Carrell and West 2010; Weinberg et al. 2009; Yunker and Yunker 2003). This value-added approach to studying the validity of student ratings makes several assumptions we find problematic. First, it assumes that grades in the subsequent course serve as a proxy for teaching effectiveness in the prior course. The argument is that the better the grade in the second course, the better was the teaching in the preceding course. However, this seems to ignore the possibility that grades in a subsequent class are subject to selection bias, because they do not account for students who drop out or choose not to take the next course. Second, it assumes that the subsequent course significantly builds upon the knowledge learned in the prior course—that the prior course lays a basic, necessary foundation for future learning. But if the subsequent course fails to augment the knowledge gained in the preceding course, the relationship between ratings and subsequent grades should be weak (Beleche et al. 2012). A third assumption is that the value added by an instructor depends, in part, on how well a subsequent instructor teaches. Since student ratings instruments are designed to assess student perceptions of teaching effectiveness in the *current* course, it defies logic as to why they should be correlated with outcomes of teaching in a *subsequent* course. Not even grades in a previous course are a good predictor of performance in a subsequent course (Grant 2007).

The challenges in implementing this approach are daunting. First, students must be randomly assigned to classes to control for selection bias that occurs from reasons students give for choosing one course over another. Upper-level students, for example, are more likely than first-year students to select course sections based on instructor reputation (Leventhal et al. 1975), which is moderately related to student ratings (Perry et al. 1974, 1979b). On the other hand, first-year students are far more likely to make section-selection decisions on the basis of time of day the class meets, which is unrelated to ratings (Aleamoni 1981; Feldman 1978). Even with random assignment, low-performing students might be less likely than high-performing students to advance to the subsequent course, which would still create selection bias. Second, analyses have to be conducted of student standardized test scores to demonstrate a level of confidence in the random assignments. Third, faculty who teach the same course have to use an

identical syllabus and give the same exams during a common testing period. Finally, instructors teaching the same course have to jointly grade all exams or have them scored by a common grader.

Sullivan and Skanes (1974) did carry out such a quasi-experimental design by randomly assigning first-year students to different sections of undergraduate courses. Across multiple disciplines and courses, the authors found modest but significant positive correlations between global ratings of the instructor's competence and student achievement in the current course. The authors then examined a sample of students enrolled in sections of introductory psychology who enrolled in a subsequent course (not randomly assigned) in psychology. The proportion of students who enrolled in the subsequent course was similar between those taught by instructors with high final exam scores and those taught by instructors with high ratings.

The research reviewed in the previous section provides evidence that student ratings are a valid—albeit not perfect—proxy for learning in the current course. However, in and of themselves, they are only weakly related to achievement in a subsequent course. Yet, Knol (2013) found that when the feedback from ratings is combined with consultation, students subsequently report greater learning from the instructor. Future research might examine whether feedback plus consultation could also result in greater student achievement in a subsequent course.

Correlating Ratings with Other Criteria

Student ratings are positively correlated with a number of other variables used to measure teaching effectiveness: instructor self-ratings; ratings by administrators, colleagues, alumni, and trained observers; and student written comments.

Instructor Self-Ratings

One correlate of student ratings that would presumably be acceptable to most faculty is self-ratings completed by the instructor. In a review of 19 studies, Feldman (1989a) reported an average correlation of .29 between student ratings and instructor self-ratings, often using the same instrument. In another study (Marsh et al. 1979), instructors were asked to rate their teaching effectiveness in two courses in order to see if the course the instructor rated highest also had the highest student ratings. Student ratings were indeed higher in the courses the instructors believed were taught more effectively. The median correlation—across six factor scores—was .49 between the instructor and student ratings. In a related study, Marsh (1982) found that 34 of the 35 correlations between student ratings and instructor self-ratings were statistically significant, with a median correlation of .30. Subsequently,

Marsh and Dunkin (1997) found a median correlation of .45 between instructor self-ratings and student ratings on nine scale scores. Such findings support the criterion-related validity of student ratings.

In spite of the consistent positive correlations reported between student ratings and instructor self-ratings, Feldman (1988) wanted to know whether students actually have an appropriate view of effective teaching. To address this concern, he reviewed 31 studies and found that students' views of effective teaching were very similar to the instructor's views (the average correlation was .71). However, he found some subtle differences. Students tended to assign more importance to the instructor being interesting, having good speaking skills, and being available to students. Students also focused more on the outcomes of instruction (e.g., what they learned). In contrast, instructors placed relatively more emphasis on challenging and motivating students, setting high standards, and fostering student self-initiated learning.

Feldman's (1988) findings might seem to imply that students undervalue the importance of setting high standards and fostering student self-initiated learning. However, that conclusion is refuted by other research. Using IDEA student ratings, Hornbeak (2009) found that students' desire to take a course from an instructor was positively correlated (.54) with how much the instructor expected students to take their share of responsibility for learning. Likewise, students have a stronger desire to take a course (.52) when they perceive the instructor has high achievement standards (Hoyt and Lee 2002a). In addition, student ratings of the instructor's achievement standards and expectations that students share in responsibility for learning are positively correlated with student self-ratings of learning and overall ratings of the course and instructor (Benton et al. 2013). So, although students may place relatively less value than instructors on standards and self-initiated learning, they report more progress and assign higher ratings when instructors demonstrate those characteristics.

Ratings by Administrators and Colleagues

Student ratings correlate moderately with administrator ratings of the instructor's general reputation. Coefficients range from .47 to .62 (Kulik and McKeachie 1975). Feldman (1989a), using global items, found an average correlation of .39 across 11 different studies.

Instructor ratings by colleagues that are *not* based on classroom observations are moderately correlated with student ratings, with correlations ranging from .48 to .69 (Kulik and McKeachie 1975). Feldman (1989a) found an average correlation of .55, using global ratings. However, ratings by colleagues can be unreliable and uncorrelated with student ratings when made by untrained observers during single classroom visitations where an unsystematic approach is employed, i.e., different faculty visiting the same class tend to disagree (Marsh 2007; Marsh and Dunkin 1997).

Ratings by Alumni

Some faculty may question whether current students can adequately judge the long-term effects of instruction. They may argue that students cannot truly appreciate how much they have learned or the value of a course until after they have graduated. However, current and former students tend to agree in their ratings, as average correlations typically range from .54 to .80 (Braskamp and Ory 1994). Overall and Marsh (1980) and Feldman (1989a), reviewing six studies, reported average correlations of .83 and .69, respectively. These findings belie the conventional wisdom that students only come to appreciate effective teaching *after* they graduate and enter into the real world as working adults.

Ratings by Trained Observers

A few studies examined the relationship between student ratings and external observers who were trained to make classroom observations (see Feldman 1989a; also Marsh and Dunkin 1997). Reviewing five studies, Feldman reported an average correlation of .50 between the ratings of trained observers and global student ratings. In a related study, Murray (1983) reported a median reliability of .76 among ratings by trained observers, which suggests ratings by colleagues might be more reliable if faculty were trained prior to making classroom observations.

Student Written Comments

The quantitative aggregated data provided from student ratings scales considerably overlaps the information contained in student written comments. In one study of 14 classes, Ory and colleagues (Ory et al. 1980) found a correlation of .93 between a global instructor item and students' written comments. In a second study of 60 classes, the authors (Braskamp et al. 1981) found a correlation of .75. More recently, Burdsal and Harrison (2008) reported a correlation of .79 in a sample of 208 classes. In a study of 80 courses at a single institution, Hativa (2013b) found a positive correlation between the percentage of positive student comments and ratings of overall teaching effectiveness.

These studies suggest that, for *personnel decisions*, student written comments usually reflect the information derived from quantitative scales. Nonetheless, when decisions are made about promotion, instructors generally regard written comments as less credible than student responses to objective questions. On the other hand, faculty rate written comments as more credible when the purpose is for self-improvement (Braskamp et al. 1981). We agree with others (Abrami 2001; Hativa 2013b; Marsh and Dunkin 1997) that written comments are more appropriate for formative than summative evaluation of teaching effectiveness.

The studies cited thus far provide evidence that student ratings are related to other measures of teaching effectiveness. Student ratings are positively related to student achievement in the current course, teacher self-ratings, administrator and colleague ratings, alumni ratings, ratings by trained observers, and student written comments. In the next section, we consider possible biases in student ratings.

Evaluating Possible Sources of Bias in Student Ratings

Faculty and administrators are sometimes concerned about possible biases in student ratings, such as class size and student interest in the course. Some writers have suggested that bias can be defined as anything *not under the control of the instructor*. However, Marsh (2007) offered another definition we find more valid: “Bias exists when a student, teacher, or course characteristic affects the evaluations made, either positively or negatively, *but is unrelated to any criteria of good teaching*” (p. 350; see also Centra 2003, p. 498). By this definition, the correlations between student ratings and class size, or between student ratings and student interest in the course, are not biases because students in small classes and students who are interested in the subject matter *actually do tend to learn* more and, hence, give their teachers higher ratings. Rather than using the term “bias,” we distinguish between variables (when correlated with student ratings) that possibly require control and those that do not require control, especially when making personnel decisions.

Variables Related to Student Ratings That Are Not Biases

Despite widespread faculty concern, researchers have discovered relatively few variables that correlate with student ratings *that are not* also related to instructional effectiveness (i.e., student learning). Variables related to student ratings that are not biases include class size (ratings are somewhat higher in smaller classes), course level (ratings tend to be higher in higher-level courses), faculty rank (ratings are typically higher for higher-ranked faculty) (Feldman 2007), reason for taking the course (ratings are higher for elective compared to required courses and for students in their major) (Leventhal et al. 1975), and faculty reputation as an instructor (ratings are higher for faculty with good reputations) (Perry et al. 1974, 1979a, b).

Feldman discussed some factors that might account for why these variables should *not* be considered biases. For example, at certain institutions, higher-ranked faculty may, on average, be better teachers and thus deserve higher ratings. Teachers may also be less effective in large than small classes and, consequently, receive lower ratings (i.e., not necessarily because students take out their disdain for large classes by assigning lower ratings). In addition, students in upper-level courses in their major are most likely more motivated to take the course than students in lower-level general education courses.

If institutions are concerned that class size, student and course level, and student motivation to take a course could affect student ratings, we recommend they consider two options: They could create comparison groups of courses within the institution that control for these factors or consider adopting student ratings systems that statistically control for these extraneous influences.

Instructor Variables Weakly Related to Student Ratings

Generally, the following variables tend to show *little or no* relationship to student ratings and in our judgment do *not* require control.

Age and Teaching Experience

In general, instructor age and years of teaching experience are not correlated with student ratings. However, where weak correlations have been found, they tend to be negative (i.e., older faculty receive somewhat lower ratings; Feldman 1983; McPherson and Jewell 2007; Renaud and Murray 1996). Marsh and Hocevar (1991) pointed out that most of the studies of these variables have been cross-sectional comparisons of faculty cohorts that represent different age groups. In a *longitudinal* study, Marsh and Hocevar (1991) analyzed ratings of the *same* instructors across 13 years and found *no* systematic changes within instructors over time.

Centra (2009) found that first-year teachers tend to receive lower ratings than experienced assistant professors and higher-ranked faculty. He concluded that the lower ratings do not point to bias but probably reflect differences in experience and teaching skills, because first-year faculty are most likely still learning how to teach. Such lack of experience may help to explain why the correlation between ratings and student achievement is higher for experienced full-time instructors than it is for those who have taught less than 1 year (Sullivan and Skanes 1974).

Gender of the Instructor

In a review of 14 laboratory or experimental studies (where students rated descriptions of *fictitious* teachers who varied in gender), Feldman (1992) found few gender differences in global ratings. However, in a few studies, male teachers received higher ratings. In a second review of 28 studies of global ratings—*involving actual student ratings of real teachers*—Feldman (1993) found a very weak average correlation between instructor gender and student ratings ($r = .02$) that favored female instructors. Women also received slightly higher ratings on sensitivity and on concern with student level of preparedness and progress ($r = .12$). However, ratings of male and female teachers did not differ meaningfully on other dimensions of teaching.

More recently, Schulze and Tomal (2006) surveyed 2,042 students from 117 departments in 77 liberal arts colleges using a 12-item survey. Four items dealt with student perception of male and female students and male and female professors. Both male (42.7 %) and female (57.3 %) students perceived male and female students to generally be treated as equally competent and their questions and opinions to generally be given equal value. Female professors were treated with equal respect as male professors, and they were viewed as equally competent.

Some researchers have reported a student-gender-by-instructor-gender interaction. Basow (2000) surveyed a limited number of mostly white students—47 male and 61 female—at a small, liberal arts college. Students were asked to describe their “best” and “worst” professor and to rate them on the Bem Sex-Role Inventory. For “best” professor, female students chose female professors more frequently than did male students. There were no student gender differences for choice of “worst” professor. On the Bem Inventory, students rated both the “best” male and female professors as androgynous: strong in both active-instrumental (masculine) traits and expressive-nurturing (feminine) traits.

Feldman (1993) found that female students tend to give higher ratings to female teachers and male students give higher ratings to male instructors. Centra (2009) found that female instructors received slightly higher ratings, especially by female students, but that these were *not* accompanied by higher student self-ratings of learning. He, nonetheless, concluded that gender was not a bias, because the higher ratings might have reflected differences in effectiveness of teaching style: Female instructors were more likely to employ discussion than lecture, and they appeared to be more nurturing to their students (i.e., possibly more student centered). Regardless, the effect due to gender, although statistically significant, was so small that it would most likely not affect personnel decisions (see also Centra and Gaubatz 2000).

Race of the Instructor

Centra (1993) and Huston (2005) found, as we did, few studies of student ratings and instructor race conducted in North America. Centra (1993) speculated that students of the same race as the instructor *might* rate the instructor higher. However, in a doctoral dissertation using IDEA student ratings, Li (1993) found *no* differences between Asian and American students in their global ratings of (presumably Caucasian) instructors. Beyond the need for additional research, administrators and faculty who suspect racial or gender bias should incorporate additional indicators of teaching effectiveness into their teaching evaluations. Many such indicators are described in a later section of this chapter.

Personal Characteristics

Few personality traits have been found to correlate with student ratings (Braskamp and Ory 1994; Centra 1993). Using instructor self-report (e.g., personality inventories,

self-description questionnaires) as a criterion measure, Feldman (1986) found that only two (out of 14) traits had average correlations with a global teaching item that approached practical significance: positive self-esteem ($r=.30$) and energy/enthusiasm ($r=.27$). Murray et al. (1990) found significantly different patterns of correlations between personality traits and student ratings among psychology instructors teaching six different types of courses (e.g., introductory, graduate). The authors concluded that instructor personalities tended to be differentially suited to different types of courses. In a follow-up study using the same measures of personality, Renaud and Murray (1996) found positive correlations between average scores on a 10-item student ratings scale and colleagues' ratings of the instructor's orderliness (.65), defined as being neat and organized and disliking clutter and confusion. Working for the approval and recognition of others was also positively correlated (.56) with teaching effectiveness.

The few personality traits (i.e., positive self-esteem, energy/enthusiasm, orderliness, working for approval/recognition) that are related to student ratings tend to also enhance teaching effectiveness, and we therefore suggest they should *not* be controlled. One might expect, for example, that displaying energy/enthusiasm could stimulate student interest and that adopting orderliness could enhance classroom structure, which are teaching styles associated with student learning (Hoyt and Lee 2002a). Others disagree, arguing that instructor personality traits should *not* be correlated with student ratings, and if they are, then it indicates a bias in student ratings (e.g., Clayson and Sheffet 2006; Feeley 2002; Jenkins and Downs 2001; Patrick 2011).

What matters more than personality, however, is how the instructor's personal characteristics are manifested in the classroom. Most of the relationship between instructor personality and student ratings can be explained by the behaviors the instructor exhibits *when teaching* (Erdle et al. 1985). Put simply, the effect of instructors' personalities on ratings "may be caused more by what they do in their teaching than by who they are" (Braskamp and Ory 1994, p. 180).

Instructor First Impression

The first impressions an instructor makes in a course are important (Dorn 1987). In fact, impressions made within the first 2 weeks of the class are more important in determining end-of-course student ratings than is the instructor's general reputation (Buchert et al. 2008). Specifically, in separate studies, Buchert et al. (2008) compared end-of-course student ratings with ratings taken the second week of class (Study 1) and the first day of class (Study 2). In the first study, no significant differences were found between ratings collected during the second week of class and at the end of the course on items concerning the instructor's interest in the course, communication of the importance of the subject matter, expectations for student achievement and behavior, and grading criteria. The implication is that effective instructors do these things within the first 2 weeks of class. In Study 2, end-of-course ratings were higher than those taken during the first day of class on 14 of 18 items, including overall ratings of the course and instructor and ratings of how much students learned. So, impressions made the first day did not necessarily determine ratings at the end of the course.

Nonetheless, Dorn (1987) recommends that instructors systematically prepare for the first day of class and clearly communicate the purpose and content of the course, course objectives, course syllabus, assignments, readings, examinations, class rules (including policy against cheating and plagiarism), relevant background information about themselves, and expectations for student achievement. Instructors should also allow time for questions and for students to get to know each other. Finally, some content should be taught on the first day. As Svinicki and McKeachie (2011) advise, “An important function of the first day’s meeting in any class is to provide...structure, that is, to present the classroom situation clearly, so that the students will know from the date of this meeting what you are like and what you expect” (p. 21).

Research Productivity

Research productivity has only a weak correlation with student ratings (Centra 1993). In his review, Feldman (1987) found an average correlation of .12 between research productivity and ratings of overall teaching effectiveness. Marsh and Hattie (2002) reported similar results ($r = .03$) in a survey of faculty across multiple departments in a single institution across a 3-year period. The near-zero correlation between teaching and research did not differ meaningfully from one department to another. These very low correlations suggest that being a productive researcher (i.e., devoting more time to research) is indicative of *neither* good *nor* bad teaching.

Student Variables Unrelated to Student Ratings

Researchers have examined possible bias in the following student variables and have found them unrelated to student ratings.

Age of the Student

Student age has little correlation with ratings (McKeachie 1979; Centra 1993). Of greater relevance is having experience as a college student, which brings more accomplished work habits, a characteristic that is positively correlated with ratings (see subsequent section on “[Student Motivation](#)”).

Gender of the Student

Feldman (1977, 1993, 2007) reported no consistent gender effect, although some have reported a student-gender-by-instructor-gender interaction (see earlier section on instructor variables). In a comprehensive study of gender, Centra and Gaubatz

(2000) analyzed actual student ratings (rather than data from simulations) across a large number of 2- and 4-year institutions, involving a variety of academic disciplines. They found some gender preferences, particularly female students for female instructors. Although the differences were statistically significant, they were not large and would most likely not impact personnel decisions. Centra and Gaubatz (2000) speculated that the higher ratings female instructors received from female students, and sometimes from male students, might have reflected student preferences for certain teaching styles. Women in their study were more likely than men to use discussion than lecture, and they were perceived as more nurturing to students, as reflected in their scores on certain rating scales.

Level of the Student

Student level (e.g., first year, senior) has little practical effect on ratings (Davis 2009; McKeachie 1979). However, with experience, students gain better work habits, and they most likely become more interested in a content area as they move into upper-level specialized courses in their major. This can, in turn, affect their motivation to take the course and their effort in a class, factors that are positively correlated with student ratings (Hoyt and Lee 2002a) (see subsequent section).

Student Grade-Point Average

Davis (2009) concluded there is little or no relationship between student ratings and grade-point average, citing the empirical investigations of several authors (Abrami 2001; Braskamp and Ory 1994; Centra 1993; Marsh and Dunkin 1997; Marsh and Roche 2000; McKeachie 1997).

Student Personality

No meaningful relationships have been found between student personality and ratings (Abrami et al. 1982b). In our search of the literature, we found no relevant articles published in psychology journals on the topic of student ratings and student personality.

Course and Administrative Variables Unrelated to Student Ratings

Researchers have examined possible bias in the following course and administrative variables and have found them unrelated to student ratings.

Time of Day

The limited amount of research on the topic indicates the time of day the course is taught has no meaningful influence on student ratings (Aleamoni 1981; Feldman 1978).

Time During the Term When Ratings Are Collected

Any time during the second half of the term seems to yield similar results (Feldman 1979). Costin (1968) found no difference in ratings administered at the end versus the middle of the semester; others (Carrier et al. 1974) found no difference between ratings administered the last week versus the day of the final examination (although we recommend against administering ratings at a time when students are most concerned about an exam). Finally, Frey (1976) found no difference in ratings administered the last week of class versus the first week of the next semester. For ratings administered online, the rating period should end before the final exam is administered so that students' anxiety about or performance on the exam does not influence their responses (Hativa 2013a).

The research cited thus far suggests that many variables suspected of biasing student ratings are *not* correlated with them to any practically significant degree. However, research suggests the following variables are correlated with student ratings and *may require control*.

Instructor Variables Related to Student Ratings That May Require Control

Faculty Rank

Regular, full-time faculty members tend to receive higher ratings than graduate teaching assistants (Braskamp and Ory 1994). This variable may *not* require control because regular faculty as a group should be more experienced and, therefore, more effective teachers. In that sense, the higher ratings they receive probably reveal such experience and effectiveness.

Expressiveness

The Dr. Fox effect—where a professional actor, who delivered a dramatic lecture but with little meaningful content, received high ratings—suggested that student ratings might be influenced more by an instructor's style of presentation than by the substance of the content (Naftulin et al. 1973; Ware and Williams 1975; Williams and

Ware 1976, 1977). Naftulin et al. (1973) first reported the Dr. Fox effect, also known as “educational seduction,” on an audience of educators and mental health professionals who viewed a videotaped lecture that expressively conveyed deliberately nonsensical information. Ware and Williams (1975) attempted to extend these findings by conducting a similar experiment with undergraduate and graduate students. They manipulated instructor expressiveness by having the actor either be enthusiastic, friendly, and charismatic (high expressiveness) or humorless and unenthusiastic (low expressiveness). They manipulated content (high, medium, low) by modifying the number of unrelated examples, circularity, and meaningless information contained in the lecture. Students completed ratings and a quiz following the lecture. Ware and Williams found that instructor expressiveness interacted with lecture content to influence student ratings. When instructor expressiveness was low, high lecture content led to higher ratings than low content. When expressiveness was high, lecture content did not affect ratings, but it did affect student achievement.

The literature generated by the Dr. Fox study was complex (see Perry et al. 1979a, b; Abrami et al. 1982a). Perry et al. (1979a) extended Williams and Ware’s (1975) findings by doing several things to contrive a more typical classroom setting. They produced videotaped lectures performed by an actual college professor rather than a professional actor; they manipulated student incentive by allowing or disallowing students to earn credit for good quiz performance; they varied whether or not students had the opportunity to study lecture materials. Perry et al. (1979a) concluded that educational seduction differentially affected ratings and achievement only with high-incentive students (those told they could earn credits if they did well on the later quiz), but not with low-incentive students. When instructor expressiveness is low, content affects both ratings and achievement; when expressiveness is high, content affects only achievement. Perry et al. (1979a) concluded that educational seduction might be less likely to occur in conditions that more closely resemble typical college classes. In a second study, Perry et al. (1979b) found that instructor reputation interacts with expressiveness but not content. Students rated positive reputation, high-expressive professors more favorably than negative reputation, high-expressive professors.

In conducting a meta-analysis of 12 independent studies of educational seduction research, Abrami et al. (1982a) concluded that “(a) some teacher characteristics affect ratings and achievement similarly and (b) some teacher characteristics affect ratings and achievement differently or not at all” (p. 459). More to the point, Marsh and Ware (1982) concluded that manipulations of instructor expressiveness primarily influence ratings of instructor enthusiasm; manipulations of lecture content influence ratings of instructor knowledge, as well as student exam performance. Moreover, when student extrinsic motivation to achieve in a course is low, the influence of instructor expressiveness is substantial. Being more expressive produces higher student ratings *and* higher examination performance. In short, making the class interesting as well as informative helps students pay attention, especially when they are less motivated. Expressiveness, therefore, tends to enhance learning, and—using Marsh’s (2007) definition of bias—we suggest it does *NOT* require control.

The fact that expressiveness has a moderate affect on student ratings should not be surprising given what is known about relationships between nonverbal behaviors and speaker credibility and persuasiveness (Burgoon et al. 1990). Such behaviors as vocal pleasantness (fluency and pitch variety), facial pleasantness, and facial expressiveness are positively associated with greater perceived competence. Greater perceived persuasiveness is linked to greater vocal pleasantness, facial expressiveness, and kinesthetic relaxation. In light of this, we agree with Abrami et al.'s (1982a) recommendation that administrators should use ratings to make only crude judgments of teaching effectiveness and that ratings should be collected from multiple classes and used in combination with other data when making promotion and tenure decisions.

Student Variables Related to Student Ratings That May Require Control

Student Motivation

Instructors are more likely to receive higher ratings in classes where students had a prior interest in the subject matter (Marsh and Dunkin 1997) or were taking the course as an elective (Aleamoni 1981; Braskamp and Ory 1994; Centra 1993; Feldman 1978). Although Marsh (2007) concluded the reason for taking a course (which overlaps with student motivation) is related to student ratings, this variable is *not a bias* because motivated students are likely to learn more. However, because motivation to take the course is a student characteristic and *not* necessarily a reflection of the instructor's teaching effectiveness, we believe this variable requires some control. Control could be established by creating comparison groups of courses within the institution that control for student self-reported motivation or by statistically adjusting ratings for student motivation.

Possibly related to this, Centra (2009) found that required courses tend to receive lower ratings than other kinds of courses, but the differences are not great. Nonetheless, it would *not* be fair to penalize instructors who teach required courses or appropriate to reward those teaching an elective course. Expressing another perspective, Hoyt and Cashin (1977) found that some "required" courses are very popular with students (especially required courses in the major) and some "elective" courses are regarded less positively (especially science or mathematics electives taken to satisfy distribution requirements). Measures of student motivation/interest in the course have therefore been shown to be more accurate as a control variable.

Expected Grade

In a study involving over 50,000 classes, Centra (2003) examined the relationship between the grade students expected to receive in a course and ratings of the

quality of instruction. Controlling for class size, teaching method, and student ratings of progress on learning outcomes, expected grade generally had no effect on ratings across eight subject-matter areas. However, others have reported positive but low correlations (.10 to .30) (Braskamp and Ory 1994; Centra 2003; Feldman 1976a; Howard and Maxwell 1980, 1982; Marsh and Dunkin 1997; Marsh and Roche 2000).

Three possible hypotheses have been proposed for these low positive correlations. The *validity hypothesis* posits that students who learn more earn higher grades and assign higher ratings (which supports the validity of student ratings). The *leniency hypothesis* asserts that instructors who give higher grades than the students deserve receive higher ratings than the instructor deserves. A third hypothesis is that *student characteristics* (e.g., high interest or motivation) lead to greater learning and, therefore, higher grades and higher ratings.

In two studies of IDEA data, Howard and Maxwell (1980, 1982) concluded that students' self-reported learning and desire to take the course explained most of the shared variance between expected grades and global ratings of the instructor, which supports the validity and student characteristics hypotheses. More recently, Marsh (2007) reviewed studies that supported the validity hypothesis, with some support for student characteristics.

Additional support for the validity hypothesis comes from Baird (1987) who argued that the imperfect and inconsistent correlations between student ratings and course grades stem from discrepancies between what a student actually learned and the grade received. Baird (1987) found that students' perceptions of how much they learned in the course were highly correlated with overall ratings of the professor and course, but anticipated letter grade was only weakly correlated. Moreover, the relationship between anticipated letter grade and actual course grade was especially weak ($r = .18$). The author concluded, "These results support the validity hypothesis regarding the grades-rating correlation. Students rate instructors according to how much they believe they have learned rather than according to their anticipated grades" (p. 91).

McKeachie's (1979) position on this matter still seems appropriate: "[I]n courses in which students learn more the grades should be higher and the ratings should be higher so that a correlation between average grades and ratings is not necessarily a sign of invalidity" (p. 391). To control for the possibility of grading leniency, however, one might have peers (faculty knowledgeable in the subject matter) review the instructor's course material, especially exams, test results, graded samples of essays, projects, grade distributions, and so forth to judge the course standards and the bases for grading in the course (McKeachie 1979).

Ultimately, if an instructor gives higher grades than students deserve to receive higher ratings than the instructor deserves, we question whether the problem lies with student ratings or with the instructor. As Hativa (2013b) points out, "one cannot blame SRIs if the real issue/problem is unethical teacher behavior" (p. 60). Moreover, the faculty member who wants to increase course ratings would be better served by practicing other more productive behaviors than assigning lenient grades (Hativa 2013b). Teaching effectively—by challenging students and stimulating

their interests (Marsh and Roche 2000)—and responding proactively to student feedback about instruction and the course (Centra 2003) are more likely than leniency to lead to greater student learning and higher ratings.

Course Variables Related to Student Ratings That May Require Control

Class Size

Although there is a tendency for smaller classes to receive higher ratings, it is a very weak inverse relationship (average $r = -.09$) (Feldman 1984). Hoyt and Lee (2002a) found that the effect of class size on ratings was not always statistically significant, but when it was, the relationship was negative. Instructors teaching small classes therefore have a slight advantage over those teaching large classes.

There may be several reasons for the advantage of small over larger classes. Students may be more likely to interact with classmates, speak up in class, ask questions, and establish a relationship with the instructor. Instructors may require lengthier writing assignments, more graded homework, and more essay exams, all of which could lead to greater student learning (Hativa 2013b; Marsh 1987). Under these conditions, if students perceive that they learn more, they most likely assign higher ratings.

The effect of class size is most apparent when comparing very large with small classes. Benton and Pallett (2013) found that in very large classes, instructors were more likely to emphasize factual knowledge and less likely to develop communication skills. In turn, students were less likely to report progress on communication skills and creative capacities, such as writing, inventing, designing, and performing. The type of learning where students in very large classes approached the progress of those in small and medium classes was in developing basic background in the subject matter.

Centra (2009) found that smaller classes not only tend to receive higher ratings, but that students in those classes report learning more. Because class size is related to both student learning and effective teaching, it is, therefore, *not* considered a bias. However, Centra suggested that institutions might want to take size into consideration—by using comparative data—when considering student ratings in personnel decisions. Alternatively, adjusting statistically for class size, as is done in IDEA student ratings, is another possibility.

Level of the Course

Although we reported previously that *level* of the student is unrelated to student ratings, higher-level courses (especially graduate courses) are rated somewhat higher than lower-level courses (Aleamoni 1981; Braskamp and Ory 1994; Feldman 1978).

However, the differences tend to be small. Such differences can most likely be explained by greater student motivation and work habits in graduate courses. However, statistical controlling for level of the course would most likely result in substantial grouping error, as not all lower-level students lack motivation/work habits and not all upper-level students are high on those characteristics. Adjusting for individual student self-reported motivation/work habits is a preferred way to reduce possible bias.

Locally, institutions should check to see if lower-level classes receive lower ratings than upper-level classes. Similarly, they should compare undergraduate with graduate classes. If differences exist, do they remain after controlling for student motivation/work habits and class size? If so, we recommend developing local comparative data for the appropriate levels.

Academic Discipline

Feldman (1978) reviewed studies showing that courses in the humanities and arts receive higher ratings than social sciences, which in turn receive higher ratings than math and science. Others (Braskamp and Ory 1994; Cashin 1990; Centra 1993, 2009; Hoyt and Lee 2002b; Kember and Leung 2011; Marsh and Dunkin 1997; Sixbury and Cashin 1995) found similar results. Although there is increasing evidence that ratings differ between disciplines, it is *not clear* why.

Cashin (1990) suggested some possible explanations. For example, some fields may be rated lower because they are more poorly taught; if so, then these differences do *not* require control. There is some evidence, for example, that mathematical/science courses tend to receive lower ratings (Centra 2009; Hoyt and Lee 2002b). Ratings in those courses are lower for the teaching styles of stimulating interest, fostering collaboration, and encouraging student involvement, which are related to overall measures of teaching excellence. Notably, students also rate the courses in these content areas more difficult than other courses, and they express less motivation to take the course (Hoyt and Lee 2002b).

If instructors in fields requiring more quantitative reasoning skills are rated lower because today's students are less competent in such skills—another hypothesis offered to explain why some disciplines are rated lower (Cashin 1990)—then some control is necessary. Centra (2009) suggested that institutions might want to use comparative data to determine if the lower ratings result from lower student quantitative skills.

Another explanation for disciplinary differences is the sequential/hierarchical structure of content in some disciplines (Hativa 2013b). *Hard* disciplines (see Biglan 1973), for example, have a structured knowledge sequence organized around a theory agreeable to all members of the field (e.g., engineering, chemistry). Consequently, students must have a solid knowledge base in prior courses to succeed in subsequent ones. There may also be differences in the kinds of faculty and students attracted to certain disciplines. Some faculty in the hard sciences, for example, may be more attracted to a certain discipline because of research

interests than for teaching opportunities. In addition, some students in specific fields might possess common attitudes toward and expectations about how courses should be taught.

Another possible explanation for disciplinary differences is the type of teaching methods employed in the classroom (Hativa 2013b). Instructors in soft disciplines, for example, tend to exhibit a wider range of teaching behaviors than those in hard disciplines (Franklin and Theall 1992). The authors found that instructors in the arts and humanities more frequently set objectives at the mid and upper levels of Bloom's taxonomy of cognitive objectives and used active teaching methods, whereas those in science, technology, engineering, and mathematics (STEM) courses rely more on lower-level objectives and employ lecture more predominately. In addition, instructors in STEM fields employ teaching methods associated with student learning less frequently than do those in non-STEM courses (Benton et al. 2012b).

In spite of some differences, we agree with Hativa (2013a) that unique forms should not be created for different disciplines. Student perceptions of teaching behaviors and their relationships with learning outcomes are similar across disciplines (Marsh and Dunkin 1997; Murray 2007). Moreover, consistency has been found across disciplines in what constitutes an effective teaching and learning environment (Kember and Leung 2011).

Workload/Difficulty

Some instructors fear ratings may be biased because students perceive some disciplines as more difficult than others. For example, students tend to rate natural science courses the most difficult (Centra 2003; Hoyt and Lee 2002a). However, course workload and subject-matter difficulty are only weakly correlated with student ratings (Centra 1993, 2003; Marsh 2001; Marsh and Roche 2000). Contrary to what some might expect, the correlations are positive—students give somewhat *higher* ratings to difficult courses that require hard work. Still, the correlations are not large. Greenwald and Gillmore (1997) reported just the opposite—that courses with lighter workloads received *higher* student ratings. However, Marsh (2001) reanalyzed their data and found two nearly *uncorrelated* components of workload: “bad workload” (time spent that was *not* valuable) and “good workload” (i.e., time spent on activities related to instructional objectives). Whereas “bad workload” was correlated negatively with student ratings, “good workload” (work that helps students learn) was positively correlated.

The effect of subject-matter difficulty on student ratings may depend on the type of learning emphasized in the course. Hoyt and Lee (2002a) controlled for the instructor's influence on student perceptions of the difficulty of the subject matter. They computed a residual score that represented the students' perception of difficulty once the instructor's influence (e.g., amount of reading and non-reading assignments students reported) had been removed. If students perceived the discipline as difficult, ratings were usually slightly lower. However, difficulty was *positively* correlated with student progress on basic cognitive objectives related to factual knowledge and learning of principles and theories.

The key for instructors is to find the right amount of difficulty. A few researchers (Centra 2003; Marsh and Roche 2000; Marsh 2001) have reported a nonlinear relationship between workload/difficulty and student ratings. For example, Centra (2003), using a large database of classes, found that courses were rated lower when they were perceived as either too difficult or too elementary; the highest ratings were found in classes where difficulty/workload was rated as “just right.” However, the relationship was not strong.

To sum up this section, relatively few variables are related to student ratings that are not also correlated with instructional effectiveness. Nonetheless, a few student and course variables may require some control. In the following paragraphs, we address administration procedures that can affect student ratings when not controlled.

Manipulating Administrative Procedures

The validity of student ratings depends not only on the quality of the instrument but also on how properly the ratings are administered (Beran et al. 2007; Hativa 2013b). Several administrative factors may affect ratings, as described in the following paragraphs.

Non-anonymous Ratings

Students tend to give higher course and instructor ratings when they surrender their anonymity by signing the ratings (Braskamp and Ory 1994; Centra 1993; Feldman 1979; Marsh and Dunkin 1997). Requiring students to sign their names may inflate the ratings because some students may be concerned about possible reprisals.

With the growing trend in learning analytics (Brown 2012; Dyckhoff 2011), institutions need to conduct analyses on multiple sources of student data. In some cases, it may be desirable to correlate ratings with other indicants of student learning and development. This would especially be true with midcourse ratings taken during specific class periods to examine correlations between ratings of teaching methods and quizzes or other learning outcomes. In such situations, ratings might need to be kept confidential but not anonymous. Nonetheless, instructors should urge students not to sign their ratings. They should assure students that their responses are confidential and that only aggregated data and typed comments will be presented to the instructor, *and only after grades have been submitted.*

Instructor Present While Students Complete Ratings

Ratings tend to be higher (Braskamp and Ory 1994; Centra 1993; Feldman 1979; Marsh and Dunkin 1997) when the instructor is present, possibly for the same

reason as non-anonymous ratings. We recommend that the instructor leave the room, and a neutral person collect the ratings.

Purpose of the Ratings

Some researchers have investigated whether the perceived purpose of conducting ratings affects students' responses. Centra (1976) found ratings of the instructor's overall effectiveness did not differ between administrative conditions that specified ratings would be used for *personnel decisions* versus those that said they would be used only for improvement. In reviewing Centra's (1976) results, however, Feldman (1979) noted that the effect of instructions on ratings varied by the teacher. In some cases, specifying that the ratings would be used for tenure, salary, and promotion decisions resulted in higher ratings, whereas in others it had no effect or was associated with lower ratings. So, the effect of varying the directions on student ratings is small (Marsh 2007) and inconsistent. We suggest that instructors include in the standard directions the intended purpose(s) of the ratings. Although this will *not* eliminate potential bias, it will control *variations* in ratings due to differences in student beliefs about how they will be used.

Analyzing the Underlying Dimensions of Ratings

There is broad agreement that student ratings are multidimensional (i.e., that they reflect several different aspects of teaching). The number of dimensions varies depending, in part, on the form studied and the number and kind of individual items it contains. Put simply, multidimensionality suggests *no single student ratings item or set of related items is useful for all purposes*.

There have been a number of factor-analytic studies conducted (see Abrami and d'Apollonia 1990; Hoyt and Lee 2002a; Kulik and McKeachie 1975; Marsh and Dunkin 1997) in which the dimensions were derived statistically. Both Centra (1993) and Braskamp and Ory (1994) identified six factors commonly found in student ratings forms: course organization and planning, clarity and communication skills, teacher-student interaction and rapport, course difficulty and workload, grading and examinations, and student self-reported learning. Employing confirmatory factor analysis, Marks (2000) reported five dimensions: (1) organization, (2) workload/difficulty, (3) expected/fairness of grading, (4) liking/concern, and (5) perceived learning. Marsh's (1984, 2007) SEEQ has nine components: learning/value, enthusiasm, organization, group interaction, individual rapport, breadth of coverage, exams/grades, assignments, and workload. Other student ratings instruments have items measuring some or all of the above dimensions. Hoyt and Lee (2002a) reported five dimensions of teaching based on the *IDEA Diagnostic Form*: (1) providing a clear classroom structure, (2) stimulating student interest, (3) stimulating student effort, (4) involving students, and (5) student interaction.

In several of his reviews of the literature, Feldman (1976b, 1983, 1984, 1987, 1988) categorized student ratings items (and gave examples) into as many as 22 different logical dimensions. In a later review, Feldman (1989b, 2007) identified 28 dimensions.

In her review of numerous studies, Hativa (2013a) proposed a three-level model of the dimensions underlying effective teaching. At the top level is general instructional skill, which is supported by the view that student ratings measure a single overall component (d'Apollonia and Abrami 1997). At the next level, two orthogonal dimensions distinguish between cognitive (i.e., communicating content) and affective (i.e., interpersonal) aspects of teaching. Hativa (2013a) reported that a number of authors have found support for these two dimensions (Addison and Stowell 2012; d'Apollonia and Abrami 1997; Hativa et al. 2010). Finally, at the subordinate level, three teaching behaviors comprise the cognitive dimension—lesson clarity, course and lesson organization, and engaging/interesting presentations. Within the affective dimension are interactions/questioning/answering and rapport with students. Other studies support the validity of these low-level dimensions (Braskamp and Ory 1994; Marsh 2007).

The consistent multidimensionality found in ratings suggests students can distinguish among factors related to teaching effectiveness. Moreover, students can differentially weight teaching behaviors when making overall evaluations of the instructor. When using student ratings data to improve teaching, instructors should distinguish among the various items and their factor structure to insure that all of the appropriate dimensions of teaching are rated. Hoyt and Lee (2002a) found that the relevance of 20 different IDEA teaching methods varied depending upon which learning objectives were emphasized in a course. The implication was that different kinds of learning require different types of teaching.

An anonymous reviewer of this chapter offered yet another recommendation that dimensionality be tied to the instructor's objectives for the course. Teaching effectiveness could then be defined as student ratings of progress on objectives the instructor identifies as important rather than by specific dimensions of teaching. The IDEA Student Ratings of Instrument System (<http://www.theideacenter.org/>) takes this approach. Instructors rate each of 12 learning objectives as either *essential*, *important*, or of *no or minor importance* to the course. Students are then asked to rate the amount of progress they made on each objective, ranging from 1 = *no apparent progress* to 5 = *exceptional progress*. Students report greater progress on objectives the instructor identifies as either essential or important. Moreover, class average progress ratings are highly correlated with overall ratings of the course and instructor (Hoyt and Lee 2002a).

Although there is general agreement that student ratings are multidimensional and that various dimensions should be used when their purpose is to improve teaching, there is disagreement about how many and which dimensions should be used for personnel decisions (Apodaca and Grad 2005; Harrison, Douglas, and Burdsal 2004; Hobson and Talbot 2001; Renaud and Murray 2005). In several articles, Abrami (e.g., Abrami and d'Apollonia 1991) suggested that one or a few global/summary items might be sufficient for personnel decisions. Others have

made a similar recommendation (e.g., Braskamp and Ory 1994; Cashin and Downey 1992; and Centra 1993). Harrison and colleagues also confirmed that various weighted and unweighted measures of overall evaluations of teaching effectiveness are highly intercorrelated (Harrison et al. 2004).

Offering another view, McKeachie (1997) argued that when it comes to personnel decisions, student ratings of progress on educational goals and objectives are preferable to multiple dimensions or a single measure of overall teaching effectiveness. Effective teaching can be demonstrated in many ways, and no instructor should be expected to demonstrate proficiency in all methods and styles. Moreover, teaching methods may vary, depending upon the course content, student characteristics, and size of class. In other words, no single set of teaching behaviors “constitute[s] a necessary-and-sufficient condition” for effective teaching (Hativa 2013a, p. 33). Regardless of which measures are used, administrators and members of personnel committees should use broad categories (e.g., exceeds expectations, meets expectations, fails to meet expectations) rather than try to interpret decimal point differences (d’Apollonia and Abrami 1997; McKeachie 1997; Pallett 2006).

The research cited thus far has summarized evidence of the validity of student ratings as found in correlations with student achievement, correlations with other criteria, examinations of potential bias, manipulations of administration procedures, and factor-analytic studies. In the next sections, we summarize research comparing ratings administered online versus on paper and in online versus face-to-face classes.

Student Ratings Administered via Paper and Pencil Versus Online

Web-based student ratings of instruction are increasing due to their efficiency and lower administration costs when compared to paper-and-pencil surveys (Avery et al. 2006; Dommeyer et al. 2004). Online formats may be less susceptible to faculty influence (Anderson et al. 2005; Dommeyer et al. 2004) and are consistent with campus sustainability goals. They offer more flexibility in making modifications to questions or survey design, can be easily integrated into an online course management system, and can be completed via mobile technology at times convenient to students (Hativa 2013a). Moreover, online directions and procedures can be uniform for all classes, further enabling instructors to be less involved in the administration process (Layne, DeCristoforo, and McGinty 1999).

Online delivery offers other advantages over paper-and-pencil administration. Because students can respond outside of class at their convenience, it frees up class time for other activities (Dommeyer et al. 2004; Layne et al. 1999). Response rates to open-ended questions posted online tend to be higher (Johnson 2003), and written comments are typically lengthier (Hardy 2003; Johnson 2003; Layne et al. 1999) and more detailed (Alhija and Fresko 2009). Possible explanations for the better quality of online comments include lack of time constraints, student preference for keyboarding or texting over handwriting, and greater trust in confidentiality (Hativa 2013a).

The downside is that student response rates are typically lower for online formats (e.g., Avery et al. 2006; Layne et al. 1999), although lower response rates do not necessarily result in lower mean ratings (Avery et al. 2006; Benton et al. 2010a; Layne et al. 1999). Leung and Kember (2005) found that after controlling for relevant demographic variables, students who could choose either paper-and-pencil or online formats did not differ in their ratings.

Lower response rates occur for several reasons, among them student concern about anonymity, computer technical difficulties, and the time required to respond outside of class (Dommeyer et al. 2004). Students who earn a low grade or no grade are less likely than others to respond; in contrast, students in their major are more likely to do so (Adams and Umbach 2012). Some instructors may fear lower response rates that create a negative bias because students who are dissatisfied with the course or instructor might be more likely than others to complete the ratings (Johnson 2003). However, correlations between response rate and overall ratings of the instructor and course are, on average, quite low (Benton et al. 2010a; Johnson 2003), which suggests response bias is less likely.

In spite of the disparity in response rates, researchers have consistently found no meaningful differences in student ratings delivered online versus on paper. The studies reviewed here included a mixture of students enrolled in courses conducted on campus and online. When the same students respond both online and on paper, the correlations between their global ratings of the instructor (.84) and course (.86) are high (Johnson 2003). Further, no meaningful differences are found in individual item means, number of positive and negative written comments (Venette et al. 2010), scale means and reliabilities, and the underlying factor structure of the ratings (Leung and Kember 2005). Similarly, when different students respond to online and paper surveys, no meaningful differences are found in student progress on relevant course objectives, global ratings of the course and instructor, frequency of various teaching methods (Benton et al. 2010a), subscale means (Layne et al. 1999), the proportion of positive and negative written comments (Hardy 2003), and the underlying factor structure (Layne et al. 1999).

Suggestions for Increasing Online Response Rates

Higher online response rates are more likely when instructors clearly communicate their expectations for compliance and when students complete ratings for more than one course (Johnson 2003). Other recommendations include ensuring student confidentiality, monitoring response rates, encouraging instructor follow-up, sending reminders, acknowledging and rewarding instructors with high response rates, and integrating the process into the campus culture (see The IDEA Center 2008). In addition, Linse (2012) recommends mentioning improvements made to the course based on feedback from previous SRIs, guiding students in how to write helpful comments, building rapport with students, creating

a culture of assessment by collecting other types of feedback during the course, reserving a room where students can complete ratings online, and making it clear feedback is valued. With the availability of mobile technology, tablets, and laptop computers, students can complete online ratings during a class period, which should also enhance response rate.

Student Ratings in Face-to-Face Versus Online Courses

The online classroom environment has characteristics that may either diminish or enhance student learning. Opportunities for student participation may either be reduced or increased, depending on how the course is structured; access to the instructor may decline or improve, depending upon instructor responsiveness to e-mail and student posts; students may either moderate or expand connections with classmates, depending on how frequently they post comments or participate in “chat rooms.” All of these elements could affect student ratings either positively or negatively (Smith et al. 2000). Because of differences between online and face-to-face classroom environments, some have investigated whether instructors can use the same student ratings instrument in both settings (e.g., Beattie et al. 2002; Benton et al. 2010b). The general finding is that student ratings collected in face-to-face and online courses are actually more similar than they are different.

One means for comparing ratings across class settings is to sample only students who complete an online student ratings form. Taking this approach, Benton et al. (2010b) found that student progress on relevant objectives, global ratings of the course, and the instructor and the frequency of various teaching methods were comparable between courses identified exclusively as either face-to-face or online (Benton et al. 2010b). When ratings collected on paper from students enrolled on campus are compared with ratings collected online from students enrolled in distance courses, individual item means, internal consistency reliabilities, and the underlying factor structures are very similar (McGhee and Lowell 2003). Furthermore, item means and the overall assessment of the instructor are nearly identical between students enrolled in multiple online and face-to-face sections of the same course taught by the same instructor (Wang and Newlin 2000).

Nonetheless, some differences do exist. As one might expect, response rates to online forms are somewhat lower in online than face-to-face courses. However, the correlations between response rate and overall ratings of the instructor and course are, on average, low, making negative response bias less likely (Benton et al. 2010b). Not surprisingly, students in online courses report greater instructor use of educational technology to promote learning, and such use is more highly correlated with student progress in online courses. In addition, students report somewhat more reading in online courses (Benton et al. 2010b).

Usefulness of Student Ratings

Poor practice has perhaps led to greater invalid and inappropriate use of ratings than has all purported sources of bias combined (Hativa 2013a). Faculty misuse ratings when they divert from standard administration procedures, grade leniently based on the erroneous belief it will increase ratings, make course decisions about objectives and content solely on the basis of student feedback, fail to respond at all to student feedback, and disparage ratings as having no value whatsoever. Administrators misuse student ratings when they make them the sole basis for evaluating teaching effectiveness, make decisions on the basis of a single class, overemphasize small differences in ratings, ignore the role of extraneous factors, fail to consider comparative data, rely too heavily on student written comments, and fail to respond to student feedback (Hativa 2013a).

Sometimes faculty are skeptical about whether student ratings feedback can have a positive impact on teaching improvement (Campbell and Bozeman 2007). Substantial evidence indicates that it can. In Cohen's (1980) meta-analysis of 17 studies, receiving feedback from ratings administered during the first half of the term was *positively* related to improving teaching as measured by student ratings administered at the end of the term. All classes in the meta-analysis had ratings administered during the first half of the semester and again at the end. Cohen used the end-of-term ratings as the measure of improvement. He found that student ratings feedback by itself modestly improved instruction. However, faculty made the most improvement in teaching when student feedback was combined with consultation.

Others have reported similar results (Brinko 1990; Hampton and Reiser 2004; Hativa 2013a; Knol 2013; Marincovich 1999; Marsh 2007; Marsh and Roche 1993; Ory and Ryan 2001; Penny and Coe 2004). For example, Knol (2013) employed a randomized block design to examine the effects of feedback only and feedback plus consultation on improving the quality of lectures at a Dutch University. Prior to teaching their course, professors were randomly assigned to either a feedback-only condition, where students provided feedback shortly after each of three lectures; a feedback-plus-consultation condition, in which student feedback was combined with consultation following each lecture; or a control condition in which student feedback came only at the end of the course. Knol found large effect sizes (Cohen's $d > .80$) for feedback plus consultation on faculty-reported gains in knowledge, focus on teaching, and plans for improvement. In addition, feedback with consultation had a strong impact on student ratings of the instructor's lecturing skills and students' ratings of how much they learned from the lectures.

Discussing ratings with a peer or consultant improves their usefulness (Aleamoni 1978; Marsh and Overall 1979), especially when such conversation targets problems identified by students (Marsh and Roche 1993). Faculty find especially helpful feedback about interaction with students, grading practices, global ratings of the course and instructor, and structural issues (e.g., pace of course, exam difficulty and content, and textbook) (Schmelkin et al. 1997).

In the absence of a consultant, instructors should reflect on what the ratings mean as a useful first step. Kember and colleagues developed a four-category scheme for assessing quality of self-reflection (Kember et al. 2008). In *nonreflection*, the instructor simply looks at the ratings without giving them much thought. At the second level of *understanding*, the instructor attempts to grasp what the ratings mean but does not relate them to his or her own experiences. It is not until *reflection* that instructors relate the results to their own experience teaching the specific course. Finally, in *critical reflection*, the teacher undergoes a transformation, perhaps brought on by the disequilibrium or cognitive dissonance produced when the feedback differs from the teacher's view of how things went.

Such feedback can be humbling, but it may lead instructors to admit that something in the course or their teaching needs to change (Weimer 2009). Meaningful change, according to instructors who have made significant improvements in end-of-course ratings, does not require great effort (McGowan and Graham 2009). Improvements in ratings are most frequently associated with creating opportunities for active learning in the classroom, fostering better student-teacher interactions, setting expectations and maintaining high standards, being prepared for class, and revising procedures for assessing student work (McGowan and Graham 2009).

Unfortunately, the actual use of student ratings for formative purposes falls far short of its potential. Pallett (2006) suggested three possible reasons. First, institutions sometimes place too much emphasis on the summative component of ratings. When student ratings are overemphasized for summative evaluation and underutilized for developmental purposes, faculty often lose trust in the process and see little or no benefit in collecting student feedback. Such misuse erodes the potential benefits of ratings and can create a negative climate for faculty evaluation. A second reason for underutilization is the challenge of creating valid and reliable ratings instruments that provide helpful feedback. Third, at some institutions, there is insufficient mentoring. Credible mentors who are trusted colleagues, not necessarily involved in personnel decisions, are needed to provide feedback and make recommendations for improvement.

Conclusion

There are probably more studies conducted on student ratings than on all other kinds of data used to evaluate college teaching combined. Although one can find individual studies that support almost any conclusion, for many variables, there are enough studies to discern trends. In general, student ratings tend to be statistically reliable, valid, and relatively free from bias or the need for control, perhaps more so than any other data used for faculty evaluation. Moreover, they can help instructors improve their teaching, especially when combined with self-reflection and consultation.

Nonetheless, student ratings are *only one source* of data about teaching and must be used in combination with additional evidence if one wishes to make a judgment about all of the components of college teaching. Further, student ratings must be

interpreted. We should not confuse a source of data with the evaluators who use it—in combination with other kinds of information—to make judgments about an instructor’s teaching effectiveness (Cashin 2003).

This chapter reveals that extensive research has been conducted on student ratings, including replication of key findings. Where should the field go from here? What questions remain unanswered or need to be asked? In the following paragraphs, we make a few suggestions.

Directions for Research and Practice

Perhaps the greatest need is educating administrators, faculty, and students about the value of student ratings data when used appropriately. Researchers can challenge misconceptions about ratings through articles in the press (e.g., *The Chronicle of Higher Education*, *Inside Higher Education*), e-mail (e.g., POD@listserv.nd.edu), blogs (e.g., IDEAblog, <http://theideacenter.org/search/site/IDEAblog>), Webinars, professional organizations (e.g., Professional and Organizational Development Network), and presentations at faculty or department chair development workshops. Because people do not easily discard misconceptions, researchers should investigate which strategies are most effective for bringing about conceptual change in instructor and administrator erroneous beliefs. Much research has been conducted in the field of cognitive psychology that could be applied to challenge misconceptions about student ratings.

Another exciting area of potential research is in the emerging field of learning analytics, defined as:

an umbrella term for the use of data, statistical analysis, and explanatory and predictive models to gain insights and act on complex issues. As a genre of analytics, learning analytics (LA) uses these methods to achieve greater success specifically in student learning. LA can be used in a variety of ways, some of which include alerting faculty, students, and advisors when intervention is needed; providing input for continuous improvement in course design and delivery; and enabling personalization of the learning environment. (Brown 2012)

Institutions of higher education collect vast amounts of data on students and courses that could be integrated to enable better decision making. Researchers and faculty development experts should focus on how student ratings data might better inform teaching and learning. LA provides a way to monitor learner activity and progress and to then make predictions, which affect both student and teacher decision making. The outcome is that instructors can make “targeted improvements” midcourse, and students can receive “targeted alerts” on how they might improve. This model differs from the typical system where feedback does not come until the end of the course. LA enables such feedback while the course is still active.

Innovations in course design offer another possibility for future research. Among them are online courses, massive open online courses (MOOCS), and the flipped classroom. Online courses are becoming more prominent in higher education. The research reviewed in this chapter found no evidence of meaningful differences between student ratings administered online versus face-to-face. However, there may be teaching methods and strategies that online instructors

employ current student ratings instruments fail to assess. Moreover, some faculty create courses online they never teach or teach courses they do not develop (Creasman n.d.). What are the implications of this for faculty evaluation? In addition, researchers should continue to investigate methods for increasing student response rates to online surveys.

With the advent of MOOCs, class sizes can increase to tens of thousands of students. What affects do such large classes have on student ratings and student achievement? For example, student ratings of progress made in developing creative capacities and communication skills are about a standard deviation lower in classes of 100 compared to classes fewer than 15 (Benton and Pallett 2013).

The flipped classroom is yet another innovation in higher education. Students view lectures online in preparation for working on problems with other students in class. Researchers should examine whether typical student ratings instruments need to incorporate additional items to assess student learning and teaching methods in such blended learning situations.

Finally, more must be done to identify strategies for encouraging faculty and administrators to use students ratings effectively. How might faculty developers successfully engage faculty in reviewing student ratings feedback? At the institutional level, how might aggregated student ratings data be used to promote effective faculty development and continuous improvement, to augment program reviews, and to address accreditation standards?

So although research on student ratings seems exhaustive, many interesting questions remain unanswered. Whether the conclusions reached in this chapter hold true for all contexts is an empirical question. If an institution has reason to believe that a given conclusion does *not* apply, key players should gather local data and conduct research to address the issue. In the absence of evidence to the contrary, however, the following general conclusions can be used as a guide (Marsh 2007, p. 372):

SETs [student evaluations of teaching effectiveness] are multidimensional, reliable and stable, primarily a function of the instructor who teaches a course rather than the course that is taught, relatively valid against a variety of indicators of effective teaching, relatively unaffected by a variety of potential biases, and are seen to be useful by faculty, students, and administrators.

Acknowledgment The authors wish to thank The IDEA Center for granting permission to use chapter portions of IDEA Paper No. 50, *Student Ratings of Teaching: A Summary of Research and Literature*.

References

- Abrami, P. C. (2001). Improving judgments about teaching effectiveness using teacher rating forms. In M. Theall, P. C. Abrami, & L. A. Mets (Eds.), *The student ratings debate: Are they valid? How can we best use them?* (New directions for institutional research, no. 109, pp. 59–87). San Francisco: Jossey-Bass.
- Abrami, P. C., & d'Apollonia, S. (1990). The dimensionality of ratings and their use in personnel decisions. In M. Theall & J. Franklin (Eds.), *Student ratings of instruction: Issues for improving practice* (New directions for teaching and learning, no. 43, pp. 97–111). San Francisco: Jossey-Bass.

- Abrami, P. C., & d'Apollonia, S. (1991). Multidimensional students' evaluations of teaching effectiveness- generalizability of "N=1" research: Comments on Marsh (1991). *Journal of Educational Psychology*, *83*, 411–415.
- Abrami, P. C., Leventhal, L., & Perry, R. P. (1982a). Educational seduction. *Review of Educational Research*, *52*, 446–464.
- Abrami, P. C., Perry, R. P., & Leventhal, L. (1982b). The relationship between student personality characteristics, teacher ratings, and student achievement. *Journal of Educational Psychology*, *74*, 111–125.
- Abrami, P. C., d'Apollonia, S., & Rosenfeld, S. (2007). The dimensionality of student ratings of instruction: What we know, do not know, and need to do. In R. P. Perry & J. C. Smart (Eds.), *The Scholarship of teaching and learning in higher education: An evidence-based perspective* (pp. 385–445). Dordrecht: Springer.
- Adams, M. J., & Umbach, P. D. (2012). Nonresponse and online student evaluations of teaching: Understanding the influence of salience, fatigue, and academic environments. *Research in Higher Education*, *53*(5), 576–591.
- Addison, W. E., & Stowell, J. R. (2012). Conducting research on student evaluations of teaching. In M. E. Kite (Ed.), *Effective evaluations of teaching: A guide for faculty and administrators* (pp. 5–12). Retrieved from the Society for the Teaching of Psychology website: <http://teachpsych.org/ebooks/evals2012/index.php>
- Aleamoni, L. M. (1978). The usefulness of student evaluations in improving college teaching. *Instructional Science*, *7*, 95–105.
- Aleamoni, L. M. (1981). Student ratings of instruction. In J. Millman (Ed.), *Handbook of teacher evaluation* (pp. 110–145). Beverly Hills: Sage.
- Aleamoni, L. M. (1987). Student rating myths versus research facts. *Journal of Personnel Evaluation in Education*, *1*, 111–119.
- Alhija, F. N. A., & Fresko, B. (2009). Student evaluation of instruction: What can be learned from students' written comments? *Studies in Educational Evaluation*, *35*, 37–44.
- Anderson, H. M., Cain, J., & Bird, E. (2005). Online student course evaluations: Review of literature and a pilot study. *American Journal of Pharmaceutical Education*, *69*, 34–43.
- Apodaca, P., & Grad, H. (2005). The dimensionality of student ratings of teaching: Integration of uni- and multidimensional models. *Studies in Higher Education*, *30*(6), 723–748.
- d'Apollonia, S., & Abrami, P. C. (1997). Navigating student ratings of instruction. *American Psychologist*, *52*, 1198–1208.
- Arreola, R. A. (2006). *Developing a comprehensive faculty evaluation system* (2nd ed.). Bolton: Anker Publishing.
- Avery, R. J., Bryant, W. K., & Mathios, A. (2006). Electronic course evaluations: Does an online delivery system influence student evaluations. *The Journal of Economic Education*, *37*, 21–37.
- Babor, T. F., & Del Boca, F. K. (1992). Just the facts: Enhancing measurements of alcohol consumption using self-report methods. In R. Litten & J. Allen (Eds.), *Measuring alcohol consumption: Psychosocial and biochemical methods* (pp. 3–19). Totowa: Humana Press.
- Babor, T. F., Steinberg, K., Anton, R., & Del Boca, F. K. (2000). Talk is cheap: Measuring drinking outcomes in clinical trials. *Journal of Studies on Alcohol*, *61*(1), 55–63.
- Baird, J. S. (1987). Perceived learning in relation to student evaluation of university instruction. *Journal of Educational Psychology*, *79*, 90–91.
- Basow, S. A. (2000). Best and worst professors: Gender patterns in students' choices. *Sex Roles*, *43*(5/6), 407–417.
- Beattie, J., Spooner, F., Jordan, L., Algozzine, B., & Spooner, M. (2002). Evaluating instruction in distance learning classes. *Teacher Education and Special Education*, *25*, 124–132.
- Beleche, T., Fairris, D., & Marks, M. (2012). Do course evaluations truly reflect student learning? Evidence from an objectively graded post-test. *Economics of Education Review*, *31*(5), 709–719.
- Benton, S. L., & Cashin, W. E. (2012). *Student ratings of teaching: A summary of research and literature* (IDEA Paper No. 50). Manhattan: The IDEA Center.

- Benton, S. L., & Pallett, W. H. (2013). Class size matters. *Inside Higher Education*. <http://www.inside-highered.com/views/2013/01/29/essay-importance-class-size-higher-education>. 28 Jan 2013.
- Benton, S. L., Webster, R., Gross, A. B., & Pallett, W. (2010a). *IDEA technical report no. 16: An analysis of IDEA student ratings of instruction using paper versus online survey methods*. Manhattan: The IDEA Center.
- Benton, S. L., Webster, R., Gross, A. B., & Pallett, W. (2010b). *IDEA technical report no. 15: An analysis of IDEA student ratings of instruction in traditional versus online courses*. Manhattan: The IDEA Center.
- Benton, S. L., Duchon, D., & Pallett, W. H. (2011). Validity of self-report student ratings of instruction. *Assessment and Evaluation in Higher Education*, 38, 377–389.
- Benton, S. L., Brown, R., & Li, D. (2012a). *Replication of IDEA Technical Report No. 12 tables: 2012 IDEA student ratings dataset*. Unpublished manuscript.
- Benton, S. L., Gross, A., & Brown, R. (2012b, October). *Which learning outcomes and teaching methods are instructors really emphasizing in STEM courses?* Presentation at American Association of Colleges and Universities Network for Academic Renewal, Kansas City.
- Benton, S. L., Guo, M., Li, D., & Gross, A. (2013, April). *Student ratings, teacher standards, and critical thinking skills*. Paper presented at the annual meeting of the American Educational Research Association, San Francisco.
- Beran, T., Violato, C., Kline, D., & Frideres, J. (2007). What's the "use" of student ratings of instruction for administrators? *Canadian Journal of Higher Education*, 37, 27–43.
- Berk, R. A. (2005). Survey of 12 strategies to measure teaching effectiveness. *International Journal of Teaching and Learning in Higher Education*, 17, 48–62.
- Biglan, A. (1973). The characteristics of subject matter in different academic areas. *Journal of Applied Psychology*, 57, 195–203.
- Braskamp, L. A., & Ory, J. C. (1994). *Assessing faculty work: Enhancing individual and institutional performance*. San Francisco: Jossey-Bass.
- Braskamp, L. A., Ory, J. C., & Pieper, D. M. (1981). Student written comments: Dimensions of instructional quality. *Journal of Educational Psychology*, 73, 65–70.
- Brener, N. D., Billy, J. O. G., & Grady, W. R. (2003). Assessment of factors affecting the validity of self-reported health-risk behavior among adolescents: Evidence from the scientific literature. *Journal of Adolescent Health*, 33, 436–457.
- Brinko, K. T. (1990). Instructional consultation with feedback in higher education. *Journal of Higher Education*, 61, 65–83.
- Brown, M. (2012, July). Learning analytics: Moving from concept to practice. In *Educause Learning Initiative Brief*. Retrieved from the EDUCAUSE website: <http://net.educause.edu/ir/library/pdf/ELIB1203.pdf>
- Buchert, S., Laws, E. L., Epperson, J. M., & Bregman, N. J. (2008). First impressions and professor reputation: Influence on student evaluations of instruction. *Social Psychology of Education*, 11, 397–408.
- Burdsal, C. A., & Harrison, P. D. (2008). Further evidence supporting the validity of both a multi-dimensional profile and an overall evaluation of teaching effectiveness. *Assessment and Evaluation in Higher Education*, 33, 567–576.
- Burgoon, J. K., Birk, T., & Pfau, M. (1990). Nonverbal behaviors, persuasion, and credibility. *Human Communication Research*, 17, 140–169.
- Campbell, J., & Bozeman, W. (2007). The value of student ratings: Perceptions of students, teachers, and administrators. *Community College of Research and Practice*, 32(1), 13–24.
- Campbell, D. T., & Stanley, J. C. (1963). *Experimental and quasi-experimental designs for research*. Boston: Houghton Mifflin.
- Carrell, S., & West, J. (2010). Does professor quality matter? Evidence from random assignments of students to professors. *Journal of Political Economy*, 118(3), 409–432.
- Carrier, N. A., Howard, G. S., & Miller, W. G. (1974). Course evaluations: When? *Journal of Educational Psychology*, 66, 609–613.

- Cashin, W. E. (1989). *Defining and evaluating college teaching* (IDEA Paper No. 21). Manhattan: Kansas State University, Center for Faculty Evaluation and Development.
- Cashin, W. E. (1990). Students do rate different academic fields differently. In M. Theall & J. Franklin (Eds.), *Student ratings of instruction: Issues for improving practice* (New directions for teaching and learning, no. 43, pp. 113–121). San Francisco: Jossey-Bass.
- Cashin, W. E. (1996). *Developing an Effective Faculty Evaluation System* (IDEA Paper No. 33). Manhattan: Kansas State University, Center for Faculty Evaluation and Development.
- Cashin, W. E. (2003). Evaluating college and university teaching: Reflections of a practitioner. In J. C. Smart (Ed.), *Higher education: Handbook of theory and research* (pp. 531–593). Dordrecht: Kluwer Academic Publishers.
- Cashin, W. E., & Downey, R. G. (1992). Using global student ratings for summative evaluation. *Journal of Educational Psychology, 84*, 563–572.
- Centra, J. A. (1976). The influence of different directions on student ratings of instruction. *Journal of Educational Measurement, 13*, 277–282.
- Centra, J. A. (1979). *Determining faculty effectiveness: Assessing teaching, research, and service for personnel decisions and improvement*. San Francisco: Jossey-Bass.
- Centra, J. A. (1993). *Reflective faculty evaluation: Enhancing teaching and determining faculty effectiveness*. San Francisco: Jossey-Bass.
- Centra, J. A. (2003). Will teachers receive higher student evaluations by giving higher grades and less course work? *Research in Higher Education, 44*, 495–518.
- Centra, J. A. (2009). *Differences in responses to the student instructional report: Is it bias?* Princeton: Educational Testing Service.
- Centra, J. A., & Gaubatz, N. B. (2000). Is there a gender bias in student evaluations of teaching? *Journal of Higher Education, 70*, 17–33.
- Clayson, D. E. (2009). Student evaluation of teaching: Are they related to what students learn? *Journal of Marketing Education, 31*, 16–30.
- Clayson, D. E., & Sheffet, M. J. (2006). Personality and the student evaluation of teaching. *Journal of Marketing Education, 28*(2), 149–160.
- Cohen, P. A. (1980). Effectiveness of student-rating feedback for improving college instruction: A meta-analysis of findings. *Research in Higher Education, 13*, 321–341.
- Cohen, P. A. (1981). Student ratings of instruction and student achievement: A meta-analysis of multisection validity studies. *Review of Educational Research, 51*, 281–309.
- Cohen, P. A. (1987, April). *A critical analysis and reanalysis of the multisection validity meta-analysis*. Paper presented at the annual meeting of the American Educational Research Association, Washington, DC.
- Cooper, A. M., Sobell, M. B., Sobell, L. C., & Maisto, S. A. (1981). Validity of alcoholics' self-reports: Duration data. *International Journal of Addiction, 16*, 401–406.
- Costin, F. (1968). A graduate course in the teaching of psychology: Description and evaluation. *Journal of Teacher Education, 19*, 425–432.
- Costin, F., Greenough, W. T., & Menges, R. J. (1971). Student ratings of college teaching: reliability, validity, and usefulness. *Review of Educational Research, 41*, 511–535.
- Creasman, P. A. (n.d.). *IDEA Paper No. 52: Considerations in online course design*. Manhattan: The IDEA Center.
- Davis, B. G. (2009). *Tools for teaching* (2nd ed.). San Francisco: Jossey-Bass.
- Del Boca, F. K., & Noll, J. A. (2002). Truth or consequences: The validity of self-report data in health services research on addictions. *Addiction, 95*, 347–360.
- Dommeyer, C. J., Baum, P., Hanna, R. W., & Chapman, K. S. (2004). Gathering faculty teaching evaluations by in-class and online surveys: Their effects on response rates and evaluations. *Assessment and Evaluation in Higher Education, 29*, 611–623.
- Dorn, D. S. (1987). The first day of class: Problems and strategies. *Teaching Sociology, 15*, 61–72.
- Dyckhoff, A. L. (2011). Implications for learning analytics tools: A meta-analysis of applied research questions. *International Journal of Computer Information Systems and Industrial Management Application, 3*, 594–601.

- Erdle, S., Murray, H. G., & Rushton, J. P. (1985). Personality, classroom behavior, and student ratings of college teaching effectiveness: A path analysis. *Journal of Educational Psychology, 77*, 394–407.
- Feeley, T. H. (2002). Evidence of halo effects in student evaluations of communication instruction. *Communication Education, 51*(3), 225–236.
- Feldman, K. A. (1976a). Grades and college students' evaluations of their courses and teachers. *Research in Higher Education, 4*, 69–111.
- Feldman, K. A. (1976b). The superior college teacher from the students' view. *Research in Higher Education, 5*, 243–288.
- Feldman, K. A. (1977). Consistency and variability among college students in rating their teachers and courses: A review and analysis. *Research in Higher Education, 6*, 233–274.
- Feldman, K. A. (1978). Course characteristics and college students' ratings of their teachers: What we know and what we don't. *Research in Higher Education, 9*, 199–242.
- Feldman, K. A. (1979). The significance of circumstances for college students' ratings of their teachers and courses. *Research in Higher Education, 10*, 149–172.
- Feldman, K. A. (1983). Seniority and experience of college teachers as related to evaluations they receive from students. *Research in Higher Education, 18*, 3–124.
- Feldman, K. A. (1984). Class size and college students' evaluations of teachers and courses: A closer look. *Research in Higher Education, 21*, 45–116.
- Feldman, K. A. (1986). The perceived instructional effectiveness of college teachers as related to their personality and attitudinal characteristics: A review and synthesis. *Research in Higher Education, 24*, 129–213.
- Feldman, K. A. (1987). Research productivity and scholarly accomplishment of college teachers as related to their instructional effectiveness: A review and exploration. *Research in Higher Education, 26*, 227–298.
- Feldman, K. A. (1988). Effective college teaching from the students' and faculty's view: Matched or mismatched priorities. *Research in Higher Education, 28*, 291–344.
- Feldman, K. A. (1989a). Instructional effectiveness of college teachers as judged by teachers themselves, current and former students, colleagues, administrators and external (neutral) observers. *Research in Higher Education, 30*, 137–194.
- Feldman, K. A. (1989b). The association between student ratings of specific instructional dimensions and student achievement: Refining and extending the synthesis of data from multisection validity studies. *Research in Higher Education, 30*, 583–645.
- Feldman, K. A. (1992). College students' views of male and female college teachers: Part I—Evidence from the social laboratory and experiments. *Research in Higher Education, 33*, 317–375.
- Feldman, K. A. (1993). College students' views of male and female college teachers: Part II—Evidence from students' evaluations of their classroom teachers. *Research in Higher Education, 34*, 151–211.
- Feldman, K. A. (2007). Identifying exemplary teachers and teaching: Evidence from student ratings. In R. P. Perry & J. C. Smart (Eds.), *The scholarship of teaching and learning in higher education: An evidence-based perspective* (pp. 93–129). Dordrecht: Springer.
- Forsyth, D. R. (2003). *Professor's guide to teaching: Psychological principles and practices*. Washington, DC: American Psychological Association.
- Franklin, J., & Theall, M. (1992). *Disciplinary differences: Instructional goals and activities, measures of student performance, and student ratings of instruction*. Paper presented at the annual meeting of the American Educational Research Association, San Francisco.
- Freier, M. C., Bell, R. M., & Ellickson, P. (1991). *Do teens tell the truth? The validity of self-reported tobacco use by adolescents*. Santa Monica: The Rand Corporation.
- Frey, P. W. (1976). Validity of student instructional ratings as a function of their timing. *Journal of Higher Education, 47*, 327–336.
- Galbraith, C. S., Merrill, G. B., & Kline, D. M. (2012). Are student evaluations of teaching effectiveness valid for measuring student learning outcomes in business related courses? A neural network and Bayesian analyses. *Research in Higher Education, 53*, 353–374.
- Grant, D. (2007). Grades as information. *Economics of Education Review, 26*, 201–214.

- Greenwald, A. G., & Gillmore, G. M. (1997). No pain, no gain? The importance of measuring course workload in student ratings of instruction. *Journal of Educational Psychology*, 89, 743–751.
- Hampton, S. E., & Reiser, R. A. (2004). Effects of a theory-based feedback and consultation process on instruction and learning in college classrooms. *Research in Higher Education*, 45, 497–527.
- Hardy, N. (2003). Online ratings: Fact and fiction. In T. D. Johnson & D. L. Sorenson (Eds.), *Online student ratings of instruction* (New directions for teaching and learning, no. 96, pp. 31–38). San Francisco: Jossey-Bass.
- Harrison, P. D., Douglas, D. K., & Burdsal, C. A. (2004). The relative merits of different types of overall evaluations of teaching effectiveness. *Research in Higher Education*, 45, 311–323.
- Hativa, N. (2013a). *Student ratings of instruction: A practical approach to designing, operating, and reporting*. Oron Publications. Nira@me.com
- Hativa, N. (2013b). *Student ratings of instruction: Recognizing effective teaching*. Oron Publications. Nira@me.com
- Hativa, N., & Raviv, A. (1996). University instructors' ratings profiles: Stability over time, and disciplinary differences. *New Directions for Teaching and Learning* No. 64. San Francisco: Jossey-Bass.
- Hativa, N., Barak, R., & Simhi, E. (2001). Exemplary university teachers: Knowledge and beliefs regarding effective teaching dimensions and strategies. *Journal of Higher Education*, 72, 699–729.
- Hativa, N., Many, A., & Dayagi, R. (2010). The whys and wherefores of teaching evaluation by their students [Hebrew]. *Al Hagova*, 9, 30–37.
- Hobson, S. M., & Talbot, D. M. (2001). Understanding student evaluations: What all faculty should know. *College Teaching*, 49, 26–31.
- Hornbeak, J. L. (2009). *Teaching methods and course characteristics related to college students' desire to take a course*. K-State electronic theses, dissertations, and reports: 2004. <http://hdl.handle.net/2097/1367>
- Howard, G. S., & Maxwell, S. E. (1980). The correlation between student satisfaction and grades: A case of mistaken causation? *Journal of Educational Psychology*, 72, 810–820.
- Howard, G. S., & Maxwell, S. E. (1982). Do grades contaminate student evaluations of instruction? *Research in Higher Education*, 16, 175–188.
- Hoyt, D. P., & Cashin, W. E. (1977). *IDEA technical report no. 1: Development of the IDEA system*. Manhattan: Kansas State University, Center for Faculty Evaluation and Development.
- Hoyt, D. P., & Lee, E. (2002a). *Technical report no. 12: Basic data for the revised IDEA system*. Manhattan: The IDEA Center.
- Hoyt, D. P., & Lee, E. J. (2002b). *Technical report #13: Disciplinary differences in student ratings*. Manhattan: Kansas State University, IDEA Center.
- Hoyt, D. P., & Pallett, W. H. (n.d.). *IDEA paper no. 36, appraising teaching effectiveness: Beyond student ratings*. Manhattan: The IDEA Center.
- Huston, T. (2005). *Research report: Race and gender bias in student evaluations of teaching*. Retrieved April 16, 2013, from http://sun.skidmore.union.edu/sunNET/ResourceFiles/Huston_Race_Gender_TeachingEvals.pdf
- Jenkins, S. J., & Downs, E. (2001). Relationship between faculty personality and student evaluation of courses. *College Student Journal*, 35(4), 636–640.
- Johnson, T. D. (2003). Online student ratings: Will students respond? In T. D. Johnson & D. L. Sorenson (Eds.), *Online student ratings of instruction* (New directions for teaching and learning, no. 96, pp. 49–59). San Francisco: Jossey-Bass.
- Kember, D., & Leung, D. Y. P. (2011). Disciplinary differences in student ratings of teaching quality. *Research in Higher Education*, 52, 278–299.
- Kember, D., McKay, J., Sinclair, K., & Wong, F. K. Y. (2008). A four-category scheme for coding and assessing the level of reflection in written work. *Assessment and Evaluation in Higher Education*, 33(4), 363–379.
- Knol, M. (2013). *Improving university lectures with feedback and consultation*. Academisch Proefschrift. Ipskamp Drukkers, B.V.

- Krathwohl, D. R. (1998). *Methods of educational and social science research*. New York: Longman.
- Kulik, J. A. (2001). Student ratings: Validity, utility, and controversy. In M. Theall, P. C. Abrami, & L. A. Mets (Eds.), *The student ratings debate: Are they valid? How can we best use them?* (New directions for institutional research, no. 109, pp. 9–25). San Francisco: Jossey-Bass.
- Kulik, J. A., & McKeachie, W. J. (1975). The evaluation of teachers in higher education. In F. N. Kerlinger (Ed.), *Review of research in education* (Vol. 3, pp. 210–240). Itasca: F. E. Peacock.
- Kuncel, N. R., Crede, M., & Thomas, L. L. (2005). The validity of self-reported grade point averages, class ranks, and test scores: A meta-analysis and review of the literature. *Review of Educational Research*, 75, 63–82.
- Layne, B. H., DeCristoforo, J. R., & McGinty, D. (1999). Electronic versus traditional student ratings of instruction (electronic version). *Research in Higher Education*, 40(2), 221–232.
- Leung, D. Y. P., & Kember, D. (2005). Comparability of data gathered from evaluation questionnaires on paper through the Internet. *Research in Higher Education*, 46, 571–591.
- Leventhal, L., Abrami, P. C., Perry, R. P., & Breen, L. J. (1975). Section selection in multi-section courses: Implications for the validation and use of teacher rating forms. *Educational and Psychological Measurement*, 35, 885–895.
- Li, Y. (1993). *A comparative study of Asian and American students' perceptions of faculty teaching effectiveness at Ohio University*. Unpublished doctoral dissertation, Ohio University, Athens.
- Linse, A. R. (2012). *Faculty strategies for encouraging their students to fill out the SRTes*. Retrieved April 16, 2013, from <http://www.schreyerinsitute.psu.edu/IncreaseSRTesRespRate/>
- Marincovich, M. (1999). Using student feedback to improve teaching. In P. Seldin & Associates (Eds.), *Changing practices in evaluating teaching: A practical guide to improved faculty performance and promotion/tenure decisions* (pp. 45–69). Bolton: Anker.
- Marks, R. B. (2000). Determinants of student evaluation of global measures of instructor and course value. *Journal of Marketing Education*, 22(2), 108–119.
- Marsh, H. W. (1982). Validity of students' evaluations of college teaching: A multitrait-multimethod analysis. *Journal of Educational Psychology*, 74, 264–279.1.
- Marsh, H. W. (1984). Students' evaluations of university teaching: Dimensionality, reliability, validity, potential biases, and utility. *Journal of Educational Psychology*, 76, 707–754.
- Marsh, H. W. (1987). Students' evaluations of university teaching: Research findings, methodological issues, and directions for future research. *International Journal of Educational Research*, 11, 253–388.
- Marsh, H. W. (2001). Distinguishing between good (useful) and bad workloads on student evaluations of teaching. *American Educational Research Journal*, 38, 183–212.
- Marsh, H. W. (2007). Students' evaluations of university teaching: Dimensionality, reliability, validity, potential biases and usefulness. In R. P. Perry & J. C. Smart (Eds.), *The Scholarship of teaching and learning in higher education: An evidence-based perspective* (pp. 319–383). Dordrecht: Springer.
- Marsh, H. W., & Bailey, M. (1993). Multidimensional students' evaluations of teaching effectiveness: A profile analysis. *Journal of Higher Education*, 64, 1–17.
- Marsh, H. W., & Dunkin, M. J. (1997). Students' evaluations of university teaching: A multidimensional perspective. In R. P. Perry & J. C. Smart (Eds.), *Effective teaching in higher education: Research and practice* (pp. 241–320). New York: Agathon Press.
- Marsh, H. W., & Hattie, J. (2002). The relation between research productivity and teaching effectiveness. *Journal of Higher Education*, 73, 603–641.
- Marsh, H. W., & Hocevar, D. (1991). Students' evaluations of teaching effectiveness: The stability of mean ratings of the same teachers over a 13-year period. *Teaching & Teacher Education*, 7, 303–314.
- Marsh, H. W., & Overall, J. U. (1979). Long-term stability of students' evaluations: A note on Feldman's consistency and variability among college students in rating their teachers and courses. *Research in Higher Education*, 10, 139–147.
- Marsh, H. W., & Roche, L. A. (1993). The use of students' evaluations and an individually structured intervention to enhance university teaching effectiveness. *American Educational Research Journal*, 30, 217–251.

- Marsh, H. W., & Roche, L. A. (2000). Effects of grading leniency and low workload on students' evaluations of teaching: Popular myth, bias, validity, and innocent bystanders. *Journal of Educational Psychology, 92*, 202–22.
- Marsh, H. W., & Ware, J. E. (1982). Effects of expressiveness, content coverage, and incentive on multidimensional student rating scales: New interpretations of the Dr. Fox effect. *Journal of Educational Psychology, 74*, 126–134.
- Marsh, H. W., Overall, J. U., & Kesler, S. P. (1979). Validity of student evaluations of instructional effectiveness: A comparison of faculty self-evaluations and evaluation by their students. *Journal of Educational Psychology, 71*, 149–160.
- McCarthy, M. A., Niederjohn, D. M., & Bosack, T. N. (2011). Embedded assessment: A measure of student learning and teaching effectiveness. *Teaching of Psychology, 38*(2), 78–82.
- McGhee, D. E., & Lowell, N. (2003). Psychometric properties of student ratings of instruction in online and on-campus courses. In T. D. Johnson & D. L. Sorenson (Eds.), *Online student ratings of instruction* (New directions for teaching and learning, no. 96, pp. 39–48). San Francisco: Jossey-Bass.
- McGowan, W. R., & Graham, C. R. (2009). Factors contributing to improved teaching performance. *Innovative Higher Education, 34*, 161–171.
- McKeachie, W. J. (1979). Student ratings of faculty: A reprise. *Academe, 65*, 384–397.
- McKeachie, W. J. (1997). Student ratings: The validity of use. *American Psychologist, 52*, 1218–1225.
- McPherson, M. A., & Todd Jewell, R. (2007). Leveling the playing field: Should student evaluation scores be adjusted? *Social Science Quarterly, 88*(3), 868–881.
- Messick, S. (1989). Validity. In R. L. Linn (Ed.), *Educational measurement* (3rd ed.). Old Tappan: Macmillan.
- Messick, S. (1995). Validity of psychological assessment: Validation of inferences from persons' responses and performances as scientific inquiry into score meaning. *American Psychologist, 1995*(50), 741–749.
- Midanik, L. (1988). Validity of self-report alcohol use: A literature review and assessment. *British Journal of Addictions, 83*, 1019–1030.
- Murray, H. G. (1983). Low-inference classroom teaching behaviors and student ratings of college teaching effectiveness. *Journal of Educational Psychology, 75*, 138–149.
- Murray, H. G. (1997). Effective teaching behaviors in the college classroom. In R. P. Perry & J. C. Smart (Eds.), *Effective teaching in higher education: Research and practice* (pp. 171–204). New York: Agathon Press.
- Murray, H. G. (2005, June). *Student evaluation of teaching: Has it made a difference?* Paper presented at the annual meeting for the Society of Teaching and Learning in Higher Education, Charlottetown, Prince Edward Island.
- Murray, H. G. (2007). Low-inference teaching behaviors and college teaching effectiveness: Recent developments and controversies. In R. P. Perry & J. C. Smart (Eds.), *The Scholarship of teaching and learning in higher education: An evidence-based perspective* (pp. 145–200). Dordrecht: Springer.
- Murray, H. G., Rushton, J. P., & Paunonen, S. V. (1990). Teacher personality traits and student instructional ratings in six types of university courses. *Journal of Educational Psychology, 82*, 250–261.
- Naftulin, D. H., Ware, J. E., & Donnelly, F. A. (1973). The Doctor Fox lecture: A paradigm of educational seduction. *Journal of Medical Education, 48*, 630–635.
- Nilson, L. B. (2013). Time to raise questions about student ratings. In J. E. Groccia & L. Cruz (Eds.), *To improve the academy: Resources for faculty, instructional, and organizational development* (Vol. 31, pp. 213–227). San Francisco: Jossey-Bass.
- Ory, J. C., & Ryan, K. (2001). How do student ratings measure up to a new validity framework? In T. D. Johnson & D. L. Sorenson (Eds.), *Online student ratings of instruction* (New directions for teaching and learning, no. 5, pp. 27–44). San Francisco: Jossey-Bass.
- Ory, J. C., Braskamp, L. A., & Pieper, D. M. (1980). Congruency of student evaluative information collected by three methods. *Journal of Educational Psychology, 72*, 181–185.

- Overall, J. U., & Marsh, H. W. (1980). Students' evaluations of instruction: A longitudinal study of their stability. *Journal of Educational Psychology, 72*, 321–325.
- Pallett, W. H. (2006). Uses and abuses of student ratings. In P. Seldin (Ed.), *Evaluating faculty performance* (pp. 50–65). Bolton: Anker Publishing Company, Inc.
- Patrick, C. L. (2011). Student evaluations of teaching: Effects of the Big Five personality traits, grades and validity hypothesis. *Assessment and Evaluation in Higher Education, 36*(2), 239–249.
- Patrick, D. L., Cheadle, A., Thompson, D. C., Diehr, P., Koepsell, T., & Kinne, S. (1994). The validity of self-reported smoking: A review and meta-analysis. *American Journal of Public Health, 84*(7), 1086–1093.
- Penny, A. R., & Coe, R. (2004). Effectiveness of consultation on student ratings feedback: Meta-analysis. *Review of Educational Research, 74*, 215–253.
- Perry, R. P., & Smart, J. C. (Eds.). (1997). *Effective teaching in higher education: Research and practice*. New York: Agathon Press.
- Perry, R. P., & Smart, J. C. (Eds.). (2007). *The Scholarship of teaching and learning in higher education: An evidence-based perspective*. Dordrecht: Springer.
- Perry, R. P., Niemi, R. R., & Jones, K. (1974). Effect of prior teaching evaluations and lecture presentation on ratings of teaching performance. *Journal of Educational Psychology, 66*, 851–856.
- Perry, R. P., Abrami, P. C., & Leventhal, L. (1979a). Educational seduction: The effect of instructor expressiveness and lecture content on student ratings and achievement. *Journal of Educational Psychology, 71*, 107–116.
- Perry, R. P., Abrami, P. C., Leventhal, L., & Check, J. (1979b). Instructor reputation: An expectancy relationship involving student ratings and achievement. *Journal of Educational Psychology, 71*, 776–787.
- Ray, J. J. (1987). The validity of self-reports. *Personality Study and Group Behaviour, 1*, 68–70.
- Renaud, R. D., & Murray, H. G. (1996). Aging, personality, and teaching effectiveness in academic psychologists. *Research in Higher Education, 37*, 323–340.
- Renaud, R. D., & Murray, H. G. (2005). Factorial validity of student ratings of instruction. *Research in Higher Education, 46*, 929–953.
- Schmelkin, L. P., Spencer, K. J., & Gellman, E. S. (1997). Faculty perspectives on course and teacher evaluations. *Research in Higher Education, 38*, 575–592.
- Schulze, E., & Tomal, A. (2006). The chilly classroom: Beyond gender. *College Teaching, 54*(3), 263–270.
- Sixbury, G. R., & Cashin, W. E. (1995). *IDEA technical report no. 10: Comparative data by academic field*. Manhattan: Kansas State University, Center for Faculty Evaluation and Development.
- Smith, S. B., Smith, S. J., & Boone, R. (2000). Increasing access to teacher preparation: The effectiveness of traditional instructional methods in an online learning environment. *Journal of Special Education Technology, 15*(2), 37–46.
- Sudkamp, A., Kaiser, J., & Moller, J. (2012). Accuracy of teachers' judgments of students' academic achievement: A meta-analysis. *Journal of Educational Psychology, 104*, 743–762.
- Sullivan, A. M., & Skanes, G. R. (1974). Validity of student evaluation of teaching and the characteristics of successful instructors. *Journal of Educational Psychology, 66*(4), 584–590.
- Svinicki, M., & McKeachie, W. J. (2011). *McKeachie's teaching tips: Strategies, research, and theory for college and university teachers* (13th ed.). Belmont: Wadsworth.
- The IDEA Center. (2008). Best practices for online response rates. Retrieved April 16, 2013, from <http://www.theideacenter.org/OnlineResponseRates>
- Theall, M., & Feldman, K. A. (2007). Commentary and update on Feldman's (1997) "Identifying exemplary teachers and teaching: Evidence from student ratings". In R. P. Perry & J. C. Smart (Eds.), *The scholarship of teaching and learning in higher education: An evidence-based perspective* (pp. 130–143). Dordrecht: Springer.
- Venette, S., Sellnow, D., & McIntire, K. (2010). Charting new territory: Assessing the online frontier of student ratings of instruction. *Assessment and Evaluation in Higher Education, 35*, 101–115.

- Wachtel, H. K. (1998). Student evaluation of college teaching effectiveness: A brief review. *Assessment and Evaluation in Higher Education, 23*, 191–211.
- Wang, A. Y., & Newlin, M. H. (2000). Characteristics of students who enroll and succeed in psychology web-based classes. *Journal of Educational Psychology, 92*, 137–143.
- Ware, J. E., & Williams, R. G. (1975). The Dr. Fox effect: A study of lecture effectiveness and ratings of instruction. *Journal of Medical Education, 50*, 149–156.
- Weimer, M. (2009). Teachers who improved. *The Teaching Professor, 23*, 2.
- Weinberg, B. A., Hashimoto, M., & Fleisher, B. M. (2009). Evaluating teaching in higher education. *Journal of Economic Education, 40*(3), 227–261.
- Williams, R. G., & Ware, J. E. (1976). Validity of student ratings of instruction under different incentive conditions: A further study of the Dr. Fox effect. *Journal of Educational Psychology, 68*, 48–56.
- Williams, R. G., & Ware, J. E. (1977). An extended visit with Dr. Fox: Validity of student ratings of instruction after repeated exposure to a lecturer. *American Educational Research Journal, 14*, 449–457.
- Yunker, P. J., & Yunker, J. A. (2003). Are student evaluations of teaching valid? Evidence from an analytical business core course. *Journal of Education for Business, 78*, 313–317.
- Zhao, J., & Gallant, D. J. (2012). Student evaluation of instruction in higher education: Exploring issues of validity and reliability. *Assessment and Evaluation in Higher Education, 37*, 227–235.

Chapter 8

College Enrollment: An Economic Analysis

Leslie S. Stratton

Introduction

The higher education system in the USA has been the envy of the world for decades. Yet recently, graduation rates in the USA have lagged behind those in other nations, raising concerns that the USA may not be able to maintain its competitive edge in human capital investment. Degree receipt is conditional upon enrollment. The purpose of this chapter is to identify the factors that theory suggests influence the college enrollment decision and to discuss the evidence regarding how each such factor has changed over time (and may change in the future) to alter enrollment. No empirical model is estimated here. Economic theory suggests that individuals enroll in college so long as the marginal benefit associated with enrollment exceeds the marginal cost. The discussion begins with a very simple and very standard model that has only five control variables. After reviewing the role these factors play and have played, this theoretical model is expanded to allow for heterogeneity and extended to incorporate numerous other factors not always discussed in the literature. As always, no model can capture all the factors influencing enrollment, but more complex specifications are necessary to understand better the observed trends in enrollment and help those in the policy arena consider their options in addressing concerns about future competitiveness and labor market needs.

L.S. Stratton (✉)

Department of Economics, Virginia Commonwealth University,
301 W. Main Street, Richmond, VA 23284-4000, USA

Aarhus University, Aarhus, Denmark

Institute for the Study of Labor (IZA), Bonn, Germany
e-mail: lsstratt@vcu.edu

Trends in Higher Education

The USA has one of the most highly educated populations in the world. The OECD report *Education at a Glance 2011* states that the USA ranks among the top five countries in the world with 41 % of the population holding a tertiary degree. On average only 30 % of the OECD population is as highly educated. An analysis of data from the 2012 Current Population Survey (CPS) indicates that indeed 40.6 % of residents aged 25 or older have an associate's degree or more. About one-quarter of these persons hold an associate's degree, leaving 30.9 % of US residents aged 25 or older holding at least a bachelor's degree. Few countries come close to competing with the USA in this regard.

However, evidence suggests that the USA is losing ground. Statistics indicate (OECD 2011) that in most nations the percentage of the population aged 25–34 with a tertiary education is greater than the percentage of the population aged 55–64 with such a degree. In the OECD the average difference is 20 percentage points. In the USA, the fraction holding a tertiary degree differs little by age. Thus, while the USA ranks near the top in terms of the fraction of the population with tertiary education, it ranks only 15th of 34 in terms of the fraction of 25–34-year-olds with tertiary education. If the USA wishes to maintain its competitive edge, these statistics do not bode well.

Restricting the analysis to those receiving at least a bachelor's degree, the evidence looks a bit more encouraging. Figure 8.1 illustrates the fraction of 25–29-year-olds holding a bachelor's degree or more for the years 1940 through 2011. This fraction grew at an increasing rate from 1940 to 1975 and then remained level at between 22 and 23 % for about the next 20 years. Since 1994, the fraction of 25–29-year-olds completing a bachelor's degree in the USA has actually increased almost ten percentage points (or 40 %) from around 23 to 32.2 %. This recent

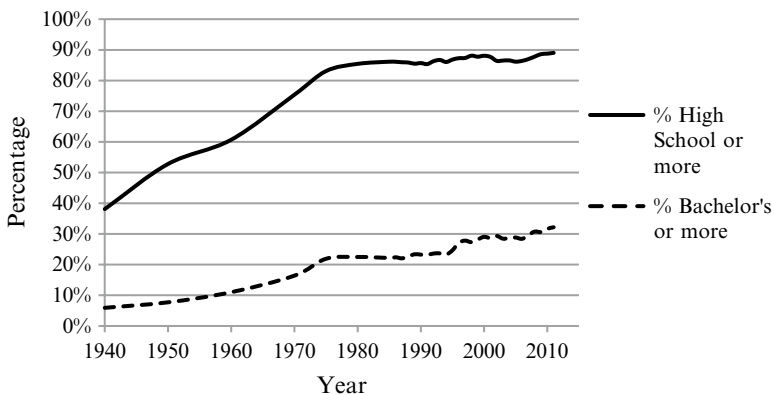


Fig. 8.1 Educational attainment in the US: Persons aged 25–29
(Source: NCES. http://nces.ed.gov/programs_008.asp. Accessed 31 August 2012.)

increase is encouraging, but the statistics indicates that there is no consistent historical pattern of increased college attainment. The evidence suggests that educational attainment moves in jumps and spurts.

Of perhaps particular concern is the small fraction of young Hispanics (age 25–29) who report having a bachelor's degree – 12.8 % versus 32.2 % for those in general population. Given that the fraction of Hispanics in the population is projected to rise from 16 % in 2010 to 20 % in 2025 and 25 % in 2040, the probability of achieving significant gains in bachelor's degree receipt during that period is unlikely. Projections from the Lumina Foundation (2013) indicate some growth in expected degree attainment by 2025, but far short of the projected needs of the labor force and the 60 % goal set by President Obama in 2010.

A concern raised by the OECD report (2011) regarding the future of tertiary education in the USA is that American students coming from upper secondary programs may not be sufficiently prepared for higher education. One generally necessary condition for attending college is completion of high school. The fraction of individuals aged 25–29 that have completed high school is illustrated in Fig. 8.1 and shows a similar pattern to that of college attainment. This fraction more than doubled from 38.1 % in 1940 to 85.4 % in 1980. While there was some growth in the 1990s, levels dipped a bit in the early 2000s before rising further to 89.0 % in 2011. High school graduation rates are certainly not soaring, but they have little room for growth as they can not in any case exceed 100 %. OECD measures indicate that the USA has the 12th highest (of 36) fraction of 25–34-year-olds completing upper secondary education, a fraction substantially higher than the OECD average. As with the OECD statistics on tertiary attainment, the USA is also the only country to report that a smaller fraction of 25–34-year-olds has completed upper secondary as compared with 55–64-year-olds. However, the USA is one of only two countries to report that over 85 % of 55–64-year-olds have a high school education. There is not much room for improvement. Indeed, the statistics illustrated in Fig. 8.1 indicate that an increasing share of high school graduates have attained a college degree. Whereas only 15 % of high school graduates held a college degree in 1950, by 1996 this figure had doubled. By 2011, fully 36 % of 25–29-year-olds with a high school degree held a bachelor's degree as well.

Test scores provide another measure of college preparedness or ability. According to the OECD report (2011), 42 % of 15-year-olds in the USA scored below a 3 on the PISA reading scale in 2009, where 3 is considered the level necessary to succeed at the tertiary level. While preparation may be a concern, however, the evidence suggests that students in the USA demonstrate knowledge similar to their counterparts in the OECD. PISA 2009 results indicated that while students in the USA did lag behind those in the OECD in math, their reading and science scores were not statistically significantly different. Results from the Progress in International Reading Literacy Study (PIRLS) indicate fourth graders in the USA perform quite well compared with fourth graders elsewhere (Mullis et al. 2012). The USA ranked seventh of 45 nations in 2011 for the percentage achieving the advanced international standard and fifth for the percentage achieving the somewhat lower high international standard. Furthermore, the evidence indicates that student performance has

improved significantly over time. Both the 2001 and 2006 results were significantly lower than those reported in 2011. Thus, differences between the OECD and the USA in terms of educational attainment for youth are not readily explained by differences in ability or preparation.

In order to increase educational attainment in the USA, more high school graduates must enroll in and complete college. While more are following this path than in the past, a still higher fraction must succeed in the future. To better understand and potentially influence college attendance and graduation rates, it is important to model the decisions high school graduates face as regards the pursuit of higher education. My goal in this chapter is to review and extend the standard human capital model of the decision to enroll in college, to discuss the factors this model predicts affect enrollment – how they have changed over time and how they differ across the population – and to explain historical and, where reasonable, project future enrollments in higher education.¹ While the concern is with bachelor's (BA) degree receipt, enrollment at both two- and four-year institutions can achieve that goal. Thus, the enrollment measures reported below capture enrollment at both types of institutions, while the outcome measures (like wages) focus on BA recipients.

The Simple Human Capital Model of the Decision to Enroll in College

The decision to enroll in college is generally modeled by economists using human capital theory (Becker 1975; Mincer 1974; Paulsen and Toutkoushian 2008 provide an overview). A standard and very simple version of this model, one presented in many textbooks, is as follows:

$$\sum_{t=0}^T \frac{W_H}{(1+r)^t} \text{ vs } \sum_{t=0}^3 \frac{-C}{(1+r)^t} + \sum_{t=4}^T \frac{W_C}{(1+r)^t}$$

where T represents the employment horizon or years till retirement, r an annual discount or interest rate, C the direct annual cost of college, W_H the fixed annual earnings of a high school graduate, and W_C the fixed annual earnings of a college graduate. The first expression above represents the net present value associated with a high school degree. The second expression identifies the net present value associated with a college degree. The first term in the second expression reflects the costs associated with attending college, and the second term reflects the benefits. As these costs and benefits are spread over many years, it is important to recognize the time value of money,

¹ The discussion here is limited to enrollment. As stated in the introduction, enrollment is a necessary condition for graduation. To meet future needs, however, students must not only enroll but also graduate. Further work examining progress to a degree is essential, but beyond the scope of this text.

hence the use of a discount rate r . Ideally the wage and cost measures are adjusted for inflation so that inflation does not play a role, but a dollar today is still preferred to a dollar equivalent (i.e., adjusted for inflation) received 1 year from today. A dollar received today can after all be enjoyed or invested today. Alternatively, a dollar received today could have been borrowed, in which case r can be thought of as the interest rate on that loan. Overall, r is a critical if often neglected element in the equation above. According to theory, an individual for whom the first expression is greater in value than the second will choose not to attend college, while an individual for whom the second expression is greater in value than the first will attend college.

An important contribution of this model is its presentation of the decision to attend college as an investment decision. Individuals who go to college incur direct costs and forego the immediate earnings they could receive with a high school diploma, in pursuit of the higher future earnings college graduates receive. The expression is often rewritten as follows to highlight this perspective:

$$\text{Costs} = \sum_{t=0}^3 \frac{C + W_H}{(1+r)^t} \text{ vs } \sum_{t=4}^T \frac{W_C - W_H}{(1+r)^t} = \text{Benefits}$$

The costs associated with attending college constitute the present value of the direct costs (C) as well as the indirect or opportunity costs of the earnings foregone during attendance (W_H). The benefits associated with attending college constitute the present value of the wage differential between college and high school graduates.

From this model, it is clear that college attendance is more likely the greater are T and W_C and the lower are W_H , C , and r . The greater T is (all else constant), the longer is the time period over which college educated individuals can reap the benefits of their higher earnings. The greater W_C is, the greater is the earnings differential associated with a college degree. The greater W_H is, the greater is the opportunity cost associated with obtaining a college degree and the smaller is the subsequent benefit. The greater C is, the greater are the costs associated with obtaining a college degree. Finally comes r . Interpreted as a discount rate, the greater r is, the more the individual values money now over money in the future. The greater r is, the more costly is the immediate investment and the less valuable the future reward. Interpreted as an interest rate, the greater r is, the more expensive the loan will be and the less likely the investment in higher education will be worthwhile.

Changes in these factors within the population over time will change optimal educational attainment over time. In the text that immediately follows, each factor is considered in turn. Historical trends and their likely contribution to enrollment trends are reviewed. Where appropriate, projected future changes are also discussed. Throughout this section, the focus is on this simple model as it applies to a population of homogeneous individuals. The next section considers how these factors differ across the population, for example, by gender, race, and geographic location. The final section extends the model by relaxing many of its underlying assumptions. For example, this specification assumes that everyone takes exactly 4 years to complete their bachelor's degree, does not work while in college but works full time every other year, etc.

T: The Employment Horizon

T has changed over the last 50 years in several distinct ways. First, people are living longer. Second, the average workweek has shrunk. Third, retirement policy (both that of the government and of firms) has changed. These factors influence the length and intensity of employment and thereby optimal education levels.

Life expectancy at age 0 has increased from around 50 years in the first decade of the 1900s to 60 in 1937, 70 in 1960, and 75 in 1989. While the rate of increase is slowing, projections suggest life expectancy at age 0 in 2010 was 78.3 (Bureau of the Census 2012, Table 104). If a longer life horizon translates to a longer work horizon, individuals should optimally invest in more education. Indeed, Restuccia and Vandenbroucke (2013) estimate that 20 % of the increase in average educational attainment between the mid-1800s and the mid-1900s was attributable to rising life expectancy. However, increased educational attainment may also improve health and increase life expectancy (see, e.g., Ross et al. 2012). The result is an endogenous relation as not only do increases in *T* lead to increases in education, but increases in education lead to increases in *T*. Furthermore, on a more basic level, it is not longevity of life per se, but length and intensity of time in employment that acts to increase the benefits associated with higher education.

Intensity of work, as measured by hours worked per week, has declined substantially over the last century. Wolman (1938) reports that the average full-time workweek for factory workers declined from 55.1 to 51.0 h during World War I and declined again between 1933 and 1935 from approximately 50 to approximately 42 h. He reasons that the shortage of labor during World War I gave labor the opportunity to negotiate not only better wages but also better working conditions, a conclusion supported by Restuccia and Vandenbroucke (2013). The decline during the 1930s was likely attributable to decreased labor demand as well as the Fair Labor Standards Act of 1938 which imposed a 40-h workweek on about 20 % of the US industry. There has been little change in full-time hours since. The average hours worked per week by persons working full time in the nonagricultural sector in 2012 were 42.4. On the other hand, part-time employment has become substantially more common. In 1955, 10 % of the labor force reported working part time; by 2012 this fraction had increased to 19 %. Decreasing work hours in general reduces the incentive to invest in education. However, again endogeneity is an issue as at least some of the decrease in work hours was driven by more educated workers “purchasing” a shorter workweek with their higher labor income.

While the change in the average intensity of work has generally been in the same direction over time, the same cannot always be said of the average age of retirement. Munnell (2011) documents a decline in men’s average retirement age beginning in 1880 that is attributed to fairly generous Civil War veterans’ old-age pensions. Inexplicably, retirement age did not rise for the generation that followed (Munnell 2011). Retirement age then began to decline again around World War II. A key driver at this time was the Social Security Act of 1935. Prior to implementation, individuals had to be self-supporting or to rely on family and friends in order to stop

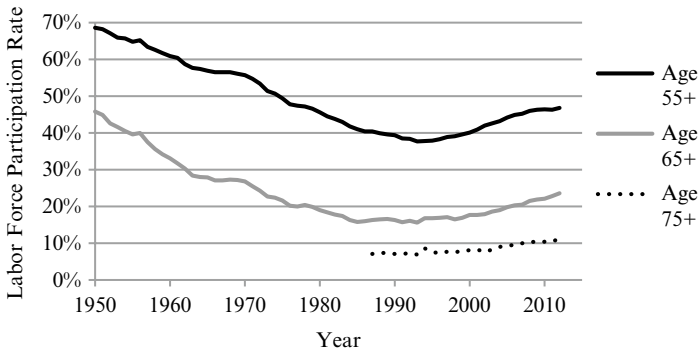


Fig. 8.2 Labor force participation rates of older men
(Source: Bureau of Labor Statistics, Series LNU01324231, LNU01300199, and LNU01315346.)

working. Under this act, taxes are collected from workers and distributed to retired workers aged 65 or over. These distributions began in 1940 and have without a doubt altered the labor force participation rate of the elderly.

All persons who are employed or actively looking for work are classified as “in the labor force.” The labor force participation rate is calculated as the number of persons in the labor force divided by the number in the population. Figure 8.2 illustrates the labor force participation rate for older men, providing data for those aged 55 and over and aged 65 and over for the years 1950 to 2012 and for men aged 75 and over for the years 1988 to 2012.² Clearly the labor force participation rate for older men is lower than it is for younger men. While almost 70 % of men aged 55 and over were in the labor force in 1950, the same is true for only about 45 % of those aged 65 and over. There has always been a differential by age as older persons are more likely to be incapacitated by disability, but the availability of social security increased the differential considerably. By comparison, 65.1 % of men aged 65 and over were in the labor force in 1900 (Bureau of the Census 1975). Had they anticipated this legislation, men born after 1875 (turning 65 after 1940) would have an incentive to invest in less education, even as their life expectancy increased. Those born after 1930 would certainly have had this incentive.

Figure 8.2 shows that the labor force participation rate of older men declined further between 1950 and 1990, from almost 70 % to below 40 %. This pattern is similar for those aged 65 and over, whose labor force participation rate declined from about 45 % in 1950 to below 16 % in the early 1990s. Changes in the Social Security program may explain some part of this decline. Early benefits (at age 62) became available to men in 1961. Benefits themselves became more generous, particularly between 1965 and 1975. Blau and Goodstein (2010), however, estimate

²The employment rate (the number employed divided by the number in the population) could also be used to illustrate the impact of the Social Security Act, but this number shows far more variability over the course of business cycles.

that changes in social security account for less than 20 % of the reduction in older men's labor force participation rate, with perhaps 8 % more explained by changes in the Social Security Disability Insurance program. Other explanations include the availability of retiree health insurance (Blau and Gilleskie 2008) and the greater availability and increased generosity (particularly for early retirees) of employer-provided defined benefit plans (Bell and Marclay 1987). Rising real wages also played a role. Higher earnings increase demand for all normal goods, including leisure. Though average hours worked per week appear to have reached a plateau, early retirement is another way to achieve increased leisure time. The entry of the baby boomers into the labor market in the 1970s and 1980s may also have pushed some older workers into retirement (Macunovich 2012). Any trend toward earlier retirement would favor decreased educational attainment.

Since 1990, however, this trend has been reversed. Labor force participation rates have climbed almost ten percentage points (from 38 to almost 47 %) for men aged 55 and over, 7.5 percentage points (from 16 % to over 23 %) for men aged 65 and over, and almost 4 percentage points (from a low of 6.9 % to over 11 %) for men aged 75 and over. Part of the impetus for this change comes from legislative mandates that make employment more attractive to older persons. Legislation passed in 1983 increased the age at which full retirement benefits can be received from 65 to 67. The earnings exemption (the amount those receiving social security payments are allowed to receive in earnings before incurring a dollar for dollar reduction in their benefits) began increasing in 1996 and was eliminated for those of full retirement age in 2000. Research suggests such mandates have a significant impact (Behaghel and Blau 2012; Manchester and Song 2011; Blau and Goodstein 2010; Mastrobuoni 2009; see Staubli and Zweimueller 2011 for further evidence from Europe). Friedberg and Webb (2005) suggest that the movement towards defined contribution and away from defined benefit retirement plans has also been important, reporting that those facing a defined contribution plan retire about 2 years later than those with defined benefit plans. Stagnant or declining real wages over this time period and smaller youth cohorts may also have played a role. Increases in the retirement age will act, all else equal, to increase demand for higher education, and these increases appear less tied to educational choice than the aforementioned changes in the employment horizon.

While changes in T theoretically impact enrollment in higher education, their actual effect is likely to have been and continue to be small. Life expectancy increased but work hours fell and older individuals now have more resources with which to retire. The benefits associated with a longer employment horizon (people *are* now more likely to live into their 50s) occur so far into the future that in present value they are heavily discounted and so have little impact, even less after accounting for the more near-term decrease in workweeks. In addition, these historical changes likely had a greater impact on secondary than on postsecondary enrollment. Future changes in life expectancy (which already exceeds the legislated retirement age) and work intensity are unlikely to affect a change in enrollment. The factor most likely to do so is retirement age. Though no changes to social security are currently imminent, it is likely that the age at which individuals are eligible to receive

full benefits will rise in the future in order to ensure solvency of the program. Such a change will induce enrollment by only a few individuals and do little to help the USA maintain its competitive edge in higher education.

$W_C - W_H$: *The College Wage Premium*

The next key determinant of college enrollment is the college wage premium, or the difference between the wage of a college graduate and the wage of a high school graduate. This premium drives the benefits side of the enrollment decision. Increases in the earnings of college graduates and decreases in the earnings of high school graduates increase the premium and act to increase enrollment. It is only via their impact on the premium that the earnings of college graduates influence enrollment. The earnings of high school graduates also alter the opportunity cost of attending college – an effect discussed in the next subsection.

There is substantial evidence that wages and the college wage premium have changed over time. Goldin and Katz (2007b) document the college wage differential (the difference between the earnings of individuals with a college degree as compared to a high school diploma) from 1915 to 2005. They estimate that the differential exceeded 60 % in 1920 and fell to 50 % around 1940 and almost 30 % in 1950. The premium then rose to about 45 % in 1970 before dipping below 40 % in 1980 and rising further to 60 % in 2005. On net, they find that the college wage differential is roughly the same today as it was in 1915. Autor et al. (2008) estimate composition-adjusted education wage premiums for 1963 through 2005. These premiums are calculated for full-time, full-year workers only and are adjusted for gender, potential experience (age), region, and race. They also allow education to have a different effect by experience. Like Goldin and Katz, they find an increasing premium through around 1970, followed by a decrease through about 1981, and an increase thereafter. The increase is particularly notable in the second half of the 1990s when the economy was booming. Also notable from Autor et al. (2008) is the evidence of a rising premium for postgraduate education. Indeed, these authors argue that while the earnings gap between those with a college degree and those with a high school degree increased by 13.5 log points (approximately 13.5 %) between 1988 and 2005, the earnings gap between those with a postgraduate degree and those with a college degree increased by 14.2 log points. This is in contrast to an increase of 13.3 and 2.1 log points, respectively, between 1979 and 1988. Autor et al. (2008) also report that while the composition-adjusted earnings gap between high school graduates and high school dropouts increased steadily between 1979 and 1997, it has since flattened or even decreased.

These are but a couple articles from a large and growing literature in economics addressing rising income inequality in the USA. The goal of these articles is to explain changes in wage inequality, typically using standard economic theories of supply and demand. Goldin and Katz (2007b), for example, characterize the period 1915–1980 as one during which the supply of educated persons exceeded the

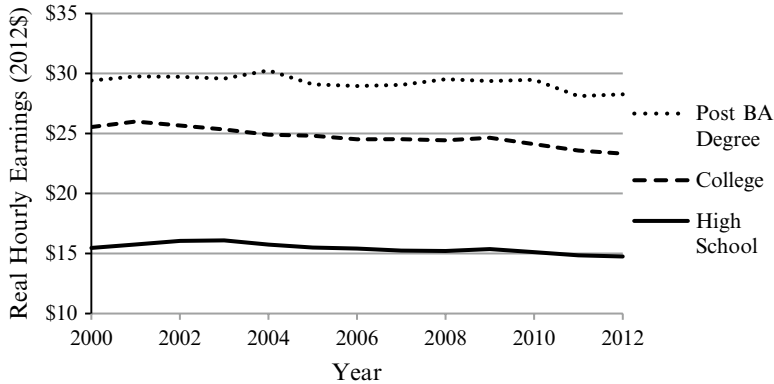


Fig. 8.3 Average hourly earnings by completed education
(Source: Numbers generated by author from CPS Outgoing Rotation Groups. Sample restricted to persons aged 25–34.)

demand for such persons. As a result, the wage premium associated with education generally decreased. They argue that the opposite was true for the period 1980–2005, during which the wage premium increased. This literature (see, e.g., Autor et al. 2008) also covers the role of wage-setting interventions during World War II, the minimum wage, and unionization patterns in driving educational wage premiums. The goal of this chapter, however, is not to explain wage differences by education level but to document them and their likely impact on investment in higher education.

The evidence presented to date documents changes in the premium up to the year 2005. Figure 8.3 presents information on the average real hourly earnings of individuals with only a high school degree, only a baccalaureate degree, and, in recognition of Autor et al.'s (2008) findings regarding the post-baccalaureate premium, individuals with a postgraduate degree for the years 2000 through 2012. These data come from the CPS and are restricted to include only persons between the ages of 25 and 34.³ They clearly illustrate the substantial earnings difference between individuals with a high school degree (whose earnings hover around \$15 per hour) and those with further degrees. College graduates earn about \$10 more per hour than high school graduates. Individuals with a post-baccalaureate degree earn about \$15 more per hour. Also apparent in the data is a slow decline in the real earnings for all these populations. On average, college graduates experienced a decrease from about \$25.50 to about \$23.50 per hour, a decline that appears to accelerate somewhat in the aftermath of both the 2001 and the 2007 recessions. The real earnings of those with a post-baccalaureate degree remained quite stable till 2010 but have fallen since 2010 by almost \$1. It is of some interest to note that on average wages have fallen more for more educated individuals than for high school

³ Individuals who are in the military or enrolled in college full time are also excluded.

graduates, causing the college wage premium to decline slightly from around 60 % in 2005 (the same differential reported in Goldin and Katz 2007a) to about 58 % in 2012. Nevertheless, the premium remains substantial.

The discussion here has focused on the earnings differential between college graduates and high school graduates. This chapter, however, is about college enrollment not necessarily completion. Many who enroll in college do not complete. Evidence abounds that additional years of education (and hence enrollment) increase earnings even in the absence of an earned degree. Evidence also points to what is popularly called a sheepskin effect such that earnings rise more in the year a degree is received than in any other year of enrollment (see, e.g., Jaeger and Page 1996). Flores-Lagunes and Light (2010) actually find that earnings rise with time enrolled for those who do not complete a degree but fall with time enrolled for those receiving a degree, the explanation being that more time in a program increases one's skill, but less able individuals take longer to complete. Greater skill increases productivity on the job and hence earnings, but lesser ability does the opposite. In any case, there is ample evidence that earnings are higher for those with more education.

In general, rising college wage premiums between 1980 and 2005 increased the benefits associated with attending college. Stagnant premiums since have maintained these higher benefits without increasing further the incentive to attend college. Falling premiums have the potential to decrease the incentive to attend college. As the earnings differential between high school and college graduates is substantial and the demand for more educated workers still rising faster than overall demand (per projections from the Department of Labor), the incentive to enroll in college should remain strong.

W_H: Opportunity Cost

An important consideration, however, is the cost associated with that college degree. The most important cost component for most students is the foregone earnings associated with enrollment. Recall that the simple human capital model assumes that individuals enroll in college full time and are not simultaneously employed. This assumption will be relaxed later. In practice, this assumption means that the opportunity cost associated with attending college will be closely related to the average real earnings of high school graduates aged 18–24. Figure 8.4 shows these averages for the period 2000 through 2012.

Though the earnings premium associated with a college degree remained relatively stable between 2000 and 2012, the real hourly earnings of young high school graduates declined by \$1.28 or 10.6 %. The decline was somewhat greater for women (12 %) than for men (10 %). In general, these figures suggest that the opportunity cost associated with attending college has decreased in the past decade, a factor that should support increased college enrollment.

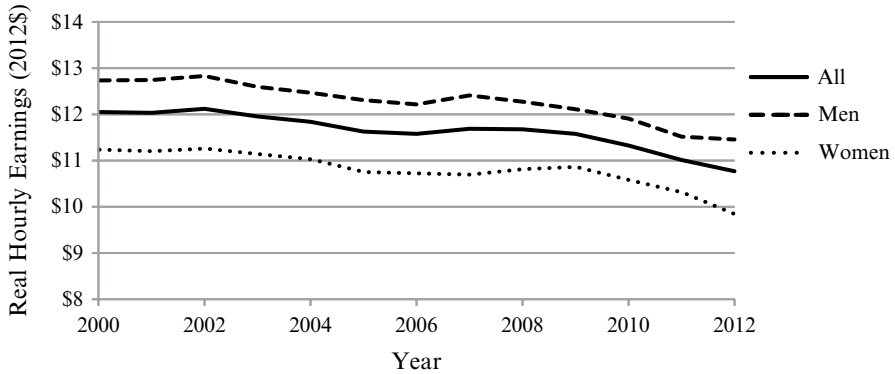


Fig. 8.4 Average hourly earnings of high school graduates, age 18–24
(Source: Numbers generated by author from CPS Outgoing Rotation Groups for persons age 18–24 not enrolled full-time in college.)

C: Direct Costs

The other cost associated with attending college is the direct cost designated C in the model above. This cost covers all costs that the individual would not have incurred if he/she had not chosen to go to college. Tuition is a major factor here, but any costs for books, lodging, food, and transportation to school that would not otherwise be incurred should also be included. Often the simple model is presented with the assumption that college students are able to earn enough money from jobs during the summer and breaks in order to cover most miscellaneous expenditures. As food and housing are necessary even if an individual were not enrolled, these costs are not typically incorporated into C . The text below focuses first on tuition then on the net cost as adjusted by grant aid. Students are assumed to be able to borrow to cover these costs at an interest rate discussed in the following subsection. The role of family income and family support more generally is discussed later in the chapter.

The National Center for Education Statistics (2012, Chapter 3) reports average total tuition and required fees charged for full-time students at four-year institutions using in-state rates for the academic years 1980–1981 through 2010–2011. These figures have received substantial attention in the press (an exception being Pérez-Peña 2012 who acknowledges the net cost measures). According to these figures, real or inflation adjusted charges increased on average 4.2 % annually during the 1980s, 3.1 % annually during the 1990s, and 3.2 % during the first decade of this century. The College Board (2012) reports rates separately by type of institution. They show annual real rates rising by an average of 4.6 % at both public and private four-year institutions between 1982–1983 and 1992–1993. Charges then rose less rapidly between 1992–1993 and 2002–2003 – 3.0 % at private institutions and 3.2 % at public institutions – and diverged from 2002–2003 to 2012–2013 by rising

still more slowly at private institutions (2.4 % per year) and increasing at public institutions as they faced increasing budget constraints (5.2 % per year). These substantial cost increases should have a substantial impact on college enrollment given that these costs are incurred in the near term and hence virtually undiscounted by r .

However, gross charges do not tell the full story. Relatively few students pay these list prices. The College Board (2012) also publishes estimates of net tuition and fees. These figures tell a surprisingly different story. While list price for private four-year colleges rose from \$17,040 in 1992–1993 to \$29,060 in 2012–2013, net price for students attending these colleges rose only from \$10,010 to \$13,380. Where gross price rose 70 % or \$12,020 over the course of these 20 years, net price rose only 34 % or \$3,370. The story for public four-year colleges is similar. List price rose on average from \$3,810 to \$8,660 (an increase of 127 % or \$4,850), while net price rose from \$1,920 to \$2,910 (an increase of 52 % or \$990). Rising costs will reduce the incentive to enroll in college, but the costs are not rising as rapidly as the measure of tuition alone suggests.

These figures indicate that net price constituted 50–59 % of gross price in 1992–1993 but only 34–46 % in 2012–2013. There are several explanations for the increased divergence between the gross and net price of college attendance. First, there have been changes in the Federal Pell Grant Program. Pell grants could cover about 16 % of the listed cost of the average private college and 40 % of the listed cost of the average public college in 1992–1993. These grants have not become more generous (covering only 15 and 34 % of tuition today) but have become more numerous. The number of grants awarded rose 31 % between 2008 and 2009 and another 15 % between 2009 and 2010. Second, the Post-9/11 GI Bill offered significantly increased educational benefits for veterans and in some cases their dependent children.⁴ These expenditures have ballooned the education and vocational rehabilitation budget of the Veterans Administration from \$2.2 billion (2012\$) in 2000 to \$10.4 billion in 2012. Overall, the fraction of enrolled students receiving federal grant aid has increased by 50 % between 2000 and 2010 (from 31.6 to 47.8 %), and the average grant has become more generous (\$3,232 to 4,894 in \$2011/12). The availability of the American Opportunity Tax Credit beginning in 2009 has the potential to be a significant factor as well. The first \$2000 expended on tuition is returned at tax time, as well as 25 % of the next \$2000. Federal policy has significantly reduced the burden of costs, but the fraction of students taking out loans has increased over the last ten years (from 40 % to 50 %) and the balance on these loans has increased (from \$4,900 to \$6,800 in \$2011/12) (National Center for Education Statistics 2012, Table 387).

Research regarding the impact of tuition charges and financial aid on enrollment provides clear evidence of the importance of these factors, particularly for lower-income households. McPherson and Schapiro (1991) find that a reduction in the net cost of college significantly increases enrollment for low-income whites. St. John (1990) reports that aid of any sort (including loans) increases enrollment particularly

⁴The post-World War II GI Bill also offered significant aid to veterans enrolling in college, and there is evidence (Bound and Turner 2002) that this bill substantially increased veterans' educational attainment.

for low-income students. He further reports that a \$100 increase in aid has a larger impact than a \$100 reduction in tuition charges. Kane (1994) also reports that aid has a larger effect on enrollment than tuition. He posits that list prices may scare off students who would be eligible for aid before they understand that such aid is available. Thus, there is evidence that it is important to distinguish between list price and aid when modeling enrollment trends; net price alone may not be a sufficient statistic. Indeed, research by Bettinger et al. (2012) suggests that just filling out the FAFSA form deters a substantial fraction of low-income individuals who are likely eligible for federal assistance. In a randomized experiment, they find an 8 percentage point increase in enrollment (from 28 to 36 %) for students from low-income households that randomly received help filling out the FAFSA forms as well as information about financial aid versus those who did not. There was no significant difference in enrollment between those who only received information about financial aid and the control group.

Analysis of the impact aid has on enrollment is also complicated by the fact that aid is not distributed randomly. Need-based aid is offered disproportionately to individuals with less income who may for other reasons be less likely to attend college. For example, such persons may be less well prepared for college because of the schools they have been attending and less knowledgeable about college because there is little family experience. In this case, the impact of aid on enrollment may be underestimated in standard models of aggregate enrollment trends. Conversely if aid is merit based, it may be directed to individuals who were already likely to attend college, and so its effect would be overstated in standard models. Several researchers have used quasi-experimental approaches to try to avoid this bias. Dynarski (2003) does so by looking at the impact the elimination of the Social Security student benefit program had on college enrollment. She uses a difference-in-differences methodology that essentially compares the enrollment of students whose fathers have died with the enrollment of students whose fathers have not died, after versus before the change in the benefit program. Parental death is exogenously determined and likely to affect enrollment in all periods. The key is identifying how the effect of a deceased father changed with the policy change. She finds that a \$1,000 reduction in aid reduced college enrollment by 3.6 %. Similar results are reported using difference-in-differences techniques to compare college enrollment for 18–19-year-old residents of Georgia (versus other southeastern states) before and after the introduction of the HOPE scholarship (Dynarski 2002). In this case, \$1,000 in aid increases college enrollment by 4–6 %. Lovenheim and Owens (2013) exploit a policy change that introduced a temporary 2-year ban on federal aid for individuals convicted of a drug offense, finding that drug offenders completing high school during the period this ban was in effect were significantly less likely than drug offenders in other periods were to enroll in college within 2 years of completing high school, all as compared to the enrollment rate of non-offenders.

Rising tuition costs clearly put a damper on enrollment; financial aid certainly acts to encourage enrollment. Overall, costs have been rising more rapidly than aid. Federal policy has been quite generous in the last decade, but state funding for higher education has not kept pace (National Center for Education Statistics 2012,

Tables 387 and 401). If this trend continues, and given continued concerns about federal and state budgets it is likely to continue, enrollment rates will likely decline not increase.

r: The Discount/Interest Rate

The final factor in the basic model of the decision to attend college is r . As stated earlier, higher discount rates indicate a greater preference for money today rather than money tomorrow and/or a higher interest rate on student loans and will be associated with less investment in higher education. Higher discount rates are also indicative of higher risk. Uncertainty about the future will cause individuals to prefer consumption today to consumption tomorrow and will cause lending institutions to require higher interest rates.

Looking at rates of time preference, there is some evidence that individuals have higher discount rates during recessions than during periods of economic growth (DePaoli and Zabczyk 2012). These results have been replicated in an experimental study by Guiso et al. (2011). However, there is no evidence of systematic trends in time preference that might explain or predict changes in enrollment rates.

Interest rate analysis is more complicated. Funds for higher education may come from the government in the form of student loans or from parents/relatives. Table 8.1 presents information on nominal and real interest rate charges for first year unsubsidized Stafford loans. Nominal rates have varied from a high of 8.25 % (the maximum allowable) in 1995–1998 to a low of 3.37 % in 2004–2005. They have been fixed at 6.8 % since 2006. Real rates have shown even more variation, ranging from 8.3 % in 2008–2009 when falling gasoline prices caused a negative inflation rate to –0.3 % in 2004–2005 when inflation rates exceeded expectations. Further complicating such analysis, there are limits as to how much can be borrowed under this program and a variety of other public and private financing options available. In general, no clear pattern emerges that could explain or predict changes in college enrollment over time.

Review of the Simple Human Capital Model

As documented here, the simple human capital model provides a framework for analyzing the decision to enroll in college that depends on only five factors. There have been significant changes in some of these factors over the last century that help explain some of the time pattern of educational attainment. For example, increased longevity and substantial education wage premiums likely increased educational attainment at the secondary level in the early half of the 1900s. Figure 8.5 illustrates the fraction of recent male high school graduates enrolled in college between 1960 and 2012. This percentage has varied substantially from a low of 46.7 % in 1980 to

Table 8.1 Interest rates on unsubsidized Stafford loans

Academic year	Nominal rate (%)	Real rate (%)
2010–2011	6.80	3.03
2009–2010	6.80	5.65
2008–2009	6.80	8.28
2007–2008	6.80	1.43
2006–2007	6.80	4.83
2005–2006	5.30	1.48
2004–2005	3.37	-0.27
2003–2004	3.42	0.77
2002–2003	4.06	1.90
2001–2002	5.99	4.19
2000–2001	8.19	5.47
1999–2000	6.92	3.51
1998–1999	7.46	5.20
1997–1998	8.25	6.63
1996–1997	8.25	6.02
1995–1996	8.25	5.37
1994–1995	7.43	4.81
1993–1994	6.22	3.32
1992–1993	6.94	4.17

Loans obtained before 2006–2007 have a variable interest rate. Those obtained later have a fixed interest rate. Only first year rates are shown for the variable interest rate loans
 Real rates are calculated by subtracting the inflation rate as calculated from the Consumer Price Index for All Urban Consumers using August to August measures

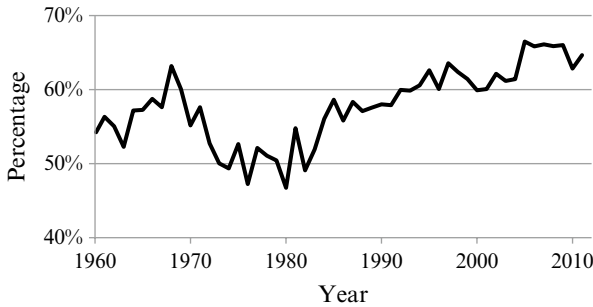


Fig. 8.5 Fraction of young men enrolled in college
 (Source: *Digest of Education Statistics*, 2012. Table 209. Calculated as a fraction of persons age 16–24 who completed a high school degree or GED within the previous 12 months enrolled in 2 or 4 year colleges.)

a high of 66.5 % in 2005. The fraction rose through the 1960s, fell substantially in the 1970s, rose fairly rapidly in the early 1980s, and has generally been rising slowly since. Overall there has been a modest upward trend of 0.2 % per year. The rising college wage premium between 1950 and 1970 and 1980 and 2005 likely helped

spur the increases in the 1960s and post-1980. Lower opportunity costs also played a role, while rising direct costs tempered these effects. Changes in retirement policies because they are both difficult to predict *ex ante* and occur so far in the future likely have had little impact. Nor is it likely that changes in discount/interest rates can explain the broad trend. The simple model is by construction simple. There are many more factors influencing enrollment worth exploring.

Recognizing Heterogeneity

If the simple model were an accurate representation of the college enrollment decision and every individual faced the same values of T , C , W , and r , every individual would make the same choice. Clearly such is not the case. For the decision to differ within the population, these factors must take on different values within the population. In this section, I examine the role of heterogeneity within the population, particularly by basic demographic and geographic characteristics.

I begin by documenting the substantial heterogeneity observed in college enrollment both in 2011 and where possible historically. Figure 8.6 illustrates the fraction of recent high school graduates enrolled in college from 1960 through 2011 separately by gender. While as discussed above enrollment during this period has grown slowly at an average of 0.2 % per year for men, enrollment has increased three times more rapidly (more than 0.6 % per year) for women. Whereas women were 30 % less likely to be enrolled than men in 1960, they are currently about 10 % more likely to be enrolled than men.

Figure 8.7 illustrates the fraction enrolled in college by race/ethnicity from 1975 through 2011. Enrollment in 1975 was actually fairly similar for all groups, ranging from a low of 45 % for African Americans to a high of 53 % for Hispanics. The rates

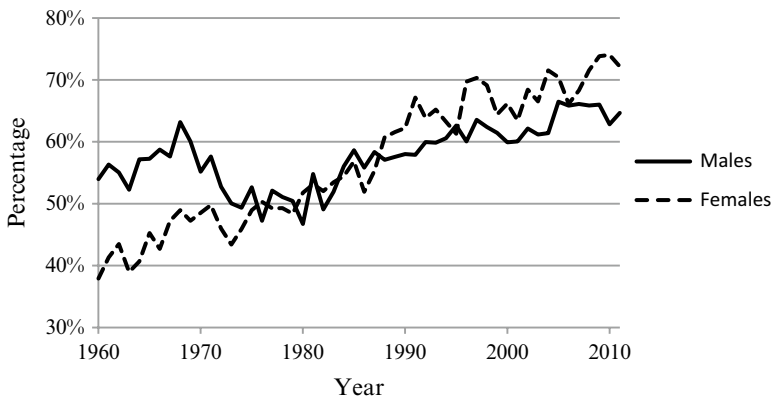


Fig. 8.6 Fraction enrolled in college by gender
(Source: *Digest of Education Statistics*, 2012. Table 234. Calculated as a fraction of persons age 16–24 who completed a high school degree or GED within the previous 12 months enrolled in 2 or 4 year colleges.)

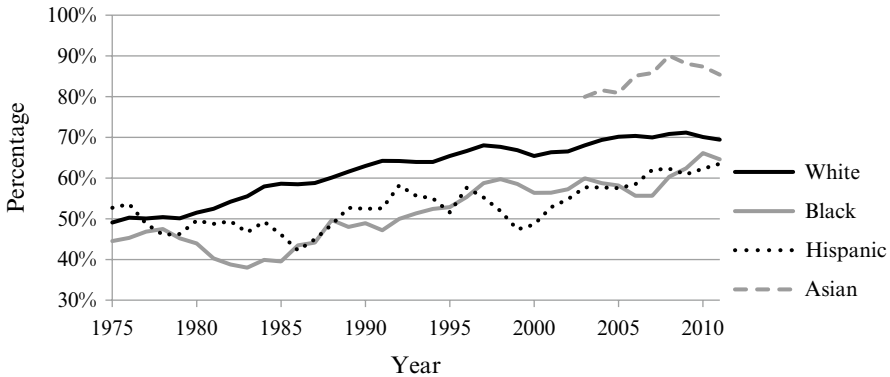


Fig. 8.7 Fraction enrolled in college by race/ethnicity
(Source: *Digest of Education Statistics*, 2012. Table 235. Persons age 16–24 who completed high school degree or GED within previous 12 months.)

diverged through the mid-1980s. Enrollment rose for whites, fell for African Americans, and stagnated for Hispanics. Enrollment rates picked up for all groups in the late 1980s, but the rate for whites has remained significantly higher than for either Hispanics or African Americans. Over the entire period, enrollment actually increased at a comparable rate for African Americans and whites and at a somewhat lower rate for Hispanics. Information on those of Asian descent is available only beginning in 2003 and indicates very high and generally rising rates of college enrollment. It is important to note here that these raw differentials likely capture much more than simply race/ethnicity – differences in family background and income and differences in academic preparation that are correlated with race – and as such may be quite misleading. The next section of the paper extends the model to consider these other factors, and so the discussion of racial/ethnic differences will be continued there. The discussion here simply seeks to determine how much if any of these raw differences might be explained by the simple model.

Heterogeneity in enrollment by gender, race/ethnicity, and other dimensions can be accommodated in the simple human capital model only if T , W_C , W_H , C , or r differs across these dimensions. The standard approach in the education literature has been to include controls for demographic characteristics when analyzing college enrollment, but this practice fails to explain the differences. Preferences will play a role, particularly when the model is expanded to recognize the utility or consumption value associated with a higher education, but it is important that researchers not rely too heavily on preferences to explain demographic differences in enrollment. Preferences, after all, are notoriously difficult to measure and to predict. Relying on differences in preferences to explain differences in outcomes also poses problems for predictions as preferences can change. A discussion of how the arguments in the human capital model differ by demographic characteristics and how these differences can explain enrollment patterns follows, beginning with a focus on gender.

Gender

There exist gender differences along many dimensions that have the potential to explain gender differences in enrollment. Differences in T , the college wage premium, high school earnings, direct costs, and r will be discussed in turn. Differences in T hinge on differences in longevity, labor market experience, and retirement.

Women have a greater expected lifetime as compared to men – 80 versus 75 years. The differential has existed for as long as statistics have been collected but has been shrinking since 1975. Theory would predict women would obtain more education than men with the difference shrinking for more recent cohorts. In fact the opposite is true. As discussed earlier, however, this difference adds value only far in the future and occurs after the age individuals are eligible to receive social security benefits – which does not vary by gender. The age at which individuals report retiring does differ by gender, with women tending to retire at an earlier age than men, but the difference as reported by the OECD was only 0.4 years in 2011. Gender differences in work life length do little to explain gender differences in enrollment.

Gender differences in the intensity of work are, however, likely an important factor. The standard human capital model of the decision to invest in college assumes that the only reason for doing so is to increase one's lifetime earnings. Goldin (1986) reports that the labor force participation rate of women was 18.9 % in 1890 and rose only to 24.8 % in 1930. Most of this participation was by women who worked prior to getting married. Given women's primary role in the home for much of the nineteenth and early twentieth centuries, the simple human capital model would suggest that women would optimally obtain very little education. Yet Goldin et al. (2006) report that the ratio of men to women attending college was close to one for the years 1900–1930, “if one counts two-year teaching programs” and stable at 1.5 to 1 if one does not. Men then increased their enrollment relative to women up to a peak in 1947. Since 1947, women have increased their enrollment more rapidly than men.

To explain women's enrollment in higher education in the early 1900s requires some modification of the simple model of college enrollment presented above. For example, one could argue that more education makes women more productive not only in the labor market but also in the home – more effective housekeepers and mothers. In addition, attending school may have been a way of meeting better providers. It is well known that a substantial degree of assortative mating goes on in the marriage market (Mare 1991). More educated men tend to marry more educated women, and this trend has been increasing over time (Greenwood et al. 2012). Thus, women may pursue higher education in order to increase their chances of meeting and marrying a more educated man who could, because of his higher productivity in the labor market, better provide for her material needs. Such modifications to the standard model help explain why some women did pursue higher education even if they did not intend to have a career in the early 1900s.

It is, however, women's changing economic and social roles over the past century that likely explains their higher education enrollment gains relative to men. Prime-aged women (those aged 25–54) have increased their labor force participation rate

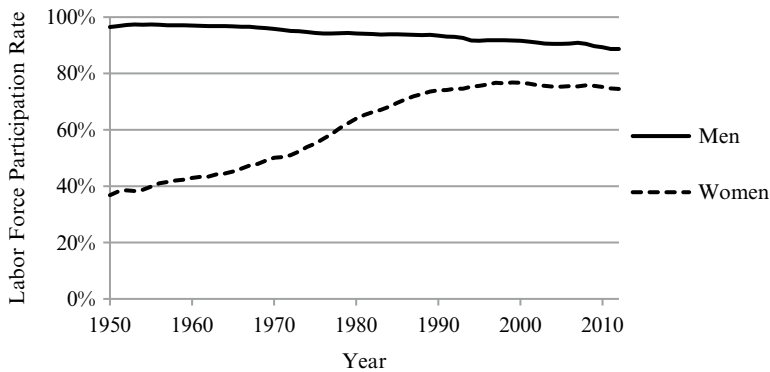


Fig. 8.8 Labor force participation rate. Persons age 25–54
(Source: Bureau of Labor Statistics, Series LNU01300061 and LNU01300062.)

dramatically as compared to prime-aged men. Figure 8.8 illustrates the labor force participation rate by gender for prime-aged persons between 1950 and 2012. Men’s participation has fallen from over 97 % for most of the 1950s to 88.7 % in 2012. To the extent that the labor force participation rate serves as a proxy for T , men should be somewhat less inclined now to enroll in college, all else equal, than they were in 1950. Women, on the other hand, have become much more attached to the labor market. Only 36.8 % of women between the ages of 25 and 54 were in the labor market in 1950. This fraction rose to 50 % in 1970 and 75 % in 1995.

Hours worked per week also differ by gender. Women have always been more likely to be employed part time, but the difference is narrowing. While on average women worked 7.6 h less than men in 1976, by 2010 this differential had declined by one-third to 5.0 h. Increased time in employment would logically increase women’s monetary return to education and cause women to increase their investment in higher education at a faster rate than men. Figure 8.6 illustrated just that.

While gender differences in labor force participation rates have clearly disproportionately increased women’s incentive to invest in education over time relative to men’s, further changes are unlikely. Gender differences in the intensity of work have been substantially eliminated. Some difference is likely to persist as a result of gender differences in childbearing. Any future changes are likely to be quite modest and hence have relatively little impact on gender differences in college enrollment.

Gender differences in T have not been the only drivers of the shifting gender gap in education. Changes in the gender wage differential have also been important. Goldin (1986) reports that the ratio of female to male earnings rose between 1890 and 1930 from 0.46 to 0.56. In 1970, this ratio was 0.60, indicating that the gender differential in wages was relatively stable between 1930 and 1970. The median usual weekly earnings of women working full time relative to men working full time have since risen from 0.62 in 1979 to 0.81 in 2010 (U.S. Department of Labor 2011). This increase partly explains and is partly explained by the increase in labor force participation. Higher wages will attract more individuals to work in the labor

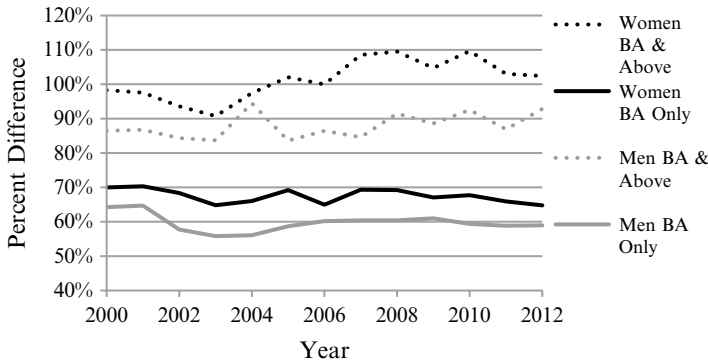


Fig. 8.9 Wage premia by gender & degree
 (Source: Numbers generated by author from CPS Outgoing Rotation Groups. Sample restricted to persons age 25–34.)

market. More experience in the labor market is associated with more on-the-job training and higher worker productivity, which translate to higher earnings. What is particularly relevant here are the earnings of female as opposed to male high school graduates – the opportunity cost associated with college enrollment – and the college wage premium for women as compared to men.

The real average hourly earnings by gender of young high school graduates are illustrated in Fig. 8.4. By these measures, the opportunity cost associated with attending college is lower for women than for men and has, at least between 2000 and 2012, been falling for both. The decrease has been slightly larger for women than for men. With a lower opportunity cost than men, women should, *ceteris paribus*, be more likely to enroll in college than men. Such costs have been lower for all time. With these opportunity costs decreasing more rapidly for women than for men, theory would suggest that women would be increasing their enrollment more than men, at least over the last decade.

The gender-specific hourly wage premium for college graduates aged 25 to 34 is illustrated in Fig. 8.9. This illustration indicates that women have been earning a higher return to a college degree and to a post-baccalaureate degree for over a decade. The average hourly earnings of men with a BA degree only (a post-BA degree) was about 60 % (88 %) higher than the average hourly earnings of men with a high school diploma between 2000 and 2012. The comparable figures for women were 67 and 101 %. Dougherty (2005) provides further documentation of this premium. He reviews 27 cross-sectional studies that provide estimates from standard log wage equations controlling not just for education but also for work experience (or at least age/potential experience). He explicitly excludes studies that control for occupation/industry as such controls typically explain much of the gender premium to education. He further suggests that the returns to college are higher while those to high school lower for women and that women are observed to have a higher return to education in many other countries as well. In his own analysis of data from the National Longitudinal Survey of Youth 1979 (NLS79), he finds that women

receive a statistically significant 2 % higher rate of return per year of education than do men. Assuming college takes 4 years, this estimate would predict an 8 % college wage premium – a measure remarkably close to the 7 % gross differential observed in Fig. 8.9.

The source of this higher college wage premium for women is not entirely clear. Dougherty (2005) attributes half of the differential to discrimination, tastes, and circumstances. He argues that either there is less discrimination amongst more educated individuals or more educated women are able to find employers who discriminate less. Tastes are reflected in occupational choice. Dougherty (2005) suggests that occupational choice may differ substantially more by gender for those with less education than for those with more education. Analysis controlling for high school grades (as a measure of educational quality) and class of employment (as a weak control for occupation) does not change his estimates. A higher rate of return to education for women as compared to men should encourage women to obtain more education than men, the observed outcome.

Gender differences in the opportunity cost associated with a college degree are not limited to wage differences. During the 1960s, men who were enrolled in college were able to defer service in the Vietnam War. Some evidence (Card and Lemieux 2001) suggests that the war increased men's enrollment rates by 4–6 percentage points in the late 1960s. Between 1965 and 1969, the average enrollment rate of men was 13.1 percentage points higher than the average enrollment rate of women. The Vietnam War might explain around a quarter of this difference. Horowitz et al. (2009) report that this additional education may have come at the expense of sisters. Given limited family income, boys who in the absence of high education faced higher risks in the draft may have been given funding priority over their sisters. At the same time, Horowitz et al. (2009) find some evidence of positive education effects for sisters whose parents find it difficult to refuse one child when investing in another. The Vietnam War may, in fact, explain the pattern of rising followed by falling enrollment rates for men between 1960 and 1975.

The direct tuition costs associated with college attendance do not vary by gender, but other costs may. Women's access to colleges was limited for years by single-sex colleges. While all male colleges began to go coed in the 1800s, the elite colleges in the northeast only followed in the 1960s. It was 1983 before Columbia University opened its doors to women. Limited access could have imposed a higher cost on women seeking a college degree 40 years ago (increasing enrollment over time) but is unlikely to be a significant factor today.

Finally, while interest rates on loans do not vary by gender, it is possible that discount rates do. As discussed above, the discount rate will differ based on both risk and time preferences. Croson and Gneezy (2009) in a paper entitled "Gender Differences in Preferences" review the literature on risk preferences. They report that experimental evidence almost uniformly finds men more risk loving than women, with limited evidence that the gender difference may be limited to white persons and to non-managers. Managers may self-select into that occupation in part based on their risk preferences. Evidence from field experiments and financial investments certainly supports a gender differential in risk attitude

(see, e.g., Dohmen et al. 2011b for evidence in the general population and Eckel et al. 2012 for evidence from a student-aged population). If investment in higher education is viewed as a risk, women may be less likely to invest in higher education all else equal than men.

However, there is some debate as to whether risk preferences and time preferences are the same (Andreoni and Sprenger 2012). Some research more explicitly focused on time preferences suggests that men and women have the same discount rate (Harrison et al. 2002). Other evidence suggests women may have lower discount rates – be more patient – than men. Experimental evidence from school-aged children by Castillo et al. (2011) and Eckel et al. (2012) finds girls are more patient than boys, a finding that would support higher college enrollment by girls. For the most part, these studies include few other covariates making it difficult to know how broadly applicable the results might be. Further research on discount rates could provide valuable insight into this element of the human capital model.

Overall, the gender differences in college enrollment that have been observed over the last century appear to match closely the differences that would be predicted from the simple model of human capital, if allowance is made for heterogeneity. Women were less likely than men to enroll in college when their expected labor market returns from this investment were low. With labor market returns rising due to increasing labor force participation rates and increases in the female to male wage ratio, women have begun enrolling at higher rates than men as would be predicted by their lower opportunity cost and higher market returns. These variables have roughly stabilized, making further changes unlikely. Gender differences in work intensity have been substantially eliminated. Gender wage differentials while still evident have been relatively stable. Some differences are likely to persist as a result of gender differences in childbearing. Overall, there is little reason to believe that the current gender difference in college enrollment will change substantially in the future.

Race/Ethnicity

Just as gender differences in enrollment may be attributable to gender differences in the factors influencing enrollment, so might racial and ethnic differences. Again, the discussion proceeds by reviewing the evidence regarding T , the college wage premium, opportunity costs, direct costs, and r .

As before differences in longevity exist (e.g., African Americans have higher mortality rates than whites), but these differences are shrinking and in no case does expected lifetime dip below 60 years after the 1950s. Social security eligibility also does not differ by race/ethnicity. These factors do not explain enrollment differences.

Work intensity does differ and has varied in ways roughly consistent with historical enrollment patterns. Figure 8.10 shows labor force participation rates by race/ethnicity for the years 1975 to 2012 for persons aged 25–34. The most dramatic

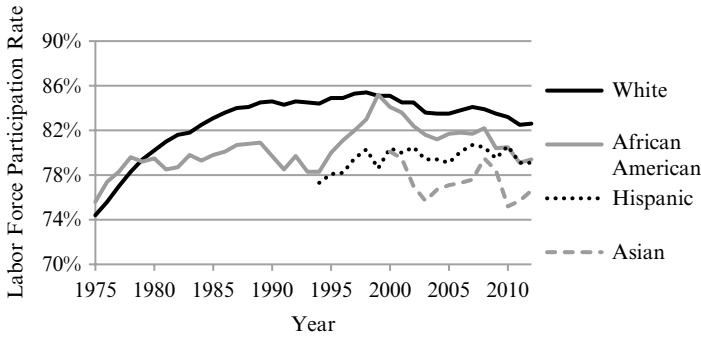


Fig. 8.10 Labor force participation rate by race/ethnicity (Source: Bureau of Labor Statistics, Series LNU01300113, LNU01300141, LNU01332250, and LNU01300101.)

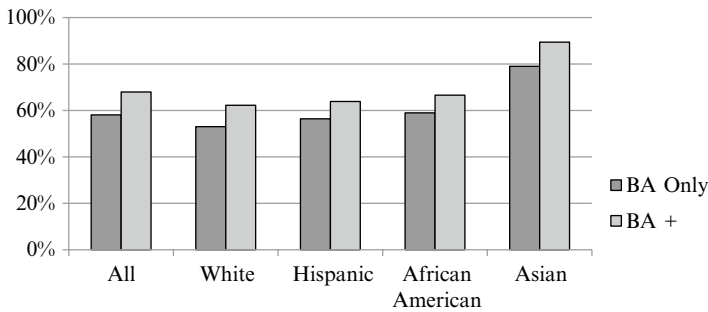


Fig. 8.11 College wage premium by race/ethnicity (Source: Numbers generated by author from CPS Outgoing Rotation Group, 2012. Sample restricted to persons age 25–34.)

increase occurred between 1975 and 1998 for whites – driven by the rising labor force participation of white women. This period corresponds roughly to the period when enrollment rates were rising most rapidly for whites. Labor force participation rates for African Americans rose from 1975 to 1978 but then changed very little till the mid-1990s – an observation which may explain stagnating college enrollment rates for African Americans. The rapid rise in participation in the latter half of the 1990s reflected the booming economy, but these gains have in large part been lost since. Data for the Hispanic and Asian populations is available only from 1994 and 2000, respectively. There has been a slight upward trend for Hispanics, but no clear pattern is evident for the Asian population possibly because of the small sample size and diverse population. These figures generally support the lower investment in higher education by African Americans and Hispanics relative to whites.

Evidence regarding the college wage premium by race/ethnicity contributes some more towards an explanation of the racial/ethnic differences in college enrollment. The average premiums for those aged 25–34 (in order to at least partially control for experience) in 2012 are illustrated in Fig. 8.11. As compared to the

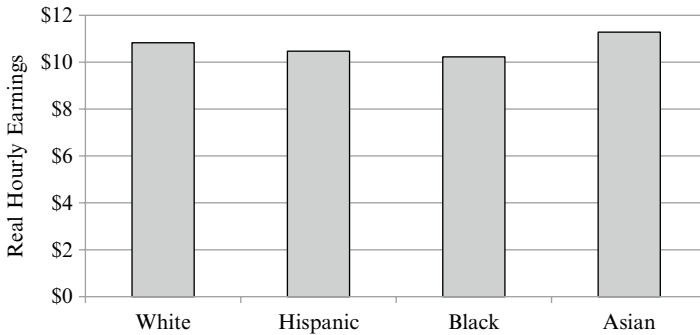


Fig. 8.12 Opportunity cost by race/ethnicity

(Source: Numbers generated by author from CPS Outgoing Rotation Group, 2012. Sample restricted to high school graduates age 18–24.)

population average, whites and Hispanics have the lowest returns. African Americans have somewhat higher average returns, while Asian Americans on average receive a substantially higher premium. These results hold for all the years from 2003 to 2012. Thus, theory would suggest that Asians would have a substantially higher average enrollment rate than whites, African Americans a slightly higher one, and Hispanics about the same.

Opportunity costs, calculated as the average earnings of a high school graduate aged 18–24 in 2012, for each population are illustrated in Fig. 8.12. Perhaps surprisingly there is little difference. In 2012, young Hispanics and African Americans on average earned 3 % and 6 % less respectively than whites, while young Asian Americans earned about 4 % more. Over the 2003–2012 period, the figures are similar, with Hispanics averaging 3 % lower earnings and African Americans averaging 8 % lower earnings. Over the longer term, young Asian Americans had wages comparable to whites. These findings would support slightly higher investment in higher education for African Americans and Hispanics as compared to whites. Overall the evidence from these raw wage data provides support for the higher enrollment of Asian Americans as compared to whites, but little motivation for the lower enrollment rates of Hispanics and African Americans.

The raw differentials presented above fail to control for family background and income or academic preparation, variables likely affecting the enrollment decision (as discussed in the expanded model below) and correlated with race/ethnicity. More comprehensive empirical work estimating the impact of the college wage premium and opportunity costs on college enrollment patterns by race/ethnicity controls for additional covariates and provides greater support for the theory. For example, in an analysis of educational enrollment by whites and African Americans between the 1970s and 1980s, Kane (1994) reports both high school graduation rates and college enrollment rates are negatively related to state average wages. This finding supports the sensitivity of enrollment to opportunity cost considerations. In some specifications, he also controls for an estimate of the college wage differential, finding that whites, but not African Americans, were responsive; however, Kane’s

measure is by self-report but a poor proxy that varies little within either sample. Barrow and Rouse (2005) estimate returns to education using what is known as a standard Mincer wage equation in which controls for race, gender, years of education, and a quadratic in potential experience are used to explain the natural logarithm of annual earnings. The coefficient to years of education in this specification represents the annual rate of return to education. They find no evidence of a differential return for African Americans or Hispanics using data from 1980 to 2000 censuses or from the NLSY 1979. This analysis may provide a more accurate measure of returns to education and certainly is more supportive of the observed finding of lower educational achievement for African Americans. One caveat to this work is that no distinction is made between whites and Asian Americans – though if Asian Americans do indeed receive a higher return, the results would be biased towards finding other minorities having a significantly lower return. Jaeger and Page (1996) provide evidence that there is no significant difference between African Americans and whites in sheepskin effects, either. More generally it is important to note that the finding of similar returns to education by race/ethnicity does not imply that there is no wage differential between these groups. If returns to education do not differ by race/ethnicity, then neither should enrollment, *ceteris paribus*.

The direct costs associated with college do not differ explicitly by race or ethnicity – tuition rates are not listed separately. Financial aid is also rarely distributed based on race/ethnicity *per se*. Average need-based aid packages will, however, differ by demographic group because of average differences in family income. Census figures (Bureau of the Census 2012) indicate that between 1990 and 2010, median income in African American households has averaged about 60 % that of white households. Median income in Hispanic households has been closer to 55 % that of white households, while Asian and Pacific Islander households have enjoyed 90 % higher median income (190 %) as compared to white households. On average, then, African American and Hispanic (Asian) students likely receive more (less) need-based financial aid and so face a lower net cost of enrollment. Merit aid considerations may move in the opposite direction as students from lower-income households tend to live in school districts that have fewer resources and generally prepare students less. A further discussion of the impact of income and academic preparation follows in the next section.

In addition, access to higher education has quite a mixed history. While blatant discrimination is no longer practiced, other more subtle forms of discrimination may linger. Affirmative action policies were introduced at many institutions in order to increase enrollment by populations historically underrepresented in colleges. Such policies are now under attack. Studies examining the impact ending affirmative action has on enrollment (Backes 2012; Hinrichs 2012) suggest the aggregate impact has not been significant, except perhaps at more selective institutions, but further analysis is warranted.

Research relating discount rates to race/ethnicity is quite limited. Castillo et al. (2011) report that on average, black children are more impatient than white children. This finding is strongest when only controls for race and gender are included in the estimation. The effect is still significant, but only at the 10 % level, when

controls for ability and financial need are added. Eckel et al. (2012) report similar results for risk taking. As these studies are based on rather small samples, the set of control variables is necessarily limited and it is difficult to know if the results are attributable to racial differences per se or to family background. Further analysis of time preference and risk taking could be valuable.

In summary, the simple human capital model could be used to explain some of the observed racial/ethnic differences in enrollment. The lower labor force participation rate of African Americans and Hispanics as compared to whites and the higher estimated return to college for Asians may well help explain why the former are less likely and the latter more likely to enroll in college. However, there are numerous other factors not incorporated in the simple model that are likely to influence college enrollment and differ across these populations. A more complex model that incorporates these other factors is necessary to truly identify the role of race and ethnicity in the college enrollment decision.

Other Source of Heterogeneity

Before proceeding to introduce a more complex model, it is important to point out that while discussion of gender and racial/ethnic differences is common, heterogeneity can arise along any dimension: geographic, institutional, and even individual. The type of heterogeneity addressed here is *ex ante* heterogeneity – differences observed (or expected) before enrollment occurs. *Ex post* heterogeneity in the form of, for example, the luck an individual has in the labor market is unlikely to affect enrollment decisions because it is not predictable. However, *ex ante* heterogeneity can lead any of the factors from the simple (or the more complex) model to differ across the population.

As regards T , employment opportunities differ in different localities and individuals may *ex ante* have different expectations about their future labor market contributions. Individuals who place a high priority on having a stay at home parent, for example, may be less likely to invest in higher education for the purpose of increasing labor market wages. Individuals may have different expectations regarding their employment horizon for other reasons as well. Individuals with family histories of poor health will, for example, have less incentive to invest in higher education that pays off only in the long run.

Returns to a college degree also vary across the population. Not everyone earns sample mean wages. Indeed, rising wage inequality is a current social concern. In light of this concern, information regarding the distribution of real college earnings for persons aged 25–34 is calculated for the years 1980, 1990, 2000, and 2010. Specifically, earnings at the 10th, 25th, 50th, 75th, and 90th percentile of the distribution are illustrated in Fig. 8.13. The results indicate that there is substantial heterogeneity in the hourly wage outcome, with wages ranging from about \$11.50 at the 10th percentile in the distribution to three times higher (\$35.50) at the 90th percentile in 1980. If individuals have information *ex ante* as to what wages

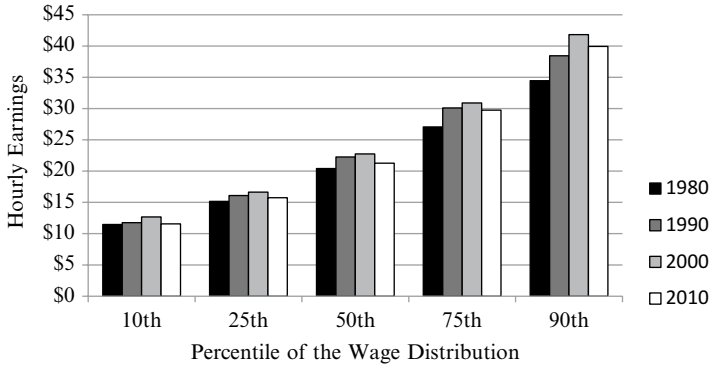


Fig. 8.13 Distribution of earnings for college graduates 1980–2010
(Source: Numbers generated by author from NBER based CPS Outgoing Rotation Groups. Sample restricted to 25–34 year olds.)

they might expect upon completing college, these expectations will influence their enrollment decision.

Wage variation can arise from a number of sources – including choices individuals make. One such choice is that of college major (Thomas 2000; Arcidiacono 2004). It is well known that engineering majors have higher earnings prospects than English majors. College students themselves seem to be relatively well informed about earnings prospects, though much learning occurs nearer graduation than matriculation and the median absolute value of errors is on the order of 20 % – a substantial spread (Betts 1996). Other evidence suggests that many more students believe their major will be science ex ante than actually earn such a degree (Stinebrickner and Stinebrickner 2013). Thus, students likely have some knowledge about their ex post earnings, but that knowledge is by no means perfect and can also vary depending upon economic conditions at the time of graduation which of course are unknown ex ante (Kahn 2010).

Earnings prospects also differ depending upon the college attended (Black and Smith 2004, 2006; Hoekstra 2009). Generally a significant return is observed to college quality (as measured by average SAT score, faculty to student ratio, average faculty salary, or a variety of other statistics), even adjusting for selection effects, though some work suggests the return is larger for individuals from low-income and/or minority households (Dale and Krueger 2002; Andrews et al. 2012). Bound and Turner (2011) provide a review of some of this literature.

Figure 8.13 also indicates that the earnings spread for college graduates has changed, specifically increased, over time. While earnings in the bottom half of the distribution have remained virtually unchanged since 1980, earnings at the 90th percentile have increased to about \$40.00 – or 3.5 times the earnings of those at the 10th percentile – as of 2010. It is unclear what knowledge those facing the enrollment decision have of this change but it suggests that the college wage premium

likely increased less at the median than at the mean, reducing incentives to enroll unless everyone expects to be in the upper tail of the wage distribution.

The opportunity cost of college also varies. Employment opportunities for youth vary geographically. Individuals have different skills and skills are not one-dimensional. Individuals who have particularly high earnings potential after high school may well choose not to attend college. Willis and Rosen (1979) provide evidence attesting to such self-selection. As it is not feasible to assume that those at the lower end of the opportunity cost spectrum are those also at the lower end of the college wage spectrum, it is not possible to calculate the distributional characteristics of the college wage premium.

Variability in direct costs and interest/discount rates arises from several sources. Individuals in different states/localities face costs/benefits that differ. In-state tuition and fees at public four-year institutions, for example, ranged from \$2,739 in Wyoming to \$14,576 in New Hampshire (College Board) in 2012–2013. The correlation between in-state tuition and fees measures and the estimated fraction of 2008–2009 high school graduates in each state going to college in their home state (National Center for Education Statistics 2012, Table 238) is -0.36 , indicating that some of the variability in observed enrollment rates is likely related to differences in tuition rates. But tuition and aid generosity also vary from institution to institution, and aid packages vary at the individual level as does family assistance (to be discussed in the next section) and hence effective interest rates. Evidence that individual preferences regarding risk are a function of parental as well as environmental factors indicates that the interest/discount rate also has a range of values (Dohmen et al. 2011a).

All in all, taken to its limit, heterogeneity could explain enrollment decisions completely. Much of the information necessary to explain/identify this heterogeneity is, however, unobservable to investigators. If the goal is to develop a model that can be used to forecast future enrollment and to design possible policy interventions, then relying too heavily on unobserved heterogeneity is not a viable alternative. Expanding upon the model to incorporate additional explanatory factors that drive some of this heterogeneity is in this case a better approach.

A More Complex Model of College Enrollment

The basic model of college enrollment (presented again below) is just that: basic. The

$$\sum_{t=0}^T \frac{W_H}{(1+r)^t} \text{ vs } \sum_{t=0}^3 \frac{-C}{(1+r)^t} + \sum_{t=4}^T \frac{W_C}{(1+r)^t}$$

number of assumptions underlying this model is substantial. For example, the model implies that everyone begins college immediately after high school, takes exactly 4 years to complete a degree, does not work while in college, works full time until retiring, retires exactly T years after completing high school, has a wage that

depends only upon educational attainment, derives utility only from earnings, incurs only monetary costs of enrollment, and faces perfect capital markets. A more complete model of the decision to enroll is

$$\sum_{t=0}^{Exp(T_{Hi})} \frac{ExpU_i(W_{Hit})}{(1+r_i)^t} \quad vs$$

$$\sum_{t=0}^{d_i} \frac{ExpU_i(W_{Hit})}{(1+r_i)^t} + \sum_{t=di+1}^{Exp(G_{is}-1)+d_i+1} \frac{ExpU_i(-C_{its} + \alpha_{it} W_{Hit})}{(1+r_i)^t}$$

$$+ \sum_{t=Exp(G_{is})+d_i+1}^{Exp(T_{Ci})} \frac{ExpU_i(W_{Cist})}{(1+r_i)^t}$$

where *Exp* is the expectations operator, *U* stands for utility, and *G* is the time it takes to complete a degree. In this specification, individuals delay college enrollment for *d* years and are employed while enrolled α percent of the time. The subscript “H” stands for high school, “C” for college, *t* for time/year, “i” for individual, and “s” for institution. *W* incorporates the probability of employment (taking into account both interruptions and unemployment) as well as earnings, both of which may differ over time as well as with an individual’s education. Basically in this expanded model individuals will enroll in college if the expected utility of doing so exceeds the expected utility of not doing so.

Utility is by definition an individual-specific function. Characterizing a utility function exactly is not possible. Preferences may vary along any dimension. As discussed above, controls for gender, race, and ethnicity are often either explicitly or implicitly incorporated in models of enrollment in order to account for preferences but may in fact be controlling for other factors not adequately captured in the model. As stated above, the approach taken here is to try to explain why enrollment decisions differ for observable reasons not related to preferences or unobserved heterogeneity.

In the text above, the focus was first on the employment horizon (*T*), then the college wage premium and opportunity costs, then the direct cost of enrollment, and the discount/interest rate. The text below is organized similarly. The discussion focuses first on retirement age, work hours, and the probability of unemployment as they differ by education level. Each of these variables affects the employment horizon and hence potentially the return to enrollment. Then compensation is examined. An assumption of the basic model was that the compensation differential is fixed over time and equal to the gross hourly wage differential. Wages, however, vary with experience and so does the premium. Benefits packages and taxes also play a role. Previously the cost of enrollment was assumed to be limited to the opportunity and direct costs. Individuals were assumed to be unemployed when enrolled and to be able to borrow to finance their education. College was assumed to take exactly 4 years and to have no nonmonetary costs and no consumption value. When these assumptions are relaxed, the local unemployment rate, individual ability, family income, and family background all become cost related.

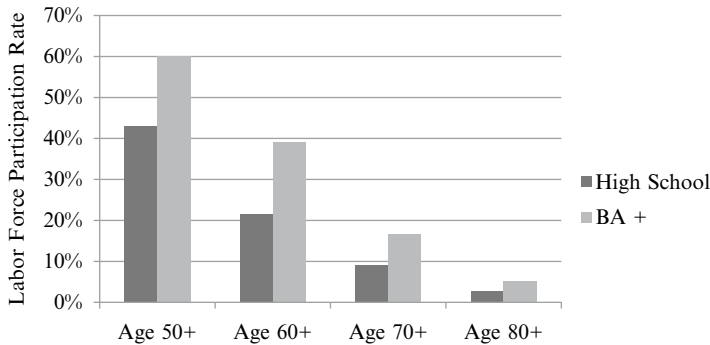


Fig. 8.14 Labor force participation rate by education and age
(Source: 2012 CPS statistics compiled by the author.)

Education and the Employment Horizon

Retirement

The basic human capital model assumes that everyone has the same working life. In fact, working life differs substantially across the population. Already documented above are some average differences by gender, race, and ethnicity. Here the focus is on how work life differs by education level, looking at retirement patterns, hours worked, and unemployment rates. To the extent that these differences are expected *ex ante* even if they are driven by the investment in education which increases the opportunity cost of time, they contribute to the enrollment decision. To the extent that these differences are due to selection, differences between those who do and do not invest in higher education, their impact on the enrollment decision will be muted.

The median age of those who self-report they are retired in the 2012 CPS is surprisingly high at 72 and differs little by education level. However, this statistic fails to capture differences in labor force participation by age which are substantial. Figure 8.14 shows that for those aged 50 and above with exactly a high school degree, the labor force participation rate is 43 %, while for those with a college degree or more, the labor force participation rate is 60 %. College degree holders aged 50 and above are about 40 % more likely to participate than high school degree holders aged 50 and above. This differential rises above 80 % for older persons. As the labor market was still recovering from a recession in 2012, results for 2007 were also obtained. They differ only in that the labor force participation rate of more educated persons is generally lower in 2007 for those aged 60–80. The basic finding that the labor force participation rate of older persons is higher for those with more education is unchanged.

Research on retirement confirms that more educated individuals retire later than less educated individuals (see, e.g., Hanel and Riphahn 2012). What is a matter of

debate is the reason for this differential. Some portion is likely attributable to health differences. Manual labor, more typical of jobs requiring less education, becomes more difficult as individuals get older and disability may become more common. Indeed, there is evidence that as the full retirement age in the USA rose from 65 to 67, there was a partially compensating increase in Social Security Disability Insurance enrollment (Duggan et al. 2007). This discussion underscores the value knowing family health history may have on predicting enrollment.

Opportunity cost also plays a role. More educated persons have higher earnings, making retirement more costly. On the other hand, more educated individuals have higher incomes and might be able to accumulate more wealth in order to retire early. There is some evidence that more educated persons find a middle road by easing into retirement with part-time jobs (Kim and DeVaney 2005). In general, however, few enrollment decisions are likely to hinge on retirement decisions. Any earnings received at age 60 plus are heavily discounted by teenagers making college enrollment decisions, not only because of the impact of the discount rate but also because of the uncertainty associated with outcomes so far in the future.

Hours Worked

Just as years in the labor force are important, so are hours worked while in the labor force. Theory cannot predict the impact higher earnings will have on hours worked. Higher wages increase the opportunity cost of leisure, causing workers to increase their time on the job and consume more market goods and less leisure. However, higher wages also generate higher income with which workers may “purchase” more leisure. Both the evidence on retirement age and the evidence on hours worked suggest that the income effect is dominated by the substitution effect. On average, college graduates work more hours per week than high school graduates. Usual hours worked per week in 2012 averaged 38.5 for high school graduates and 40.9 for college graduates. The fraction of high school graduates employed part time (defined as less than 35 h per week) in 2012 was 16.8 %; for college graduates, the figure was 11 %. This increased work time magnifies the earnings differential associated with a college degree.

Unemployment

In the previous discussion of the impact of gender on the decision to attend college, gender differences in labor force participation were highlighted. In the discussion of retirement, educational differences in labor force participation were highlighted. However, labor force participation does not guarantee an income. To be in the labor force, one must either be currently employed or unemployed. While some of those classified as unemployed receive unemployment insurance benefits, many do not. Thus, it is important to look at unemployment rates by education level as well as labor force participation rates by education level. Unemployment is also less likely a decision or choice individuals make, more likely exogenous.

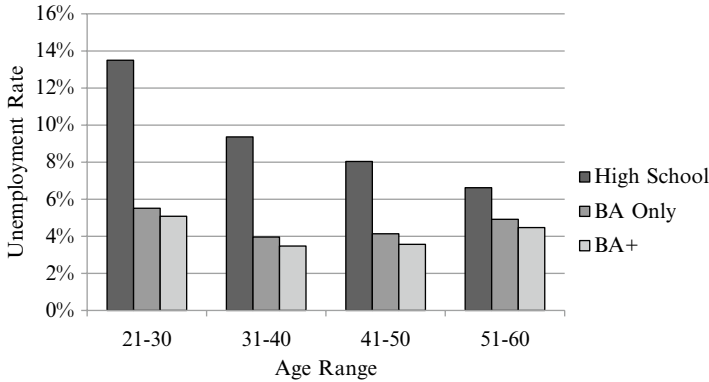


Fig. 8.15 Unemployment rate by age and education
 (Source: 2012 CPS statistics compiled by the author.)

Unemployment rates in 2012 by education level and age are presented in Fig. 8.15. The unemployment rate of those with only a high school degree declines steadily with age; however, the fact that it is highest for younger workers means that incorporating the unemployment rate reduces the net present value of high school earnings more than proportionally to the unemployment of high school grads as a whole. The time value of money discounts the lower earnings of younger workers less than the higher earnings of older workers. The unemployment rate of college graduates is considerably lower at all ages than the unemployment rate of high school graduates and follows a different age pattern. The average unemployment rate of college graduates has a u shape by age, declining from a high for new graduates to a low for those of middle age and rising more for those over age 50. This shift may occur because the knowledge acquired by college graduates depreciates and makes older college graduates somewhat less valuable. However, the year 2012 was not a spectacular one for the labor market generally. The higher unemployment rate of older more educated individuals in 2012 could arise if older less educated unemployed individuals were more likely to qualify for disability pay and exit the labor force. In order to ensure that these results are not unique to 2012, figures for 2007 were also generated. The unemployment rate in 2007 was clearly much lower than that in 2012. While the unemployment rate for high school graduates aged 21–30 in 2012 was about 13.5 % (8 percentage points) above the unemployment rate for those holding only a bachelor’s degree, the unemployment rate for high school graduates aged 21–30 in 2007 was only 7.5 % (less than 5 percentage points) above the unemployment rate for those holding only a bachelor’s degree. In each year, the unemployment rate of college graduates aged 21–30 was only about 40 % as large as the unemployment rate of those holding only a high school degree.

While the relation between the unemployment rate and education level is similar between 2007 and 2012, the magnitude of the differential is significantly larger in 2012, suggesting that the differential may vary over the business cycle. Unemployment rates by education level for those aged 25 and over from 1992 to

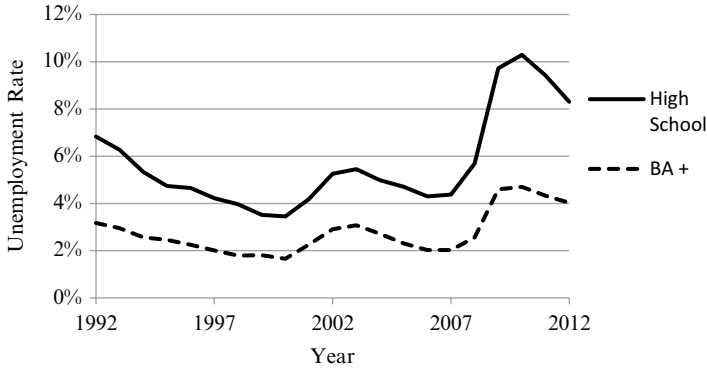


Fig. 8.16 Unemployment rate by education level
(Source: Bureau of Labor Statistics, Series LNS14027660 and LNS14027662.)

2012 are presented in Fig. 8.16. They clearly show lower unemployment rates for those with a college degree at all points in time. No time trend is evident in this differential; however, as suggested by the earlier comparison, the raw differential does appear to be greater when the unemployment rate for those holding only a high school degree is greater. Those with more education experience less employment volatility during business cycles than those with less education.

These empirical observations have simple theoretical explanations. That more educated persons might have a lower probability of being unemployed than less educated persons can be explained by search theory. Job search models are used in labor economics to describe and explain how individuals find jobs. Suppose information is imperfect. Individuals seeking a job must visit employers to submit applications and receive job offers, but individuals do not know which employers have vacancies and so cannot target their job search. Suppose too that firms have certain skill requirements. An application results in a job offer only when there is a vacancy for which the applicant has the necessary skills. Individuals with less education have less skill and will be less likely to meet these skill requirements. Assuming individuals are able to complete only one application each period, less educated individuals will be less likely in any period to receive a job offer because they are more likely not to meet the minimum skill requirements. Assuming all job offers are accepted, these assumptions alone would imply that less educated persons will have a lower probability of receiving job offers and so have higher unemployment rates than more educated persons.

Not all job offers will, however, be accepted. Each job offer constitutes a wage offer. That wage offer is a function of the skill required for the job. Applicants have the option of turning down job offers and continuing to search. Thus, more educated workers may reject jobs paying only \$8 an hour if there are jobs at which they could earn \$20 an hour. Theory suggests that each individual will identify what is called a reservation wage – a wage such that he/she will be just indifferent between accepting and rejecting a position. Higher reservation wages mean a lower probability of

receiving an acceptable job offer. This reservation wage will be identified as that wage at which the net benefit of accepting the offer is exactly equal to the net benefit of rejecting the offer. That is what being indifferent means. To keep the model more tractable, wages are assumed to be invariant over time, employment is assumed to last for a fixed time period, and search while employed is not possible. The net benefit associated with accepting a particular wage offer is the net present value of future earnings at that wage level. The net benefit associated with rejecting a particular wage offer is the expected net present value of future earnings from continuing search. Future earnings are a function of the probability of receiving a job offer with a wage above the reservation wage as well as the expected wage associated with such an offer. Higher reservation wages lower the probability of receiving an acceptable wage offer but increase expected earnings once a job is accepted. Reservation wages will be higher for those who have more education (a higher skill level) than for those who have less education, but the probability of receiving an acceptable job offer will also still be higher than it is for less educated individuals. Thus, the theoretical prediction that search unemployment will be greater for less educated workers continues to hold.

That the unemployment rate of less educated workers might be more responsive to economic conditions than the unemployment rate of more educated workers can be explained if there are quasi-fixed costs of employment that are positively correlated with worker education. Variable costs in economics are costs that can be avoided in their entirety when no output is produced. Thus, the owner of a pizza parlor need not buy cheese or flour if his or her plans are to shut down operations for a month. The costs associated with raw materials that are purchased to order are purely variable.⁵ Fixed costs are costs that must be paid regardless of whether output is produced. If the pizza parlor rents its facilities, these lease payments are due whether or not any pizzas are sold. Lease payments constitute fixed costs. Quasi-fixed costs are partly fixed and partly variable (Oi 1962). Labor costs are typically quasi-fixed. The wages of workers paid by the hour are purely variable, while salary payments are more nearly fixed. Hiring costs, on-the-job training costs, and the costs associated with terminating employees are all fixed. Vacation leave is typically proportional to hours worked and so variable, while medical and life insurance benefits are per employee and so more fixed in nature.

Firm demand for quasi-fixed resources is less sensitive to changes in the business cycle than firm demand for variable resources. Consumer demand falls during recessions. If less output is demanded, firms will produce less and so need fewer resources. In the case of variable resources, resource demand falls proportionally to output demand. In the case of quasi-fixed resources, resource demand falls *less* than proportionally to output demand. So in the case of labor, firms will not hire unless the expected benefits associated with a hire are greater than or equal to the expected costs. All benefits and costs (both fixed and variable) are taken into account at the time of hire. If there are any fixed labor costs, then workers' per period earnings or

⁵Resources that are purchased under contract are not purely variable if a minimum quantity or a minimum payment is required.

wages must be sufficiently less than their per period value to the firm in order for the firm to recoup these fixed costs. Once hired, however, any fixed costs that have already been incurred, such as hiring and training costs, are sunk costs that the firm cannot recoup no matter what it does. Thus, in deciding whether or not to keep an employee on the payroll all that matters are the future costs and benefits. If a recession occurs and the value of the worker to the firm falls, the fact that wages were lower than the per period value of the worker before the recession hit provides a bit of a cushion. Firms will not have an incentive to immediately lay off workers. The greater the hiring and training costs, the less the incentive to immediately reduce employment. All that is necessary for the variability of the unemployment rate to be lower for more educated workers is for more educated workers to have higher hiring and training costs than less educated workers and for all those laid off to remain in the labor force.

There exists substantial empirical evidence of a positive relation between education and on-the-job training (Mincer 1991; Lynch and Black 1998). There also exists substantial empirical evidence of a negative relation between education and unemployment. Mincer (1991) reports that the probability of becoming unemployed is lower for more educated workers. Riddell and Song (2011) find that more educated individuals have a higher probability of exiting unemployment. Hirsch and Schnabel (2012) find that more educated workers are more likely to move directly from job to job and less likely to go from employment to nonemployment. That more educated workers have lower unemployment rates and unemployment rates that are less sensitive to business cycles provides additional motivation for pursuing higher education.

In general, recognizing that the employment horizon may vary with education levels acts primarily to further motivate college enrollment. There is little evidence these differences have changed over time and can explain changes in enrollment behavior.

The Compensation Differential

A further analysis of how compensation packages differ for college and high school educated workers provides at least some theoretical support for increased enrollment over time. The simple model assumes that compensation consists only of gross wages and that these do not vary with work experience. Given these assumptions, the college wage premium is fixed over the lifetime. Reality is more complicated in at least two dimensions. First, the wage premium clearly varies with age/experience. Second, gross wage differentials alone are not sufficient to describe the benefits associated with a college degree. Taxes and benefits packages also matter.

The Age/Experience Profile of the Wage Differential

Figure 8.17 illustrates average hourly earnings for workers by age and education level in 2012. Average hourly earnings rise by about \$5 or 38 % with age for high school graduates while they rise by \$10–\$12 or over 50 % for college graduates.

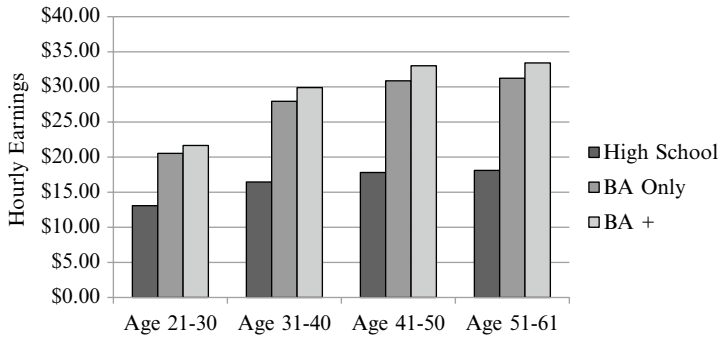


Fig. 8.17 Hourly earnings by education and age
(Source: 2012 CPS statistics compiled by the author.)

As a result, the college wage premium rises from 57 % for those aged 21–30 to 73 % for those aged 41–61. The premium incorporating the possibility of post-graduate education rises from 65 to 84 %. As there is evidence that wages are lower during periods of high unemployment, 2007 earnings were also examined (not shown here). The earnings of college graduates aged 21–30 are higher in real terms in 2007 than in 2012, but the gradient and the premium still rise with age. That the age-earnings profile is positively sloped for all workers is likely attributable to investment in on-the-job training. That the gradient is larger for college graduates than for high school graduates suggests, as was hinted at above, that college graduates receive more such training than high school graduates. A rising age differential suggests there is a greater incentive to invest in a college degree than was evident looking only at recent graduates, though as was discussed with respect to longevity differentials, discounting reduces the face value of differentials that occur later in time.

The Benefits Differential

The focus so far has been upon gross hourly earnings, but average benefits and tax levels also differ for high school and college educated workers. While workers do not typically choose their benefits packages except in so far as they choose their employers, the average education level of employees does differ across employers.⁶ Employee benefit surveys conducted under the supervision of the Bureau of Labor Statistics (U.S. Department of Labor 2013) provide some information on

⁶An underlying assumption of this discussion is that given the same income, those with less education would make the same consumption choices as those with more education. In fact, different individuals will value benefits differently. If less educated individuals place a lower value on benefits, then they will be less likely to receive them. So long, however, as they place a positive value on benefits, different benefits levels by education level still contribute to the compensation differential; it is only the value of the differential that is reduced.

the fraction of all private workers with access to various benefits as well as the fraction in particular occupations with access to these benefits, for the period 1999–2012. Educational attainment differs substantially by occupation. Sixty-nine percent of “professional and related workers” in the private sector have at least a college degree according to data from the 2012 CPS; only about 10 % have no more than a high school degree. This occupational category is used to proxy for college educated workers. As only 8 % of “production, transportation, and material moving” workers (henceforth called production workers) have a college degree and fully 49 % have exactly a high school diploma, this occupational category is used to proxy for high school educated workers.

There are some substantial differences in access to benefits between these occupational groups. Similar fractions of professional and production workers have access to paid holidays and paid vacations – 85 % and 83 %, respectively. Paid sick leave is by contrast available to about 83 % of professional workers but only 54 % of production workers. Access to medical/health care also differs by occupation. While 83–85 % of professional workers have access, only 75–77 % of production workers do. Furthermore, the time trend in access to medical care appears to be weakly positively sloped for professional workers and weakly negatively sloped for production workers, a result that if true would tend to increase the benefits associated with a college degree and hence increase enrollment over time. Access to retirement benefits and childcare benefits also varies considerably by occupation. While a similar fraction has access to the defined benefit plans that are becoming less common, the fraction of professional workers with access to a defined contribution benefit plan is 18 percentage points higher (73 % versus 55 %) than the fraction of production workers with such access. Relatively few workers have access to childcare (9 % of all private workers), but 18 % of professional workers do as compared to 4 % of production workers.

That more educated and hence more highly paid employees would receive higher benefits is quite logical. On the supply side, firms can obtain some of these benefits (particularly health benefits, but also retirement plans) at a lower cost than individuals could, making such benefits more attractive to all workers. On the demand side, paid holidays and paid vacations constitute additional leisure. Individuals with more income will naturally want to purchase more leisure and more goods with that income. That we see more leisure obtained in the form of holidays and vacation days rather than earlier retirement or fewer hours worked per week may be attributable to the fact that these holidays and vacation days occur earlier in time. Retirement benefits provide workers with the opportunity to defer some income into the future. Workers with lower incomes are likely less willing to make this trade-off than workers with higher incomes, and workers with less education may value such benefits less if one reason they obtained less education was because they have a higher discount rate. Finally, those with higher incomes may experience tax benefits by pushing some income into the future, making this option even more attractive for them. Indeed, higher-income individuals may experience tax advantages for many benefits options.

Taxes

The progressive tax system in general, however, acts to reduce the benefits of acquiring a college degree. Marginal tax rates increase with increasing income, effectively reducing disposable income more for more educated than for less educated persons and reducing the monetary benefit associated with a higher degree. Tax rates are legislated and hence somewhat difficult to predict *ex ante*. If one were to anticipate higher marginal tax rates for higher earners in the future, that would reduce the perceived benefits of a college degree and act to reduce enrollment. Given current levels of debt in the USA and popular concern about income inequality, it may be reasonable to expect higher tax rates in the future, but such predictions are far from certain.

Opportunity Cost Revisited

The other manner in which earnings enter into the decision to enroll is via opportunity costs. Evidence has already been presented to show that the real earnings of those with only a high school degree have been decreasing. This wage measure constitutes the opportunity cost of going to college only if all those not enrolled are employed (or engaged in another activity that has an even higher value) and all those enrolled are not employed. The evidence is clear that both these assumptions are violated.

Analysis of the labor force participation rate of 16–23-year-old high school graduates not enrolled in college full time indicates a high rate of participation that has fallen relatively little between 2007 and 2012 – from just under 80 to 77 % – despite the intervening recession. Thus, most individuals who are of traditional college age are either enrolled or in the labor market. Not all those in the labor market, however, are employed. The unemployment rate of college-aged individuals is substantial and has risen from 12 % in 2007 to 21 % in 2012. The opportunity cost of attending college is lower than would be indicated by the wage alone and much higher during bad economic times than it is during boom times. Research supports this conclusion (Dynarski 2002; Clark 2011) though it may be important to control for youth not aggregate unemployment as some analyses using the latter find insignificant effects (Kane 1994). Some of the increased enrollment observed post 2007 likely reflects the poor labor market alternatives.

Analysis of the labor force participation rate of students indicates that a substantial fraction is employed. October CPS data on 16–24-year-old full-time college students documents that the fraction employed rose from 33 % in 1970 to a peak of 52 % in 2000 (National Center for Education Statistics 2012, Table 442). Employment rates hovered around 48 % in the early 2000s, before falling during the recession to 40 %. Of those employed, the fraction working for less than 20 h per week hovered around 20 % from 1970 through 2000 and then dropped to 15 %. The fraction working 20–34 h per week rose from 10 % in 1970 to 20 % in 1995, remaining at this level till the recent recession. The fraction working full time rose from

between 4 and 5 % through 1990 to 9 % in 2005, falling thereafter to 7 % in 2011. Employment while in college, *ceteris paribus*, increases the probability of enrolling because it reduces the cost of enrollment. Why, however, has employment while enrolled been increasing?

Scott-Clayton (2012) explores this question. She considers the role of changing demographic composition, economic conditions (using state unemployment rates to proxy for earnings potential), the rising cost of college, the availability of work-study programs, increased interest in work experience, changes in the return to college, and institutional crowding. She concludes that compositional changes and the expansion of the federal work-study program likely explained much of the increase in employment from 1970 to 1982, while compositional changes and economic conditions dominated from 1983 to 1993. Economic conditions post 1993 and rising tuition and changing student aid between 1993 and 2005 were identified as the key factors for the later period. Kalenkoski and Pabilonia (2010) report weak supporting evidence that hours worked increases when the cost of attending college rises and parental transfers fall. The cost of higher education appears to be key.

Paying for Higher Education

Overall, altering the model to incorporate further differences in the employment horizon, in returns, and in opportunity cost does more to enhance evidence of the benefits associated with a college degree than to explain heterogeneous patterns of behavior or trends in college enrollment over time (except those induced by the business cycle). Extending the model now to consider how students pay for college as well as further enrollment costs yields substantially more evidence of heterogeneity. Previously the cost of enrollment was assumed to be limited to opportunity costs and tuition costs. Individuals were assumed able to borrow in the market to finance their education. When these assumptions are relaxed and psychic costs are recognized, family income, family background, and individual ability all become important determinants of enrollment. The role of these and other cost-related measures on the enrollment decision is discussed below.

Access to Capital Markets

Capital markets readily provide financing to firms making capital investments that are expected to pay back a high enough rate of return to cover expected borrowing costs and risk. New firms often have to provide substantial documentation justifying their need in order to obtain financing because they are perceived as relatively risky investments. Older firms are able to rely in part on their reputations to keep down the risk-related cost. In worst-case scenarios, banks can repossess firm assets in order to recover their investments. High school graduates seeking money to pay for college are in an entirely different applicant pool. While as argued above there is a substantial return to a college degree, 18-year-olds have no credit history and it is

not possible to repossess an applicant's college degree. Without access to some physical collateral, the risk associated with college loans is substantial and banking firms will either be unwilling to offer such loans or will require signature guarantees from customers with good credit scores. It is for this reason that the government intervenes to back many student loans. The government also has the advantage of being more easily able to garnish earnings to collect on delinquent accounts.

The amount of money one can legally borrow from federally backed sources to pay for college and the interest rate charged on that money varies substantially with the particular loan program being utilized and over time depending upon the vagaries of the federal legislature. Rate information for unsubsidized student loans was discussed earlier and presented in Table 8.1. This type of loan is available to virtually any student completing a FAFSA form. Subsidized loans are available to those from lower-income households and have in some years had lower interest rates. Direct PLUS loans are offered to parents at generally higher cost. Work-study options also help to provide students with money for continuing their education. Each of the many programs in place has somewhat different conditions and charges (see Lochner and Monge-Naranjo 2008 for some further description). Most programs require completion of a FAFSA form on which students and parents are required to identify income and assets. Loan limits are typically well below those necessary to pay for a private college.

Given the plethora of different financial aid options available, it is perhaps not surprising that researchers in this area have had to limit their focus. Some research has found many students in need of funding are turned off by the complexity of the application process (Bettinger et al. 2012). Hoxby and Avery (2012) present evidence that high-achieving low-income students may be particularly stymied as they appear to end up paying more to attend lower-quality institutions. Evidence regarding the impact of grants versus loans versus work-study aid on college enrollment is limited because data on the options applicants face are rarely available. In an analysis that focuses only on the decision to enroll or not, St. John (1990) uses information on college applicants and finds that sensitivity to tuition and different types of aid varies by family income. DesJardins et al. (2006) analyze the enrollment decision process using data from a single institution, finding that both expected and actual aid offers play a role. Seneca and Taussig (1987) have rather unique data on students admitted to both Rutgers and at least one other institution, data that include information on both the tuition charged and the aid offered by each institution. Avery and Hoxby (2004) have similar data for a set of high-ability students. As expected net cost is a significant factor, with aid offers having very large effects. For those interested in collecting data, individual-level data on the schools to which students apply, the application and aid outcome at each school, and the student decision regarding enrollment would provide a potential treasure trove of information for examining the role of cost factors in the enrollment decision.⁷

⁷The impact of the different types of financial aid has been studied much more extensively in the literature on persistence (see, e.g., St. John and Starkey 1995; DesJardins et al. 1999).

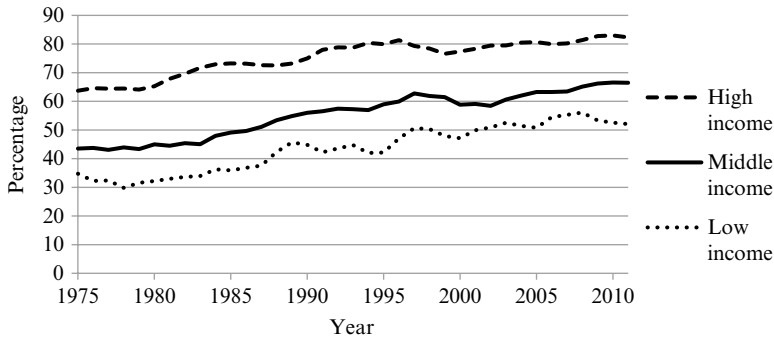


Fig. 8.18 Fraction enrolled by household income
(Source: *Digest of Education Statistics*, 2012. Table 236. Persons age 16–24 who completed a high school degree or GED within previous 12 months.)

Family Support

While information on aid received and tuition charged can be difficult to obtain and is after all contingent on applying to college, information on family income, parental employment, and parental education is not. These measures are often included in studies to capture ability to pay. Parental education is important because of the strong link between education and earnings. Indeed, parental education likely captures potential or long-run earnings and has some value as a measure of ability to pay even when controls for family income are included. Further evidence that money plays some role in the enrollment decision is also apparent in the recent literature linking wealth and changes in wealth to college enrollment (Belley and Lochner 2007; Lovenheim 2011; Lovenheim and Reynolds 2013).

That enrollment rates vary by household income is well known. Figure 8.18 illustrates the fraction of recent 16–24-year-olds enrolled in college in 2011 by household income. Low income here refers to households in the bottom 20 % of the income distribution, while high income refers to households in the top 20 % of the income distribution. The enrollment rate of those from higher-income backgrounds is substantially higher than that for those from lower-income backgrounds. In 2011, 82 % of those from higher-income households were enrolled in college within a year of completing high school as compared to 66 % of those from middle-income households and 52 % of those from lower-income households. Enrollment for all groups has increased over time, but the difference has remained remarkably stable at 30 percentage points since 1975. Cameron and Heckman (2001) present fairly similar figures using data from October CPS files beginning in 1970. What is not apparent in Fig. 8.18 is that the 1970 to 1980 period was rather one of decreasing not increasing enrollment for all groups.

Though not illustrated here, the differences in college enrollment by parental education are also substantial. The more educated an individual's parents, the more likely he or she is to attend college. Parental education is, of course, closely

related to parental income, but each appears to play a separate role. Haveman and Wolfe (1995), in a review of the literature looking at child outcomes, document the importance of parental education, citing its link not only to household income but also its relation to both the quantity and quality of the goods and time parents invest in their children. They report that parental education is almost always found to be significantly positively related to children's educational outcomes, with mother's education mattering somewhat more than father's and the effect being substantial. By contrast, they report that household income usually has a positive impact that is statistically significant about half the time, but typically rather small in magnitude. The latter finding likely reflects the fact that they do not focus exclusively on college enrollment but also look at the decision to complete high school. In the case of college enrollment, family income likely becomes more important because of the greater costs involved. Public high school entails no direct costs. Parental education when looking at college enrollment may proxy for parental knowledge of postsecondary education and familial support for education.

Studies of college enrollment and degree receipt indicate both income and parental education have significant associations. Kane (1994) provides evidence that parental education has a substantial impact on college enrollment for both white and African American children and indicates that much of the increased enrollment of African Americans observed in the late 1980s can be attributed to the greater parental education of those entering at that time. He controls for household income in these analyses, as well as for net cost. While generally finding that greater household income is associated with higher enrollment and greater net cost is associated with lower enrollment, Kane (1994) also finds that the effect of an increase in net cost on college enrollment is greater for children from low-income households than for children from high-income households, particularly for white families. Indeed, white children from high-income households did not appear to reduce enrollment in response to higher net costs at all, though African American children even from high-income households were sensitive to increased net costs. St. John (1990) and McPherson and Schapiro (1991) also report evidence of differential responses to net cost or tuition/aid by household income. These findings are suggestive that ability to pay matters in college enrollment decisions.

Academic Background/Ability

Differences in academic preparation and ability are also associated with differences in educational attainment. These factors are linked to the cost of enrollment in several ways. Less prepared and less able students may find it harder to keep up in college. They may have to spend more time studying, take remedial classes, or hire tutors. Their probability of graduating may be lower and their expected time to graduation longer. If college has a nonmonetary consumption value, less able students may on average find this consumption value is lower since they have to work harder to succeed.

Research clearly supports this link. Belley and Lochner (2007) highlight the importance of ability (as measured by AFQT scores) on higher educational attainment over a 20-year period. Adelman (1999) documents the importance of high school curriculum, test scores, and class rank/academic GPA on bachelor's degree receipt, finding a somewhat higher correlation with curriculum than either test scores or class rank. Many researchers include SAT scores and/or high school grades in models of college enrollment, persistence, and completion (e.g., Venti and Wise 1982; Stratton et al. 2008; Cragg 2009) finding highly significant associations.

Differences in ability and academic preparation have, however, also been closely linked to household characteristics. As many researchers have pointed out, the decision to enroll in college is not made in an instant but follows years of preparation. Individuals must believe that college enrollment is possible in order to put forth that effort (see, e.g., Daun-Barnett 2013), and such belief likely depends on ability to pay. Cameron and Heckman (2001) using the NLSY79 highlight the sequential nature of the college enrollment decision. College enrollment is conditional upon completing high school and all the grades before. Family income and parental education are important determinants at each level, though with a decreasing effect at higher grades (Cameron and Heckman 1998). Modeling progress through the education system from age 15 onward, Cameron and Heckman conclude that short-run credit constraints, such as might impact college enrollment conditional upon high school attainment, are not as much of a barrier as the long-run income constraints that influence the academic preparation and test scores that precede such enrollment. In a similar analysis, Carneiro and Heckman (2002) find that at most 8 % of the population experiences short-run credit constraints.

Some research suggests that income may be playing a greater role in the enrollment decision now. Belley and Lochner (2007) reproduce earlier results using NLSY79 data but find different effects using similar data from the more recent NLSY97. Ability (as measured by AFQT score) continues to have a significant and substantial association with educational attainment. Family income, while having a similar effect over time on high school completion, has a substantially stronger impact on college enrollment for the more recent cohort even after controlling for ability, parental education, and many other covariates. The fact that much of the increased college enrollment between these cohorts has occurred among high-income, low-ability students also suggests that ability to pay is a concern.

Race and Ethnicity Revisited

Controlling for ability and family background also influences the estimated effects of race and ethnicity. Cameron and Heckman (2001) and Belley and Lochner (2007) find that African Americans and Hispanics from the NLSY79 are significantly more likely to attend college all else equal than whites after controlling for parental education, household income, and ability. While Belley and Lochner (2007) find similar results using data from the 1997 NLSY cohort, the magnitude of the differential is much smaller. Adelman (1999, 2006) finds race and ethnicity to be statistically insignificant

in similar equations examining college completion with the High School Class of 1982 and NELS 88/2000. Overall, these results suggest that race and ethnicity per se are less important than family income/background or academic preparation.

Gender Revisited

The effect of controls for ability and family background on the gender difference in higher education is quite different. There is ample evidence that women have long had better high school grades than men. There is also evidence that women's test scores in both math and reading have increased relative to men's and that women have increased their academic preparation for college relative to men (Goldin et al. 2006). These gender differences would predict women having a higher and rising college enrollment rate as compared to men and thus are consistent with rising gender differences in enrollment. Goldin et al. (2006) suggest that cultural norms may also have played a role in this gender differential. They find that while higher-income households have always been fairly even handed in their support of higher education for sons and daughters, there is evidence that lower-income households historically gave preferential treatment to sons. Cultural norms can impose substantial costs on those following divergent paths.

Other Cost-Related Factors

Related analyses find additional cost-related factors important. For example, there is evidence that the characteristics of the other students in one's high school matter for one's own enrollment decision. Students from high schools in which a greater fraction of students take college preparatory exams are more likely to enroll in college (Johnson 2008). This finding could be interpreted as a peer effect. This is true even after controlling for the student's own test score, but the analysis does not control for family income or parental education. Results on peer effects in general are mixed. Sacerdote (2001) finds significant evidence of peer effects on freshman-level GPA by randomly assigned freshman roommates at Dartmouth, but Foster (2006) finds no evidence using either randomly assigned or social friends at the University of Maryland. In an analysis more directly related to college enrollment, Bifulco et al. (2011) report that students are more likely to attend college if their peers' mothers are more educated. Johnson (2008) also finds evidence that students from high schools located geographically closer to a college are more likely to enroll in college. This finding has been replicated numerous times including by Frenette (2006) and Alm and Winters (2009), though Hoxby (2009) argues that students are becoming increasingly less sensitive to geographic distance. Whether geographic distance is a measure of dollar cost or familiarity is difficult to determine.

Evidence is also accumulating that students are taking longer to complete the bachelor's degree. Bound et al. (2010b) look at two cohorts of high school students two decades apart in time. They find that 58 % of those graduating from high school

in 1972 and completing a college degree complete that degree within 4 years, as compared to only 44 % from a comparable 1992 cohort. They also show that students are not accumulating more credits, and for that reason taking longer to graduate, but rather accumulating credits more slowly. Even the probability of completing a college degree falls between these cohorts – from over 45 % to under 40 % (Bound et al. 2010a). Longer time to degree and greater uncertainty means a higher cost and should, *ceteris paribus*, reduce enrollment.

Delayed Enrollment

The more complex model also recognizes delayed enrollment. CPS data on enrollment rates indicate that in 1974, 24.4 % of all undergraduates were aged 25 or older. This figure rose to 33.1 % in 1994, fell to 26.9 % in 2003, and was reported to be 29 % in 2011 (Bureau of the Census 2012, Table A-7). In the simple human capital model of college enrollment, everyone enrolls immediately after completing high school. This is a prediction of the model rather than an assumption. Since older persons are likely to have acquired some on-the-job training and hence have higher earnings, their opportunity cost of enrollment will be higher. Furthermore, since they have a shorter future time horizon, their benefits are lower. The net present value of future enrollment will be larger for younger than for older persons.

Delayed enrollment could be optimal if the opportunity cost of attending college is high and declines following high school graduation. Such could be the situation for those who marry and/or have children while in high school. The advent of a major recession could also induce some to return to school. Finally, some may feel the need to work and save money for college. Horn et al. (2005) show that students who delay are more likely to be minority students from lower-income households, to have less educated parents, and to enroll part time. Nevertheless, even for older students elements of the standard model are good predictors of enrollment behavior. In a fairly unique study of the college-going behavior of persons aged 25 to 65, Jepsen and Montgomery (2012) find that even for this group, the probability of enrolling declines with age and with current earnings (a measure of opportunity cost). Women are more likely to enroll, while married persons and those with children are generally less likely. Race and ethnicity do not have a consistent association, but residence near a college increases the probability of enrollment. Thus, though the population is unusual for an analysis of college enrollment, common theoretical predictions regarding age and opportunity cost are generally supported.

Review of the More Complex Model of Enrollment

In general, extending the simple theoretical model of the college enrollment decision to take into account more subtle but real factors affecting the associated benefits and costs suggests that the simple model understates the returns to a college degree and

overstates the ease of financing that degree. Differences in labor force participation rates, unemployment rates, and benefits levels by education suggest that wage differentials alone understate the return to a college degree. Progressive tax rates work in the opposite direction but are not likely progressive enough to dominate. The high unemployment rate of recent high school graduates, by reducing the opportunity cost of enrollment, also acts theoretically to increase enrollment. It would be of interest to learn more about the expectations potential students have regarding the benefits associated with a college degree in order to assess their accuracy and their role in the enrollment process.

Conversely, the simple theoretical model by assuming individuals are not credit constrained fails to capture the cost of enrolling for a substantial fraction of the population. The common practice of controlling for family income and parental education in enrollment studies reveals the importance of these costs. Despite efforts by the government and private institutions, college enrollment is not an equal opportunity endeavor. The research summarized here suggests a need for further analysis of how tuition, financial aid, and even the information and expectations potential applicants have about tuition and financial aid impact both college enrollment and the effort invested to prepare for college.

The more in-depth presentation here explains/justifies at least some of the substantial heterogeneity in enrollment outcomes observed across the population but has limited power to explain historic or forecast future enrollment. Ability differs over the population as does income and parental education. Ability has not really changed over time – this factor cannot explain past or predict future changes in enrollment. Income has risen which makes it easier overall to invest in college, though the growth in income inequality may curtail this advantage. Parental education has risen and likely has acted and will act to increase college enrollment in the future. Academic preparation is likely endogenously determined.

Economic conditions and policy factors appear to have greater explanatory power. High rates of unemployment lower the opportunity cost of going to college; the recent recession has likely increased enrollment. No one, however, is likely to promote economic recessions as a means of increasing educational attainment. Legislation making aid for higher education more readily available and more generous has been linked to increased enrollment in higher education, but with state and federal budgets still in deficit, future gains may be difficult to negotiate.

Dynamic Effects and Supply-Side Constraints

In the previous sections, factors influencing the decision to enroll were generally evaluated in a static rather than dynamic framework, supply was assumed to be perfectly elastic, and the probability of graduating was not addressed. A thorough discussion of these concerns is beyond the scope of this chapter. This section rather serves to whet the appetite than to provide a comprehensive literature review. Basically, changes in the college enrollment decision at the aggregate level may in

fact feed back to change the incentive to invest. These feedback effects typically act to moderate rather than amplify enrollment trends. In addition, changes in one factor may cause changes in other factors, making it difficult to identify the effect of each individual factor on enrollment. While the long-run supply of college seats may be quite elastic, short-run supply has limits that will impose constraints on college enrollment. Finally, enrollment does not equate to degree receipt and the path students take following matriculation deserves further attention.

As documented at the beginning of this chapter, the fraction of 25–29-year-olds with a bachelor's degree or more has tripled since 1960, with significant increases occurring between 1960 and 1980 and again in the later 1990s and around 2008. While the goal is to maintain our competitive edge in higher education, it is important to recognize how increasing educational attainment likely affects the enrollment decision of future potential students.

A greater supply of college educated persons in the face of a constant demand will, according to the basic economic model of supply and demand, decrease the “price” or wage received by college graduates. If a larger fraction of the population has a college degree, a smaller fraction must have only a high school degree. A smaller supply of high school educated individuals will in theory act to increase the “price” or wage received by high school graduates. The power of the supply–demand model to explain educational wage differentials over time has been well documented (see Card and Lemieux 2001; Goldin and Katz 2007b). The predicted effect in this case is that the opportunity cost of going to college increases (with an increase in the wage of high school workers) and the college wage premium decreases. Both of these wage effects will act to reduce the incentive to pursue a college degree. Thus, the effect of increased college enrollment, *ceteris paribus* with respect to demand conditions, will be to reduce the incentive of future cohorts to attend college.

College enrollment has increased a bit since 2007 (likely the effect of poor labor market conditions depressing opportunity costs), but overall college enrollment has been relatively flat while demand for more educated, technology competent workers has been rising (Goldin and Katz 2007a).⁸ While feedback effects have a dampening influence upon the wage incentives for college enrollment, the current outlook is for the substantial current college wage premium to persist for some time, hopefully helping to stimulate enrollment.

Increased enrollment rates do not change the characteristics of the underlying population but do change the characteristics of the marginal student. Such changes can influence the enrollment probability of those on the margin and hence influence enrollment trends. Consider, for example, ability. If ability is normally distributed across the population and more able individuals are more likely to attend college (see Belley and Lochner 2007 for evidence), then an increase in enrollment rates is likely to be associated with a decrease in the average ability of college students. Hoxby (2009) finds exactly this result when she plots SAT/ACT scores by college selectivity. Student ability/college selectivity decreased at a majority of colleges

⁸ By contrast, in looking at the impact of baby boomers' retirements, Neumark et al. (2013) report that a skill shortage is unlikely to occur in the next 5 years.

between 1962 and 2007 as enrollment increased. Student ability can in turn impact the value of several factors related to college enrollment. Less able students may take longer to earn a degree because they need to enroll in more remedial classes and cannot take as high a course load. Thus, the college wage differential may need to be higher to attract less able students to enroll in college. At the same time, earnings are likely themselves to be a function of ability and less able college students may earn a lower wage premium. Carneiro and Lee (2011) examine the impact of quality changes between 1960 and 2000 on the college wage premium. They estimate that the college wage premium would have been about six percentage points higher in 2000 had student quality remained constant. Quality must also have declined for high school graduates, but the wages of high school graduates seem less sensitive to quality. Juhn et al. (2005) also find evidence of declining quality for college graduates and a declining wage premium but write that these account for only a small fraction of the observed fluctuations in the premium. Thus, changes in enrollment rates can affect the college wage premium directly via supply/demand arguments or indirectly by altering the characteristics of students who enroll and so the factors that drive enrollment.

Several of the factors are also by their nature intertwined. One example is tuition charges and aid generosity. Another example is employment while enrolled and time to graduation.

A number of researchers have identified feedback links from aid policies to tuition charges. St. John (1994) discusses a Robin Hood strategy that he reports was commonly used by private colleges in the 1980s, whereby institutions increased list price tuition and used the increased revenue to finance more generous institution-provided student aid. Turner (2012) finds that increases in tax-based federal aid programs, particularly those directed at middle-income students, are to a substantial degree offset by reduced institutional grant aid at the more selective institutions he examines. Thus, at these institutions, the effect of federal tax-based aid will likely be underestimated when approached conventionally. Singell and Stone (2007) find that changes in the generosity of Pell grants are closely associated with tuition increases for all students at private colleges and for out-of-state students at public colleges, even controlling for institution-specific effects. Indeed, the magnitude of the effect indicates that as the generosity of Pell grants increases by \$1, list price tuition increases by about \$0.80. Long (2004) also finds evidence of such pass through looking at the HOPE scholarship program in Georgia. These studies highlight the importance of considering institutional pricing/aid policies and noninstitutional aid programs jointly. It is difficult to maintain the “*ceteris paribus*” assumption regarding changing aid generosity if aid is largely offset by tuition increases. Other sources of institutional funding also need to be considered. State funding for higher education has been cut substantially in the last decades, leading public institutions to increase their tuition charges. That these increases correspond with periods of increased federal aid generosity may be a spurious finding.

Employment necessarily takes time; so do classes and homework. The effect employment has on college students has been the subject of some debate. Kalenkoski and Pabilonia (2010) provide a brief literature review. Basically increased work

experience may increase wages (particularly if the job is in a field related to one's major – see Geel and Backes-Gellner 2011) or it may have a negative impact on the college experience. Kalenkoski and Pabilonia report evidence that increased employment hours reduce college GPA and hence potentially postcollege earnings. Bound et al. (2010a) argue that working longer hours while in school likely increases the time it takes to earn a college degree because it crowds out the time spent studying. Babcock and Marks (2011) use data from different sources (adjusted for sample design) to show that study time by college students decreased by 10 h per week between 1961 and 2003. Unfortunately, they lack the information necessary to identify the activities (such as employment) towards which students turned their attention. Increased time to degree increases the cost of a college degree, while decreased intensity and increased employment while enrolled reduces the cost of a college degree. It is again difficult to untangle these diverse effects.

Economic theory tells us that it is not only demand for a college degree that determines enrollment but also the ability to supply that degree. If demand increases without a consequent increase in the quantity supplied, enrollment will be unchanged and tuition higher. In an analysis of supply, Baird (2006) finds that state four-year and two-year college enrollment rates rise with state expenditures on education per 18–24-year-old (their measure of supply). Bound and Turner (2007) provide stronger evidence of supply-side constraints, finding that educational attainment is lower when state-year-specific college-aged cohorts are larger. Winters (2012) finds that large cohorts of resident students crowd out nonresident students and cause tuition increases for nonresident students at flagship universities. Bound et al. (2010a) report that degree receipt is lower for men at non-flagship state universities and at two-year institutions and that decreased institutional resources explain these changes better than individual characteristics (such as preparedness). Bound and Turner (2011) and Hoxby (2009) provide evidence that resources have been increasing at more selective institutions while barely holding their own at the rest.

Finally, the focus of this chapter has been upon enrollment rather than degree receipt. There is evidence that enrollment has been rising more rapidly than degree receipt, suggesting that not only has time to degree increased but that graduation rates are falling (Turner 2004). Many of the same factors influencing enrollment also influence success in higher education (see Tinto 1975 for a theoretical presentation on persistence and Kuh et al. 2006 for a recent review of success). Factors may, however, play a different role as students progress towards a degree (see, e.g., Ishitani 2003; DesJardins et al. 2002). In addition, the role of uncertainty (Altonji 1993) and new information (typically about ability as in Stinebrickner and Stinebrickner 2012) become critical, and there is evidence that school type and quality as well as student-institutional match play a role (see, e.g., Bean 1980; Melguizo 2008; Light and Strayer 2000). No one enrolls in college knowing they will not succeed, but students whose chance of succeeding is lower will be attracted by rising returns to a college degree. New information about ability and college costs is revealed to individuals over time. Changing economic conditions that change the opportunity cost associated with college and/or the benefits associated with rapid degree progress can also influence time to degree and the probability of

degree receipt (see Messer and Wolter 2010 for one such discussion). Controlling for full-time and part-time enrollment, stop-out and college transfer behavior further complicate the path analysis. The references listed here only scratch the surface of the existing literature regarding degree receipt.

Conclusion

In conclusion, the USA currently has one of the most highly educated populations in the world, but the younger generation is not any more educated than the older generation and a number of other countries are on target to overtake the USA. To maintain its competitive edge in the education field, the USA needs to enroll and graduate more college students. It must do so in the face of an increasing Hispanic population that has lower than average enrollment rates. The focus of this chapter has been upon identifying the factors that influence the enrollment decision both over time and across the population in order to better understand that decision and the factors that might be manipulated to increase enrollment. A simple version of the human capital model of college enrollment is presented and extended to relax many of the unrealistic assumptions embedded therein.

Research suggests that much of the past increase in college enrollment rates is attributable to increases in the college wage premium. For women, increased labor market participation has multiplied this effect. Policy efforts to provide aid to students whether from the GI Bill post-World War II or via Pell grants have also had an effect, recently muted by rapid increases in tuition rates, particularly at state institutions strapped for cash. Recessions, by reducing the opportunity cost of enrollment, tend to result in temporarily higher enrollment rates. Thus, the model does help explain some of the historic variation in enrollment.

Enrollment rates will only rise in the future if more individuals feel that the benefits of enrollment outweigh the costs of enrollment. Rising college wage premiums caused by rising demand for college educated workers should act to increase enrollment. The effect of this premium is magnified by the lower unemployment rate and higher nonwage benefits experienced by more educated persons. The availability of more universal health-care coverage and the possibility of higher marginal tax rates in the future will likely dampen, but not eliminate, these less recognized benefits to higher education over the coming years.

Evidence suggests that rising enrollment will also pull some less able students into colleges and lower the average return to a college education by increasing time to degree and lowering the college wage premium. However, this effect will be felt primarily by these less able students and if the benefits still outweigh the costs, it will still be in their best interest to enroll. Decreases in the opportunity cost of college such as the higher unemployment rate and lower earnings of young high school graduates during the 2007–2009 recession and the slow recovery following it will likely increase educational attainment in the near term but are hardly forces we would wish to persist. Decreases in the opportunity cost of college caused by

increasing employment among undergraduates, while potentially financing an increase in enrollment, also have possibly serious long-run disadvantages as regards college completion.

Probably the most serious impediment to higher educational attainment in the USA is the high and still rising direct cost of higher education in the USA, higher than the costs in any other OECD country (OECD 2011). Though the benefits associated with a higher education are lower elsewhere – in part because of more compressed wage structures – the costs are low enough when combined with rising returns to attract an increasing share of youth to pursue further study. As the clear majority of youth from high-income households in the USA are already enrolled in higher education, higher enrollment rates require attracting lower-income (and hopefully high-ability) students to attend. To the extent that today's parents are more educated than those 20 years ago and can perhaps help their children navigate the application and particularly the financial aid puzzle, such an increase is increasingly feasible. However, there is also ample evidence that less advantaged students often lack important information about the application process and have low expectations that reduce important precollegiate investments in education. While federal efforts to make college more affordable are currently widespread, state support has not kept pace with inflation. To the extent that increased financial aid is accompanied by higher tuition rates, college enrollment is unlikely to rise dramatically. Further research regarding the expectations students have regarding the costs and payoffs associated with enrollment, including the rate at which future benefits are discounted, and the impact of tuition rates and financial aid opportunities upon enrollment is necessary to identify effective policy to increase enrollment.

Furthermore, increases in college enrollment do not guarantee increases in college degree receipt, and there is evidence that graduation rates are at best stagnant. The path towards graduation is replete with obstacles and time to degree is rising for those who do complete, putting further pressure on the cost side. To increase educational attainment in the USA, enrollment costs need to be effectively addressed and further attention should be directed to the path taken. Higher returns to a college degree alone will not increase enrollment by youth from lower-income households facing imperfect capital markets that now constitute the largest target population.

Acknowledgements I would like to thank Robert Andrews, Terry Ishitani, Christine Keller, and Sarah Turner for their comments on an earlier draft. Any errors or omissions are, of course, my own responsibility.

References

- Adelman, C. (1999). *Answers in the tool box: Academic intensity, attendance patterns, and bachelor's degree attainment*. Washington, DC: U.S. Department of Education.
- Adelman, C. (2006). *The toolbox revisited: Paths to degree completion from high school through college*. Washington, DC: U.S. Department of Education.

- Alm, J., & Winters, J. V. (2009). Distance and intrastate college student migration. *Economics of Education Review*, 28(6), 728–738.
- Altonji, J. (1993). The demand for and return to education when education outcomes are uncertain. *Journal of Labor Economics*, 11(1), 48–83.
- Andreoni, J., & Sprenger, C. (2012). Risk preferences are not time preferences. *American Economic Review*, 102(7), 3357–3376.
- Andrews, R. J., Li, J., & Lovenheim, M. F. (2012). *Quantile treatment effects of college quality on earnings: Evidence from administrative data in Texas* (NBER Working Paper No. 18068).
- Arcidiacono, P. (2004). Ability sorting and the returns to college major. *Journal of Econometrics*, 121(1–2), 343–375.
- Autor, D. H., Katz, L. F., & Kearney, M. S. (2008). Trends in U.S. wage inequality: Revising the revisionists. *Review of Economics and Statistics*, 90(2), 300–323.
- Avery, C., & Hoxby, C. M. (2004). Do and should financial aid packages affect students' college choices? In C. M. Hoxby (Ed.), *College choices: The economics of where to go, when to go, and how to pay for it*. Chicago: University of Chicago Press.
- Betts, J. R. (1996). What do students know about wages? Evidence from a survey of undergraduates. *Journal of Human Resources*, 31(1), 27–56.
- Babcock, P., & Marks, M. (2011). The falling time cost of college: Evidence from half a century of time use data. *Review of Economics and Statistics*, 93(2), 468–478.
- Backes, B. (2012). Do affirmative action bans lower minority college enrollment and attainment? Evidence from statewide bans. *Journal of Human Resources*, 47(2), 436–455.
- Baird, K. (2006). Access to college: The role of tuition, financial aid, scholastic preparation and college supply in public college enrollments. *NASFAA Journal of Student Financial Aid*, 36(3), 16–38.
- Barrow, L., & Rouse, C. E. (2005). Do returns to schooling differ by race and ethnicity? *The American Economic Review Papers and Proceedings*, 95(2), 83–87.
- Bean, J. P. (1980). Dropouts and turnover. The synthesis and test of a causal model of student attrition. *Research in Higher Education*, 12(2), 155–187.
- Becker, G. (1975). *Human capital*. New York: National Bureau of Economic Research.
- Behaghel, L., & Blau, D. M. (2012). Framing social security reform: Behavioral responses to changes in the full retirement age. *American Economic Journal: Economic Policy*, 4(4), 41–67.
- Bell, D., & Marclay, W. (1987). Trends in retirement eligibility and pension benefits, 1974–83. *Monthly Labor Review*, 110(4), 18–25.
- Belley, P., & Lochner, L. (2007). The changing role of family income and ability in determining educational achievement. *Journal of Human Capital*, 1(1), 37–89.
- Bettinger, E., Long, B. T., Oreopoulos, P., & Sanbonmatsu, L. (2012). The role of application assistance and information in college decisions: Results from the H&R Block FAFSA experiment. *Quarterly Journal of Economics*, 127(3), 1205–1242.
- Bifulco, R., Fletcher, J. M., & Ross, S. L. (2011). The effect of classmate characteristics on post-secondary outcomes: Evidence from the add health. *American Economic Journal: Economic Policy*, 3(1), 25–53.
- Black, D. A., & Smith, J. A. (2004). How robust is the evidence on the effects of college quality? Evidence from matching. *Journal of Econometrics*, 121(1–2), 99–124.
- Black, D. A., & Smith, J. A. (2006). Estimating the returns to college quality with multiple proxies for quality. *Journal of Labor Economics*, 24(3), 701–728.
- Blau, D. M., & Gilleskie, D. B. (2008). The role of retiree health insurance in the employment behavior of older men. *International Economic Review*, 49(2), 475–514.
- Blau, D. M., & Goodstein, R. M. (2010). Can Social Security explain trends in labor force participation of older men in the United States? *Journal of Human Resources*, 45(2), 328–363.
- Bound, J., & Turner, S. (2002). Going to war and going to college: Did World War II and the G.I Bill increase educational attainment for returning veterans? *Journal of Labor Economics*, 20(4), 784–815.
- Bound, J., & Turner, S. (2007). Cohort crowding: How resources affect collegiate attainment. *Journal of Public Economics*, 91(5–6), 877–899.

- Bound, J., & Turner, S. (2011). Chapter 8: Dropouts and diplomas: The divergence in collegiate outcomes. In E. A. Hanushek, S. Machin, & L. Woessmann (Eds.), *Handbook of the economics of education* (Vol. 4). Amsterdam: Elsevier.
- Bound, J., Lovenheim, M. F., & Turner, S. (2010a). *Increasing time to baccalaureate degree in the United States* (NBER Working Paper 15892).
- Bound, J., Lovenheim, M. F., & Turner, S. (2010b). Why have college completion rates declined? An analysis of changing student preparation and collegiate resources. *American Economic Journal: Applied Economics*, 2(2), 129–157.
- Bureau of the Census. (1975). *Historical statistics of the United States: Colonial times to 1970, Part I*. Retrieved from http://books.google.com/books?id=0YzOoHrvMPIC&pg=PA121&source=gb_s_toc_r&cad=4#v=onepage&q&f=false
- Bureau of the Census. (2012). *The 2012 statistical abstract of the United States*. Retrieved from <http://www.census.gov/compendia/statab/>. Accessed May 2013.
- Cameron, S. V., & Heckman, J. J. (1998). Life cycle school and dynamic selection bias: Model and evidence for five cohorts of American males. *Journal of Political Economy*, 106(2), 262–333.
- Cameron, S. V., & Heckman, J. J. (2001). The dynamics of educational attainment for Black, Hispanic, and White males. *Journal of Political Economy*, 109(3), 455–499.
- Card, D., & Lemieux, T. (2001). Going to college to avoid the draft: The unintended legacy of the Vietnam War. *The American Economic Review, Papers and Proceedings*, 91(2), 97–102.
- Carneiro, P., & Heckman, J. J. (2002). The evidence on credit constraints in post-secondary schooling. *The Economic Journal*, 112(482), 705–734.
- Carneiro, P., & Lee, S. (2011). Trends in quality-adjusted skill premia in the United States, 1960–2000. *American Economic Review*, 101(6), 2309–2349.
- Castillo, M., Ferraro, P., Jordan, J., & Petrie, R. (2011). The today and tomorrow of kids: Time preferences and educational outcomes of children. *Journal of Public Economics*, 95(11–12), 1377–1385.
- Clark, D. (2011). Do recessions keep students in school? The impact of youth unemployment on enrolment in post-compulsory education in England. *Economica*, 78(311), 523–545.
- College Board. (2012). *Trends in college pricing*. Retrieved from trends.collegeboard.org. Accessed June 2013.
- Cragg, K. M. (2009). Influencing the probability for graduation at four-year institutions: A multi-model analysis. *Research in Higher Education*, 50(4), 394–413.
- Crosen, R., & Gneezy, U. (2009). Gender differences in preferences. *Journal of Economic Literature*, 47(2), 448–474.
- Dale, S. B., & Krueger, A. B. (2002). Estimating the payoff to attending a more selective college: An application of selection on observables and unobservables. *The Quarterly Journal of Economics*, 117(4), 1491–1527.
- Daun-Barnett, N. J. (2013). Access to college: A reconsideration of the National Education Longitudinal Study (NELS). *Educational Policy*, 27(1), 3–32.
- DePaoli, B., & Zabczyk, P. (2012). Why do risk premia vary over time? A theoretical investigation under habit formation. *Macroeconomics Dynamics*, 16(Suppl. 2), 252–266.
- DesJardins, S. L., Ahlburg, D. A., & McCall, B. P. (1999). An event history model of student departure. *Economics of Education Review*, 18(3), 375–390.
- DesJardins, S. L., Ahlburg, D. A., & McCall, B. P. (2002). A temporal investigation of factors related to timely degree completion. *Journal of Higher Education*, 73(5), 555–582.
- DesJardins, S. L., Ahlburg, D. A., & McCall, B. P. (2006). An integrated model of application, admission, enrollment, and financial aid. *Journal of Higher Education*, 77(3), 381–429.
- Dohmen, T., Falk, A., Huffman, D., & Sunde, U. (2011a). The intergenerational transmission of risk and trust attitudes. *Review of Economic Studies*, 79(2), 645–677.
- Dohmen, T., Falk, A., Huffman, D., Sunde, U., Schupp, J., & Wagner, G. G. (2011b). Individual risk attitudes: Measurement, determinants, and behavioral consequences. *Journal of the European Economic Association*, 9(3), 522–550.
- Dougherty, C. (2005). Why are the returns to schooling higher for women than for men? *Journal of Human Resources*, 40(4), 969–988.

- Duggan, M., Singleton, P., & Song, J. (2007). Aching to retire? The rise in the full retirement age and its impact on the Social Security disability rolls. *Journal of Public Economics*, 91(7–8), 1327–1350.
- Dynarski, S. (2002). The behavioral and distributional implications of aid for college. *The American Economic Review, Papers and Proceedings*, 92(2), 279–286.
- Dynarski, S. M. (2003). Does aid matter? Measuring the effect of student aid on college attendance and completion. *The American Economic Review*, 93(1), 279–288.
- Eckel, C. C., Grossman, P. J., Johnson, C. A., De Oliveira, A. C. M., Rojas, C., & Wilson, R. K. (2012). School environment and risk preferences: Experimental evidence. *Journal of Risk and Uncertainty*, 45(3), 265–292.
- Flores-Lagunes, A., & Light, A. (2010). Interpreting degree effects in the returns to education. *Journal of Human Resources*, 45(2), 439–467.
- Foster, G. (2006). It's not your peers, and it's not your friends: Some progress toward understanding the educational peer effect mechanism. *Journal of Public Economics*, 90(8–9), 1455–1475.
- Frenette, M. (2006). Too far to go on? Distance to school and university participation. *Education Economics*, 14(1), 31–58.
- Friedberg, L., & Webb, A. (2005). Retirement and the evolution of pension structure. *Journal of Human Resources*, 40(2), 281–308.
- Geel, R., & Backes-Gellner, U. (2011). Earning while learning: When and how student employment is beneficial. *Labour*, 26(3), 313–340.
- Goldin, C. (1986). The female labor force and American economic growth, 1890–1980. In S. L. Engerman, & R. E. Gallman (Eds.), *Long-term factors in American economic growth* (pp. 557–604). Chicago: University of Chicago Press. Retrieved from <http://www.nber.org/chapters/c9688.pdf>. Accessed May 2013.
- Goldin, C., & Katz, L. F. (2007a). Long-run changes in the wage structure: Narrowing, widening, polarizing. *Brookings Papers on Economic Activity*, 2007a(2), 135–165.
- Goldin, C., & Katz, L. F. (2007b). *The race between education and technology: The evolution of U.S. educational wage differentials, 1890 to 2005* (NBER Working Paper No. 12984).
- Goldin, C., Katz, L. F., & Kuziemko, I. (2006). The homecoming of American college women: The reversal of the college gender gap. *Journal of Economic Perspectives*, 20(4), 133–156.
- Greenwood, J., Guner, N., Kocharkov, G., & Santos, C. (2012). *Technology and the changing family: A unified model of marriage, divorce, educational attainment and married female labor-force participation* (NBER Working Paper No. 17735).
- Guiso, L., Sapienza, P., & Zingales, L. (2011). Time varying risk aversion. *Mimeo*.
- Hanel, B., & Riphahn, R. T. (2012). The timing of retirement – New evidence from Swiss female workers. *Labour Economics*, 19(5), 718–728.
- Harrison, G. W., Lau, M. I., & Williams, M. B. (2002). Estimating individual discount rates in Denmark: A field experiment. *The American Economic Review*, 92(5), 1606–1617.
- Haveman, R., & Wolfe, B. (1995). The determinants of children's attainments: A review of methods and findings. *Journal of Economic Literature*, 33(4), 1829–1978.
- Hinrichs, P. (2012). The effects of affirmative action bans on college enrollment, educational attainment, and the demographic composition of universities. *Review of Economics and Statistics*, 94(3), 712–722.
- Hirsch, B., & Schnabel, C. (2012). Women move differently: Job separations and gender. *Journal of Labor Research*, 33(4), 417–442.
- Hoekstra, M. (2009). The effect of attending the flagship state university on earnings: A discontinuity-based approach. *Review of Economics and Statistics*, 91(4), 717–724.
- Horn, L., Cataldi, E. F., & Sikora, A. (2005). *Waiting to attend college: Undergraduates who delay their postsecondary enrollment* (NCES Report No. 2005–152).
- Horowitz, A. W., Lee, J., & Trivitt, J. R. (2009). Household-level education borrowing constraints: Evidence using the college attendance of the sisters of Vietnam draft avoiders. *Journal of Human Capital*, 3(3), 197–223.
- Hoxby, C. M. (2009). The changing selectivity of American colleges. *Journal of Economic Perspectives*, 23(4), 95–118.

- Hoxby, C. M., & Avery, C. (2012). *The missing "one-offs": The hidden supply of high-achieving, low income students* (NBER Working Paper No. 18586).
- Ishitani, T. T. (2003). A longitudinal approach to assessing attrition behavior among first-generation students: Time-varying effects of pre-college characteristics. *Research in Higher Education, 44*(4), 433–449.
- Jaeger, D. A., & Page, M. E. (1996). Degrees matter: New evidence on sheepskin effects in the returns to education. *The Review of Economics and Statistics, 78*(4), 733–740.
- Jepsen, C., & Montgomery, M. (2012). Back to school: An application of human capital theory for mature workers. *Economics of Education Review, 31*(1), 168–178.
- Johnson, I. (2008). Enrollment, persistence and graduation of in-state students at a public research university: Does high school matter. *Research in Higher Education, 49*(8), 776–793.
- Juhn, C., Kim, D. I., & Vella, F. (2005). The expansion of college education in the United States: Is there evidence of declining cohort quality? *Economic Inquiry, 43*(2), 303–315.
- Kahn, L. B. (2010). The long-term labor market consequences of graduating from college in a bad economy. *Labour Economics, 17*(2), 303–316.
- Kalenkoski, C. M., & Pabilonia, S. W. (2010). Parental transfers, student achievement, and the labor supply of college students. *Journal of Population Economics, 23*(2), 469–496.
- Kane, T. J. (1994). College entry by Blacks since 1970: The role of college costs, family background, and the returns to education. *Journal of Political Economy, 102*(5), 878–911.
- Kim, H., & DeVaney, S. A. (2005). The selection of partial or full retirement by older workers. *Journal of Family and Economic Issues, 26*(3), 371–394.
- Kuh, G. D., Kinzie, J., Buckley, J. A., Bridges, B. K., & Hayek, J. C. (2006). *What matters to student success: A review of the literature*. Final report for the National Postsecondary Education Cooperative and National Center for Education Statistics. Bloomington: Indiana University Center for Postsecondary Research.
- Light, A., & Strayer, W. (2000). Determinants of college completion: School quality or student ability? *The Journal of Human Resources, 35*(2), 299–332.
- Lochner, L. J., & Monge-Naranjo, A. (2008). *The nature of credit constraints and human capital* (NBER Working Paper No. 13912).
- Long, B. T. (2004). How do financial aid policies affect colleges? The institutional impact of the Georgia HOPE Scholarship. *Journal of Human Resources, 39*(4), 1045–1066.
- Lovenheim, M. F. (2011). The effect of liquid housing wealth on college enrollment. *Journal of Labor Economics, 29*(4), 741–771.
- Lovenheim, M. F., & Owens, E. G. (2013). *Does federal financial aid affect college enrollment? Evidence from drug offenders and the Higher Education Act of 1998* (NBER Working Paper No. 18749).
- Lovenheim, M. F., & Reynolds, C. L. (2013). The effect of housing wealth on college choice: Evidence from the housing boom. *Journal of Human Resources, 48*(1), 1–35.
- Lumina Foundation. (2013). *Annual report*. Retrieved from http://www.luminafoundation.org/publications/A_stronger_nation_through_higher_education-2013.pdf. Accessed 9 July 2013.
- Lynch, L. M., & Black, S. E. (1998). Beyond the incidence of employer-provided training. *Industrial & Labor Relations Review, 52*(1), 64–81.
- Macunovich, D. J. (2012). Older men: Pushed into retirement in the 1970s and 1980s by the baby boomers? *Monthly Labor Review, 135*(5), 3–18.
- Manchester, J., & Song, J. (2011). What can we learn from analyzing historical data on Social Security entitlements? *Social Security Bulletin, 71*(4), 1–13.
- Mare, R. D. (1991). Five decades of educational assortative mating. *American Sociological Review, 56*(1), 15–32.
- Mastrobuoni, G. (2009). Labor supply effects of the recent Social Security benefit cuts: Empirical estimates using cohort discontinuities. *Journal of Public Economics, 93*(11–12), 1224–1233.
- McPherson, M. S., & Schapiro, M. O. (1991). Does student aid affect college enrollment? New evidence on a persistent controversy. *American Economic Review, 81*(1), 309–318.
- Melguizo, T. (2008). Quality matters: Assessing the impact of attending more selective institutions on college completion rates of minorities. *Research in Higher Education, 49*(3), 214–236.

- Messer, D., & Wolter, S. C. (2010). Time-to-degree and the business cycle. *Economics Education*, 18(1), 111–123.
- Mincer, J. (1974). *Schooling, experience, and earnings*. New York: Columbia University Press.
- Mincer, J. (1991). *Education and unemployment* (NBER Working Paper No. 3838).
- Mullis, I. V. S., Martin, M. O., Foy, P., & Drucker, K. T. (2012). *PIRLS 2011 international results in reading*. Chestnut Hill: TIMSS & PIRLS International Study Center, Boston College. Retrieved from <http://timssandpirls.bc.edu/pirls2011/international-results-pirls.html>. Accessed May 2013.
- Munnell, A. H. (2011). *What is the average retirement age?* Center for Retirement Research at Boston College, Issue in Brief 11–11.
- National Center for Education Statistics. (2012). *Digest of education statistics*. Washington, DC: Institute of Education Sciences. Retrieved from http://nces.ed.gov/programs/digest/2012menu_tables.asp. Accessed May 2013.
- Neumark, D., Johnson, H., & Mejia, M. C. (2013). Future skill shortages in the U.S. Economy? *Economics of Education Review*, 32, 151–167.
- OECD. (2011). *Education at a glance 2011: OECD indicators*. OECD Publishing. Retrieved from <http://dx.doi.org/10.1787/eag-2011-en>.
- Oi, W. (1962). Labor as a quasi-fixed factor of production. *Journal of Political Economy*, 70(6), 538–555.
- Paulsen, M. B., & Toutkoushian, R. K. (2008). Economic models and policy analysis in higher education: A diagrammatic exposition. In J. C. Smart (Ed.), *Higher education: Handbook of theory and research* (Vol. 23, pp. 1–48). Dordrecht: Springer.
- Pérez-Peña, R. (2012, October 24). Report says college prices, once stable, are up again. *New York Times*. Retrieved from <http://www.nytimes.com/2012/10/24/education/report-says-college-prices-once-stable-are-up-again.html>. Accessed 31 May 2013.
- Restuccia, D., & Vandenbroucke, G. (2013). A century of human capital and hours. *Economic Inquiry*, 51(3), 1849–1866.
- Riddell, W. C., & Song, X. (2011). The impact of education on unemployment incidence and re-employment success: Evidence from the U.S. labour market. *Labour Economics*, 18(4), 453–463.
- Ross, C. E., Masters, R. K., & Hummer, R. A. (2012). Education and the gender gaps in health and mortality. *Demography*, 49(4), 1157–1183.
- Sacerdote, B. (2001). Peer effects with random assignment: Results for Dartmouth roommates. *The Quarterly Journal of Economics*, 116(2), 681–704.
- Scott-Clayton, J. (2012). What explains trends in labor supply among U.S. undergraduates? *National Tax Journal*, 65(1), 181–210.
- Seneca, J. J., & Taussig, M. K. (1987). The effects of tuition and financial aid on the enrollment decision at a state university. *Research in Higher Education*, 26(4), 337–362.
- Singell, L. D., & Stone, J. A. (2007). For whom the Pell tolls: The response of university tuition to federal grants-in-aid. *Economics of Education Review*, 26(3), 285–295.
- St. John, E. P. (1990). Price response in enrollment decisions: An analysis of the high school and beyond sophomore cohort. *Research in Higher Education*, 31(2), 161–176.
- St. John, E. P. (1994). Assessing tuition and student aid strategies: Using price-response measures to simulate pricing alternatives. *Research in Higher Education*, 35(3), 301–334.
- St. John, E. P., & Starkey, J. B. (1995). An alternative to net price: Assessing the influence of prices and subsidies on within-year persistence. *Journal of Higher Education*, 66(3), 156–186.
- Staubli, S., & Zweimueller, J. (2011). *Does raising the retirement age increase employment of older workers?* (IZA Discussion Paper No. 5863).
- Stinebrickner, T., & Stinebrickner, R. (2012). Learning about academic ability and the college dropout decision. *Journal of Labor Economics*, 30(4), 707–748.
- Stinebrickner, R., & Stinebrickner, T. R. (2013). *A major in science? Initial beliefs and final outcomes for college major and dropout* (NBER Working Paper No. 19165).
- Stratton, L. S., O'Toole, D. M., & Wetzel, J. N. (2008). A multinomial logit model of college attrition that distinguishes between stopout and dropout behavior. *Economics of Education Review*, 27(3), 319–331.

- Thomas, S. L. (2000). Deferred costs and economic returns to college major, quality, and performance. *Research in Higher Education, 41*(3), 281–313.
- Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research, 45*(1), 89–125.
- Turner, S. E. (2004). Going to college and finishing college: Explaining different educational outcomes. In C. M. Hoxby (Ed.), *College choices: The economics of where to go, when to go, and how to pay for it*. Chicago: University of Chicago Press.
- Turner, N. (2012). Who benefits from student aid? The economic incidence of tax-based federal student aid. *Economics of Education Review, 31*(4), 463–481.
- U.S. Department of Labor, Bureau of Labor Statistics. (2011, December). *Women in the labor force: A databook* (Report 1034).
- U.S. Department of Labor, Bureau of Labor Statistics. Retrieved from www.bls.gov. Accessed May–June 2013.
- Venti, S. F., & Wise, D. A. (1982). Test scores, educational opportunities, and individual choice. *Journal of Public Economics, 18*(1), 35–63.
- Willis, R. J., & Rosen, S. (1979). Education and self-selection. *Journal of Political Economy, 87*(5), S7–S36.
- Winters, J. V. (2012). Cohort crowding and nonresident college enrollment. *Economics of Education Review, 31*(3), 30–40.
- Wolman, L. (1938). Hours of work in American industry. In L. Wolman (Ed.), *Hours of work in American industry*. NBER. Retrieved from <http://www.nber.org/chapters/c4124>. Accessed June 2013.

Chapter 9

The Welding of Opposite Views: Land-Grant Historiography at 150 Years

Nathan M. Sorber and Roger L. Geiger

Introduction: A New Interpretation

President William H. Scott of Ohio State University used the occasion of his 1884 inauguration to discuss lingering confusion over the purpose and scope of the Morrill Land-Grant College Act of 1862 (hereafter Morrill Act). Scott (1884) attributed the misunderstanding to a philosophical tension within the legislation, stating, “It is not the statement of a single mind setting forth a single untrammelled purpose ... it is the welding of ... opposite views” (pp. 110, 112). The final bill signed by Abraham Lincoln on July 2, 1862, was, according to Scott, “a compromise which consisted not in abandoning the extremes for immediate ground, but a union of the extremes” (p. 112). Indeed, the Morrill Act was both broad and paradoxical. It seemed to propose narrow curricula with its focus on the applied studies of agriculture and the mechanical arts but, at the same time, required breadth, in that the “classical and scientific subjects not be excluded.” The Morrill Act singled out the industrial classes as the target audience, but did not endorse a strictly vocational or industrial education, instead calling for a “liberal and professional education ... for the several pursuits of life.” Assessing the landscape in 1867, Daniel Coit Gilman argued that the conflict within the act stemmed from its rapid passage—made possible with the secession of dissident Southern legislators—which precluded a “thorough discussion” of what was “possible and desirable in the national education” (Gilman 1867, p. 16).

N.M. Sorber, Ph.D. (✉)

Curriculum and Instruction/Literacy Studies Department, College
of Education and Human Services, West Virginia University,
355 Oakland Drive, Morgantown, WV, USA
e-mail: Nathan.Sorber@mail.wvu.edu

R.L. Geiger, Ph.D.

Department of Higher Education, The Pennsylvania State University College
of Education, 400 Rackley Building, University Park, PA 16802-3203, USA
e-mail: Rlg9@psu.edu

This lack of a national consensus led states to craft numerous land-grant college schemes that were more a response to the political and economic exigencies of different regions than part of a coherent national policy. The result was an eclectic array of nineteenth-century institutions finding justification for diverse arrangements through a discerning reading of the Morrill Act: full universities or agricultural colleges in the Midwest and West; segregated state universities, agricultural colleges, or quasi-military schools in the South; schools of science or engineering in the Northeast; state-sponsored denominational colleges in places as different as Vermont and West Virginia; and a research university in Ithaca, New York. The recipients of Morrill Act funds borrowed selectively from the legislative text to comply with the law while tailoring institutions to local context. For example, Yale's Samuel Johnson argued in 1887 that the high admission standards and lack of a college farm were justifiable since the Sheffield Scientific School faculty were teaching "science *related* to agriculture" (cited in Sorber 2011, p. 216), whereas Midwestern and Southern populists tried to take over their respective land-grant colleges in the 1880s with calls for open admissions and the shelving of "book-learning" in favor of manual training and required labor tilling the campus fields (Gelber 2011, 2013; Ross 1942b; Widder 2005). The latter approach was coined "The Michigan Plan," after Michigan Agricultural College, and was promoted by populists as the best approach to afford access and utility for the industrial class (Geiger and Sorber 2013). Justin Morrill and his friend George Atherton (president of both Pennsylvania State College and the Association of Agricultural Colleges and Experiment Stations) both favored the scientific model (Geiger 2000b; Sorber 2013; Williams 1991). Morrill once signaled his broad intention when he declared that it was not his aim that "every land-grant college graduate ... [should] become a farmer or a mechanic" (Morrill 1887, p. 20). No matter which perspective an institution embraced, each staked claim to the "land-grant" banner with a unique interpretation of the Morrill Act.¹

During the nineteenth century, populists and academics advocated these alternative models, with institutions mirroring the ideology of the politically powerful within each state (Gelber 2013; Marcus 1986; Moran and Williams 2013; Richardson 2013; Sorber 2011). These battles reached an apex over the 1890 Morrill Act, as coalitions coveted the influx of additional federal funds (\$15,000 a year) to implement their vision (Williams 1991). The conflict subsided to some degree with the retreat of populist parties in the late 1890s (Gelber 2011, 2013). However, the underlying tension—from the welding of the scientific and the utilitarian and of liberal learning and practical study—persisted, as land-grant institutions tried to reconcile research university ideals with Morrill Act commitments to access, utility,

¹There are numerous institutional histories that, while at times celebratory, remain useful for contrasting the different missions of the early land-grant colleges (see, e.g., Becker 1943; Bettersworth 1980; Bezilla 1985; Bishop 1962; Bogue and Taylor 1975; Cary 1962; Chittenden 1928; Cohen 2012; Dethloff 1975; Dougherty and Summers 1982; Dyer 1985; Hopkins 1951; Knoll 1995; McCormick 1966; Ross 1942b; Sinclair 1991; Smith 1979; Snider 1992; Solberg 1968; Stratton and Mannix 2005; Widder 2005).

and agricultural uplift (Geiger 2000a, b; Marcus 1985). A lasting peace was achieved with the passage of the Smith-Lever Act of 1914 and the creation of cooperative extension (Rasmussen 1989; Scott 1970). This allowed land-grant institutions to differentiate missions: to promote the university values of high academic standards for traditional-age students and disinterested scholarship among faculty (Geiger 2004a; Veysey 1965); offer accessible, practical education for nontraditional students (and community members) through irregular course offerings and educational outreach; and engage directly with farm and rural community problems. Colleges of agriculture and extension services housed the latter two missions and became the protector of the populists' egalitarian, utilitarian, and community-based vision. It is here that the university could reach out to the Morrill Act's agricultural clientele with the promise of protecting family farms, elevating rural life through applied research and service, and providing educational opportunities through short courses, 4-H programs, fairs, and public demonstrations (McDowell 2001).

Many historians have sought an elusive, singular "land-grant ideal," overlooking the regional variety of the land-grant colleges as well as the multifaceted, long-disputed, and often conflicting missions (see, e.g., Eddy 1957; Edmonds 1978; Ross 1942a). However, a first principle or an uncontested founding purpose may never have existed. Since the legislation was first proposed in 1858, the meaning of the Morrill Act, as well as the proper form and function of land-grant colleges, has been contested by academics, farmers, students, and legislators and debated in state capitals, farm journals, campuses, and grange halls. Furthermore, the actual academic and social experience of attending a land-grant college differed across class, race, and gender. Despite this unclear foundation and diversity of land-grant approaches and experiences, historians have tended to explain the entire land-grant movement in terms of Jacksonian Democracy, interpreting the Morrill Act as a product of the common man awakening to the benefits of higher education. It is from this perspective that the "romantic school" (i.e., Eddy 1957; Edmonds 1978; Nevins 1962; Ross 1942a) crafted the traditional canon, branding land-grant institutions as "democracy's colleges" or "people's colleges," and the Morrill Act as a federal response to popular demands for an alternative to the elite classical college.² Land-grant anniversaries have proven to be fecund occasions for crafting celebratory appraisals of the colleges' democratic aims, as several canonical works were written around the 100th anniversary of the Morrill Act. There are also innumerable campus or national association reports that harken to the Morrill Act's egalitarian past to support contemporary calls for access, increased state funding, with names like *Returning to Our Roots* (1999a, b), *Reclaiming a Lost Heritage* (Campbell 1995), *The Land-Grant Tradition* (2012), *The Spirit of the Land-Grant Institutions* (1931), *Renewing the Land-Grant Mission* (2002), and *Renewing the Covenant* (2000).³ In addition,

²The term "romantic school" describing the authors of the traditional land-grant canon was coined by Segal (2005).

³These reports were created by the Association of Land-Grant Colleges and Universities, the Council on Public Engagement, the Association of Public and Land-Grant Universities, and the Kellogg Commission on the Future of State and Land-Grant Universities.

the democratic narrative has greatly influenced the historiography of agricultural education and extension, in which land-grant outreach to the farmer is praised as the final fulfillment of the Morrill Act's egalitarian purpose (Rasmussen 1989). This selective use of land-grant history to justify contemporary reforms or celebrate institutional accomplishments has left higher education scholars with a historiography that is infused with presentist and romantic notions.

Now at the 150th anniversary of the Morrill Act, historians have an opportunity to reexamine the origins and evolution of land-grant colleges with a more critical eye. Revisionist historians have offered critiques of the canon and provided new interpretations. They doubt that the Morrill Act actually democratized higher education in the late nineteenth century, as studies suggest that most land-grant attendees—like those at denominational colleges—came from the customary clientele of the middle and upper-middle class (Behle 2013; Fitzgerald 1973; Maxwell and Behle 1998; Sorber and Moran 2012). They relate the Morrill Act to the interrelated movements of industrialization, the rise of science, international competition, nation-building and bureaucratization, academic professionalization, agricultural modernization, the rise of professionalization in fields like engineering, and an emerging middle class. These forces all coexisted and competed with the more muted demands for expanding access and tailoring practical programs to the progeny of workers and farmers (Cohen 2012; Geiger 2000b, 2004a; Hoffer 2007; Marcus 1986, 2005a; Nelson 2013; Nemeč 2006; Nienkamp 2008, 2010; Segal 2005; Sorber 2011, 2013; Zieren 2013).

The final critique of the traditional land-grant narrative is levied by historians who have noted that the democratic and utilitarian interpretation ignored the experiences of women and African-Americans. The Morrill Acts of 1862 and 1890 produced a separate category of historically black colleges (HBCUs) whose experience was radically different from that of other land grants, and women faced separate challenges to gain access to the programs and promises of land-grant colleges. These realities undermine the romanticism of democratization.

This article seeks to untangle the historiography of the land-grant movement, move the scholarship beyond the traditional narrative, and explore the influences that have shaped higher education's "peculiarly American institution" (Ross 1942a, pp. 181–182) to become, in many cases, the largest, most celebrated research universities in the world. We contend that such an approach will help elucidate the dialectics at the core of the act, alluded to as the inexplicable "welding of opposite views" (Scott 1884, p. 110). More than any singular democratic principle, it has been this tension that has proved decisive in the development of the land-grant colleges. This essay considers the manifestation of this philosophical tension in eight thematic sections: (1) antecedents, origins, and early institutions; (2) embracing the university model: flagships; (3) mechanic arts to engineering; (4) elusive equality: African-Americans and the Morrill Act of 1890; (5) gendered and contested spaces: women and land-grant colleges; (6) colleges of agriculture, extension, and federal sponsorship: the special partnership; (7) land-grant colleges since 1945; and (8) memory and history.

Antecedents, Origins, and Early Institutions

The canonical view of land-grant beginnings and early years was framed by Ross' (1942a) *Democracy's College: The Land-Grant Movement in the Formative Stage*. Ross argued that the evolution of higher education in the nineteenth century occurred amidst the motivating influences of modern democracy and industrialism. Writing during World War II, he entitled his book "Democracy's College" not "Industrialism's College," arguing that it was the expansion and righteous purpose of popular democracy that proved decisive in reforming higher education. Ross stated, "The determining influence [on land-grant colleges] has been that of popular determination and direction—a democratic system according to the expanding conceptions of the term" (p. 2). This thesis posits that traditional higher education remained the domain of an elite segment of the population until an expanded polity enacted progressive reforms and made higher education relevant and accessible. Eddy (1957), Edmonds (1978), and Nevins (1962) joined Ross in characterizing land-grant colleges as the product of expanded participation in American democratic life and, in turn, confirmed the predominance of land-grant romanticism. For Eddy (1957), the only departure was that the land-grant colleges did not emerge from a "landslide of public sentiment," but rather a "gradual public awakening to the promise of higher education" (p. 267). The nineteenth-century classical college is depicted as aristocratic and unresponsive to societal demands. Eddy (1957) argues that it took an active and noble democracy to intervene in higher education and align colleges and universities with the needs of a changing society. Nevins (1962) describes ubiquitous opposition to the classical colleges and popular pressure on the government to create a higher education system that could deliver the benefits of technology and science to the people. Edmonds' (1978) land-grant history is a simplistic description of college foundings and a celebratory account of the benefits accrued in each state.

In the classic *The American College & University: A History*, Rudolph (1962) devotes little space to the land-grant college. Yet, he subtly undermines Ross' (1942a) thesis:

All these [land-grant college] activities owed little if anything to the views of dirt farmers and workingmen's associations. They were the work of middle class reformers who were prepared to advance some theoretical and ideological notions of what popular technical education should be. (p. 249)

After this initial skepticism, the consensus was challenged by Eldon Johnson and Roger Williams. Johnson (1981) consulted histories of the early land-grant colleges and concluded, "[Land-grant colleges] were created by reformers ... for an ideal, not an established need" (p. 336). He argues that if there was broad, popular, democratic demand for these institutions, it should be evident in enrollment data. But there was a paucity of students in the early years of most land-grant colleges, even with free tuition, scholarships, and preparatory courses. Agricultural departments and programs fared worse, Johnson notes, as only a handful of students matriculated in agriculture and even fewer pursued farming careers. Williams (1991) explains in

The Origins of Federal Support that land-grant colleges were more a product of the ideals of academic reformers than a popular rejection of the classical colleges. He uses revisionist education historians—especially Burke (1982), Guralnik (1975), and Potts (1981)—to undercut the linchpin of Ross' (1942a) thesis: the assumption that traditional colleges faced high mortality rates and low enrollments, were aristocratic, and were not meeting the educational goals of their students. Potts (1981), for example, explains that the low enrollment numbers and high mortality rates at traditional denominational colleges were based on faulty calculations in previous histories. In citing Burke (1982), Williams (1991) argues that the nineteenth-century college was not exclusively for elites, as institutional enrollments revealed many students of modest means and humble backgrounds. In sum, the empirical evidence did not support a core tenet of the traditional theory—that land-grant colleges were a reaction to unpopular classical colleges. Into this vacuum, Williams attempts to alter the founding narrative by featuring the role of educational reformers and academic leaders, an influence that had been obscured by the romantic view of democracy's influence on higher education:

This happened [the rise and maintenance of land-grant colleges] not because the institutions were destined to do so in response to some vague national demand, but because certain individuals were resolved to create the means—through federal legislation and through an organization of peer institutions—for the colleges' sustenance. (p. 9)

The problem created from the era of revisionist higher education history, especially in regard to nineteenth-century developments, as Ogren (2008) and Geiger (2000a) aptly argue, is that traditional conceptual schema were discredited without being replaced by any new consensus on interpreting this period. In this, Williams' (1991) book is no exception, for it provides a superb critique of the historiography, but little foundation for a new framework. He makes the valuable contribution of exposing the flimsy foundation of the traditional accounts, specifically his criticism of the uncritical acceptance and “vagueness” of the democratizing and popular demand thesis. However, Williams does not investigate the popular movement in his work and actually discounts the importance of popular participation in land-grant history, emphasizing instead the “great men” of the movement, the forgotten “leading lights”—George Atherton, Henry Alvord, and Henry Goodell. *The Origins of Federal Support* was the most original contribution on land-grant colleges in four decades, yet the place of the “people” in the historiography of the “people's colleges” remained unexamined and uncertain.

By the twenty-first century, historians have returned the masses to the land-grant narrative, but not as exerting “vague” pressure for reform. These “post-revisionist” histories contribute to uncovering the complex interactions between the people and academic reformers in an effort to explain the dialectics at the core of land-grant origins. In a chapter in his *The American College in the Nineteenth Century*, Geiger (2000b) explains the competing visions of the supposedly utilitarian character of land-grant education. He traced how the concept “useful knowledge” was debated and defined throughout the century and showed how land-grant colleges settled on scientific principles over manual instruction and high intellectual standards over

elementary curricula. By juxtaposing “useful education” with Daniel Coit Gilman’s plan for “National Schools of Science,” Geiger uncovered a key divergence in the movement to expand higher education beyond its classical core. Should these new public colleges offer practical studies for practicing farmers and mechanics or the scientific and theoretical foundations for careers as technologists and managers?

In Geiger and Sorber’s (2013) edited volume, *The Land-Grant Colleges and the Reshaping of American Higher Education*, Sorber (2013) and Nelson (2013) elucidate land-grant antecedents and origins by examining how the growth of science and interests in economic development and international competition precipitated the land-grant movement. These works do not view the land-grant college as an original event separating the premodern and modern eras of higher education, but as “an institutional expression of a remarkably innovative zeitgeist” (p. 4). Numerous agricultural colleges, schools of science, polytechnics, scientific courses at so-called classical colleges, and the ever-present example of European institutions all pre-saged the curricular departures at land-grant colleges and influenced their founding and development. These works also illustrate that state sponsorship of higher education was not unique to the land-grant movement, for, as Nelson contends, efforts to advance and disseminate knowledge of the plant and medicinal sciences date back to the Early Republic. Collaborations between agricultural societies and leading universities like Harvard, Columbia, and Pennsylvania established herbariums and were pivotal in institutionalizing academic positions and courses in natural philosophy. “In a sense,” Nelson argues, “the Morrill Act rediscovered and reframed ideas that had been around for a very long time” (p. 13).

Sorber relates the land-grant college movement to the Whigs’ internal improvement policies for economic development. The Morrill Tariff of 1861 and the Morrill Land-Grant Act of 1862 were consistent with “American System” measures of “government intervention” to nurture a developing economy:

The aim of the [Morrill Tariff] was to protect fledgling industries from competition; the [Morrill Land-Grant Act] held the promise of creating profitable new technologies and practices, and of developing skilled human capital to implement science-based processes within the modern economy. (p. 8)

A nascent area of the historiography connects the origins of the land-grant movement to the centralization of government authority and creation of a bureaucratic state. Cohen (2012), Hoffer (2007), and Nemeč (2006) provide evocative inquiries that place a fledgling state/higher education partnership at the center of the land-grant movement. Nemeč (2006) contends that a critical aspect of this relationship was the nurturing of specialists within universities who would come to staff the bureaucracy. The rapidly expanding agencies of the modern executive branch, charged with collecting and analyzing information on national interests like agriculture, education, and commerce, soon found willing experts in land-grant institutions. It was not the land-grant colleges per se that made the difference, Nemeč (2006) argues, but “the creative freedom [The Morrill Act] provided institutional entrepreneurs” (p. 57). Here the author is mindful of the assorted types of early land-grant colleges. For while the vocationally focused agricultural schools

may have proven less useful to the bureaucracy, the federal funds allowed “entrepreneurs” like Daniel Coit Gilman and Andrew Dickson White to build “European-styled universities” that could produce graduates of more value to state builders.

Hoffer (2007) argues that the Morrill Act debates were the “opening act” in a “long conversation” on the philosophical foundations of a modern American state. Would the “nation” remain dominated by a “government of states” or would a strong central government arise as a central facet of American life? Hoffer argues that the Morrill Act debates (as well as the Department of Agriculture debates of the same year) are suggestive of changing views on the potential of centralized authority to the United States. The Congressional record reveals a stark divide between rearguard defenders of the authority of the states and proponents of a central government that could “sponsor, supervise, and standardize” the activities of the states. Cohen’s (2012) history of higher education and the Civil War provides the clearest expression of this nation-state and higher education framework of sponsorship, supervision, and standardization. He concludes, “higher education and the state had grown together ... cooperation between them was a logical component of their mutual growth” (p. 185). State-run programs could be partially or fully funded by the federal government (“sponsorship”), data on state compliance could be collected and analyzed by bureaucrats (“supervision”), and some societal good—in this case education or agricultural production—could be rationalized, perfected, and distributed across all states (“standardization”). Thus, even as Congress elevated the power of central authority to “sponsor, supervise, and standardize” numerous areas of American lives, and as bureaucrats eagerly served the leviathan, the masses (especially the agricultural masses) remained unconvinced and beholden to the “government of states” ideology of the old republic. It would take years of relationship-building between land-grant colleges and farmers, ultimately culminating in cooperative extension, to “personalize ... centralized authority,” and in the process, “win the support of some of the nation’s most skeptical citizens” (Loss 2013, p. 288).

While the nation-building and bureaucracy contributions are provocative advances to the land-grant narrative, other studies have focused on the effect of state and local conditions on the early land-grant colleges. The political, social, and economic varieties of the different states produced a diverse land-grant college landscape (Geiger and Sorber 2013). This area of scholarship is wholly consistent with trends in the historiography of nineteenth-century higher education (see Geiger 2000a), in which proper accountings of colleges and universities must be responsive to the differences in regional context. Within this area, historians have explored state politics to reveal divergent interest in the proper form, purpose, and development of land-grant colleges.

Moran and Williams (2013) explain how early state house debates centered on land-grant college location and who would benefit from the influx of federal funds; little time was devoted to issues of institutional mission or academic purpose. For example, legislators in Pennsylvania promoted the interests of their constituency’s literary institutions, like Allegheny College, the College at Lewisburg, and Dickinson

College, in attempting to wrestle a portion of land proceeds away from the Pennsylvania Agricultural College (later Pennsylvania State College). It was through the efforts of President Evan Pugh, a German-trained Ph.D., and the political clout of the agricultural societies, that broader questions of land-grant purpose received legislative consideration. In such political debates, the literary college pretenders were found unfit to carry out the broad designs of the Morrill Act, and Pennsylvania Agricultural College became the sole land-grant designee.

In the South, Richardson (2013) illustrates how land-grant college affairs became intertwined with intrastate political rivalries and the vicissitudes of Reconstruction and Redemption. In Texas, for example, the land-grant act was approved by a Republican legislature and governor, but the commission created to select a location predictably came under fire from Democrats for financial improprieties and cronyism. When these redeemer Democrats came to power, they repudiated the Republican links to the land-grant college and worked to shape Texas A&M into a post-confederate, quasi-military academy equipped with barracks and cannons. It thus became a place to rebuild “Southern honor and White manhood on the ashes of a failed confederacy” (Geiger and Sorber 2013, p. 101). The full drama of the removal of the land-grant designation from the University of South Carolina and its reassignment to Clemson Agricultural College by controversial governor “Pitchfork” Ben Tillman is fully described in a recent history by Jerome Reel (2011). Clemson, too, was an all-male military college until 1964.

By the 1870s, a new political force arrived in state houses that dominated the land-grant question until the twentieth century: populism. The founding of national and state organizations like the Patrons of Husbandry (the grange) in 1867 and the Farmers Alliance in the 1870s brought regular farmers into debates over the purpose of the Morrill Act. The populist organizations became the most powerful political body in several states and pressured land-grant colleges to lessen admission standards, promote practical programs, and, above all, graduate practicing farmers (Gelber 2011, 2013).

The populists have either not been warmly received or ignored altogether by higher education historians. Veysey (1965), for example, viewed the practical, manual, or industrial proposals for higher education to be an “unrealistic aim for higher education,” but still a “powerful myth” to which some college leaders had to “surrender” (p. 71). Perhaps not surprisingly, more thoughtful and detailed inquiries into the perspectives and contributions of populists vis-à-vis land-grant colleges come from agricultural historians. Scott (1970), in the aptly titled *The Reluctant Farmer*, explains how farmers went from being uninterested in the early land-grant colleges to organized critics and chief proponents of reform in the 1870s and 1880s. Scott (1970) and Marcus (1985) note that while grangers were unable to advance their vision of vocational higher education, they did push land-grant colleges and agricultural scientists to connect with regular farmers through short courses, institutes, experiment stations, and, ultimately, cooperative extension.

Gelber (2011) provides the most sweeping analysis of average farmers’ vision for land-grant colleges. In rich detail, he describes how populists were not necessarily hostile to land-grant and public colleges, but instead wanted to use their political

power in state legislatures to nurture an egalitarian system through modest admission standards and vocational curricula. At first blush, it seems that Gelber's *The University and the People* is the embodiment and fulfillment of Ross' (1942a) thesis (i.e., the rise of populism expanded popular participation in democratic life and allowed the masses to reform higher education in their image). Yet Gelber transcends Ross' linear, evolutionary approach on a dialectic basis, arguing that popular demands for higher education coexisted and disputed the dominant higher education philosophies held by traditional academics. He concludes that, by the end of the nineteenth century, the emergent public higher education model was a product or accommodation of this "tension of grassroots advocacy and academic authority" (p. vi). In a history of New England land-grant colleges, Sorber (2011) finds similar goals and political activities with the state granges. Sorber argues that grangers believed the early land-grant colleges were exacerbating the problems of rural communities by enticing youth off the farm with scientific curricula and by promoting the values and tastes of middle-class culture. The grange succeeded in wresting the land grants away from original designees (Brown, Dartmouth, Yale) and established new institutions with vocational curricula to produce practicing farmers.

The scholarship of land-grant origins and early years has been the most fertile area of land-grant historiography, in both the number of classical treatments and revisionist retorts, and, as such, receives considerable attention in this review. The emerging interpretation of the origins and early land-grant college in the nineteenth century thus revises five areas. First, revisionist historians have dismissed the role of democratic pressure and the existence of a popular demand for utilitarian higher education and instead view the land-grant colleges as the product of modernist reformers seeking to advance science, the agricultural and industrial economy, the bureaucracy, and the nation-state.

Second, the revisionists remain skeptical of the traditional conclusion that land-grant colleges expanded access to a lower economic stratum of students of the industrial classes. Studies of the social origins of students in Illinois (Behle 2013; Maxwell and Behle 1998), Minnesota (Fitzgerald 1973), Maine, Massachusetts, New York, Pennsylvania, and West Virginia (Sorber 2011; Sorber and Moran 2012) reveal that the average nineteenth-century land-grant student came from a wealthier family than the respective state's average citizen. The early land-grant colleges appear to have been the domain of an expanding middle class: professionals, white-collar businesspeople, and sole proprietors. The largest segment, however, came from the ranks of relatively prosperous farm families, where children were eager to move from the farm to white-collar jobs in the new economy (Behle 2013; Sorber 2011; Sorber and Moran 2012).

Third, while some Midwestern and Western land-grant institutions maintained practical programs in agriculture and produced graduates who farmed (i.e., "The Michigan Plan"), these conditions did not prevail at many land-grant colleges (Johnson 1981). The revisionists conclude that few could justify spending the time and money to pursue a four-year course of study for a life in farming, and those that graduated from a land-grant college were more interested in escaping the drudgery of agricultural work for the social and economic rewards of nonmanual middle-class jobs.

Agricultural degree programs remained the least popular pursuit at land grants, whereas engineering reigned supreme by the end of the nineteenth century. Cornell University and the Yale Sheffield School were not land-grant exceptions but exemplars of a university identity, where scientific programs and elevated academic standards allowed students to enter the white-collar world of science, engineering, and business (Geiger and Sorber 2013).

Fourth, the land-grant colleges that embraced this high standards/scientific model were roundly criticized in the 1880s and 1890s for failing to provide a practical agricultural curriculum and graduate practicing farmers (Gelber 2011, 2013; Sorber 2011). Grange leaders charged that land-grant colleges were exacerbating the problems of rural communities and the agricultural class by taking “young boys” from the farm and encouraging their migration to urban, middle-class careers. Populists pressured land-grant colleges for lenient entrance requirements to allow access for farmer progeny, to replace scientific and liberal arts courses with vocational study, and to strengthen rural communities by returning “boys to the farm.” By 1900, the land-grant colleges and universities were trying to appease the populists’ concerns, not by relaxing academic standards or narrowing curriculum for their undergraduates but by creating parallel short courses and summer programs aimed at noncollegiate clientele (Rasmussen 1989; Scott 1970). This allowed the major land-grant universities to pursue the university ideal of broad curricula and high standards while serving the agricultural community (and pleasing state legislatures) by meeting some education needs of rural people and connecting scientific research to farming practice. This arrangement of adding a robust service mission to the traditional teaching and research foci would be standardized in the twentieth century and be backed by the largess of the federal government (i.e., Smith-Lever Act, 1914). Thus, land-grant institutions after 1900 proceeded in these three directions simultaneously: nurturing traditional undergraduates as “state colleges”; advancing knowledge as flagship, research universities; and serving the people of the state through extension and outreach.

Finally, as discussed in the next section, land grants that adopted the university identity and mission far outpaced the agriculture and A&M colleges.

Embracing the University Model: Flagships

The Morrill Act is conventionally equated with the establishment of state universities. However, only a minority of what are now called “flagship” state universities were recipients of land grants. Each state made a unique choice for awarding the land grant, and the results might be grouped into some rough patterns with considerable variability. Of the 36 states that originally accepted the land grant, nine created a new university and nine created a new Agricultural and Mechanical (A&M) or agricultural college. Three states awarded the land grant to existing agricultural colleges (Michigan, Maryland, and Pennsylvania), and 15 gave it to other existing institutions. This last category was the most unstable. Six southern states appended

separate A&M units to their state universities where they were scarcely welcome, and three of those were later withdrawn to separate A&M colleges (Mississippi, North Carolina, South Carolina). In the Northeast, five states did the same, designating units of existing private colleges, and three of those later moved the land grant to a separate agricultural college (Connecticut, Rhode Island, New Hampshire). Only two of the existing institutions had some commitment to becoming universities—Missouri and Wisconsin. Of the new institutions, university aspirations were dominant in California, Illinois, Minnesota, Nebraska, Ohio, and New York, while another three were in states that were then too small and poor to support a true university. By 1900, 12 more states had joined both the Union and the land-grant lists—four as universities and eight as A&Ms—but they too were relatively undeveloped. By that date, 27 of the land grants called themselves colleges, were formally identified with the mission of teaching practical arts, and had either A&M or agriculture in their names. Of the “universities,” only eight could be said to be seriously endeavoring to exemplify that name. This dichotomy strongly affected their academic development (Geiger 2012).

Two land-grant institutions were unique but served as beacons for others—Cornell and the Massachusetts Institute of Technology (MIT). The gift of Ezra Cornell created an endowed, private land-grant university in Ithaca, New York (Becker 1943). Andrew Dickson White, its founding president and guiding spirit, dreamed of building an American university similar to the University of Michigan, where he had taught history under Henry Tappan, but free from the intrusion of state politics. He designed a university that was equally devoted to the liberal and the practical arts. For the former, he imported distinguished visiting professors to enhance prestige and intellectual life. For the latter, he tried various men and methods until the colleges of agriculture and engineering finally emerged as leaders of their respective fields. An elective system allowed students to choose majors and most of their courses. After 3 years of planning and publicity, Cornell opened in 1868 with the largest freshman class ever seen. By the 1880s, it had a large and distinguished faculty, a model for a land-grant university (Bishop 1962).

William Barton Rogers’ efforts to found an industrial university in Boston were realized when Massachusetts became the only state to split the land grant, creating an agricultural college in Amherst and awarding one-third of the funds to MIT (Angulo 2009; Stratton and Mannix 2005). Rogers’ institution was above all a college devoted to advanced scientific instruction applied to technology. The four-year course it offered was superior to existing technical education, offering 2 years of common grounding in math, drawing, physical science, and languages, followed by 2 years of specialized instruction in mechanical, civil, chemical, or mining engineering, architecture, or general science. MIT graduates soon crossed the country building railroads, designing urban water and sewage systems, and spreading the gospel of technological education. MIT also led in adapting to changing technologies, becoming the foremost school for electrical engineering in the 1880s.

What it meant to become a true university became increasingly apparent over time. The watershed was the academic revolution of the 1880s and 1890s. Johns Hopkins University (f. 1876) pioneered German-style doctoral education and the

Ph.D. in the United States, and by 1890 doctoral education was embraced by the American leading universities (Hawkins 1960; Veysey 1965). The formation of academic disciplines during those years transformed the knowledge base of American universities and provided independent standards for academic achievement through their associations and journals (Geiger 2004a). Few institutions could assimilate the academic revolution unless they had sufficient revenues for a large faculty and the leadership to commit to these goals. The most successful land-grant universities (after Cornell, as the leader) all experienced rapid growth, expanding state support, and a transformational leader after 1900.

Every institution struggled with this transformation to true university status at one time or another. Accounts of these developments are largely buried in institutional histories, which generally lack meaningful points of comparison (however, see Geiger 2004a). The University of Wisconsin displaced Michigan as the leading public university under the presidency of Charles Van Hise (1903–1918). Having earned the university's first Ph.D. himself (1892), Van Hise emphasized a distinguished faculty and graduate education. He also embellished the land-grant tradition by advancing the “Wisconsin Idea”: the notion that the university should mobilize its expertise to directly aid state government and benefit all citizens (Curti and Carstensen 1948). At the University of California, Benjamin Ide Wheeler (1899–1919; Ph.D. Heidelberg) provided effective academic leadership that raised its stature among American universities. He built a strong faculty that allowed California to displace Wisconsin as the premier public university in the 1920s (Stadtman 1960). Illinois was reluctant to commit to graduate education and academic distinction until Edmund James assumed the presidency (1904–1920; Ph.D. Halle) (Solberg 1968, 2009, 2013). And at the University of Minnesota, the relatively short presidency of George Vincent (1911–1917; Ph.D. Chicago) modernized the university's organization, revitalized the faculty with careful appointments, and installed deans dedicated to academic excellence.

In 1910 Edwin Slosson published a volume describing in exquisite detail the 14 *Great American Universities*, including Cornell and the four state universities above. For each, he explained how the land-grant heritage was still embodied in these institutions. Agriculture, in particular, was assuming an increasingly autonomous existence. Cornell had already become a public-private hybrid, with the state providing tuition for students in agriculture and veterinary science. Minnesota had appeased its farmers by establishing a large agricultural high school with minimal entrance requirements. Wisconsin was expanding its extension division to provide “rural free delivery of education” throughout the state (Slosson 1910, p. 241). Engineering was the most popular course of study at Illinois and Cornell. In the most competitive academic area—doctoral education—the public land grants were still growing in 1910. Of these four, all but Minnesota were in the top ten in graduate enrollment but, except for Wisconsin, produced few Ph.D.s. This would change in the 1920s (Geiger 2004a).

Just as the academic revolution propelled these flagships into the mainstream of American universities, for A&Ms it signaled the obsolescence of a nineteenth-century model. The reliance on students interested in the practical arts meant

permissive standards of admission, a more basic level of instruction, and few graduates. The focus on applied science retarded the development of basic science and precluded the kind of productive interactions that ultimately advanced agriculture and science. In fact, federally supported agricultural research was the first form of investigation at many A&Ms and encouraged subsequent development of the biological and physical sciences (Bezilla 1987). Given limited state support in any case, splitting funding between a flagship and an A&M limited both (Geiger 2012). Probably most injurious, however, was the latent hostility prevailing at A&Ms against the liberal arts and sciences. These feelings long made it exceptionally difficult for these institutions to emulate the academic revolution taking place around them.

MIT presented an example of a technological university, where the balance between applied and basic science oscillated. In the 1920s, for example, too great an emphasis on applied research for industry was corrected in 1929 by appointing Princeton physicist Karl Compton as president (Geiger 2004a). Purdue University and Iowa State College of Agriculture and Mechanic Arts (Ross 1942b) were also exceptional A&M institutions. Purdue received a well-furnished campus from its benefactor and soon developed into a strong engineering school with little attention to agriculture. Iowa State College did the opposite. Developing in parallel with the state's flagship university, and with comparable funding, it placed more emphasis on agricultural research than any other A&M, even venturing into doctoral education well before its peers. The other A&M and agricultural colleges began to develop into regular universities in the 1920s, when they gradually acquired the funding and leadership to offer doctoral education and conduct research. For most of these colleges-cum-universities, the decisive emergence as research universities did not occur until the 1960s (Geiger 2004b).

Institutional histories remain an indispensable source for land-grant historiography, despite their generally uncritical approach and singular focus. At the least, they provide factual information about land-grant colleges and universities that can be compared with broader interpretations, but perhaps their greatest weakness is general ignorance of developments at contemporary institutions. There are few comparative works on land grants or universities generally. Slosson (1910) provides incomparable portraits of 14 "Great American Universities" in the first decade of the twentieth century, as well as a perspective that inspired Veysey's (1965) classic study. For land grants, Veysey included Cornell, California, and Wisconsin. Geiger (2004a) adds Minnesota and Illinois and later (2004b) discusses a number of postwar land grants in passing, including the rise of the University of Arizona in the 1970s. Freeland's (1992) pathbreaking study of the postwar higher education complex in Massachusetts includes the state's land-grant university. The following institutional histories offer deep scholarship and are particularly valuable for the entire field.

Two recent studies have elucidated the origins of MIT. *Mind and Hand* (Stratton and Mannix 2005) offers a detailed analysis of the state of technical education in Massachusetts in the 1850s and 1860s, and Angulo's (2009) biography of William Barton Rogers reveals that receiving the land-grant designation was the key to

assuring the founding of the Institute. The University of Wisconsin continued the classic, two-volume history of Curti and Carstensen (1949) that reached to 1925 with two subsequent volumes by Cronin and Jenkins (1994, 1999) extending the university's history to 1971. In all, the 2,500+ pages offer the most detailed, scholarly account of a leading land-grant institution, and hence an important reference for tracing specific developments. Georgia had conflicted views about the Morrill Act, but unlike the southern states mentioned above, it retained the land grant at the flagship university. Dyer's (1985) incisive history of the University of Georgia places these developments in the larger context of a state's ambivalence toward its principal university. Solberg has added two additional volumes to his original scholarly study of the origins of the University of Illinois (1968). The succeeding volume (2000) offers a (rare) critical appraisal of the Draper Administration (1894–1904), which is complemented by his recent favorable account of Draper's successor, Solberg (2013). In addition, he has published a unique depiction of medical education in turn-of-the-century Illinois and the university's tortuous path to establishing a medical school (2009). Peter Wallenstein's (1997) history of Virginia Tech describes an original military culture similar to Texas A&M, Clemson, and Mississippi State.

Mechanic Arts to Engineering

The conflicting mandates in the Morrill Act (practical/vocational vs. scientific/liberal arts) are particularly evident in evolving approaches to delivering education in the "mechanic arts." The meaning of the term "mechanic" was in fact changing at the time the Morrill Act was passed in 1862. Marcus (2005a) explains that in its eighteenth-century form, "mechanic" signified "nothing more than a man of ingenuity and native intelligence ... the product of democracy's knowledge" (p. 29). Such a definition captured the inventors, artisans, or urban self-made proprietors who made a living combining the powers of the intellect with the precision of the hands. By the mid-nineteenth century, a new meaning was taking root; now a "mechanic" tended to signify that the person "created or maintained machinery for a living" (p. 29). In concert, the mechanic arts now covered the array of skilled techniques that were required to develop, build, maintain, and repair the machines at the heart of early American industrialization. By the end of the century, this definition also gave way, as the mechanic arts were displaced by mechanical engineering, with its own collegiate curricula and professional associations (Marcus 2005a).

The engineering historiography has been influenced by the much-debated Civil War divide in the broader historiography that separates higher education into premodern and modern forms (Geiger 2000a). In traditional accounts of higher education development (Hofstader and Metzger 1955; Rudolph 1962; Veysey 1965), the antebellum college is interpreted as "the obstacle to the organization of a modern higher education system" (Geiger 2000a, p. 2). The land-grant histories (Ross 1942a; Eddy 1957; Edmonds 1978)

echo these sentiments and, in turn, foresee the land-grant college movement as a way to correct this ineffectual system. These works present antebellum colleges as hostile to practical or applied subjects like engineering and suggest that this situation remained omnipresent until the land-grant colleges delivered utilitarianism to American higher education (Reynolds 1992).

At the time the Morrill Act passed, however, civil engineering was well established. Prominent civil engineers were mostly college-educated professionals, and civil engineering was already taught in numerous colleges. In fact, Reynolds (1992) contends that “the success enjoyed by engineering programs in the land-grant schools of the late nineteenth century was possible only because of the foothold engineering had secured in American colleges before 1860” (p. 460). The first foray into engineering education occurred at the United States Military Academy in 1817, where Sylvanus Thayer initiated a European-styled civil/military engineering program (Geiger 2000b). Partial courses or lecture series in civil engineering were offered at several so-called antebellum colleges: the University of Vermont (1828), Columbia (1830), Princeton (1832–1837), New York University (1837), Rutgers (1841), Brown (1845), the University of Rochester (1856), and the University of Pennsylvania (1852) (Reynolds 1992). Union College, an institution known for curricular innovation, introduced a regular civil engineering course in 1845, and in the same year, the Naval Academy moved forward with a course on steam engineering. Rensselaer Polytechnic Institute became the nation’s first full-fledged engineering college in 1851, offering a three-year civil engineering degree, and was soon followed by the establishment of polytechnic institutes in Philadelphia (f. 1853) and Brooklyn (f. 1854) (Geiger 2000b; Reynolds 1992). The most advanced technical education was available at the scientific schools of Yale and Harvard (Stratton and Mannix 2005). Unlike agriculture, engineering was strongly supported in the private sector and aided by the philanthropy of industrialists. Although engineering would eventually thrive in public land grants, it would always have parallel representation in private institutions (including Cornell, MIT, and, originally, the Yale Sheffield School).

Before engineering became a central pillar of land-grant colleges, institutions had to choose between competing visions of mechanic arts instruction. Would programs cater to the vocational training of practicing mechanics known as “shop-culture” or offer academic curricula in mathematics and basic sciences? MIT, the only land-grant recipient to be solely devoted to the industrial arts, became the leading advocate of the scientific approach (Angulo 2009; Stratton and Mannix 2005). MIT’s program was premised upon “bringing science to bear on practical arts, particularly through the use of instructional laboratories” (Geiger and Sorber 2013, p. 161). Yet MIT’s four-year courses were at first unique among land-grant colleges. Most adopted a narrow view of mechanic arts and embraced the shop-culture instruction in the making, maintaining, or working of machines (Reynolds 1992; Zieren 2013). In many campus workshops or machine shops, land-grant students were trained as skilled mechanics through this hands-on education with “little academic content” (Geiger and Sorber 2013, p. 161). As Zieren argues, it would be

the work of Robert H. Thurston, who joined Cornell in 1885, that would ultimately elevate and standardize mechanical engineering as mechanic arts par excellence. Thurston instigated at Cornell a four-year, science-based, mechanical engineering curriculum and dismissed workshops in favor of laboratories for conducting engineering research. Several land-grant colleges followed Cornell's lead, and in 1900, 3,400 (76 %) mechanical engineering degrees were awarded from land-grant colleges (Seely 2005). Indeed by that same year, several land-grant institutions had become quasi-engineering colleges, as a majority of students were pursuing such degrees at Penn State, Kentucky, Maine, Ohio State, Louisiana State, Illinois, Cornell, and Purdue.

By the last decade of the nineteenth century, most forms of engineering education were available at land-grant colleges: designing of mechanical processes and systems (mechanical engineering), public works (civil and sanitary engineering), chemical products and systems (chemical engineering), mineral extraction and processing (mining engineering), and electrical products and systems (electrical engineering). Unlike in agriculture, no populists protested the movement away from the vocationally oriented shop-culture (Marcus 2005b). Thus, in 1901, Pennsylvania State College trustee General Beaver could capture the exuberance of this new, uncontested direction when he stated, "The aim and outcome of the old university was the doctor ... The aim and outcome of the new university is the engineer!" (Cited in Bezilla 1985, p. 112).

While the Morrill Act did not instigate engineering in American higher education, recent histories conclude that the land-grant movement made a decisive impact on the growth of American engineering and engineering education. The land-grant colleges and universities became the largest source of engineering graduates, as well as a wellspring of applied research in civil, chemical, electrical, mechanical, and mining engineering. For example, MIT faculty made significant contributions to advance telephones and electric power, and Purdue contributed to the improvement of the American railroad industry. After 1900, land-grant colleges forged relationships with industrialists, philanthropists, and industrial firms like AT&T and General Electric (Seely 1993).

In the twentieth century, academic engineering was again suspended between practical, applied approaches favored by industry and a European tradition that emphasized theory and science (Seely 1993). Land-grant universities tended heavily toward solving practical problems through testing and applied research. They were strongly affected by the development of engineering experiment stations—some 40 by 1931. Often established by the states, but poorly supported (unlike their agricultural counterparts), they became heavily dependent on industry funding and hence worked on industry problems. Educationally, they were influenced by industry's preference for practically trained, "hands-on" engineering graduates. Land-grant engineering schools thus became quite conservative in the decades before World War II as they "continued to define service to the public, local industries, and government in terms of practical testing and highly applied research" (Seely 1993, p. 358).

Elusive Equality: African-Americans and the Morrill Act of 1890

The conclusion of the Civil War marked the end of 250 years of bondage in the Southern and border states. Nearly four million former slaves sought a formal education that had been denied by prohibitions against literacy and learning. The Freedmen's Bureau, Northern missionary societies, African-American churches and communities, and Reconstruction legislatures—all under the protection of the US military—worked to provide elementary education to this population. These efforts produced slow but steady progress in the face of White intransigence and regional poverty. The denial of educational opportunities before the Civil War, and the focus on primary education afterward, meant few African-Americans were prepared for collegiate education in the nineteenth century (Jenkins 1991). Yet as the confederate states were reinstated on lenient terms, Southern Whites and Blacks (in theory) became eligible to receive the benefits of the Morrill Act.

Reconstruction state legislatures conferred land-grant status on several institutions that were established for emancipated slaves (Jenkins 1991; Mahoney 2012; Mayberry 1991). Just three of these institutions retained that status by 1890: Alcorn A&M College in Mississippi (f. 1871), Hampton Normal and Agricultural Institute in Virginia (f. 1868), and the Colored Institute at Claflin College in South Carolina (f. 1869). After Reconstruction ended in 1876, the land-grant HBCUs received a pittance in state funds from hostile lawmakers, as the bulk of the meager higher education appropriations flowed to the White land-grant colleges (Jenkins 1991; Rasmussen 1991; Williams 1998). As the Jim Crow regime formed in the South, political rights were denied and activities were rigidly segregated. The Morrill Act of 1890 addressed the exclusion of Blacks from land-grant benefits while at the same time capitulating to the de facto system of Southern segregation. The law stipulated that any state maintaining discriminatory admissions would be denied the new land-grant federal funds (\$15,000 a year, to be increased by \$1,000 each year), but it also specified that facilities of "like character" for Blacks would meet the Act's stipulations. The Morrill Act of 1890 portended *Plessy v. Ferguson* (1896), in which the Supreme Court upheld the constitutionality of racial segregation, which until *Brown v. Board of Education* (1954) preserved the legality of the so-called "separate but equal" system of education throughout the South.

There is perhaps no more glaring inconsistency in the traditional view of the Morrill Act's democratic and egalitarian character than the dismal recognition of the land-grant HBCUs. Eddy (1957) attempts to fold the "Negro Land-Grant Colleges" into the democratic narrative by stating that the 1890 Morrill Act "accomplished for the Negroes of the South what the first act in 1862 had accomplished for the men and women of other races" (p. 258). However, such an assessment does not pass analytic muster, as years of legislative neglect left the land-grant HBCUs with few resources to serve the immense needs of African-Americans. Other land-grant histories sidestep the discontinuity between the democratization thesis and land-grant opportunities for African-Americans. Nevins (1962) devotes but a footnote to

describe the existence of land-grant HBCUs; Ross (1942a) uses a few sentences to describe how the Secretary of the Interior was charged with ensuring “just and equitable” distribution of funds. Historians have tended to focus on the influence (and it was a considerable influence) of the 1890 Morrill Act on the White land-grant colleges. As Williams (1991) summarizes, the Second Morrill Act “contributed to the rapid development of land-grant colleges ... [through] a sudden infusion of cash” (p. 153). By the time the 1890 Morrill Act took effect, the majority of states received nearly \$50,000 in backlogged federal funds over a 12- to 18-month period. These funds bolstered many White land-grant colleges struggling with low enrollments, uncertain state appropriations, and regular budget shortfalls. The 1890 Morrill Act not only provided a regular source of income to shore up academic programs and expand facilities but also signaled to state legislatures that land-grant colleges were a viable and safe investment (state support grew by 500 % during the 1890s) (Jenkins 1991). Justin Morrill in 1890 had placed the White land-grant institutions on a stable financial footing; in contrast, the land-grant HBCUs funded from the same act were long underdeveloped and always underfunded.

At the occasion of the 100th anniversary of the 1890 Morrill Act, scholars moved HBCUs from the periphery of land-grant history to consider their origins and development on their own terms. Humphries (1991) explains that the land-grant HBCUs had to provide instruction at all education levels due to the dearth of primary, secondary, and collegiate institutions for African-Americans of the South. He notes that “as late as 1915, there were but sixty-four public high schools for Blacks in the Southern states, and only forty-five of them offered a four-year curriculum” (p. 5). Land-grant HBCUs consequently had to provide primary, secondary, and vocational instruction to a range of mostly ill-prepared students, but few offered courses at a collegiate grade until the 1920s (Humphries 1991). As late as 1916, only 14 out of 4,874 land-grant HBCU students were enrolled in collegiate subjects (Jenkins 1991). This situation improved by 1928, when land-grant HBCUs enrolled 3,691 collegiate-level students, 37.5 % of their total. A decade later, collegiate enrollments reached 12,000. Paternalistic and racist attitudes of Whites in the North and South had encouraged the “Tuskegee Model” of vocational training as the least threatening to race-based social hierarchies, but by 1930 the majority of these students chose instead to study arts and sciences, and two-thirds of their degrees were Bachelors of Science (Survey of Land-Grant Colleges 1930).

The major theme generated from this centennial-inspired writing was the detrimental effect of state neglect on building faculty, creating new programs, constructing buildings, and supporting research at the HBCUs (Humphries 1991; Jenkins 1991; Rasmussen 1991). It is a credit to the students, faculty, and administrators of land-grant HBCUs that they were able to persevere and keep these institutions in operation despite an unsupportive and even hostile environment. Many White land-grant colleges in the North, South, and West struggled during their first three decades and were only rescued through fortuitous state appropriations. The land-grant HBCUs had no such friends among the grangers and populists coming to power in state capitals. Jenkins (1991) explains that during the 1890s, state aid to land-grant HBCUs was “virtually nonexistent.” The colleges had to rely on the meager income

from an unequal portion of 1890 Morrill Act funds. Florida, for example, reduced its state appropriation to Florida A&M in proportion to the amount of 1890 funds it received. Alabama's land-grant HBCU received \$4,000/year compared to the White land-grant at \$65,000/year, and North Carolina's land-grant HBCU stopped admitting female students because the legislature refused financial support for these students. It took threats from the federal government to withhold Morrill Act funds before states finally increased annual support (Jenkins 1991). In this period, it would be the relatively better off private HBCUs, chiefly Howard and Fisk universities, that would develop university structures for African-Americans (see Gasman and Geiger 2012). That being said, the land-grant HBCUs made significant strides with their comprehensive educational offerings and contributed to the rapid increase in Black literacy. Their normal departments were a principle source of staffing for an expanding network of Black public schools. And certainly not least of all, when the land-grant HBCUs reached collegiate status in the 1920s, they became a central hub of educating and nurturing community leaders, including some of the brightest lights of the Civil Rights Movement (Jenkins 1991; Rasmussen 1991).

In an unusually detailed depiction of the grossly disparate treatment of White and HBCU land grants, Slayton (2010) has contrasted Maryland's Black Eastern Shore campus with the segregated university at College Park. Although Maryland was the only prewar segregated university to be forced by the courts to admit a Black student (1938), it persisted in efforts to maintain segregation after 1945. Focused chiefly on engineering, the Slayton study finds the US Office of Education complicit in allowing the persistence of segregation in scientific fields.

The challenges for African-Americans were equally daunting at land-grant colleges outside the South. Breaux (2012) explores the patterns of racial discrimination and intimidation at the universities of Illinois, Minnesota, Nebraska, and Wisconsin. At the turn of the twentieth century, the handful of African-Americans at these universities had to endure racist commentary, blackface minstrel shows, and occasional threats but were able to participate in most literary societies and intercollegiate athletics. However, by 1916, the increasing numbers of African-Americans apparently threatened White superiority and privilege. Nebraska and Kansas barred Black students from intercollegiate athletics, and until the 1940s, at all these land-grant colleges (except Wisconsin), African-Americans were excluded from living in campus dormitories. White students demeaned Black college students with racist depictions of African-Americans as uneducated or uneducable. Through public exhibitions of blackface in campus parades, fraternities, class plays, and newspaper cartoons, the White students could denigrate the achievements of Blacks and "release themselves from the restrictive racial codes of white middle-class and upper-middle-class respectability" (p. 58). Equally troubling was the threatening presence of the Ku Klux Klan at the "people's colleges" in the 1930s and 1940s; one student newspaper charged that most Big Ten colleges had student-run chapters. Land-grant universities were no different from other colleges and universities outside the South in tolerating overt racial prejudice and discriminating in treatment of Blacks outside the classroom. While it would be comforting to think that "democracy's colleges" would conform to a higher standard, in race as in other respects, they mirrored their surrounding society.

Gendered and Contested Spaces: Women and Land-Grant Colleges

In the same way that the traditional land-grant narrative failed to reconcile democratic promise with racial discrimination, historians have struggled to integrate the utilitarian foundations of the Morrill Act with women's aspirations and experiences. Coeducation was "fully justifiable," argues Ross (1942a), but the "difficulty was to provide a technical education adapted to women's needs and opportunities" (p. 129). According to Eddy (1957), Justin Morrill's vision of "the education of the industrial classes" never included women. He argued that the "new education" presupposed the preparation of men for the workforce, leaving no room for women whose "place was considered to be in the home" (p. 61). The problem with such conclusions is that women attended and graduated at land-grant colleges from the beginning, with sizable cohorts of women existing by the end of the nineteenth century. Women had diverse and complex reasons for pursuing higher education at land-grant colleges beyond the limiting constructs of preparation for "a place in the home." The aspirations of land-grant college women should be understood as part of a broader social movement for coeducation.

West of the Alleghenies and North of the Mason-Dixon Line, coeducation was the rule for land-grant universities. While single-sex education reigned in the South and East, legislators in the "West" either mandated inclusion of women or made it impossible to exclude them when they showed up. Still, the early presidents puzzled over the issue of practical or technical education for women. Iowa State in 1871 was the first to institute a "domestic course" that consisted mainly of cooking and sewing, and Kansas State soon followed. These kitchen skills were intended to prepare educated farm wives and were largely confined to the rural Plains states (Radke-Moss 2008). At Illinois, President John Gregory aimed much higher, establishing a School of Domestic Science and Arts that offered a four-year course in liberal arts and technical studies (Solberg 1968). But women could prove a distraction in this male domain: in 1879 the widower Gregory courted and married the school's preceptress. However, when Gregory stepped down the School of Domestic Science was terminated as well. Other male notions about women's education were similarly ephemeral. Wisconsin President Chadbourne sought to segregate women in a separate Female College, which proved highly unpopular; Penn State thought it could better meet the needs of female students with a watered-down two-year Ladies Course (1884), which lasted just 8 years.

The first generation of women at most land-grant and other universities primarily sought a liberal arts education (Gordon 1990; Solomon 1985), since teacher training or feminine accomplishments were widely available at normal schools or female colleges. These students were self-conscious pioneers in a hostile environment. Psychologically, they defied the warnings of the infamous Dr. Edward H. Clarke that women were physiologically unfit for higher studies (Gordon 1990). Socially, they were often ostracized by male students who resented their presence and feared it would tarnish the school's prestige. Accommodations for women were lacking,

leaving them to fend for themselves. They tended to apply themselves to their coursework as the sphere of most equal treatment.

The second generation of women who entered universities after 1890 were more numerous and more confident in how they would be treated. Gordon's (1990) account of the University of California describes how women shaped their college experience through their own initiatives. They organized extracurricular activities for women and countered the disdain of fraternity men by founding sororities. The appointment of deans of women after 1900 gave women a voice in administration and systematized efforts to improve housing and campus facilities. Now women formulated demands for more appropriate curricula, and it was largely through such initiatives that domestic science or home economics was reinvented in a more rigorous format.

The "domestic" courses pioneered at Iowa State and Kansas State persisted in a number of land-grant schools but generally had weak enrollments and a poor reputation. This changed after 1900 through the home economics movement. The advocate of home economics was Ellen Swallow Richards, the first female to graduate from MIT and the first to teach there. Richards, who taught sanitary science, envisioned a course of study that would bring science to bear on women's sphere of household activities. She led a series of conferences at Lake Placid (1899–1908) that gave this field the title of "home economics" and elaborated its contents. Her efforts gave academic credibility to the field, leading to its adoption by universities that had considered "domestic" courses unworthy. The University of Wisconsin responded by establishing a course in 1903 with extensive science requirements and equal to other A.B. degrees (Apple 2004). Program founder Caroline Hunt, like other Lake Placid participants, envisioned home economics as liberating women from household drudgery. Despite fervent advocacy by such leaders, relatively few students were initially attracted to this scientific approach. The field was transformed, however, by the Smith-Lever Act (1914), which included home economics in the remit of cooperative extension, and the Smith-Hughes Act (1917), which provided federal funds for the teaching of home economics at the precollegiate and collegiate levels. Trained home economists now had a mission beyond tending households—and an abundance of jobs. In addition, home economics was now welded to the land-grant universities. Maresi Nerad (1999) takes a critical view of these developments, charging that the instituting of home economics at Berkeley in 1916 confirmed the subordinate status of women. The university administration, she argues, used home economics to isolate some part of what they considered an excessive number of women students. The department accordingly had a second-class status until it was exiled in 1960 to the Davis Campus.

Few studies have sought to connect women's higher education with the land-grant movement. The exception is *Bright Epoch: Women and Coeducation in the American West* (Radke-Moss 2008). This multi-case study of the land-grant colleges of Iowa, Nebraska, Oregon, and Utah exemplifies the connection with agricultural economies and minimizes the urban middle-class influences that permeate much of American higher education. Coeducation was axiomatic in these western locales, but this made accommodating women all the more

imperative. Radke-Moss describes the experience of women as a “negotiation of gendered spaces” (p. 289), as women achieved both greater inclusion and partial separation, largely on their own terms. By 1900, coeducation at these rural campuses more closely resembled the experience of university campuses throughout the country.

Women at Cornell: The Myth of Equal Education (Conable 1977) covers a single institution, albeit an important one. However, the bulk of the book covers the founding years, and a single chapter is devoted to the crucial years from 1885 to 1960. Ezra Cornell supported the inclusion of women, and Andrew Dickson White conducted a study of existing coeducational practices to demonstrate that the university had nothing to fear from admitting women. The curricular freedom of the new institution allowed women opportunities to study any subject. Difficulties arose later from male students who were increasingly drawn from wealthy eastern families. The institution developed what Conable calls “a strong tradition of antioedism” (115)—contemptuous attitudes and behavior toward women students, most of whom were middle class, and thus regarded as social inferiors.

The situation at Cornell was typical of a reaction against coeducation that affected American higher education after 1900. At engineering schools like Penn State, the large majority of males resented the female minority and largely excluded women from campus activities. Complaints were common at other universities that too many women in literary courses were driving away the men. However, in the East this fear was motivated by social elitism, as at Cornell. A corrective of sorts can be found in a depiction of the University of Wisconsin (Olin 1909), where social relations between the sexes were more cordial. In fact, the problems Olin identified include excessive social functions, particularly by the Greeks. When President Van Hise, reflecting the national dialogue, suggested that some single-sex classes might be beneficial, he was countered with a barrage of criticism (Olin 1909; Curti and Carstensen 1949).

It would be from a separate space that women would fight for expanded access to the academic and social opportunities of collegiate life. By the turn of the twentieth century, land-grant women in partnership with deans of women and like-minded elders made inroads into the campus culture, but gender barriers remained. For example, President Wheeler of the University of California encouraged the flurry of academic and social activity, but only if it reinforced his traditional views of womanhood. He stated:

Women need different organizations from men and ought to have them. Their standards are different. You are not like men and must recognize that fact ... You may have the same studies as the men, but you put them to different use. You are not here with the ambition to be school teachers or old maids; but you are here for preparation of marriage and motherhood. (Cited in Gordon 1990, p. 71)

Even as women gained equal footing in coursework or membership in campus clubs, they wrestled with traditional views of women in society that seemed to limit the permissible uses of that education.

In sum, women have generally been absent from the traditional land-grant historiography because they could not be fit into a narrative that assumed women’s “private

sphere” had little use for utilitarian education. More recent studies provide important insights into the complex motivations of female students that went well-beyond preparation for domestic activities. These works also explain that while pioneering women had to endure hostility and limited resources, later generations created their own spaces to counter discrimination, built a supportive campus life, and applied pressure for enhanced academic offerings. This process unfolded against the grain of normative constructions of Victorian gender roles, and college women had to rectify their college experience with societal dictates of “women’s place.” Radke-Moss (2008) cautions against a singular focus on gender separation and discrimination. For as the above studies illustrate, such an approach can obfuscate the richness of women’s experiences and the formal and informal gains made by female land-grant students over the first five decades.

Colleges of Agriculture, Cooperative Extension, and Federal Sponsorship: The Special Relationship

The development of land-grant institutions was indelibly transformed by the agricultural interests in Congress and the favorable legislation sponsored over 30 years, beginning in 1887. That year saw passage of the Hatch Act establishing federally funded agricultural experiment stations, all of which became linked with land-grant colleges. Several states had previously established such units, but with little funding. When such legislation in Pennsylvania was vetoed by the governor in 1883 and 1885, Penn State President George W. Atherton organized fellow land-grant leaders and helped Senator Hatch secure for each state \$15,000 annually for agricultural research (Williams 1991). This bounty tipped the balance away from model farms and compulsory student labor toward serious agricultural science monitored by the Department of Agriculture. This same coalition of land-grant presidents, now organized into a national association, assisted in the passage in 1890 of the Second Morrill Act. These measures rejuvenated the finances of the land-grant institutions, but they infuriated critics in the grange, who now charged that institutions that had neglected farmers were receiving funds designated for agriculture. The campaigns to remove the land-grant designation from Yale, Dartmouth, and Brown followed (Sorber 2011). However, a new mood of acceptance soon overcame these long-held animosities.

Agricultural experiment stations brought both research and progress to colleges of agriculture. At last land grants were producing knowledge that could be useful to farmers. But benefits flowed to the colleges as well. For those institutions that had not yet adjusted to the academic revolution, the experiment stations brought the first presence of agricultural research. At Penn State, for example, such research spilled over into the natural science departments (Bezilla 1987). At these universities, agriculture might still be the best supported area of science. With the development of agricultural knowledge, agricultural professions began to emerge to serve

the farming community—and to lure students to the colleges. In the first decade of the century, enrollments in the colleges of agriculture at Cornell and Illinois both rose from 100 to 500 students, and similar increases were experienced elsewhere. A compliant Congress added funds for the experiment stations with the 1906 Adams Act.

The keystone of this new relationship was set in 1914 with passage of the Smith-Lever Act establishing cooperative extension. This legislation created extension agents, jointly funded by the federal government and the states and attached to the land-grant colleges. Agents served as conduits who brought the fruits of agricultural science to local farming communities. The new cooperative extension program followed decades of testing outreach programs through “trial and error” (Scott 1970, p. 319), as land-grant leaders searched for ways to quiet populist critics demanding concrete benefits from the Morrill Act. Examples of these programs that predated extension include short courses, summer course, farmers’ institutes or “movable schools,” traveling demonstrations, public campus lectures, and boys and girls clubs like 4-H or Nature Studies (Larson 1957; Rasmussen 1989; True 1929). After Smith-Lever, the land-grant movement or tradition, for all its other connotations, would specifically encompass the special relationship between colleges of agriculture and the Federal Department of Agriculture—through experiment stations, county extension, home economics, and much more (Scott 1970). Land-grant agricultural units became embedded in a larger system. An iron triangle soon formed among land-grant colleges and extension, Farm Bureau lobbies, and key federal legislators to ensure that Congressional farm bills included robust support for agricultural college research and extension activities (Marcus 1986). Influence flowed in both directions: during the New Deal, as Loss (2012) has shown, the federal government utilized the cooperative extension network and agents to enforce federal agriculture policies.

Historians have tended to look favorably on cooperative extension and specifically its contribution to agriculture modernization and productivity. For example, Rasmussen (1989) states that “extension has been a force for sustained, rational change that improves the quality of American life,” and Scott (1970) marked the Smith-Lever Act as the “beginning of a new age in agriculture and economic development” (p. 313). Economists like Huffman and Evenson (1993) argue that the diffusion of modern farm ideas after World War II through extension initiated a “Transition to Science” era for agriculture in the United States. In contrast, some rural and agricultural historians have taken a skeptical view of extension, criticizing agents for not doing more to protect family farmers (Danbom 1979; Kline 2000; Knobloch 1996; Neth 1995). A representative work is Mary Neth’s (1995) *Preserving the Family Farm*, where the author argues that some extension agents and faculty were not objective arbiters of best practices for the farmer, but increasingly became agents of agribusinesses, machinery companies, railroads, and mail-order retailers like Sears (Neth 1995). Despite this critique, cooperative extension has been largely praised for making positive contributions to rural communities for nearly a century (National Research Council 1996).

Land-Grant Universities After 1945

In the postwar inflation of American higher education, land-grant universities lost a good deal of their distinctiveness. The original land grants eventually blended into research universities, and the land-grant title was extended to additional categories of institution (below). The literature relevant to this expanded collection of institutions is far too extensive to be treated in this essay. Rather, selected titles will be discussed, first, in outlining the institutions' development into research universities and, second, considering how the four original intentions of Justin Morrill have been translated into the postwar era.

The few accounts of the development of postwar research universities emphasize the transformation of the 1960s (Geiger 2004b; Graham and Diamond 1997). Prior to that decade, the old A&M schools in particular struggled to modernize. A telling example of this process is described in the volume on the presidency of T. Marshall Hahn, Jr., at Virginia Polytechnic Institute from 1962 to 1974 (Strother and Wallenstein 2004). For Virginia Tech, becoming a regular state university meant jettisoning such dubious land-grant legacies as gender segregation, exclusion of liberal arts, and compulsory membership in the Corps of Cadets. Massachusetts State College began its transformation somewhat earlier, after 1950, but from an even more limited base (Freeland 1992). Of course, land grants were not the only institutions growing into research universities. A representative list of 63 such institutions, c. 1970 (Geiger 2004b, p. 209), showed one-third to be land grants. Nor has land-grant status seemed to confer any long-term advantage. The 2010 list of top research performers reveals the same proportion of land grants in this echelon. However, some institutions have advanced as research universities farther than others. Among the most stark postwar transformations, Penn State, Texas A&M, and Florida are now among the top 25 performers of research; Maryland, Michigan State, Rutgers, and Virginia Tech make the top 50.

These modern research universities often invoke the land-grant tradition for ceremonial occasions, but it is perhaps more telling that it fails to inform their histories. A postwar history of the University of Minnesota mentions this tradition only once, in connection with outreach, in a 55-year narrative (Lehmborg and Pflaum 2001). Nor can much be found in the postwar history of the University of Wisconsin (Cronin and Jenkins 1994, 1999). Clark Kerr was always acutely aware of the land-grant heritage, and it played a minor role in shaping the multicampus University of California (Kerr 2001). In 1959, Kerr succeeded in upgrading the agricultural campus at Davis into a "general campus" (i.e., full university) that would include arts and sciences. He also envisioned a land-grant mission of regional service and applied social science for the new campus at Irvine (Schrum 2013). One serious effort to come to grips with the land-grant legacy in Maryland was entitled *The Post-Land Grant University* (Moos 1981). It noted that the differences between public and private universities had greatly diminished and that state universities were now embedded in higher education networks in which access and service were provided by many kinds of institutions. Moos' report advocated the goal of Maryland

becoming a great public research university while preserving commitments to practical subjects, accessibility, and service to state and citizens.

In this same spirit, although more mindful of historical veracity, one can ask to what extent postwar land-grant universities have fulfilled the four essential purposes that Justin Morrill outlined to the House of Representatives in support of his Act (1862). These four objectives are indicated by quotations from Morrill's 1862 speech to Congress.

1. "Accessible to all, but especially to the sons of toil." The original land grants played a particularly large role in providing higher education to the baby-boom generation from 1960 to 1975. Penn State, for example, doubled its enrollments at the main campus in those years, adding 16,000 students, and it added 20,000 students from 1965 to 1975 at its other campuses. At least 13 land grants tripled enrollments during these years (Geiger and Sorber 2013, p. 277). Typically, land-grant universities grew rapidly until reaching near campus saturation and then utilized branch campuses to accommodate even more students. Were these boomers equivalent to Morrill's "sons of toil"? They were, to a large extent. It seems doubtful that Morrill was referring to the lower classes, which throughout American history have rarely received sufficient preparation to reach the threshold of collegiate education. Rather, he was championing the industrial classes—those who worked in the productive economy, and especially the rural middle class of freehold farmers. The baby boomers of the 1960s preponderantly represented a broad swath of the middle class, whose parents similarly held jobs outside of what Morrill considered the professional class. Moreover, where states sponsored both a flagship and a land-grant university, it was commonly recognized that the more selective flagship tended to be preferred by professional families, while the "state" university catered to a wider clientele. However, that role for land grants has been largely superseded since 1980, if not before. A mature system of higher education offers myriad forms of access, while admissions to public universities have become increasingly selective—and attendance increasingly expensive (Geiger 2007). Land-grant universities in the twenty-first century offer access for qualified students to relatively high-quality higher education.

2. "Instruction in the practical avocations of life." Land-grant universities have always had a monopoly on agriculture, and in 1900 they graduated three-quarters of all engineers (Reynolds 1992). However, as the domain of practical avocations expanded, with the rise of business studies for example, land grants found no particular advantage. After World War II, when the defense establishment demanded practical expertise, almost all research universities were eager to serve (Geiger 2004b). The most conspicuous defense contractor was the land-grant outlier, MIT, but UC Berkeley was not far behind. In general, though, private universities were most aggressive and most effective in garnering postwar federal research dollars. Over time, however, the logic of the two sectors guided development in different directions. Private universities stressed the arts and sciences, sought to create prestigious departments, and were prudent toward expansion. Public universities, and especially land grants, were more comfortable with applied subjects (i.e., the practical arts) (Brint 2002), exploited newer fields that were open to latecomers, found it more

difficult to compete on prestige, and instead welcomed growth in the volume of research. Land grants not only developed more practical fields, but over time those fields became more science intensive, with increasingly valuable applications. What were labeled “science-based technologies” around 1990 have become the norm for university instruction and research in the twenty-first century. Research patterns bear out the dominance of land grants in these fields: “fifteen of the twenty largest recipients of research funds from industry are public; so too are seventeen of the twenty leaders in engineering research” (Geiger 2007, p. 18).

3. “Other scientific and classical studies.” The history of land-grant institutions underlines Morrill’s wisdom in joining the practical arts with the liberal arts. After 1945, the A&M and agricultural colleges capitulated to the superior model of the comprehensive land-grant universities. This change was signified by nonuniversities—like Penn State College, Michigan State College, and VPI—all changing their titles to university. More importantly, a dedication to liberal arts brought increased prestige in the academic pecking order, and investments in science were rewarded in the research economy. As Clark Kerr observed in elevating UC Davis to a “general campus,” “strong liberal arts and basic science departments would increase, not decrease, the excellence in agriculture, particularly in the basic sciences” (Kerr 2001, p. 304).

4. “The guidance of the industry of this country.” The role of universities in economic growth was long assumed to exist but tended to be overshadowed by the postwar dominance of federal support for research. A direct contribution was recognized in the 1970s, largely through the achievements of MIT around Boston and Stanford in Silicon Valley. After 1980, mobilizing academic research for purposes of economic development became an avowed goal of state and federal policies. The private sector was initially most aggressive in pursuing patenting, licensing, and formation of start-up companies, especially in biotechnology. Longer-term, land-grant institutions eagerly reemphasized this aspect of their inherent mission. Of course, colleges of agriculture in partnership with the federal government had fashioned a system for delivering the fruits of academic research to the farm economy (Geiger 2004b). But land-grant institutions have been particularly effective in forging mutually beneficial ties with industry. These relationships may be less newsworthy than a biotech IPO, but they can produce more enduring contributions. This may be the most distinctive niche of land grants. They now proudly tout their contributions to engagement, outreach, and economic development, but so do all the other research universities.

These four objectives of the Morrill Act are mutually reinforcing, perhaps more so in the twenty-first century than ever before. Their distinctiveness lies less in each particular mission than in their integration. The interpenetration of science and technology informs advanced economies. The land grants provide broad access to instruction and expertise in such fields; they develop advanced technologies, informed by the latest basic science; and they endeavor through numerous forms of outreach to link such technologies to producers of goods and consumers of knowledge. The single area in which they are underrepresented is medical science, which has developed its own system for accomplishing these ends. The single area in

which land grants dominate, and with which they are uniquely identified, is agriculture.

The battles between farmers and land-grant colleges of the nineteenth century subsided with the passage of the Smith-Lever Act in the 1914 and the establishment of cooperative extension (Scott 1970). The investment in the land-grant/experiment station/extension complex helped deliver the benefits of a scientifically based and technologically enhanced agriculture (Loss 2013; Rasmussen 1989), increasing farmer productivity and lowering foodstuff prices for the American consumer. Farmers with the necessary capital to invest in new technologies enjoyed increasing profits in the first half of the twentieth century, whereas many small family farmers succumbed to competition or disasters like the Dust Bowl. Both results suggested that the agricultural colleges' scientific enhancements were the only protection against agribusiness conglomerates and the ravages of nature (Danbom 1986). This justified public support of higher education and, according to Crow and Dabars (2012), "increased the legitimacy of the academy in the mind of the general public" (p. 131).

Peters (2013) argues that the problem with this "narrative of progress" is that it "flattens the meaning and significance of the land-grant system and mission to economics" (p. 341). Along this line, social critics, from the 1960s onward, have critiqued the land-grant colleges for not serving as a bulwark against the negative effects of industrialization and modern capitalism. The most damning charges came from Hightower's (1973) *Hard Tomatoes, Hard Times*. Seeing rural communities reeling from a decade of falling prices and failing farms, Hightower placed considerable blame for the plight of farmers on land-grant colleges, agricultural science, and extension. Hightower declares baldly that "the land-grant complex is a failure, for it has abdicated its responsibility of protecting family farmers in favor of serving agribusiness corporations" (p. 10). Berry (1977) and Belden (1986) also characterize land-grant researchers as handmaidens of agribusiness, contributors to the rapid decrease in small farms, and degradation of rural communities. Hightower (1973) states, "While rural towns shrivel and megalopolis becomes hopelessly congested, land-grant researchers are using tax dollars to design technological systems that will send millions more packing off to the cities" (p. 64). Like populist accusations a century early, the land-grant college system was subjected to protests for failing to protect rural communities.

Several histories (Danbom 1979; Fitzgerald 2003; Jellison 1993; Knobloch 1996; Neth 1995) follow the Hightower tradition by assigning culpability to the land-grant college complex for the farm crises and demographic realignment of the 1970s and 1980s. In the 1990s, "molecular biology and molecular genetics became the trendiest and most interesting area of agricultural research" (Buttel 2005). Land-grant universities' colleges of agriculture moved quickly in the twenty-first century to establish biotechnology and genetics programs and deemphasized rural community-building staples like rural sociology, home economics, agricultural economics, and agricultural history (Neth 1995). A modest neo-Hightowerism coalition of social critics, sustainable agriculturalists, and environmentalists is now emerging to challenge land-grant colleges' disengagement with rural

communities and partnerships with pesticide and genetically enhanced crop corporations (Buttel 1995, 2001; Kirschenmann 1995; Krimsky 1996; Shurman and Kelso 2003). In light of the growing focus on biotechnology and genetics, the land-grant community will have to decide if it can justify keeping the protection of the small family farmer and rural community development as cornerstones of the research and extension portfolio (Buttel 2001; McDowell 1992, 2001, 2002).

Despite these critics in agriculture, the idea of the land-grant tradition has enjoyed positive rhetoric and a popular image. Essentially, it conveys the idea of federal dollars devoted to extending access to underrepresented groups (as with the land-grant HBCUs) or subsidizing programs that connect academic research with social or scientific problem areas. The first such postwar initiative was actually undertaken by the Ford Foundation, which awarded \$4.5 million to eight universities between 1959 and 1966 for “urban extension programs” (Geiger and Sorber 2013). The disappointing results of these grants seemed to convey the message that the cooperative extension model did not translate to urban problems. Few heeded this cautionary lesson as the War on Poverty powered up in the mid-1960s. In 1967 Clark Kerr, now chairman of the Carnegie Commission on Higher Education, recommended establishment of 67 urban grant universities (1968), and the Commission later advocated a \$10 million federal program for this purpose. The only concrete result (if it can be so regarded) was the granting by Congress of land-grant status in 1968 to Federal City College (now the University of the District of Columbia).

In 1966 the Sea Grant Program was created by Congress with the explicit hope of duplicating the land-grant agricultural paradigm. The first four universities to attain the status of “Sea Grant Colleges” were named in 1971 (Oregon State, Rhode Island, Texas A&M, and Washington) and many more since then. Sea Grant Colleges qualify for special funding from the National Oceanic and Atmospheric Administration. In 1988 the same terminology was applied to the National Space Grant College and Fellowship Program administered by NASA. This program operates through statewide consortia to which any institution interested in space-related programs can belong. In 1994 the tribal colleges were given land-grant status and federal appropriations. “Hispanic-Serving Institutions” also received federal recognition in 1992 and various appropriations beginning in 1995. They too are associated with land-grant institutions. The Association of Public and Land-Grant Universities now speaks for 217 institutions, including 54 with regular state designations and 18 HBCUs. This broad identification with the land-grant mission and its rhetoric obscures the convoluted and contested history of the original institutions.

Memory and History

The 150th anniversary of the Morrill Act in 2012 provided new occasions for invoking the hallowed verities of the land-grant tradition, with a particular emphasis on the land-grant past. Such occasions do little to explicate land-grant history but rather burnish what might be called land-grant memory. Historical memory is a selective

rendering of the past tailored to serve purposes in the present. It can have quite negative consequences, as when the national memory preferred to airbrush the history of Emancipation and the plight of African-Americans after the Civil War (Blight 2001). The selective memory of the land-grant movement is unlikely to be so injurious, but distortions of its history are also unlikely to bring enlightenment. The most recent project to assess the state of land-grant institutions was the Kellogg Commission on the Future of State and Land-Grant Universities, which issued six reports from 1998 to 2000. The Commission was a sincere effort by the leaders of these institutions to come to grips with the challenges of the twenty-first century. Nonetheless, the ignorance of history facilitated a good deal of wishful thinking in these reports.

The Commission explicitly invoked land-grant memory in its rubrics “Returning to Our Roots” (1999a, b) and “Renewing the Covenant” (2000). “State and land-grant universities were established to put students first” (2001, p. 1), it intones. Actually, all the original land grants did was teach, just like coeval colleges. However, they were hardly “student centered” or focused on the “needs of learners,” since graduation rates were abysmal. They demanded high standards of students, which was rather different from the Commission’s emphasis on the responsibility of teachers to be excellent. The Commission also emphasized the land grants’ role of extending access, but with 70 % of high school graduates attending postsecondary institutions, the land grants no longer extend access at the margin. Mass higher education in the United States was achieved in the second and third decades of the twentieth century by junior colleges, teachers colleges, and urban universities. An unblinkered consideration of the access issue might instead identify distinctive opportunities for graduate programs in the diverse specialties nurtured by land-grant universities.

In a critique of the Commission, Howard Segal (2005) has chided its lack of historical perspective and the failure to consider the successes of the field of engineering. He might have added the absence of discussion of relations with industry and student careers in business (the largest major)—all strengths of land-grant universities. Instead, he labels the overriding aspiration of transforming the United States into a learning society as social engineering, unrealistically fueled by administrative hubris. Despite its fixation with learning, the Commission in fact had difficulty in expressing support for research, unless addressed to the “obstinate problems of today and tomorrow in our nation and world” (2001, p. 20), or in partnership with community colleges or other less qualified organizations. Basic scientific research is in fact a primary activity of land-grant universities, and it informs much of the other things they do. Moreover, research is overwhelmingly supported by external agencies. Land-grant scientists will attack the world’s “obstinate problems” with alacrity—provided someone else pays for their research. Land-grant memory seems to ignore this reality.

Amnesia is even more pronounced in the enthusiasm for “engagement.” Inspiration for this is drawn from the Smith-Lever Act (1914), which “made public service and engagement guiding principles in our work” (2000, p. vii). The Act, in fact, provided federal funds, which leveraged state and local monies, to establish a

separate organization attached to universities but beholden to the Department of Agriculture. This wonderful system has been difficult to duplicate, as the Ford Foundation learned in the 1960s. Universities now have units for engagement and outreach, but they are auxiliary enterprises, entirely or nearly self-supporting. They perform useful services in a market environment, which means finding customers who will pay for those services. And, of course, land grants have no corner on these activities.

Land-grant memory draws heavily on the land-grant romantics critiqued at the outset of this essay. Considering the extent to which distorted memory encourages fanciful thinking, historians of higher education have a responsibility to extend the works discussed in this essay in order to bring factual knowledge and critical awareness to the history of the land-grant movement and its many institutions. The flurry of writing coinciding with the 150th anniversary of the Morrill Act should be measured by the degree which they move the historiography from celebratory to empirical ground. To this end, the Virtual Archive for Land-Grant History, launched in 2013 by Mississippi State University and the Association of Public and Land-Grant Universities, may offer a valuable tool in deepening and disseminating materials for better understanding of these institutions, which have been and should remain crucial to the vitality and effectiveness of American higher education.

References

- Angulo, A. J. (2009). *William Barton Rogers and the idea of MIT*. Baltimore: The Johns Hopkins Press.
- Apple, R. D. (2004). Liberal arts or vocational training? Home economics education for girls. In S. Stage & V. Vincenti (Eds.), *Rethinking home economics: Women and the history of a profession*. New York: Cornell University Press.
- Association of Land-Grant Colleges and Universities. (1931). *The spirit of the land-grant institutions: Addresses delivered at the forty-fifth annual convention of the association of land-grant colleges and universities at Chicago, IL, November 16–18, 1931*. Washington, DC: Association of Land-Grant Colleges and Universities.
- Association of Public Land-Grant Colleges and Universities. (2012). *The land-grant tradition*. Washington, DC: Association of Public and Land-grant Universities.
- Becker, C. (1943). *Cornell University: Founders and the founding*. Ithaca: Cornell University Press.
- Behle, J. G. (2013). Educating the toiling peoples: Students at the Illinois Industrial University, Spring 1868. In R. Geiger & N. M. Sorber (Eds.), *The land-grant colleges and the reshaping of American higher education* (Perspectives on the History of Higher Education 30, pp. 73–94). New Brunswick: Transaction Press.
- Belden, J. (1986). *Dirt rich, dirt poor*. New York: Routledge & Keegan Paul.
- Berry, W. (1977)[1996]. *The unsettling of America: Culture and agriculture*. San Francisco: Sierra Club Books.
- Bettersworth, J. (1980). *People's College: A centennial history of Mississippi State*. Jackson: University Press of Mississippi.
- Bezilla, M. (1985). *Penn State—An illustrated history*. University Park: Pennsylvania State University Press.
- Bezilla, M. (1987). *The College of Agriculture at Penn State: A tradition of excellence*. University Park: Pennsylvania State University Press.
- Bishop, M. (1962). *A history of Cornell*. Ithaca: Cornell University Press.

- Blight, D. W. (2001). *Race and reunion: The civil war in American memory*. Cambridge, MA: Harvard University Press.
- Bogue, A. G., & Taylor, R. (Eds.). (1975). *The University of Wisconsin: One hundred and twenty-five years*. Madison: The University of Wisconsin Press.
- Breaux, R. M. (2012). Nooses, sheets, and blackface: White racial anxiety and Black student presence at six Midwest flagship universities. In M. Gasman & R. L. Geiger (Eds.), *Higher education for African Americans before the Civil Rights era, 1900–1964* (Perspectives on the History of Higher Education Series 30, pp. 43–74). New Brunswick: Transaction Press.
- Brint, S. (2002). The rise of the practical arts. In S. Brint (Ed.), *The future of the city of intellect: The changing American university*. Stanford: Stanford University Press.
- Burke, C. B. (1982). *American collegiate populations: A test of the traditional view*. New York: NYU Press.
- Buttel, F. H. (1995). Twentieth century agricultural-environmental transitions: A preliminary analysis. In H. K. Schwarzweller & T. A. Lyson (Eds.), *Research in rural sociology and development: Sustainable agriculture and rural communities* (pp. 1–21). Greenwich: JAI Press.
- Buttel, F. H. (2001). Land-grant/industry relationships and the institutional relations of technological innovation in agriculture. In S. A. Wolf & D. Zilberman (Eds.), *Knowledge generation and technical change: Institutional innovation in agriculture* (pp. 151–176). Norwell: Kluwer Academic Publishers.
- Buttel, F. H. (2005). Ever since Hightower: The politics of agricultural research activism in the molecular age. *Agriculture and Human Values*, 22, 275–283.
- Campbell, J. R. (1995). *Reclaiming a lost heritage: Land-grant and other higher education initiatives for the twenty-first century*. Ames: Iowa State University Press.
- Cary, H. W. (1962). *The University of Massachusetts: A history of one hundred years*. Amherst: University of Massachusetts Press.
- Chittenden, R. H. (1928). *History of the Sheffield Scientific School of Yale University* (Vol. 1). New Haven: Yale University Press.
- Cohen, M. D. (2012). *Reconstructing the campus: Higher education and the American Civil War*. Charlottesville: University of Virginia Press.
- Conable, C. W. (1977). *Women at Cornell: The myth of equal education*. Ithaca: Cornell University Press.
- Council on Public Engagement. (2002). *An engaged university: Renewing the land-grant mission*. Minneapolis: University of Minnesota: Council on Public Engagement. www1.umn.edu/civic/img/assets/4760/report02.pdf
- Cronin, E. D., & Jenkins, J. W. (1994). *The University of Wisconsin, a history: Politics, depression, and war, 1925–1945*. Madison: University of Wisconsin Press.
- Cronin, E. D., & Jenkins, J. W. (1999). *The University of Wisconsin, a history: Renewal to revolution, 1945–1971*. Madison: University of Wisconsin Press.
- Crow, M. M., & Dabars, W. B. (2012). University-based R&D and economic development. In D. M. Fogel & E. Malson-Huddle (Eds.), *Precipice or crossroads* (pp. 119–158). Albany: SUNY Press.
- Curti, M., & Carstensen, V. (1948). *University of Wisconsin: A history, 1848–1925* (Vol. 1). Madison: University of Wisconsin Press.
- Curti, M., & Carstensen, V. (1949). *University of Wisconsin: A history, 1848–1925* (Vol. 2). Madison: University of Wisconsin Press.
- Danbom, D. D. (1979). *The resisted revolution: Urban America and the industrialization of agriculture, 1900–1930*. Ames: Iowa State University Press.
- Danbom, D. B. (1986). Publically sponsored agricultural research in the United States from a historical perspective. In K. A. Dahlberg (Ed.), *New directions for agriculture and agricultural research: Neglected dimensions and emerging alternatives* (pp. 107–131). Totowa: Rowman & Allanheld.
- Dethloff, H. C. (1975). *A centennial history of Texas A&M University, 1876–1976*. College Station: Texas A&M University Press.
- Dougherty, W. T., & Summers, F. P. (1982). *West Virginia University: Symbol of unity in a sectionalized state*. Morgantown: West Virginia University Press.

- Dyer, T. G. (1985). *The University of Georgia: A bicentennial history, 1785–1985*. Athens: The University of Georgia Press.
- Eddy, E., Jr. (1957). *Colleges for our land and time: The land-grant idea in American education*. New York: Harper & Brothers.
- Edmond, J. B. (1978). *The magnificent charter: The origin and role of the Morrill land-grant colleges and universities*. Hicksville: Exposition Press.
- Fitzgerald, P. H. (1973). *Democracy, utility, and two land-grant colleges in the nineteenth century*. Dissertation, Stanford University, Stanford.
- Fitzgerald, D. (2003). *Every farm a factory: The industrial ideal in American agriculture*. New Haven: Yale University Press.
- Freeland, R. M. (1992). *Academia's golden age: Universities in Massachusetts, 1945–1970*. New York: Oxford University Press.
- Gasman, M., & Geiger, R. L. (2012). Introduction. In M. Gasman & R. L. Geiger (Eds.), *Higher education for African Americans before the Civil Rights era, 1900–1964* (Perspectives on the History of Higher Education Series 30, pp. 1–16). New Brunswick: Transaction Press.
- Geiger, R. L. (2000a). Introduction. In R. L. Geiger (Ed.), *The American college in the nineteenth century* (pp. 1–36). Nashville: Vanderbilt University Press.
- Geiger, R. L. (2000b). The rise and fall of useful knowledge. In R. L. Geiger (Ed.), *The American college in the nineteenth century* (pp. 153–168). Nashville: Vanderbilt University Press.
- Geiger, R. L. (2004a). *To advance knowledge: The growth of American research universities, 1900–1940*. New Brunswick: Transaction Press.
- Geiger, R. L. (2004b[1993]). *Research and relevant knowledge: American research universities since World War II*. New Brunswick: Transaction Publications. (New Brunswick: Transaction Press.)
- Geiger, R. L. (2007). Expert and elite: The incongruous missions of public research universities. In R. L. Geiger et al. (Eds.), *Future of the American public research university* (pp. 15–34). Rotterdam: Sense Publishers.
- Geiger, R. L. (2012, October 3–6). *Land-grant colleges and the pre-modern era of American higher education*. In Morrill Land-Grant conference. Starkville, MS: Mississippi State University.
- Geiger, R. L., & Sorber, N. M. (Eds.). (2013). *The land-grant colleges and the reshaping of American higher education*. New Brunswick: Transaction Press.
- Gelber, S. M. (2011). *The University and the people: Envisioning American higher education in an era of populist protest*. Madison: University of Wisconsin Press.
- Gelber, S. M. (2013). The populist vision for land-grant universities, 1880–1900. In R. L. Geiger & N. M. Sorber (Eds.), *The land-grant colleges and the reshaping of American higher education* (Perspectives on the History of Higher Education 30, pp. 165–194). New Brunswick: Transaction Press.
- Gilman, D. C. (1867). *Our national schools of science* (Reprinted from *North American Review*). Boston: Ticknor and Fields.
- Gordon, L. D. (1990). *Gender and higher education in the progressive era*. New Haven: Yale University Press.
- Graham, H. D., & Diamond, N. (1997). *The rise of American research universities: Elites and challengers in the postwar era*. Baltimore: The Johns Hopkins Press.
- Guralnik, S. M. (1975). *Science and the antebellum college*. Philadelphia: American Philosophical Society.
- Hawkins, H. (1960). *Pioneer: A history of Johns Hopkins University, 1874–1889*. Ithaca: Cornell University Press.
- Hightower, T. (1973). *Hard tomatoes, hard times*. Cambridge, MA: Schenkman Publishing.
- Hoffer, W. J. H. (2007). *To enlarge the machinery of government: Congressional debates and the growth of the American state, 1858–189*. Baltimore: Johns Hopkins University Press.
- Hofstadter, R., & Metzger, W. P. (1955). *The development of academic freedom in the United States*. New York: Columbia University Press.
- Hopkins, J. F. (1951). *The University of Kentucky: Origins and early years*. Lexington: University of Kentucky Press.
- Huffman, W., & Evenson, R. E. (1993). *Science for agriculture*. Ames: Iowa State University Press.

- Humphries, F. S. (1991). 1890 land-grant institutions: Their struggle for survival and equality. *Agricultural History*, 65(2), 3–11.
- Jellison, K. (1993). *Entitled to power: Farm women and technology, 1913–1963*. Chapel Hill: The University of North Carolina Press.
- Jenkins, R. L. (1991). The black land-grant colleges in their formative years, 1890–1920. *Agricultural History*, 65, 63–72.
- Johnson, E. L. (1981). Misconceptions about the early land-grant colleges. *Journal of Higher Education*, 52(4), 333–351.
- Kellogg Commission on the Future of State and Land-Grant Universities. (1999a). *Returning to our roots: The engaged institution. 3rd report*. Washington, DC: National Association of Land-Grant Colleges and Universities.
- Kellogg Commission on the Future of State and Land-Grant Universities. (1999b). *Returning to our roots: Student access*. Washington, DC: National Association of Land-Grant Colleges and Universities.
- Kellogg Commission on the Future of State and Land-Grant Universities. (2000). *Renewing the covenant: Learning, discovery, and engagement in a New Age and different world, 6th report*. Washington, DC: National Association of Land-Grant Colleges and Universities.
- Kerr, C. (2001). *The uses of the university*. Cambridge, MA: Harvard University Press.
- Kirschenmann, F. (1995). Reinvigorating rural economies. In H. K. Schwarzweller & T. A. Lyson (Eds.), *Research in rural sociology and development: Sustainable agriculture and rural communities* (pp. 215–225). Greenwich: JAI Press.
- Kline, R. R. (2000). *Consumers in the country: Technology and social change in rural America*. Baltimore: The Johns Hopkins University Press.
- Knobloch, F. (1996). *The culture of wilderness: Agriculture as colonization in the American West*. Chapel Hill: University of North Carolina Press.
- Knoll, R. E. (1995). *Prairie University: A history of the University of Nebraska*. Lincoln: University of Nebraska Press.
- Krimsky, S. (1996). *Agricultural biotechnology and the environment*. Urbana: University of Illinois Press.
- Larson, V. C. (1957). The development of short courses at the land grant institutions. *Agricultural History*, 31(2), 31–35.
- Lehmborg, S., & Pflaum, A. M. (2001). *University of Minnesota, 1945–2000*. Minneapolis: University of Minnesota Press.
- Loss, C. P. (2012). *Between citizens and the state: The politics of American higher education in twenty-first century*. Princeton: Princeton University Press.
- Loss, C. P. (2013). The land-grant colleges, cooperative extension, and the New Deal. In R. L. Geiger & N. M. Sorber (Eds.), *The land-grant colleges and the reshaping of American higher education* (Perspectives on the History of Higher Education 30, pp. 285–310). New Brunswick: Transaction Press.
- Mahoney, C. R. (2012). The 1890 institutions in African-American and American life. In D. M. Fogel & E. Malson-Huddle (Eds.), *Precipice or crossroads* (pp. 17–50). Albany: SUNY Press.
- Marcus, A. I. (1985). *Agricultural science and the quest for legitimacy*. Ames: Iowa State University Press.
- Marcus, A. I. (1986). The ivory silo: Farmer-agricultural college tensions in the 1870s and 1880s. *Agricultural History*, 60(2), 22–36.
- Marcus, A. I. (2005a). Introduction. In A. Marcus (Ed.), *Engineering in a land-grant context: The past, present, and future of an idea* (pp. 1–4). West Lafayette: Purdue University Press.
- Marcus, A. I. (2005b). If all the world were mechanics and farmers: American democracy and the formative years of Land-Grant Colleges. *Ohio Valley History*, 5(1), 23–37.
- Maxwell, W. E., & Behle, J. G. (1998). The social origins of students at the Illinois Industrial University, 1868–1894. *The History of Higher Education Annual*, 18, 93–110.
- Mayberry, B. D. (1991). *A century of agriculture in the 1890 land-grant institutions and Tuskegee University, 1890–1990*. New York: Vantage Press.
- McCormick, R. P. (1966). *Rutgers: A bicentennial history*. New Brunswick: Rutgers University Press.

- McDowell, G. R. (1992). The new political economy of extension education for agriculture and rural America. *American Journal of Agricultural Economics*, 74, 1249–1255.
- McDowell, G. R. (2001). *Land-grant universities and extension into the 21st century*. Ames: Iowa State University Press.
- McDowell, G. R. (2002, January 3). *Land-grant universities, colleges of agriculture, and extension—A noble past, a difficult present, an uncertain future*. Paper presented at the 2002 All College Conference, College of Agriculture and Home Economics, New Mexico State University, Las Cruces, NM.
- Moss, M. (1981). *The post-land grant university: The University of Maryland report*. College Park: University of Maryland Press.
- Moran, P. L., & Williams, R. L. (2013). Saving the land-grant for the Agricultural College of Pennsylvania. In R. L. Geiger & N. M. Sorber (Eds.), *The land-grant colleges and the reshaping of American higher education* (Perspectives on the History of Higher Education 30, pp. 105–129). New Brunswick: Transaction Press.
- Morrill, J. (1887). *Address delivered at the Massachusetts Agricultural College*. Amherst: J. E. Williams, Book and Job Printer.
- National Research Council. (1996). *Colleges of agriculture at the land-grant universities: Public service and public policy*. Washington, DC: National Academy Press.
- Nelson, A. R. (2013). Institutionalizing agricultural research in the early American Republic: An international perspective. In R. L. Geiger & N. M. Sorber (Eds.), *The land-grant colleges and the reshaping of American higher education* (Perspectives on the History of Higher Education 30, pp. 13–39). New Brunswick: Transaction Press.
- Nemec, M. R. (2006). *Ivory towers and nationalist minds: Universities, leadership, and the development of the American state*. Ann Arbor: University of Michigan Press.
- Nerad, M. (1999). *The academic kitchen: A social history of gender stratification at the University of California, Berkeley*. Albany: SUNY Press.
- Neth, M. (1995). *Preserving the family farm: Women, community, and the foundations of agribusiness in the Midwest, 1900–1940*. Baltimore: The Johns Hopkins University Press.
- Nevins, A. (1962). *The state universities and democracy*. Urbana: University of Illinois Press.
- Nienkamp, P. (2008). *A culture of technical knowledge: Professionalizing science and engineering education in late-nineteenth century America*. Dissertation, Iowa State University, Ames, IA.
- Nienkamp, P. (2010). Land-grant colleges and American engineers: The transition period between technical training and professional knowledge, 1890–1900. *American Educational History Journal*, 37(2), 313–330.
- Ogren, C. A. (2008). Sites, students, scholarship, and structures: The historiography of American higher education in the post-revisionist era. In W. Reese & J. Rury (Eds.), *Rethinking the history of American education*. New York: Palgrave Macmillan.
- Olin, H. R. (1909). *The women of a state university*. New York: G. P. Putnam's Sons/The Knickerbocker Press.
- Peters, S. J. (2013). Storying and restoring the land-grant system. In R. Geiger & N. M. Sorber (Eds.), *The land-grant colleges and the reshaping of American higher education* (Perspectives on the History of Higher Education 30, pp. 335–354). New Brunswick: Transaction Press.
- Potts, D. B. (1981). Curriculum and enrollments: Some thoughts on assessing the popularity of antebellum colleges. *History of Higher Education Annual*, 1, 88–109.
- Radke-Moss, A. G. (2008). *Bright epoch: Women and coeducation in the American West*. Lincoln: University of Nebraska Press.
- Rasmussen, W. D. (1989). *Taking the university to the people: Seventy-five years of cooperative extension*. Ames: Iowa State University Press.
- Rasmussen, W. D. (1991). The 1890 land-grant colleges and universities: A centennial overview. *Agricultural History*, 65, 168–172.
- Reel, J. (2011). *The high seminary: A history of the Clemson Agricultural College of South Carolina*. Clemson: Clemson University Digital Press.
- Reynolds, T. S. (1992). The education of engineers before the Morrill Act of 1862. *History of Education Quarterly*, 32, 459–482.

- Richardson, S. R. (2013). "An elephant in the hands of the state": Creating the Texas land-grant college. In R. L. Geiger & N. M. Sorber (Eds.), *The land-grant colleges and the reshaping of American higher education* (Perspectives on the History of Higher Education 30, pp. 131–154). New Brunswick: Transaction Press.
- Ross, E. D. (1942a). *Democracy's college: The land-grant movement in the formative stage*. Ames: The Iowa State College Press.
- Ross, E. D. (1942b). *A history of the Iowa State College of Agriculture and Mechanic Arts*. Ames: Iowa State College Press.
- Rudolph, F. (1962). *The American college and university: A history*. Athens: The University of Georgia Press.
- Schrum, E. (2013). Social science over agriculture: Re-imagining the land-grant mission at the University of California-Irvine in the 1960s. In R. Geiger & N. M. Sorber (Eds.), *The land-grant colleges and the reshaping of American higher education* (Perspectives on the History of Higher Education 30, pp. 311–334). New Brunswick: Transaction Press.
- Scott, W. H. (1884). "The Inauguration of President W. H. Scott," Delivered at the eleventh commencement of Ohio State University, June 18, 1884. In *Annual report of the Board of Trustees* (Vols. 13–19). Columbus: Ohio State University .
- Scott, R. V. (1970). *The reluctant farmer: The rise of agricultural extension to 1914*. Urbana: University of Illinois Press.
- Seely, B. (1993). Research, engineering, and science in American engineering colleges, 1900–1960. *Technology and Culture*, 34, 344–386.
- Seely, B. (2005). Reinventing the wheel: The continuous development of engineering education in the twentieth century. In A. Marcus (Ed.), *Engineering in a land-grant context: The past, present, and future of an idea* (pp. 163–185). West Lafayette: Purdue University Press.
- Segal, H. P. (2005). Reengineering the land-grant university: The Kellogg Commission in historical context. In A. Marcus (Ed.), *Engineering in a land-grant context: The past, present, and future of an idea* (pp. 137–161). West Lafayette: Purdue University Press.
- Shurman, R. A., & Kelso, D. D. (2003). *Engineering trouble: Biotechnology and its discontents*. Berkeley: University of California Press.
- Sinclair, R. O. (1991). Agricultural education and extension in Vermont. In R. V. Daniels (Ed.), *The University of Vermont: The first two hundred years*. Burlington: University of Vermont.
- Slayton, A. E. (2010). *Race, rigor, and selectivity in U.S. engineering: The history of an occupational color line*. Cambridge: Harvard University Press.
- Slosson, E. (1910). *Great American universities*. New York: The Macmillan Company.
- Smith, D. C. (1979). *The first century: A history of the University of Maine, 1865–1965*. Orono: University of Maine Press.
- Snider, W. D. (1992). *Light on the hill: A history of the University of North Carolina at Chapel Hill*. Chapel Hill: UNC Press.
- Solberg, W. U. (1968). *The University of Illinois, 1867–1894: An intellectual and cultural history*. Urbana: University of Illinois Press.
- Solberg, W. U. (2000). *The University of Illinois: The shaping of the university, 1894–1904*. Urbana: University of Illinois Press.
- Solberg, W. U. (2009). *Reforming medical education at the University of Illinois College of Medicine, 1880–1920*. Urbana: University of Illinois Press.
- Solberg, W. U. (2013). President Edmund J. James and the University of Illinois, 1904–1920: Redeeming the promise of the Morrill Land-Grant Act. In R. L. Geiger & N. M. Sorber (Eds.), *The land-grant colleges and the reshaping of American higher education* (Perspectives on the History of Higher Education 30, pp. 225–246). New Brunswick: Transaction Press.
- Solomon, B. M. (1985). *In the company of educated women*. New Haven: Yale University Press.
- Sorber, N. M. (2011). *Farmers, scientists, and "officers of industry": The formation and reformation of land-grant colleges in the Northeastern United States, 1862–1905*. Dissertation, Pennsylvania State University, University Park.
- Sorber, N. M. (2013). Creating colleges of science, industry, and national advancement: The origins of the New England Land-Grant Colleges. In R. Geiger & N. M. Sorber (Eds.), *The land-grant*

- colleges and the reshaping of American higher education* (Vol. Perspectives on the History of Higher Education 30, pp. 41–71). New Brunswick: Transaction Press.
- Sorber, N. M., & Moran, P. (2012). *Leaving the old homestead: Social mobility patterns of Yankee land-grant college students*. Paper presented at the annual meeting of the History of Education Society, Seattle, WA.
- Stadtman, V. A. (1960). *The University of California, 1868–1968*. New York: McGraw-Hill.
- Stratton, J. A., & Mannix, L. H. (2005). *Mind and hand: The birth of MIT*. Cambridge, MA: The MIT Press.
- Strother, W. H., & Wallenstein, P. (2004). *From VPI to state university: President T. Marshall Hahn, Jr. and the transformation of Virginia Tech, 1962–1974*. Macon: Mercer University Press.
- Survey of Land-Grant Colleges and Universities. (1930). 2 vol. United States Department of the Interior, Office of Education, Bulletin No. 9. Washington, DC: GPO.
- True, A. C. (1929). *A history of agricultural education in the United States, 1785–1925*. Washington, DC: GPO.
- Veysey, L. R. (1965). *The emergence of the American university*. Chicago: University of Chicago Press.
- Wallenstein, P. (1997). *Virginia Tech, land-grant university, 1872–1997: History of a school, a state, a nation*. Blacksburg: Pocahontas Press.
- Widder, K. R. (2005). *Michigan agricultural college: The evolution of a land-grant philosophy*. Lansing: Michigan State University Press.
- Williams, R. L. (1991). *George W. Atherton and the origins of federal support for higher education*. University Park: The Pennsylvania State University Press.
- Williams, F. (1998). The second Morrill Act and Jim Crow politics: Land-grant education at Arkansas AM&N College, 1890–1927. *History of Higher Education Annual*, 18, 81–92.
- Zieren, G. (2013). Robert H. Thurston, modern engineering education, and its diffusion through land-grant universities. In R. Geiger & N. Sorber (Eds.), *The land-grant colleges and the reshaping of American Higher Education* (Perspectives on the History of Higher Education 30, pp. 195–214). New Brunswick: Transaction Press.

Chapter 10

The Completion Agenda: The Unintended Consequences for Equity in Community Colleges

Jaime Lester

In 2009, President Obama stood on the steps of Macomb Community College in Michigan declaring, “But today I’m announcing the most significant down payment yet on reaching the goal of having the highest college graduation rate of any nation in the world. We’re going to achieve this in the next 10 years” (Obama 2009). Named as the American Graduation Initiative, the Obama Administration called for five million additional graduates by 2020 to keep the United States on track as the world leader in education (Obama 2009). President Obama declared that community colleges are the sector of higher education that will achieve his goals: “We will not fill those jobs – or even keep those jobs here in America – without the training offered by community colleges” (Obama 2009). For the first time in many decades, a United States President called attention to the role of community colleges in creating an educated workforce though their many pathways to postsecondary education – certificates, continuing education, associates degrees, and transfer to four-year universities.

The attention to achieving the goals of the Obama Administration has largely focused on community colleges as these two-year institutions are seen as having the greatest potential for positive change, particularly among those students who have “some college.” National statistics indicate that community colleges educate almost half of all undergraduate in the United States, totaling more than 8.2 million students (Phillippe and Mullin 2011). However, graduation rates as community colleges are historically low compared to four-year universities (Clotfelter et al. 2013).¹ Only 20 % of full-time community college students receive an associate’s degree within 3 years (National Center for Higher Education Management Systems & Jobs for the Future 2007). In addition, community colleges enroll the vast majority

¹These numbers are complicated by state and institutional policies that allow for transfer from community colleges to four-year institutions prior to receiving the associate’s degree.

J. Lester, Ph.D. (✉)
Higher Education Program, George Mason University,
4400 University Dr. MS 1B3, Fairfax, VA 22030, USA
e-mail: Jlester2@gmu.edu

of underrepresented students, those students from lower-income, first-generation, immigrant status, and minority groups (Bailey and Morest 2006; Cohen and Brawer 2003). Finally, community colleges, according to the Bill and Melinda Gates Foundation, are flexible and affordable with the greatest potential for promoting change. The Obama Administration notes, “Working in partnership with states and communities, community colleges are well suited to promote the dual goal of academic and on-the-job preparedness for the next generation of American workers” (Obama 2009). A history of industry partnerships allows for a more seamless transition from education to the workforce.

The impact of the American Graduation Initiative is vast. Philanthropic organizations, such as the Bill and Melinda Gates Foundation and Lumina Foundation, took up the challenge to promote change in community colleges to reach completion goals through initiatives such as *Completion by Design* and *Achieving the Dream*. The goals of these philanthropic organizations complemented and surpassed the Obama Administration calling for an additional 23 million graduates by 2025. The motivation for promoting additional graduates is understandable given the low levels of college completion among college graduates. As Bailey (2012) describes, “According to this agenda [American Graduation Initiative], access to and opportunity for enrollment are no longer adequate: not only must colleges give students a chance to enroll, but students should also graduate or complete a degree” (p. 73). The logic of the completion focus is largely founded on recent research that states that the United States is currently projected to be, by 2018, at least three million college-educated workers short to meet projected demand (Carnevale et al. 2010). Additionally, recent research notes that only about half of full-time college students complete a postsecondary credential within 6 years of high school (Symonds et al. 2011).

Additional evidence of the impact of the American Graduation Initiative is found in a series of initiatives to include Complete to Compete, College Complete America, and Trade Adjustment Assistance Community College and Career Training program. Each of these programs focuses on providing money to create training programs or new and better data collection methods to track student progress through state-level higher education data systems. Other proposed initiatives include a Race to the Top federal challenge by financially rewarding states that are willing to systematically change their higher education policies and practices and a Community College Career fund to support industry partnerships in high demand growth fields, both part of President Obama’s proposed 2013 budget (White House 2013). In addition, policy makers and community college advocates also entered the conversation through advocacy for change within individual community colleges and in state and federal policies. Recently, the American Association for Community Colleges 21st-Century Initiative released a report titled “Reclaiming the American Dream: Community Colleges and the Nation’s Future.” The report stemming from an initiative with a goal strikingly similar to that of the American Graduation Initiative – “The overall goal of the initiative is to educate an additional 5 million students with degrees, certificates, or other credentials by 2020” (AACC 2012, p. v) – outlined seven recommendations for institutional transformation.

The recommendations focus on supporting student success via completion, collaboration with industry, redesigning developmental education, and supporting data-driven decision-making and transparency.

The attention to community colleges sheds light on the substantial role that community colleges play in the higher education sector and calls attention to their role in workforce development and economic development, activities that community colleges have been engaged for decades. More importantly, the American Graduation Initiative signals a dramatic shift in the public discourse and policy focus of the role of higher education. No longer a focus simply on creating access to higher education, public policy shifted to promoting success, or completion, as defined by successful completion of the requirements to receive a higher education certificate or degree. The attention on one side of the student experience equation or a balance scale – completion – may have a detrimental, but possibly unintended, consequence on educational access and opportunity as it relates to gender, race, and socioeconomic status. Historically, women and individuals of non-Caucasian racial or ethnic origins enroll in community colleges in disproportionately greater rates as compared to males and Caucasians. Data from the National Center for Education Statistics (2007) indicates that females are 59 % and minority groups 37 % of the community college population. These numbers are greater than those found at public four-year institutions that are 58 % female and 28 % minority. Moreover, over half of Black and Hispanic students who attend college do so at a community college (*Community College Fact Sheet 2006*). These percentages reflect gains leading to 1.7 million Hispanic and 2 million Black additional college students enrolling in community colleges (Cook and Cordova 2007). However, Conway (2009) found that Black and Hispanic students are less likely to persist as compared to other student groups and are at the greatest risk of academic failure (Bailey et al. 2005; Horn and Nevill 2006). Community colleges disproportionately serve less academically prepared students who are often from the lowest quintile of academic preparation (Adelman 2005).

Reasons for the disproportionate (as compared to national demographics) enrollment of women and underrepresented racial and ethnic groups who enroll in community colleges include the lower cost of tuition, need to complete developmental education courses, and increased family responsibilities, to name a few. Hardin (2008) found that housing, childcare, and a concern for student loan debt were among the biggest concerns for adult students. Those students with family responsibilities, a large majority of community college students, are more likely to experience stress from finances and childcare (Huff and Thorpe 1997; Ryder et al. 1994). Other studies describe the complex and multiple roles of female adult students who are often serving as the primary caretakers of aging family and children (Compton et al. 2006; Home 1998). These complex set of factors make lower cost and more flexible community colleges the only option for access to a postsecondary training, certificate, or degree. Promoting completion over the goals of open access provides less opportunity for those students who have the greatest need to pursue postsecondary education via the community college system.

The purpose of this chapter is to unravel the complex impact that recent completion-focused federal policy initiatives, state policies, and national discourse have on educational access for those students who historically enroll in community colleges. I argue that a focus on completion decreases access and limits educational opportunities removing the American higher education system as a source of social and economic equity. The potential to decrease access for specific student groups is not abstract and unfounded. Recent “priority enrollment” efforts on behalf of the California Community College System lead to decreasing access to those students who are categorized as less likely to complete given their past enrollment patterns. As noted in *The Chronicle of Higher Education* and other news outlets, California created a policy through their student success initiative to give students who have completed orientation, assessment tests, have less than 100 credits, and are in good academic standing priority during the registration process (Rivera 2012). The new policy is particularly problematic given the California Community Colleges are already turning away approximately 470,000 students per year due to classroom and teacher shortages (Gardner 2012). Porchea et al. (2010) found that higher levels of academic preparation are strong predictors from community college degree attainment and transfer. The probability of completion – degree attainment or transfer – increased as higher education grade point averages and standardized achievement scores rose. California’s new policy will lead to greater completion rates because these higher qualified students will be at the front of the registration lines, but at what cost to equity? Nationally, Siqueiros (as quoted in Dolan 2005) indicated, “It is projected that between 2003 and 2018, 1.8 million students will be turned away from higher education. Of these 1.3 million will be Latinos trying to access the community colleges.” The American Association for Community Colleges noted, “In policy conversations, there is a silent movement to redirect educational opportunity to those students deemed ‘deserving’” (Mullin 2012, p. 4). Limiting college admissions will lead to “...greater social and economic inequity between students groups” (Bragg and Durham 2012, p. 107).

To begin, I present the analytic framework for the study to situate the critical analysis on federal, state, and institutional policies and initiatives that grew out of The Completion Agenda² and completion discourse. I then present the current data on the status on men and women with an emphasis on race/ethnicity in community colleges to understand the historical trends in enrollment and completion rates. In addition to a presentation of the data, I also provide literature on gender and race in community colleges to explore reasons for the enrollment and completion trends. The next section focuses on the assumptions and initiatives on federal, national, and state efforts concluding with recommendations of how to rethink the completion focus to account for equity.

²Throughout this chapter, I will use The Completion Agenda to refer to the American Graduation Initiative as well as similar efforts on behalf of the philanthropic organizations and state initiatives. In this regard, The Completion Agenda is a broader reference than the federal American Graduation Initiative.

Analytic Framework: Educational Equity

The analytic framework used in the chapter is grounded in the work of feminist policy analysis that places gender at the center of analysis as a basic organizing principle. The goals of feminist policy analysis is "...to critique or deconstruct conventional theories and explanations and reveal the gender biases (as well as racial, sexual, social class biases) inherent in commonly accepted theories, constructs, methodologies and concepts..." (Bensimon and Marshall 1997, p. 6). Bensimon and Marshall (1997) argue that studies using a feminist critical policy analysis perspective must (1) pose gender as a fundamental category, (2) be concerned with a local and contextual analysis of difference, (3) collect data on the lived experience of women, (4) have a goal to transform institutions, and (5) have an interventionist strategy. Feminist policy studies work from the premise that gender is a central and fundamental category that shapes human experience and must be placed front and center, not take a gender-blind perspective. In addition, this perspective focuses on women (or other social identity groups) and their experiences alone, not in comparison to the dominant group. Finally, feminist policy analysis is a changed focused perspective; studies need to seek to not just disseminate findings but develop strategies to work for change within dominant cultures and contexts.

Research using a feminist critical policy primarily focuses on the mechanisms that develop and maintain power conditions. Early studies in education focused on curriculum, teacher training, and educational policy related to teenage pregnancy (Adams 1997; Hollingsworth 1997; Pillow 1997; Yates 1997). In higher education, researchers examined Title IX, affirmative action, and tenure and promotion (Acker and Feuerverger 1997; Glazer 1997; Stromquist 1997). Shaw (2004) examined the welfare system to show both the intended and unintended effects on women. She found that using a critical feminist policy perspective reveals that the often celebrated success in welfare reform is shortsighted, only focusing on reducing the number of women on welfare and does not support long-term economic stability. Shaw states, "Women who receive welfare are not, by and large, able to pursue education and training, and those who do have a tenuous hold on the educational process" (p. 74).

Other studies in higher education use a critical policy approach, and while these studies do not specifically come from a feminist perspective, they provide additional support for the robustness of examining policy, not as a neutral but a value-laden set of discourses that shape power conditions. Chase and colleagues (2012) examined statewide transfer policies with a focus on equity and identified that historical charters and transfer provisions can restrict the transfer options for career and technical education students in community colleges, particularly in limiting what are considered transferable course credits. They noted that state policy documents are largely "color blind," but focus accountability documents on underrepresented students, illustrating a disconnect in policies that govern transfer and desired higher education outcomes. Other studies examined university documents with a focus on discourses related to gender and race. Allan (2003) reviewed university women's commission

reports noting that women are positioned as victims, outsiders to the university, and in need of professional development. Iverson (2007) examined university diversity policies arguing that diversity plans created a discourse that positioned students of color as “at risk” and outsiders to the university. Each of these studies, through research using critical policy analysis, reveals alternative perspectives and impacts of seemingly “neutral” policies.

A few caveats on feminist policy analysis are in order. First, the analysis in this chapter does not focus exclusively on formal policies nor does it account for institutional culture. The Completion Agenda and shifts in discourse to college student success have led to a series of initiatives that represent philanthropic efforts, state initiatives, and a few policies, such as the priority enrollment policy in California. Feminist policy analysis is used to ground the analysis in critical theory with a focus on the impact of policy discourse and subsequent changes on certain demographic groups who are historically disempowered in American society. The intention is to illuminate how an androcentric – a “neutral” – perspective on completion ignores the erosion of access (and therefore even the possibility of completion) for these historically disempowered groups. Second, feminist critical policy analysis notably does not focus solely on women and gender. As Bensimon and Marshall (1997) address throughout their seminal article, other social identity groups and the intersection of these identities are included within this perspective. Third, the data collected for this analysis does not come directly from the lived experience of women or other social identities group; rather, the data and information is gathered from a variety of sources (i.e., policy documents, reports, websites, research studies) to address the potential for reducing educational equity by focusing squarely on student completion over and above access and student learning.

Importantly, this chapter is also founded in the work on educational equity and community colleges articulated by Bailey and Morest (2006) in their book *Defending the Community College Equity Agenda*. Bailey and colleagues argue that recent shifts in educational funding, introduction of new technologies, and rise in for-profit education, among other recent trends, threaten the role of community colleges as providers of educational equity realized through an open access admission policy that provides a postsecondary education and upward economic mobility for all individuals. Their analysis foreshadows The Completion Agenda by calling attention to a policy and discursive movement toward a focus on collegiate success and provides a framework to examine equity stating, “The overall concept of higher education equity involves three parts: equity in college preparation, access to college, and success in reaching college goals” (Bailey and Morest 2006, p. 2) to bring together access, completion, and academic preparation. They argue that these three parts of equity are crucial to getting students into college with the proper academic preparation and helping them to overcome barriers to achieve their postsecondary goals. Each of these parts work together to promote community college student success and all require equal focus. Their work calls attention to the low levels of completion rates for community college students and calls for more attention to student success. At the same time, they acknowledge that “This suggests that, if privatization

of higher education funding increased the concentration of low-income students in community colleges, if nothing else changed, greater reliance on community college would probably lead to a more inequitable system” (p. 268).

Both critical feminist policy analysis and Bailey and Morest’s (2006) equity framework for community college illuminate the importance of examining discourse and policy with a critical lens that focuses on social equity gained through higher education. While each framework is distinct in its perspective, these two frameworks together frame the analysis in this study with a focus on gender, race/ethnicity, and social class and how these demographic characteristics are impacted, albeit oftentimes unintentionally, by policy discourse and how that impact can directly impact the equity values and ideals embedded within the mission and history of community colleges.

Community College Students

Community colleges are the gateway to higher education for many students. Goldrick-Rab (2010) and Bragg and Durham (2012) point out that many of the students who attend community colleges feel as if they are the only viable choice and would not attend college at all if not for community colleges. The purpose of this section is twofold. First, I present data to support the assertion that specific demographic groups, namely, women, underrepresented racial/ethnic groups, and individuals from lower socioeconomic status, enroll in community colleges in disproportionate numbers as compared to four-year institutions. Second, I present research that explains why these groups enroll in community colleges and to illustrate the potential detrimental impacts of these groups if access to community colleges is decreased due to state and institutional policies that result from a federal and philanthropic completion agenda.

Demographic Characteristics

A main driver for students to access community colleges as their first, and sometimes only, higher education institution is due to their demographic characteristics highly correlated with situational factors (i.e., family responsibilities, socioeconomic status). Community college students tend to be older, attend part time, and are from families with lower socioeconomic status. Over 45 % of community college students are over the age of 24 and 63 % attend part time, as opposed to 22 % part time at four-year colleges (Cohen and Brawer 2003). Community college students, as stated in the introduction, also tend to disproportionately represent demographic groups historically underrepresented in higher education. These demographic groups are detailed below.

Table 10.1 Degrees conferred by gender from 1970 to 2005

Date degree conferred	Associate's degree		Bachelor's degree		Master's degree		First professional degree		Doctoral degree	
	% male	% female	% male	% female	% male	% female	% male	% female	% male	% female
1970	57	43	58	43	60	40	94	6	86	14
1994	40	60	45	55	45	55	59	41	61	39
2005	38	62	42	58	40	60	50	50	51	49

Source: NCES (2007)

Table 10.2 Degrees conferred by gender in 2005–2006

Field of study	Associate's degree		Bachelor's degree		Master's degree		Doctoral degree	
	% male	% female	% male	% female	% male	% female	% male	% female
Computer and information sciences	72	28	79	21	73	27	78	22
Engineering	85	15	81	19	77	23	80	20
Education	15	85	21	79	23	77	35	65
Health professions and related clinical sciences	15	85	14	86	21	79	27	73
Psychology	23	77	23	77	21	79	27	73

Source: NCES (2007)

Gender

At first glance, the student population at community colleges mirrors the national demographics in higher education; female students make up approximately 62 % of community colleges and 58 % four-year universities (NCES 2007). As shown in Table 10.1, numbers of male and female students reach parity in professional and doctoral degrees.

Disaggregating the statistics by degree completion, however, begins to show a more complex picture of gender disparities across the academy, disparities that illustrate segregation that exists within academic disciplines and the specific pressures (i.e., disruptive attendance patterns, masculinity) that lead to lower enrollment and college completion for male students. While women are larger in number than men in undergraduate and graduate enrollment and have a slightly higher representation in community colleges, their degree completion in specific fields of study illustrate the perpetuation of male and female majority disciplines. Table 10.2 compares the degrees conferred for the fields of study that show the largest gender disparities in 2005.

In addition to the fields of study in Table 10.2, community colleges also have a variety of vocationally oriented programs that have significant gender disparities.

Women represent 96 % of the degrees conferred in family and consumer services, but only 5 % of mechanics and repair technologies (NCES 2007). Stratification in specific academic disciplines has a long-term impact on economic opportunities and income potential. Noted in a recent report by the American Association of University Women (St. Rose and Hill 2013), “Scientific technical, health, and math fields offer the highest economic returns. Unfortunately, except for health fields, where women dominate, these top-paying fields are nontraditional for women” (p. 32). In addition, Deutsch and Schertz (2011) found in a study of adult women returning to college, a significant population at community colleges, that women viewed postsecondary education as a gateway to high paying jobs; yet, their economic position and choice of field placed added burdens that distracted them from coursework.

Research does show that women are more likely to persist in higher education, one reason that women tend to outnumber men overall in enrollment and degree completion at all levels of postsecondary education (Kim and Sedlacek 1996; Voorhees 1986). However, female student success is mediated by several factors to include immigrant, marital, and parental status. Recent research on immigrant community college students found that female immigrant students are less likely to persist, possibly due to increased family responsibilities connected to cultural norms of daughters taking care of parents or other domestic responsibilities (Conway 2009; Olivas et al. 1986). Moreover, being married and being a parent negatively impacts transfer (Wang 2012). Female student parents are less likely to complete their educational goals, often due to increased childcare responsibilities that pull them away from coursework and engaging in educational activities (Miller et al. 2011). Other studies on student transfer support Wang and others’ findings related to the impact of demographics on community college student transfer (see Dougherty and Kienzl 2006; Roksa 2006).

A conflicting set of studies (see Ewert 2012; Goldrick-Rab 2006) point to the complexity of the male gap in college enrollment and completion, calling attention to the reasons that a male gap has widened over the last decade. These studies conclude that male community college students are more likely to take time off, or stop out temporarily from college enrollment, and attend college part time. Ewert (2012) in a study of disrupted attendance patterns found that male students are less likely to graduate because they have more disruptions which limit persistence to degree completion. Male students were also less likely to graduate because they were less academically prepared. Ewert’s findings confirm the hypothesis of several scholars who stated that taking time off from college and enrolling part time extends time to degree completion and limits social and academic engagement, reducing the likelihood of college completion for male students and helping to explain the gender gap (Goldrick-Rab 2006; Jacobs and King 2002; King 2003; Laird and Cruce 2009).

Another factor found in the literature for the gender gap in college enrollment and completion among college men is masculinity. Harris (2010) in his work on the impact of masculinity on male college student success found that men arrive on campus having been socialized to traditional notions of masculinity. Those male students who perform in accordance to masculine cultural and contextual definitions equated masculinity with being respected by other males, feeling confident,

and having physical prowess. Men who performed within these traditional notions of masculinity were more privileged than those that did not. These findings are particularly important given that male students are found to engage in masculine identity development, transcending and redefining masculinity according to their beliefs and values (Edwards and Jones 2009). Being in an environment that allows for such exploration and redefinition has a positive impact on male student identity development and a greater likelihood for college completion. Yet, privileging traditional notions of masculinity creates a dominant culture that reduces diversity and opportunities to explore individual masculine identity development. As Harris (2010) explains, “Meaningful and sustained cross-cultural interaction among men who represent diverse backgrounds, identities, and experiences challenged prevailing assumptions about masculinities and motivated the participants to consider new meanings” (p. 314).

Related to masculinity is men’s participation in varsity and intramural sports. Ewert’s (2012) study on male college students found that the gender gap would be even greater if not for male higher rates of participation in sports. According to Ewert, “Participation in sports helps to socially integrate men into the college community and may facilitate persistence to graduation by fostering support and developing a commitment to the institution and to earning a degree. Gender segregation in college major does not contribute to the gender gap in graduation” (p. 828). Yet, Harris (2010) found that participation in precollege athletics reinforced traditional notions of masculinity particularly by connecting masculinity to physical toughness, prowess, and aggression. These ideas about masculinity continued in college as explained by Harris, “This characterization stemmed from the assumption that men who embodied traditional masculinities, notably fraternity members and male student–athletes, were privileged and maintained a higher social status than did the other men on campus who did not hold membership in these groups” (p. 309.)

Race/Ethnicity and Socioeconomic Status

Understanding community college students requires disaggregating data by race and ethnicity which reveals additional disparities in college access among community college student population. African American, Native American, and Hispanic students represent over 34 % of the total student population at community colleges compared to 24 % at four-year universities (see Table 10.3). Students from historically underrepresented groups tend to enroll in community colleges due to their accessibility, lower cost, and access to developmental education.

Despite the ability to access community colleges, Black and Hispanic students are at greater risk than Caucasian students for not completing the degree or transfer, a primary reason for a focus on completion over access. As seen in Table 10.4, all community college students complete at rates far lower than their four-year counterparts with wide gaps between White and Black and Hispanic students within each higher education institutional type. Approximately 12 % of Black and 16 % of Hispanic community college students complete a certificate or associate’s degree

Table 10.3 Enrollment rates by race in the United States

Race	Two-year public colleges	All four-year colleges
American Indian/Alaska Native	1.1 %	.8 %
Asian	5.2 %	5.4 %
Black or African American	15.2 %	13.2 %
Hispanic or Latino	18.1 %	11 %
Native Hawaiian or other Pacific Islander	0.3 %	0.3 %
White	51.2 %	57.7 %
Two or more races	2 %	2.1 %
Unknown	5.7 %	6.7 %

Source: NCES (2012)

Table 10.4 Percent completed in 2007 cohort by race in the United States

Race	2007 cohort two-year public colleges	2003 cohort four-year public colleges
American Indian/Alaska Native	17.4	37.1
Asian	25.6	65.8
Black or African American	11.9	38.6
Hispanic or Latino	16	46.9
White	23	58.6
Nonresident alien	25.4	56.2
Total	20.4	55.7

Source: NCES (2012)

Note: Percent completed for community colleges is a certificate or associate's degree within 150 % of normal time. Percent completed for four-year is bachelor's degree within 6 years of start

compared to 23 % of White students. These numbers can be slightly misleading given that students may not achieve a certificate or associate's degree before transferring to a four-year university. Accounting for this caveat, gaps among racial groups are also wide within four-year universities.

For many of these reasons, Black students enter community college less prepared than their peers and must travel a greater distance to achieve their educational goals (Greene et al. 2008). Black and Hispanic students are more likely to be first-generation students (first in their families to attend college), attend college academically underprepared, need financial assistance, work full time, and have multiple family responsibilities, all known factors to negatively contribute to degree completion (Bailey et al. 2005; Horn and Premo 1995; Núñez and Cuccaro-Alamin 1998). Other studies identified the level of engagement and academic work required for Black students to be successful. The Community College Survey of Student Engagement (CCSSE) notes that academically underprepared students are more likely to write more papers, work harder, and talk about career plans, all measures of student engagement on the CCSSE national survey (CCSSE 2005). The CCSSE findings parallel other studies that note Black and Hispanic students are more

engaged in substantive education activities, such as putting more effort into course assignments, involvement in course discussions, and using library services (Swigart and Murrell 2001). Black and Hispanic students had to work harder to achieve a high level of engagement as compared to their White counterparts suggesting that they have a distance to travel to be academically successful (Greene et al. 2008; Kuh et al. 2007).

Community colleges serve as the first option for a postsecondary degree for individuals from lower socioeconomic status. Bailey and Morest (2006) found that the majority (63.5 %) of community college students have a household income of less than \$50,000 compared to 51.7 % at four-year universities. Other studies indicated that socioeconomic stratification has increased in community colleges. In a recent report by The Century Foundation (2013), data notes that “In 1982, students from the top socioeconomic quarter of the population made up 24 percent of the students at community colleges; by 2006, that had dropped to 16 percent” (p. 19). This is particularly important given that over 30 % of community college students also have dependent children compared to 13 % at four-year universities. Melguizo et al. (2008) note that low-income students chose community colleges because they do not preclude living at home and having a full- or part-time job. College tuition is currently at an all-time high in the United States, but community colleges tend to offer significantly lower tuition rates. According to the US Department of Education (2009), the average tuition per year with room and board at public four-year universities is \$15,918 compared to \$8,085 at community colleges. The amount of money award by the Pell Grant, federal funds given to students who demonstrate financial need, is \$5,550 per year for the maximum award. In academic year 2006–2007, over 20 % of community college students received a Pell Award with over 80 % of those families with a total income of \$20,000 or less (U.S. Department of Education 2009). The relationship between race and ethnicity and socioeconomic status is strong. Blacks and Hispanics are overrepresented in the lower strata of the socioeconomic hierarchy (Bahr 2010; Bailey and Morest 2006; Kerckhoff et al. 2001). Lower-income students are found to struggle with college completion and are less likely to leave community college before having obtained a degree or transferring to a four-year institution (Ishitani 2006; Porchea et al. 2010).

Academic Preparation and Situational Factors

Lower academic preparation is also a distinct characteristic of community college students. Community college students have lower levels of academic preparation and achievement in high school which often leads to needing developmental education (Bailey and Alfonso 2005). Parsad et al. (2003) identified that over 42 % of community college students require developmental education in mathematics or English. Rates for four-year students are generally lower than 20 %. Adelman (2005) found that approximately 60 % of community college students require at least 1 year of developmental education. Rates for developmental education are related to race. Black and Hispanic students exhibit a disproportionate need for

developmental education with African American students being twice as likely as Caucasian students to enroll in one (or more) developmental courses (Wirt et al. 2004). Adelman (2006) discovered that 46 % of Black students and 51 % of Hispanic students earn credits in developmental math compared to 31 % of Caucasian students. Bahr (2010) established that Black and Hispanic students are more likely to enroll in arithmetic while Caucasian students enroll in intermediate algebra or geometry. African American students are also less likely to persist in developmental education (Wirt et al. 2004). Inadequate math preparation is found to have an impact on student transfer because many articulation agreements among community colleges and four-year universities require high levels of math completion to transfer (Conway 2009).

While the reasons for lower levels of academic achievement among community college students are highly complex and variable, several situational factors contribute to achievement. Community college students generally tend to be more “at risk” than four-year students due to their more likely status as financially independent, single parents, attending college part time, and working full time (Hoachlander et al. 2003; Horn and Nevill 2006; Bailey and Morest 2006). Porchea et al. (2010) found that “...situational factors that were significantly predictive of obtaining a degree or transferring (rather than dropping out) included full-time enrollment, higher degree expectations, and fewer planned hours worked” (p. 771). Students who attended community college full time were more likely to obtain a degree regardless of whether or not they transferred. Other situational factors include level of financial aid received, distance from home to college, and parents with a college education (Adelman 2005). Parental education, a shorter distance to college, and more financial aid all positively correlate with student persistence.

Another set of significant findings concerns student engagement with the collegiate experience. Cohen and Brawer (2003) note that community college students tend to live off campus and have limited opportunities to engage in social and academic activities. Each of these variables is known to support student success via student engagement measures (Kuh et al. 2005). The Community College Survey of Student Engagement consistently finds that community college students engage in campus life primarily through classroom-based interactions such as contributing to class discussions and making class presentations. Community college students generally do not work with peers outside of class, work with instructors on activities other than coursework, or talked to instructors about career plans (CCSSE 2012). CCSSE also finds that only about half of students have discussions with faculty outside of class and use career and counseling services.

A final set of considerations for student success in community college concerns institutional factors. Porchea et al. (2010) found in a robust study of community college student success that greater enrollment and in-state tuition predicted transfer to a four-year college without first obtaining a degree. Other studies examined the impact of part-time versus full-time faculty. While Porchea et al. (2010) identified that more full-time faculty did not predict degree attainment, other studies noted that large numbers of part-time faculty decreased persistence rates (Eagan and Jaeger 2008). The degree to which part-time faculty impact persistence is unclear; other institutional characteristics

impact student transfer to include support programs for transfer, quality of academic advising, and learning communities (Bloom and Sommo 2005; Shaw and London 2001; Ward-Roof and Cawthon 2004). Studies also indicate that the presence of a “transfer culture” is important to supporting and increasing the number of students who transfer. The transfer culture includes learning communities, support services, and high expectations (Shaw and London 2001).

Institutional and cultural barriers are also factors that specifically impact Black and Hispanic students (Harris and Kayes 1996; Rendon 1994; Zamani 2000). Research on underrepresented students in four-year universities identifies non-inclusive campus climates that are unfriendly to Black and Hispanic students. Unfriendly climates are created when students report having limited relationships with faculty and classroom practices that assume a dominant White culture (Pascarella and Terenzini 2005; Schwitzer et al. 1999). Ancis et al. (2000) found that Black students feel prejudicial treatment from faculty more than White students and White faculty may use pedagogical approaches that do not address diverse learning styles or acknowledge culture (Sanchez 2000). These cultures have a negative impact on student persistence and can impact academic achievement, social experiences, and institutional commitment (Cabrera et al. 1999; Townsend 1994). Several researchers suggest that disparities in academic achievement among White, Black, and Hispanic students are due to different levels of academic preparation combined with institutional barriers (Hudson 2003; Szelenyi 2001).

In summary, community college students are more “at risk” than their four-year counterparts due to demographic and situational factors that complicate financing, attending, and balancing collegiate expectations. In the next section, I review recent policy shifts and discourses on gender and race within the federal and state governments and community colleges to further illustrate the impact of a completion agenda on these specific groups of community college students who more frequently see community colleges as the *only* gateway to a postsecondary education.

Impact of Recent Policy Shifts on State and Federal Level and Institutional Changes

The Obama Administration Completion Agenda resulted in a handful of programs, initiatives, and policy changes on the federal, state, and institutional levels with a clear focus on promoting college completion. The central argument of this chapter is that these programs and initiatives will unintentionally, by virtue of focusing on completion over access, have a negative impact on educational opportunities for women and historically unrepresented groups that see community colleges as their gateway to higher learning and economic potential. In this section, I present several case studies of programs and initiatives analyzed using critical policy analysis to illustrate the relationship between a singular completion focus on erosion of college access.

The first part of this section focuses on the logic behind The Completion Agenda, specifically a focus on graduation and a lack of discourse on learning outcomes.

The second part of this section identifies and discusses specific federal, national, and state initiatives that are attempting to support individual institutions improve their practices to create additional completions of certificates, degrees, and transfers. This multilevel approach exposes the impact of The Completion Agenda across multiple policy sectors – federal, state, and individual institutions.

Assumptions of The Completion Agenda

Focus on Graduation

The major driver of The Completion Agenda and subsequent initiatives and programs is a focus on graduation. The Completion Agenda and the Gates and Lumina Foundation are both calling for millions of additional graduates within the next decade. The National Center for Education Statistics established the standard method for counting graduation rates which is done by calculating the total number of completers within 150 % of the normal time divided by cohort. Completers are students who received a formal award, such as a degree, diploma, or certificate. A cohort is defined as “the number of students entering the institution as full-time, first-time, degree/certificate-seeking undergraduate students in a particular year (cohort)” (NCES 2013). Logically, 150 % of the normal time is 6 years for students at four-year universities and 3 years for those students entering community colleges. Cohorts consist of only full-time, first time in college students.

While calculating graduation rates seems like a simple matter of finding a numerator and denominator, understanding who and how individuals graduate is much more complex in the community college system. Community college students enroll in college with a variety of goals including interest in taking a one-time interest course, such as photography; taking a short-term retraining course, such as for a new computer program; earning a vocational certificate, such as in welding; earning an associate’s degree, such as in nursing; and transferring to a four-year university. Counting students as degree seeking requires the student to either declare a specific educational goal verbally or via an online survey or enroll in programs that have degree-seeking outcomes. Reporting education goals via surveys often leads to community college students overreporting their educational goals. Moreover, each of the educational options does not necessarily result in a “graduation” or a measurable outcome according to current accounting methods. For example, a student may take a few courses in computer software and technology, receive the training he/she requires, and then leave before completing the requirements for a certificate. To complicate the picture even further, a student may intend to transfer to a four-year university but find that the few additional courses to receive the associate’s degree does not count in the transfer process and, therefore, transfer before completing the full requirements for the associate’s degree (Offenstein and Shulock 2009). Another issue is with the full-time status requirement. National data indicates that 66 % of community college students attend part time (Bailey and Mostert 2006).

Focusing on the graduate rate requires full-time enrollment unless NCES accounting practices are altered. These students would not be counted in the graduation rate.

Troubling results emerge when using graduation measures to examine student success and institutional effectiveness. Bailey and colleagues (2006) in an analysis of graduate rates using the Student-Right-To-Know data and institutional characteristics found that institutional size, expenditures on instruction, and student demographics have a strong relationship with graduation rates. Community colleges of a larger size and who spend less on instruction tend to have lower graduation rates. Similarly, community colleges with more minority, female, and part-time students also tend to have lower graduation rates. The difficulty over graduation rates as measured in the Student-Right-To-Know measure is summarized by Bailey and colleagues (2006): “The published SRK rates do paint an overly negative and restrictive picture of community college performance; nevertheless, there is potentially important information in the wide variation among institutions and states in those rates, even if rates for all colleges are low” (p. 495) (AtD).

In the context of the goals outlined by the American Graduation Initiative, community colleges are likely to be at a disadvantage in reaching 2020 or 2025 goals. Additionally, decreased state funding for instructional expenditures, particularly for those community colleges that serve minority, female, and part-time students, will continue to be shown as underachieving institutions, a distinction that has negative contextual meaning in light of accountability movements in K-12 educational reform.

Additionally, problems arise when focusing on graduation and achieving the scale of eight million plus graduates. Bailey (2012) conducted an in-depth analysis to understand if community colleges have the capacity to achieve the completion goals set out by the Obama Administration and other philanthropic organizations. He found that community colleges would need to increase enrollment by 5–10 % each year and dramatically increase graduation rates. Increasing capacity to this degree has many financial constraints particularly given that state budgets are hampered by multiple and competing priorities (i.e., transportation, retirement funds, and health care) resulting in lower appropriations for public higher education. Starting with graduation rates is a more feasible strategy; yet, Bailey (2012) argues in his analysis of the role of community colleges in promoting The Completion Agenda:

An additional problem with graduation rates is that they are closely related to race and SES. Black, Hispanic, and low-income students complete at much lower rates than while middle-class students. For example, while 29.5 percent of white community college entrants complete a bachelor’s degree or associate’s degree, only 16.5 percent of black entrants do. The disparity is only slightly less for Hispanic students (p. 85).

A focus on completion via graduation rates privileges White and higher-income students who are already more likely to receive a degree or certificate “counted in” the current NCES standards. This is particularly significant given that initiatives, such as California’s priority enrollment, place emphasis on predictors for completion that will privilege those students who are already likely to complete – a fraction of the population at many community colleges.

Another strategy is to increase certificate programs to promote completion rates. However, this is a short-term fix as certificates will not count toward bachelor degree

attainment, a goal within The Completion Agenda. Looking at transfer and possibly adding in a transfer rate as part of a graduation rate also does not solve the disparities for lower-income students and students from underrepresented groups. Wang (2012) notes that “Black students were 23.4 % less likely to transfer compared to White students. One quintile increase in SES was associated with 7 % more likelihood of transferring” (p. 864)... “Students who were parents were 33.1 % less likely to transfer compared to students without children” (p. 865). Wang concludes that sorting by class seems to exist in community colleges with lower-income students being discouraged from transfer programs. Although Wang does not suggest that sorting in community colleges occurs due to “cooling out,” several studies note that community colleges may encourage students to enroll in less rigorous programs with outcomes that are lower than their aspirations to provide higher institutional completion rates (Grubb 1989).

A focus on graduation rates is a complex issue that requires reform on federal, state, and institutional levels to address funding, capacity, and inequities among student success rates. Without a conversation of inequity, students who are less likely to complete and increase graduation rates are more likely to be shut out of the system as seen in the case of California’s priority enrollment. Research on graduation rates consistently identifies that graduation rates will increase with selectivity; highly academic prepared students are more likely to complete college (Goenner and Snaith 2004; Mortenson 1997; Porter 2000). As Bailey and colleagues (2006) argue, “Yet, as indicated, attempting to improve graduation rates by becoming more selective would violate one underlying mission of the colleges” (p. 499). As Bensimon and Marshall (1997) call for, policy must not be androcentric, but focus specifically on all social identity groups to find those assumptions and practices that perpetuate inequities.

Completion Over Learning

Related to The Completion Agenda’s focus on graduation as the sole indicator of success is learning or the lack of measurement and accountability associated with student learning. A singular focus on graduation places emphasis on receiving a credential which is simply collecting a set of credits in specific predetermined areas of knowledge with a passing grade. Student learning, as primarily defined by the American Association of College and Universities (AAC&U), focuses on specific learning outcomes, such as knowledge of human cultures and the physical and natural world, personal and social responsibility, and integrative learning (AAC&U 2013). Each of these learning outcomes has a set of specific descriptions and rubrics established to support the integration into academic degrees, departments, and individual courses. AAC&U argues that “Today, and in the years to come, college graduates need higher levels of learning and knowledge as well as strong intellectual and practical skills to navigate this more demanding environment successfully and responsibly” (AAC&U 2013, para. 2).

Much of the work of AAC&U is built on recent compelling data that suggests that students who receive a bachelor’s degree do not necessarily have significant

gains in critical thinking and other measures of learning. Arum et al. (2011) found in a study of student learning that more than 35 % of college students are making minimal or no gains in their critical thinking and writing skills over their 4 years in college. Slightly more recent data reports that 45 % of students in four-year universities did not report significant improvement in learning during the first 2 years of college as measured by the Collegiate Learning Assessment (CLA), a measure of critical thinking, analytic reasoning, problem solving, and writing (Arum and Roksa 2011). Gains in student learning across racial/ethnic groups showed significant inequality. Arum and Roksa (2011) found that Black students entered higher education with lower CLA scores and experienced fewer gains over time. Black students gained only 7 points in CLA scores compared to 41 points for White students. Looking at other measures of student learning, Arum and Roska found that less than 10 % of students who attended predominately non-White high schools received high scores on the SAT/ACT test and were less likely to have high grade point averages. Arum and Roska conclude, “There are significant differences in critical thinking, complex reasoning, and writing skills when comparing groups of students from different family backgrounds and racial/ethnic groups” (p. 122).

Another area of significance related to learning is the role of diversity experiences in the classroom; often ignored by initiatives that promote overall assessments via learning outcomes and degree qualification. The in-class experience seems to be left to individual instructors with little to no guidance on the importance of and integration of diversity within curriculum. Moreover, all students regardless of their race/ethnic background and gender identity experience gain from having diverse students in the classroom and engaging in discussions related to diversity (Milem 2003). The impact of diversity experiences cannot be underestimated as several studies note that experiences with diversity are “liberalizing, motivating, and eye opening” (Sax 2008, p. 234). For college men in particular, Harris (2010) finds, concurring with Sax (2008), that college men who have “Meaningful and sustained cross-cultural interaction among men who represent diverse backgrounds, identities, and experiences challenged prevailing assumptions about masculinities and motivated the participants to consider new meanings” (p. 314).

While there is no comprehensive evidence on student learning in community colleges, or arguably in four-year institutions, the Community College Survey of Student Engagement collects data from over 710 two-year colleges on several learning-related variables that help to understand student learning, albeit limited. For the benchmark of academic challenge which includes ten survey items that address the nature and amount of assigned academic work, the complexity of cognitive tasks presented to students, and the standards faculty members use to evaluate student performance, over half of all community college student responses in 2012 reported working harder than expected to meet instructors expectations (CCSSE 2012). The majority of students also noted that their coursework emphasized organizing ideas, applying theories and concepts to practical problems, and presenting information in new ways. Yet, 9 % of students report *never* writing a paper for their courses. Another CCSSE benchmark, active and collaborative learning, includes seven measures related to contributing to class discussions, group peer work, and

course presentation. Over 50 % of community college students in 2012 reported asking questions or contributing to course discussions, making a class presentation, and discussed course ideas outside of class with others. Differences across racial/ethnic and gender do exist across CCSSE benchmarks. In a study of one suburban community college, Sontam and Gabriel (2012) noted that females, in general, expend more effort in their studies and find their coursework challenging and intellectually stimulating. These results are confirmed in a similar study by Lammers et al. (2005).

The lack of learning is compounded by dissatisfaction from employers who report not seeing the critical thinking skills necessary in today's employment context from college graduates. Carol Geary Schneider (2010), President of AAC&U, has noted that "success in today's workplace requires achievement in at least six new areas of knowledge and skill development, which have been added to the already ambitious learning portfolio required in earlier eras" ("Employers are asking for more, not less," para. 1). Following the learning outcomes established by AAC&U, Schneider (2010) argues that employers are looking for employees with communication skills, broad knowledge of science and history, and analytic reasoning. Additionally, employers emphasize the need for global knowledge, cultural competence, and teamwork skills. Hart Research Associates (2009) in a survey of employers found that only approximately 25 % of respondents believe that college graduates are prepared for today's global economy.

Policy makers seem to assume that all students who cross some "finish line" have actually learned what they need to compete successfully in the global economy and contribute to rebuilding our democratic society. Abundant data suggest that this assumption is simply false (Arum and Roksa 2011; Pascarella et al. 2011; AAC&U 2005; Hart Research Associates 2009). Gary Rhoades (2012) argues that The Completion Agenda is incomplete and "Worse still, the completion agenda is counterproductive. In regard to educational quality, the completion agenda is compromising the learning agenda" (para. 3). Taking graduation rates and student learning together, we can see the potential issues with The Completion Agenda and other significant initiatives. The Completion Agenda does not address learning nor the discrepancies that exist across racial/ethnic and gender groups. Rather, The Completion Agenda places focus on student outcomes, generally understood as acquiring a credential, with little to no regard for learning and even less focus on differences across groups of students in academic majors or vocational training.

The focus on graduation rates and a lack of discourse on learning frames the assumptions of The Completion Agenda and places the subsequent initiatives within that discursive context. Practically speaking, the initiatives are built on assumptions regarding credentials (or vocationalism) to personal and national economic gain, a belief that learning does occur during and is signaled by credentialing, and little regard for barriers to and differences within student groups. This is not to suggest that initiatives have not considered equity. In the next section of this chapter, I present several initiatives that have emerged as significant to achieving the goals of The Completion Agenda. While some of these initiatives specifically address inequities and disparities in educational success, others take a more androcentric approach.

Effects of The Completion Agenda

The assumptions embedded in The Completion Agenda are found throughout recent initiatives in federal, state, and system-wide efforts related to community college student success. In this section, I outline several initiatives with attention to how a focus on graduation and vocationalism frame the logic of innovation and the recognition, or lack thereof, of the impact that large-scale initiatives have on specific student groups. What I argue is that a focus on economic outcomes via graduation rates argued in relationship to a need for a more educated workforce, a lack of discussion on learning and learning outcomes, and a “color- and gender-blind” approach to student success has unintended consequences by not addressing or reducing the barriers that students of color and women in community colleges experience. To accomplish this goal, I use a critical feminist policy analysis framework to review documents, websites, and other information on each of the initiatives organized by federal, national, state, and institutional levels.

Federal Initiatives

After President Obama’s 2009 address at Macomb Community College in Michigan, a concerted effort was made to provide federal funding to support efforts of community colleges to increase postsecondary attainment and promote workforce development. Initially, federal funds totaling \$12 billion were connected to the Student Aid and Fiscal Responsibility Act (SAFRA) designed to overhaul the student loan system from a private to public entity. After years of political wrangling, a version of SAFRA that created a new federal student loan system was passed in both the house and senate under the Health Care and Education Reconciliation Act but did not include the \$12 billion dollars for community colleges. Arguably, an alternative funding model was established to promote some support for community college reform under the Trade Adjustment Assistance Community College and Career Training (TAACCCT) grant program through the Department of Labor. The TAACCCT grant invests in community college and industry partnerships beginning with \$500 million and eventually totaling \$1.5 billion in 2013, a small amount in comparison to the initial \$12 billion. The focus of the grants are on training models to assist with partnerships with local employers, development of new data systems to track student employment and earning, and development of new online technologies for job training materials that are available in an open source format (U.S. Department of Labor 2012, 2013). These grants have supported community colleges across the nation in most of the states.

Another related federal initiative is the Skills for America’s Future initiative which brings together companies and community colleges to help workers gain new skills. This initiative began with the 2010 White House Summit on Community Colleges hosted by the Obama Administration and in collaboration with business and industry as well as several philanthropic partners. The Skills for America’s

Future initiative focuses on improving industry partnerships with community colleges to “build a nation-wide network to maximize workforce development strategies, job training programs, and job placements” (The White House n.d.). Established partnerships stemming from the initiative include the Manufacturing Extension Partnership, SkillsUSA, National Association of Manufacturers, and the Society of Manufacturing Engineers. Many efforts on behalf of the partnerships focus on helping at-risk students receive credentials, mentorship programs, certification programs, curricular development, and working with high schools.

Of note within the category of federal initiatives are the changes to the Pell Grant program. In 2009, the Obama Administration successfully increased the federal Pell Grant to \$5,500, the first increase in over 20 years. This change was somewhat difficult to establish due to the increase in appropriations required to sustain the Pell Grant program. Over 35 % of all, or nine million, undergraduates receive the Pell Grant each year with a significant cost to the Department of Education (U.S. Department of Education 2009). Expenditures on Pell Grants changed from \$8 billion in 2000 to \$35 billion in 2010 representing over half of the Department of Education budget, making Pell Grants the single biggest expense to higher education.

Despite these concerns, the Pell Grant has a positive and dramatic impact on student access to college. As an example, in summer 2010 the Pell Grant dramatically impacted enrollments in community colleges. Katsinas (2011) and colleagues found enrollment increases by 20 % at community colleges nationwide. Of those students, 96 % received Pell Grant funds as compared to only 52 % the summer prior when no additional summer Pell money was offered. The need for summer funding is further evidenced by the number of Pell recipients that also take on student loans. Katsinas (2011) found that Pell recipients are twice as likely to take out loans as non-Pell recipients, suggesting that the gap in funding between lower-income and higher-income students is growing and that the Pell Grant is supplementing, not substituting for tuition costs for lower-income students. This is not surprising given the data on college tuition. The National Center for Education Statistics (2012) reports that college tuition rose 42 % at public and 32 % at private institutions from 2000 to 2010 with average annual current dollar prices for undergraduate tuition, room, and board estimated to be \$13,600 at public institutions and \$36,300 at private not-for-profit institutions.

Within both the multiple federal funding efforts and Pell Grant changes, the discourse is consistent with The Completion Agenda. The focus is primarily on economic development with the community college as the central sector in post-secondary education that can promote workforce development locally thereby decreasing unemployment and establishing a more educated workforce. In a press release from 2013, the connection between economic development and education is clear:

“Building a well-educated workforce is critical to achieving President Obama’s priority of growing the economy from the middle class out,” said acting Secretary of Labor Seth D. Harris. “Funding additional grantees will allow thousands more workers around the country to acquire world-class skills in top occupations.”

“Equipping our nation’s students with the skills they need is one of the best investments we can make to keep our economy growing,” said Secretary of Education Arne Duncan. “This third round of funding will build on the work of earlier grantees by strengthening partnerships between institutions and employers so students develop the skills and attain the credentials they need for jobs in high-need fields now and in the future.”

In each of these quotes, words such as “economy,” “skills,” and “partnerships” to promote job attainment are consistent with the message from the Obama Administration and the efforts of philanthropic organizations. However, this discourse assumes a level playing field or a meritocracy within higher education that allows for any student, regardless of background, to achieve skills. No discussion of the barriers for women and other underrepresented groups occurs in the context of economic growth, skill development, and job attainment.

The federal efforts are also inclusive of similar partners in particular philanthropic organizations that tend to fund research and practical programs that support the connection between job attainment, skill development, and local economies. In the Skills for America’s Future initiative ([The Aspen Institute n.d.](#)), the partners listed include the following: the Manufacturing Institute has partnered with leading manufacturing firms, the Gates Foundation, and the Lumina Foundation, and key players in education and training including ACT, the Society of Manufacturing Engineers, the American Welding Society, the National Institute of Metalworking Skills, and the Manufacturing Skills Standards Council. This will allow students and workers to access this manufacturing credentials and pathways in community colleges in 30 states as a for-credit program of study. The list of partners intentionally alters the focus on responsibility away from the federal government to specific business and industry partnerships to promote student success. In fact, several of the programs listed on press releases are to support at-risk students who are less likely to complete necessary job-related certificates. The focus moves away from TRIO Programs, Summer Bridge Programs, and potentially Pell Grants as federal initiatives to support lower-income and underrepresented students to business and industry as the primary funders and partners in student success.

Finally, critical analysis of these federal initiatives reveals a lack of interest in acknowledging and addressing social economic inequities across US income groups (United States Census Bureau 2010). The summer Pell Grant program existed for a brief 3 years before it was cut by consistent political attacks on the program under the guise of federal economic responsibility. However, the Pell Grant is consistently under review with politicians expressing concerns about the continued revenue growth required to fund the program (Field 2011; [New America Foundation n.d.](#)). Each year, politicians express a desire to decrease the Pell Grant allowed amount without offsetting tuition costs. Without the Pell Grant lower-income students will be unable to access a postsecondary education. Additional inequity from a lack of education correlated with lifetime earning potential will continue exacerbating the already increasing income gap among student populations.

National Efforts

Achieving the Dream

In 2004, the Lumina Foundation and multiple partners invested in higher education issues created the Achieving the Dream: Community College Count (AtD) initiative to close achievement gaps and promote student success in the United States through institutional change, public policy, engaging the public, and generating new knowledge. To achieve these goals, AtD has built a vast network with institutional-based teams to promote evidenced-based decision-making to close achievement gaps and accelerate student success nationwide. As of 2013, 15 states and nearly 200 community colleges are engaged in the AtD project representing a vast number of individuals and great potential for institutional level change. The process involved in AtD is institutionally based with teams at individual institutions that undergo a process of five steps – commit to improving student outcomes; use data to prioritize actions; engage stakeholders to help develop a plan; implement, evaluate, and improve strategies; and establish a culture of continuous improvement – to promote student success by achieving a certificate or degree. The goal is for community colleges to create a culture of evidence by disaggregating institutional level data by multiple student demographics and identify points of intervention as well as strategies to support student success at those intervention points. Other efforts to impact policy and provide knowledge include disseminating information to individual colleges and partners and providing catalyst grants, among other initiatives.

Unlike other federal and national initiatives, AtD specifically addresses the needs of low income and student of color as seen in the mission statement: “Achieving the Dream is a national reform network dedicated to community college student success and completion; focused primarily on helping low-income students and students of color complete their education and obtain market-valued credentials” and “A commitment to equity ensures that institutions focus on achieving high rates of success and completion for all students, especially those who have traditionally faced the most significant barriers to achievement” ([Achieving the Dream n.d.](#)). This focus places students who are historically underrepresented and have the greatest barriers to a postsecondary degree at the center of the initiative. However, AtD much like other federal and national initiatives justifies its work under the assumptions of vocationalism or credentialing under the discourse of economic success. The “challenge” as framed by AtD is “For the first time in U.S. history, the current generation of college-age Americans will be less educated than their parents’ generation, yet our workplaces require higher-level skills than ever before” ([Achieving the Dream n.d.](#), para. 1). Another concern in the discourse of AtD is a continued focus on outcomes or pathway measures. The Lumina Foundation is a major player in The Completion Agenda with similar goals to the American Graduation Initiative for additional college graduates; therefore, the measurements promoted within the initiative include traditional outcome measures connected to graduation: “developmental education and college-level ‘gatekeeper’ (introductory) courses, grades, persistence, and completion of credentials” (MDRC [2011](#), p. 1).

Suggesting the AtD simply panders to national discourse based on economic assumptions simplifies their initiative. AtD also values education for the sake of democracy: “A healthy economy and democracy depend upon an educated citizenry, and increasingly, because of rapidly changing demographics and record levels of poverty, that means creating the conditions for more low-income students and students of color to attain postsecondary credentials” (*Achieving the Dream n.d.*). In this regard, AtD justifies the need for reform under the principles of economic need and workforce development but identifies values that speak to the historical role of education and higher education as promoting learning to participate in a democracy. AtD also situates the role of higher education in a democracy alongside equity. As one of the five principles of the initiative, AtD presents promising practices that support college success for low income and students of color, such as the Capital Community College: Black and Latino Male Resource Center which has substantially increased retention for male students.

Despite the ideals and amount of financial resources dedicated to AtD, an evaluation conducted by MDRC (2011) of the first 26 colleges engaged in the initiative found very little change in overall student outcomes. While a modest change was identified in students completing gatekeeper English courses, developmental course completion remained the same. Additionally, colleges did institute a range of change strategies, but those initiatives remained isolated and small in scale. MDRC (2011) noted, “a majority of these reforms reached less than 10 percent of their intended target populations” (p. iii). Other findings were slightly more optimistic noting that evaluation of programs and a stronger culture of evidence was found on many of the college campuses that influenced more transparency in student success and a greater investment in institutional research departments. One of the challenges MDRC identified related to equity is the lack of oversight and leadership on behalf of AtD. MDRC (2011) noted, “However, rather than provide coaching or facilitation to support colleges’ development of an equity-based agenda, the initiative tended to rely on the colleges’ own capacity for and interest in pursuing those efforts” (p. 12). Given that equity can be a challenging topic that requires reflection on personal biases, a lack of support for campus-based teams will likely not lead to focusing on specific student populations and deconstructing those institutional barriers that lead to inequitable outcomes across student groups. In fact, some institutional teams “tended to encourage colleges to develop interventions aimed at large groups of students rather than boutique programs for certain groups” (p. 23).

Achieving the Dream, unlike other initiatives analyzed in this section, began with a specific focus and set of values to support low income and students of color in community colleges. Their discourse consistently included a focus on equity, and their process was ideally outlined to help individual institutions with coaches and facilitators to promote disaggregating data by race/ethnicity, income status, and other student characteristics. Realizing those ideals has proven a significant challenge except for a few examples across the initial set of participating colleges. A major reason for the lack of success is the assumptions embedded within the initiative, particularly a focus on credentials and outcome measures framed in the larger context of The Completion Agenda. Framing success by pathways or outcome measures

continues to support the long-standing notion that good inputs equal good outputs, meaning that academically prepared students without significant barriers are more likely to be successful in completion measures and thus pathway measures. The question remains as to what measures would be best to examine equity.

Completion by Design

Another wide-scale national initiative of importance is Completion by Design. Funded by the Bill and Melinda Gates Foundation, the Completion by Design “seeks to raise community college completion rates for large numbers of students while containing college costs, maintaining open access, and ensuring the quality of college programs and credentials” (Venezia et al. 2011, p. 31). Their goals are to increase the number and percentage of college students receiving a credential through system redesign, not smaller-scale interventions that often have difficulty in scaling up to serve large numbers of students. Four states – Florida, North Carolina, Ohio, and Texas – are involved in the project, representing 20 community colleges that collectively serve 250,000 students. Each state has a cadre of individuals who represent multiple constituent groups on campuses to support data collection, research, and all reform efforts.

The assumptions embedded in the Completion by Design initiative are grounded in a belief that students require support during their education pathway, of the connection between education and economic vitality, and the need to reshape community colleges to focus on supporting students through a pathway to graduation. The focus is on the pathways noted as, “Completion pathways are defined as integrated sets of institutional policies, practices, and programs that are intentionally designed to maximize students’ progress at each point of their community college experience” (Venezia et al. 2011, p. 3). Students, according to research done on behalf of the initiative, desire to receive “transparent, accessible, accurate, and timely information” (Nodine et al. 2012, p. 1). Institutions can support students through a well-defined program of study, integration of support services in instruction, tracking student progress and developing intervention process, monitoring student learning, and outreach efforts to non-completers, those students who are no longer enrolled in college.

There is a focus on competencies and learning outcomes clearly defined throughout the Completion by Design documents; yet, the focus is on defining competencies to support student progress as defined by completion (such as partnering with K-12 schools to define entry-level competencies) and to offer credit for work-related experiences. Their efforts, while important in moving beyond simple graduation or completion rates, pander to discourse of vocationalism by offering that student success is defined by achieving hard skills as opposed to critical thinking or other soft skills. These assumptions are driven by a need to decrease student time to a degree or a credential and churn out more graduates in a shorter amount of time, thereby increasing efficiency and productivity, terms often used in economic efficiency models.

This is seen in organizational and economic discourse of efficiency and productivity. Partnering institutions are required to use existing revenue, not additional monies, by finding efficiencies and increasing productivity while maintaining open access. Quality is also paramount to their efforts and should be maintained or strengthened in individual college redesign. Contrary to the ideals of the initiative, the Gates Foundation is providing grants over a five-year period to support colleges. They also acknowledge outright that colleges “require additional supports if they are to succeed” (p. 29), but appear to focus on finding revenues within the current college budget, presumably by creating more fiscal efficiencies through other process, such as use of online education and a redesign of developmental education. This discourse is aligned with much of the funded research and efforts of the Gates Foundation.

In addition to a focus on vocationalism, the Completion by Design initiative acknowledges the importance of instruction in deep student learning but does not account for student culture or individual student needs. Students are generally cast as a monolithic group that requires additional support and tracking to progress successfully through a program of study. The integration of faculty and instruction within the process is laudable and does help to bridge the gap between learning and a focus on graduation rates, but does not appear to account for the specific instructional barriers that exist for English as a second language (ESL) students, for example, and cultural differences across racial/ethnic groups. Cultural differences that assume students need to assimilate into defined organizational process, practices, and logic are well defined in the literature as barriers to student success.

In several documents authored by the Completion by Design initiative, race/ethnicity and income status are referenced, albeit briefly. In the *Changing Course: A Guide to Increasing Student Completion in Community Colleges* (Nodine et al. 2011) report, the authors acknowledge that “Among black and Hispanic students first enrolled in 2005, completion rates were significantly lower, with about 12 percent and 16 percent respectively, earning a credential within three years” (p. 3). The report makes the connection between low-income and nontraditional students and economic opportunity by equating well-paying jobs to education and income status. Finally, low-income students are referenced as having limited knowledge about college and lack financial support. While acknowledging the individual challenges and barriers to collegiate success for different demographic groups in community colleges is important and well documented in the research, the discourse casts students as having a deficit, characteristics and circumstances that require some form of remediation.

In each of the two initiatives – Achieving the Dream and Completion by Design – their efforts were sparked and built on the assumptions embedded in The Completion Agenda. A focus on long-standing outcome measures, principally graduation rates and those pathway measures that lead to graduation, frames a need to support completion as a local and national economic concern, not a need for social equity. The concerns and barriers of female, lower-income, and non-White racial/ethnic groups are rarely addressed and when done so, in the case of Achieving the Dream, result in little progress. These influential initiatives with significant

financial backing continue the discursive trends which will lead to a greater focus on completion over and above access.

State and Institutional Efforts

Developmental Education

An area that quickly emerged as in need of attention after the announcement of The Completion Agenda was developmental education. Also referred to as remedial education, developmental education includes below-college-level courses and competencies, typically in English and mathematics, that students need to achieve in order to move into college-level work. Developmental education courses are typically not transfer credit bearing and do not count toward completion of certificates or degrees in postsecondary education. Requirements for developmental education are often determined based on placement tests that may or may not, depending on the policies at individual institutions, be required before a student can register for college-level work. These developmental courses include topics such as arithmetic, basic algebra, and writing and reading improvement. These courses are offered in a multilevel sequence with students beginning at their entry level within the sequence.

One of the many reasons that developmental education came to the attention of policy makers and institutional leaders is the high numbers of students who place in developmental education courses via the placement tests. Nationally, over 40 % of first- and second-year community college students enrolled in at least one remedial course (Horn and Nevill 2006). Other studies with a small sample of community colleges show higher percentages. In the Achieving the Dream database, about 59 % of the sample enrolled in at least one developmental course. The rates for developmental enrollment disaggregated by student demographics show even more concerning trends. Regardless of the subject, female, young, Black, and Hispanic students tend to need more levels of developmental education. Melguizo (2009) in a study of developmental education and race at community colleges found that almost 60 % of students in remedial courses are African American and Latino/a. Moreover, Black male students are found to have lower odds of progressing through developmental sequences, particularly those who start at two or three levels below college-level courses. Finally, developmental students with greater need were more likely to enroll in colleges that were urban, large, certificate-oriented, and serving high proportions of minority students, particularly Hispanic and economically disadvantaged populations (Melguizo et al. 2008). Vocational areas also have an impact of developmental course need with students in vocational areas requiring more remediation than those in nonvocational programs.

In addition to the disproportionate impact of developmental education needs on students from specific demographic groups, there are documented negative consequences for individuals and institutions. First, students often “get stuck” in developmental education, taking the same course multiple times without receiving

a passing grade that would allow them to continue to credit bearing, college courses. Without a passing grade, students are ineligible to begin their collegiate educational goals. Bailey et al. (2010) found in a study of developmental education that 29 % of students who took developmental math and 16 % in development English discontinued enrollment in developmental sequences after failing or withdrawing from a remedial course. For other students, failing a course did not appear to have an impact on retention. In the same study, approximately 10 % of students exited the developmental sequence having not failed a course. As Bailey and colleagues note:

Thus if one combines the number of students who never enrolled with those who exited between courses, more students did not complete their sequence because they did not enroll in the first or a subsequent course than because they failed a course. For example, for reading, 30 percent never enrolled, and 8 percent left between courses, while only 16 percent failed or withdrew from a course (Bailey et al. 2010, p. 260).

Other studies in Florida and Texas found that remediation did not have a positive impact on college credit accumulation, completion, or degree attainment, calling into question the need for such courses for even those students who successfully complete developmental course sequences (Calcagno and Long 2008; Martorell and McFarlin 2007).

Second, enrollment in developmental education is costly for students. While community college tuition is often low, particularly in comparison to four-year institutions, the cost of developmental education must include the time spent taking the noncredit bearing and nontransferable courses (Melguizo 2009). Kolajo (2004) found that the average time to degree for students who enrolled in developmental education courses was two semesters longer. Other studies confirm that time to degree for students who place into developmental courses is significantly longer than those who do not (Bailey et al. 2010; Melguizo 2009). These findings are not surprising since developmental education requires additional course taking and thus additional time; yet, the most striking reality is that students who are the least academically prepared and have the greatest academic challenges are spending more time and money to complete a degree. Furthermore, the more time that a student spends in course taking, the more opportunities for life circumstances to create disruptions in enrollment. Developmental students are found to become frustrated and leave college at greater rates than students not requiring developmental education (Deil-Amen and Rosenbaum 2002; Rosenbaum 2001).

Third, developmental education is costly for taxpayers and individual community colleges. Most four-year institutions discontinued offering remedial courses years ago, pushing the responsibility of developmental education to community colleges. Studies find that developmental programs use sizable public resources. A recent study calculated that remediation is costing \$1.9–2.3 billion dollars at community colleges and another \$500 million at four-year colleges (Strong American Schools 2008). State reports cite expenditures in the tens of millions of dollars (ADHE n.d.; FOPPA 2006; OBR 2006).

Due to a lack of student success and the economic feasibility of continuing developmental education at individual institutions, several states have taken nationwide leadership roles in redesigning developmental education offerings. Here, I present the work of Virginia to analyze their efforts with a focus on the potential unintended consequences for students of color and female students.

In 2009, the Virginia Community Colleges issued a report titled “The Turning Point: Developmental Education in Virginia’s Community College.” The focus of this report was on increasing the number of credentials completed by students by 50 % by 2015. Developmental education in English, mathematics, and reading was viewed as the primary driver in preventing student success as noted in recent data that shows that over half of students place in one developmental course (VCCS 2010). The goals of the taskforce and future efforts by Virginia Community Colleges included reducing the need for developmental education, reducing time to complete for those who need developmental education to 1 year, and to increase the number of transfer or graduating students who start in developmental education. The Developmental Education Task Force (DETF) set out a series of 8 activities to achieve these goals, one of which was the complete redesign of developmental English, mathematics, and reading. The redesign, as noted in the report, must include redesigning content, course sequencing, alternative delivery methods, and student support. The report also outlined a series of additional recommendations to include partnering with K-12 schools, collecting accurate data, accountability mechanisms, and a review of policies.

A second report was issued in 2010 titled “The Critical Point: Redesigning Developmental Mathematics in Virginia’s Community Colleges,” recommending a specific refocus of developmental mathematics across the 23 community colleges in the Commonwealth with a clear plan of how to proceed, including developing web-based developmental courses with separate curricular tracks for science, technology, engineering, and mathematics, business administration, liberal arts, and career and technical education (VCCS 2010). The redesign would include revising the content of the curriculum, establishing 16 one credit-hour courses, creating web-based delivery methods, investigating early-alert tracking systems, and conducting research to evaluate the new mathematics developmental program. Their efforts included seeking input from faculty across the colleges through surveys, weblogs, and other means of informal communication. Resulting from their efforts currently is a new developmental mathematics program throughout the community college system. Preliminary data is unavailable to assess and evaluate the effectiveness of the program.

A critical analysis of the commonwealth’s reports reveal a few themes related to external pressures or influences and the role of race/ethnicity and gender. The first important consideration in these reports and the subsequent work on DETF is the framing of the external pressures. In The Turning Point report, the authors state, “Roots of this widespread focus to improve student success are found in the VCCS’s participation in the Achieving the Dream: Community Colleges Count (AtD) Initiative” (n.d., p. 9). The focus on AtD and the VCCS efforts is rooted in logic that “business as usual” will not support student success and the completion goals set

out by the Lumina Foundation, funders of AtD, as well as the American Graduation Initiative. In fact, the same report goes on to note that:

It is imperative that community colleges and other higher education institutions in the Commonwealth significantly increase their degree production in the coming decade if Virginia is to remain a competitive force in the global economy. Institutions must respond to this national call for more degrees without sacrificing the academic integrity of the college experience (p. 10).

Other external pressures outlined specifically in The Critical Point report are the National Governors Association, the Spellings Commission Report of 2006, and the American Graduation Initiative. Each of these organizations argued a need to address remediation with a call for states and individual colleges to find new methods to support student success in developmental education. Furthermore, the report outlines the work of The Lumina Foundation, Bill and Melinda Gates Foundation, National Center for Academic Transformation, and the American Mathematical Association of Two-Year Colleges in piloting new developmental mathematics efforts. The logic of the work of VCCS is rooted in the national discourse on college completion providing the necessary drivers to push for curricular and policy changes across the community college system. As discussed throughout this chapter, the influence of The Completion Agenda and philanthropic organizations is strong by providing the logic and arguments as well as grant funding in the case of philanthropic organizations.

In addition, the level of discourse appeals to a general belief in student success without any recognition of the complexity of student life and the barriers associated with student success, specifically for students from traditionally underrepresented student groups. The glossing over of barriers and the simplification of barriers to getting stuck in the curricular aspects of developmental education does not even begin to address the significant barriers that students encounter before and during their course taking at community colleges.

The second important theme regards the absence of discourse related to students groups. One of the reports does acknowledge that community colleges as compared to four-year universities serve more underrepresented populations and place the responsibility on community colleges to increase the attainment rate of those student populations (VCCS 2009, p. 10). Data presented throughout documents underscores the lack of student success in developmental education, specifically noting statistics that indicated 60 % of students take one developmental course and 44 % took more than one (VCCS 2009, p. 7). In each of these statistics including the national and Virginia system-wide numbers, the data is not disaggregated by race/ethnicity or gender ignoring the significant differences in student success across these student demographic groups. Perhaps this data was included in discussions and professional development with faculty; yet as Chase et al. (2012) point out in their critical review of multiple state documents, taking a “color-blind” (and I would add a gender-blind) approach to student outcomes obscures the tensions between ideologies of affirmative action and economic drivers that push for additional credentialing. Essentially, a focus on education equity and access is eroded when policies, practices, and justification found in arguments laden with economic outcomes as indicated by traditional student success outcome measures (i.e., graduation rates)

dominate. The work of VCCS is commendable in pushing toward change and attempting to promote student success in an area of great concern, but more attention to the need for access and equity would help to uncover disparities and potential barriers to student success that are not accounted for in their efforts.

California Student Success Initiative

Over the last five decades, California has led state-level higher education policy with its California Master Plan that outlined a distinct and progressive role for a three-tiered postsecondary system consisting of local, community-based community colleges, state institutions, and research universities to support educational and economic development in California. Due to a variety of factors but primarily initiated by fiscal concerns, California engaged in a variety of reforms that eroded the Master Plan, dramatically decreased funding for higher education, and has, recently, led to a series of new initiatives that do away with the philosophy of the Master Plan to “provide educational opportunity to qualified students at a minimum cost to the taxpayer” (State of California 1960, p. xii). The focus of this section is on the California Student Success Initiative as it serves as the framework of many commissions and political conversations to overhaul specific aspects of California’s higher education system and is an example of the unintended consequences promoted by The Completion Agenda.

Currently, California Community Colleges enroll approximately 2.6 million students in 112 community colleges which represent 25 % of all community colleges in the United States (California Community College Student Success Task Force 2012). California Community Colleges educate a significant number of California nurses, firefighters, and law enforcement personnel. However, concerns arise when looking at data on student success, a primary consideration fueling success initiatives across the country (California Community College Student Success Task Force 2012). A report by the California Community Colleges Student Success Task Force notes that only 54 % of community college students achieve a credential as defined by a degree or certificate. Of those students who start in developmental education, only half or less receive a degree or certificate, and transfer rates are well below 50 % for all students and less for students of African American or Latino descent. For these reasons and other political discourses, the California Community Colleges Student Success Task Force as well as individual politicians and policy makers are pushing for reforms to increase student success within community colleges.

One of those efforts is focused on priority enrollment. As part of the Task Force’s overall perspective on student success being connected to structured educational plans, one of the many recommendations is to establish priority enrollment policies which allow students in good academic standing, with fewer than 120 credits, and an educational plan to register for courses before the general student population. As noted in the report, “Student progress toward meeting individual educational goals will be rewarded with priority enrollment into courses and continued eligibility for financial aid” (California Community College Student Success Task Force 2012, p. 8). This recommendation is envisioned based on a desire to restructure “...the community college

system to provide students with more structure and guidance to encourage better choices and increase their probability of success” (California Community College Student Success Task Force 2012, p. 7). The major concern and potential unintended consequences of such a policy is that students who are predisposed due to age, gender, race/ethnicity, parental education, family responsibilities, and knowledge of postsecondary education will be more likely to complete the requirements to receive priority enrollment. Female students and those from historically underrepresented groups tend to have a series of barriers that place them in developmental education that often stalls their progress or are more likely to stop out due to family responsibilities. With California turning away over 450,000 students each year due to a lack of seats in classrooms (Rivera 2012), those students with the most barriers are less likely to receive priority enrollment and have access to courses; they will simply fall into the group of student who are turned away.

Related to priority enrollment is an effort to limit the number of credits that a student can accumulate. A *Los Angeles Times* article (Rivera 2012) reports on Governor Brown’s initiative to cap credits on “state-subsidized classes at 90 units, requiring students who exceed that to pay the full cost of instruction, about \$190 per semester unit versus \$46 per unit. In the 2009–2010 academic year, nearly 120,000 students had earned 90 units or more” (Rivera 2012). As reported in the article, one of the concerns is that a penalty that may occur for specific students who have a double major, want to explore multiple academic or vocational programs, or who are returning to college to retrain for a new job. Each of these groups could accumulate well over 90 credits throughout their lifetime and would be left to pay almost four times for each course unit.

The two states highlighted represent significant changes in community colleges with an emphasis on addressing a lack of student progress and completion in developmental education and progress toward measurable goals, such as transfer or completing a degree or certificate. Each of these initiatives, similar to the national philanthropic efforts, are sparked by external pressures signaling a need for community colleges to serve as economic drivers locally and nationally in the United States. Due to these influences, each state also built their efforts on the embedded assumptions in The Completion Agenda with little to no regard for inequities caused to female students and students of color. Whether it be creating priority enrollment, distance education, or new placement exams, a lack of deep reflection and data disaggregated by student social demographics will unintentionally lead to reduced access to community colleges specifically for those underrepresented students who generally do not result in completions as defined by graduation rates and pathway measures.

Recommendations for Research and Policy

In order to address the unintended consequences of The Completion Agenda on both female students and students from underrepresented racial/ethnic groups, a series of policy considerations and new research are needed to reframe discourse

and provide the empirical data for change. Considering policy changes is significant because as Conway (2009) states, “Yet even though community colleges are the least expensive option in higher education, as legislators become more concerned about funding costs, community colleges will be under increasing accountability pressures and may be forced to turn away the least prepared students as they attempt to bolster retention, transfer, and graduation rates” (p. 323). Without attention to The Completion Agenda and ways to integrate equity within the federal and national discourse, initiatives such as the California’s priority enrollment will lead to a dismantling of the community college access mission creating an imbalance in the access and completion equation and scale. In this section, I outline several policy considerations as well as suggestions for new research.

Recommendations for Policy

The first consideration for policy is to *place equity central to national and federal discourse on college success*. As stated throughout this chapter, The Completion Agenda has framed college success as an act of credentialing for eligibility for jobs, thereby increasing the education levels of individuals in the United States. Support for vocationalism is widespread and built on economic assumptions of the role of higher education and has moved away from higher education as a social or public good. The discourse is seen across initiatives from statewide efforts in Virginia and California to national initiatives in Completion by Design and Achieving the Dream. Given the level of influence, little change is possible without a concerted effort to include as central to success equity which will require acknowledgement of sexism and racism in American culture and the relationship between social inequities and socioeconomic class. Understanding student barriers that directly impact the relative ability for historically underrepresented groups to access and to complete college is the first step to identifying how state and federal policies or philanthropic initiatives can influence student success for all students and how student success differs across student groups. Assuming that all students exist in monolithic categories will lead to increasing racial/ethnic and gender stratification in the United States.

The second recommendation concerns measuring college student outcomes. To frame discourse around equity requires a *move beyond traditional outcome measures* that focus on graduation rates. Several issues are related to graduation rates in particular. Federal definitions of graduation rates of 150 % do not account for the vast majority of students who take longer to complete their credentials. Moreover, students who are in noncredit courses are often excluded from these numbers creating additional focus on those students who are on a traditional academic pathway. Career and technical education and developmental education students are left out of these calculations and are, therefore, inappropriate for community colleges who serve large numbers of students outside a traditional academic path. As seen in the work of Achieving the Dream, a philosophy and vision that focuses on equity is incomplete and incongruent with traditional outcome measures. To understand

equity, we have to look at how students of different demographic groups are moving forward (or not) in a college environment, not assume that credentialing is the goal or a realistic option given the parameters of graduation rates. Another option is to measure student success through pathways, but this method is arguably just parsing graduation rates into smaller bits, not considering new methods for understanding student success. For example, measuring when students reach 30 credits as suggested in California's Student Success Initiative just captures a step toward graduation that is ultimately measured by reaching a total number of credits in a specific timeframe.

Of note in conversations and discourse around outcome measures needs to be a focus on student learning. AAC&U has multiple rubrics, metrics, and opportunities to consider new methods for capturing student learning. A focus away from graduation allows for institutions to track students as they learn material regardless of their eventual outcome. Perhaps students who learn material and are able to apply that knowledge to their jobs or get a new job achieved their goal regardless of the fact that they did not receive a certificate or degree. To do so would likely capture the nuances in student goals and success that would provide additional information on how to achieve equity and how we should define equity in higher education.

Related to changing definitions and assumptions around outcome measures is to *examine the impact of state-level policies before implementation*. Referring specifically to those initiatives on the state and institutional level, an examination of the impact disaggregating the data by race/ethnicity, gender, and social class, among other student demographics, is needed to project and question whether or not policies are androcentric and generic. Chase et al. (2012) in a study of transfer policies in seven states argued, "legislative statutes and regulations concerning transfer are written in a 'color-blind' manner. From a critical perspective, the fact that the legislation does not recognize and explicitly seek to remediate the impact of racism on minoritized groups has contributed to intractable racial-ethnic inequities in postsecondary participation and outcomes" (p. 30). For example, the California Student Success Initiative's priority enrollment will have a detrimental impact on female students as well as students from underrepresented groups due to their historical enrollment behavior associated with barriers to college going. Simple data analysis on the system level that identifies correlations between credit hours, attending orientation, and stopping or dropping out of college would show that priority enrollment will advantage those students with less social and economic barriers. Being more aware of the importance of disaggregating data and thoroughly understanding impact across student groups may alter the policies and implementation efforts to sustain access for all individuals.

Related to state and national initiatives is the need to *give individual institutions authority to define student outcomes and the flexibility to alter policies* to fit community needs. Community colleges were built to serve local community interests. Research on rural community colleges, for example, identifies significant differences in community relations and student needs in rural areas (Eddy and Murray 2007). Giving individual institutions the purview to identify student outcomes that measure the success of their specific student population as well as the relationship

with local workforce development will assist in the ability to focus on equity and promote local economic growth, a concern according to federal and national discourse in The Completion Agenda. These outcome measures may be job placement, economic development, and skill development as opposed to graduation rates. In addition, individual colleges need flexibility in policies due to their differing student populations and the needs of those populations. For example, some community colleges are located in urban areas with larger numbers of students of color and lower-income students, while others are in suburban and more affluent areas. How initiatives to promote student success are tailored to meet the needs of the local community will dramatically differ. As found in AtD, a lack of support on the institutional level to consider equity will likely not lead to consistent and deep level examination and subsequent change. Any initiative that is seeking to address equity, regardless of how equity is defined, must be intentional and provide the support necessary to question implicit biases and facilitate discussion. If equity was easily discussed and addressed in higher education, intervention would be unnecessary and student data would not show such stark inequities.

Recommendation for Research

Coupled with policy considerations is a need for *empirical research that addresses current and future policy relevant concerns*. Knowledge about student success is often limited with significant gaps in the collective understanding of what factors impact student access and success. Institutions are often unsure about where intervention points exist to support and promote student success. More research is needed to know how to support student success and successful intervention strategies that lead to retention across student groups. Again, the focus is not on understanding students as monolithic groups but the diversity within and across students. Studies need to consider what barriers students from different demographic groups experience in career and technical fields in addition to traditional academic programs and the role of academic advising. In addition, transcript level analysis coupled with student report and direct observation can assist with understanding where students tend to drop or stop out and the structures that would assist them to retain. Other studies need to address the role of financial aid and how federal financial aid, including the Pell Grant, could support retention efforts in summer and winter sessions.

Related to more research on learning outcomes is a need *to understand multiple student pathways*. Increasingly, students are attending multiple institutions of higher education before receiving a credential. No longer is the assumption of a linear path in and out of four-year institution or starting at a two-year institution and transferring the “typical” student pathway. What we need to better understand is the impact of student movement across institutions and what impact some college has on student success. Studies need to understand the impact of student engagement and persistence when attending multiple institutions simultaneously or on a pathway to degree completion. These studies would need to examine articulation agreements,

credit transfer, and whether or not students of different demographic groups require engagement through academic and social integration. In addition, the role of part-time faculty is inconclusive in the literature. Do students understand the faculty part-time versus full-time structure and does it impact their success? These are just a few studies to consider.

More research is also needed on *new student success measures*. Increasingly, states are looking at performance-based funding models where additional state funding is provided to those institutions that meet student outcomes thresholds defined by graduation rates and other traditional student outcome measures. Without significant research that identifies the issues with using these measures in a community college environment and alternative, validated measures, community colleges may experience reduced funding. Examining those performance-based funding models and providing alternative measures are highly significant to individual community colleges in the future. This research could, for example, focus on the relative impact across student groups of some college rather than completing a degree. As already stated, examining job skills obtained, learning that occurred, and individual economic benefits are just a few opportunities for alternative outcomes measures. This area of research also needs to consider new learning outcomes.

Needed in future research is to examine the *impact of initiatives* the potentially negatively impact specific students groups which challenges community college access. Throughout this chapter, I argue that given the known barriers to student success in community colleges and the trends of enrollment and completion for historically underrepresented groups, The Completion Agenda will negatively, yet unintentionally, impact female students and students of color. What is now needed is empirical data with rigorous research methodologies that interrogates this argument and identifies the local, state, and national impact of specific initiatives. These studies need to identify the short-term impact, such as an inability to access new online developmental education courses or the accurate placement of new developmental placement tests. They also need to identify the long-term impact, such as the rate of college going for student groups disaggregated by race and ethnicity and whether or not access is an ideal or practically realized when courses are closed during priority enrollment or course registration periods. These studies may also focus on new learning outcome measures to help design and implement new measures of student success. Arum and Roksa (2011) used the college learning assessment to understand learning outcomes, but questions still remain as to the most appropriate measures that capture learning.

Another fruitful area of research concerns the need to understand *how to expand successful smaller-scale programs*. As noted in the MDRC (2011) report on Achieving the Dream, scaling up effective local programs continues to be a barrier to organizational change. Change needs to occur in conversations of calculation of graduation rates, barriers to completion for specific social identity groups, and adoption of new and innovative practices that scale-up successful programs and promote organizational change. Change on the institutional level, as Bailey (2012) states, “Innovative programs will clearly need to be part of any ambitious strategy, but they will need to be accompanied by broader and more comprehensive organizational

changes” (p. 94). Most small-scale programs are human resource concentrated with low academic counselor to student ratios and living and learning communities that provide opportunities for academic and social engagement, known predictors of college student success. In a resource-limited environment, such as a community college, scaling up these programs is difficult if not impossible. Research needs to identify new and innovative mechanisms to create more opportunities for high touch programming for community college students while identifying how and if new technologies can be utilized to support student success. Moreover, more research is needed on organizational change to identify specific practices to support change.

Conclusion

Rhoades (2012) stated in a critique of The Completion Agenda:

Educational policy at both the federal and state levels has been emphasizing workforce development, credentials, and the terminal tracks of community colleges. The result is that these institutions, which have long been instruments of upward social mobility, are being turned into dead ends for students who seek ultimately to obtain baccalaureate degrees. The completion agenda will increase already substantial college achievement gaps between social classes and ethnic groups.

The argument of this chapter is directly aligned with the sentiment in Rhoades’ quote and extends his argument with a focus on national, state, and individual initiatives that rely on the assumptions of The Completion Agenda and continue to ignore social and economic inequity. The relationship between access and completion are inextricably linked. Completion and access sit on each side of a balance scale with equity being when both are equally weighted. Access to higher education provides the opportunity for completion and must be a focus to promote success for students who are the least likely to result in completions. Yet, no emphasis on completion lends to something akin to the current public discourse of a lack of graduation among those who gain access to higher education. Goldrick-Rab (2010) argues, “If the definition of college success shifts from access to completion without recognizing that access and success are inextricably linked, community colleges are vulnerable to criticism and possibly reduced public support.” Continuing to discuss completion without an emphasis on its relation to access places community colleges in an impossible bind where they are forced to tip the scale in favor of inappropriate completion measures gained by reducing access to those students who are most likely to complete. As Mullin (2012) argues, community colleges are in a conundrum with attempting to focus on completion:

Community college leaders are faced with focusing either on (a) increasing completion rates using the traditional measures (i.e., attainment of associate and bachelor’s degrees) established by the Organisation for Economic Cooperation and Development in international comparisons or (b) getting people back to work with certificates and industry credentials that are not counted as a success measure in international comparisons. Focusing solely on the former narrowly defines success while overlooking the needs and achievements of a significant number of people, whereas focusing solely on the latter will not

increase the international ranking of the United States. Community colleges are therefore in the difficult position of balancing two completion agendas: the person's need to return to work and the nation's desire to be a world leader in terms of a narrowly defined set of outcomes. (p. 3)

To address these concerns, a changing of perspective and federal or national public discourse is needed alongside practical efforts to intentionally examine the implications of completion measures, establishment of programs, and new state or institutional policies on students of different demographic groups, particularly female students and those from historically underrepresented racial and ethnic groups. Only then can the ideals of Bailey's and Morest's (2006) equity framework for community colleges be realized.

References

- AAC&U (Association of American Colleges and Universities). (2005). *Liberal education outcomes: A preliminary report on student achievement in college*. Washington, DC: Association of American Colleges and Universities.
- AAC&U. (2013). *Liberal education and America's promise (LEAP)*. Retrieved from <http://www.aacu.org/leap/index.cfm>
- Achieving the Dream. (n.d.). *Achieving the dream: Mission, vision, and values*. Retrieved from http://www.achievingthedream.org/about/mission_vision_and_values
- Acker, S., & Feuerverger, G. (1997). Enough is never enough: Women's work in academe. In C. Marshall (Ed.), *Feminist critical policy analysis: A perspective from post-secondary education* (pp. 122–140). London: Falmer Press.
- Adams, N. (1997). Toward a curriculum of resiliency: Gender, race, adolescence and schooling. In C. Marshall (Ed.), *Feminist critical policy analysis: A perspective from primary and secondary schooling* (pp. 153–164). London: Falmer Press.
- Adelman, C. (2005). *Moving into town – and moving on: The community college in the lives of traditional-age students*. Washington, DC: U.S. Department of Education.
- Adelman, C. (2006). *The toolbox revisited: Paths to degree completion from high school through college*. Washington, DC: U.S. Department of Education.
- Allan, E. J. (2003). Constructing women's status: Policy discourses of university women's commission policy reports. *Harvard Educational Review*, 73(1), 44–72.
- American Association of Community Colleges. (2012). *Reclaiming the American dream: A report from the 21st-Century Commission on the Future of Community Colleges*. Washington, DC: Author. Retrieved from <http://www.aacc.nche.edu/21stCenturyReport>
- Ancis, J. R., Sedlacek, W. E., & Mohr, J. J. (2000). Student perceptions of campus climate by race. *Journal of Counseling and Development*, 78, 180–185.
- Arkansas Department of Higher Education. (n.d.). *2003–04 Arkansas academic cost accounting system: A strategic management tool for higher education planning and campus decision-making*. AR: Author. <http://www.adhe.edu/SiteCollectionDocuments/Institutional%20Finance%20Division/Publications/UR2003-04.pdf>
- Arum, R., & Roksa, J. (2011). *Academically adrift: Limited learning on college campuses*. Chicago: University of Chicago Press.
- Arum, R., Roksa, J., & Cho, E. (2011). *Improving undergraduate learning: Findings and policy recommendations from the SSRC-CLA longitudinal project*. Brooklyn: Social Science Research Council.
- Bahr, P. (2010). Preparing the underprepared: An analysis of racial disparities in postsecondary mathematics remediation. *Journal of Higher Education*, 81(2), 209–237.

- Bailey, T. (2012). Can community colleges achieve ambitious graduation goals? In A. Kelly & M. Schneider (Eds.), *Getting to graduation: The completion agenda in higher education*. Baltimore: Johns Hopkins University Press.
- Bailey, T. R., & Alfonso, M. (2005). Paths to persistence: An analysis of research on program effectiveness at community colleges [Monograph]. *Lumina Foundation for Education New Agenda Series*, 6(1), 1–44.
- Bailey, T., & Morest, V. S. (2006). *Defending the community college equity agenda*. Baltimore: Johns Hopkins University Press.
- Bailey, T. R., Calcagno, J. C., Jenkins, D., Kienzl, G., & Leinbach, T. (2005). *Community college student success: What institutional characteristics make a difference?* (Community College Working Paper No. 3). New York: Teachers College, Columbia University.
- Bailey, T., Calcagno, J. C., Jenkins, D., Leinbach, T., & Kienzl, G. (2006). Is student-right-to know all you should know? An analysis of community college graduation rates. *Research in Higher Education*, 47, 491–519.
- Bailey, T., Jeong, D., & Cho, S.-W. (2010). *Student progression through developmental sequences in community colleges*. New York: CCRC; EdSource.
- Bensimon, E., & Marshall, C. (1997). Policy analysis for post-secondary education: Feminist and critical perspectives. In C. Marshall (Ed.), *Feminist critical policy analysis: A perspective from post-secondary education* (pp. 1–21). London: Falmer Press.
- Bloom, D., & Sommo, C. (2005). *Building learning communities: Early results from the opening doors demonstration at Kingsborough Community College*. N.p: MDRC.
- Bragg, D. D., & Durham, B. (2012). Perspectives on access and equity in the era of (community) college completion. *Community College Review*, 40(2), 106–125.
- Cabrera, A. F., Alberto, F., Nora, A., Terenzini, P. T., Pascarella, E. T., & Serra, H. L. (1999). Campus racial climate and the adjustment of students to college: A comparison between white students and African-American students. *Journal of Higher Education*, 70(2), 134–160.
- Calcagno, J. C., & Long, B. (2008). *The impact of postsecondary remediation using a regression discontinuity approach: Addressing endogenous sorting and noncompliance* (NCPR Working Paper). New York: National Center for Postsecondary Research.
- California Community College Student Success Task Force. (2012). *Advancing student success in the California community colleges: Recommendations of the California community colleges student success task force*. Retrieved from <http://californiacommunitycolleges.cccco.edu/PolicyinAction/StudentSuccessTaskForce.aspx>
- Carnevale, A. P., Smith, N., & Strohl, J. (2010). *Help wanted: Projections of jobs and education requirements through 2018*. Washington, DC: Georgetown University Center on Education and the Workforce. Retrieved from <http://cew.georgetown.edu/jobs2018/>
- CCSSE. (2005). *Engaging students, challenging the odds: 2005 findings*. Community College Survey of Student Engagement. Austin: The University of Texas at Austin.
- Chase, M. M., Dowd, A. C., Pazich, L., & Bensimon, E. M. (2012). Transfer equity for “Minoritized” students: A critical policy analysis of seven states. *Educational Policy*. Retrieved from <http://epx.sagepub.com/content/early/2012/12/06/0895904812468227>
- Clotfelter, C. T., Ladd, H. F., Muschkin, C. G., & Vigdor, J. L. (2013). Success in community college: Do institutions differ? *Research in Higher Education*. doi:10.1007/s11162-013-9295-6.
- Cohen, A. M., & Brawer, F. B. (2003). *The American community college* (4th ed.). San Francisco: Jossey-Bass.
- Community college fact sheet. (2006). Retrieved from www.aacc.nche.edu
- Community College Survey of Student Engagement (CCSSE). (2012). *2012 Cohort Key Findings*. Retrieved at <http://www.ccsse.org/survey/survey.cfm>
- Compton, J. I., Cox, E., & Laanan, F. S. (2006). Adult learners in transition. In F. S. Laanan (Ed.), *New directions for student services* (Vol. 114, pp. 73–80). San Francisco: Jossey-Bass.
- Conway, K. (2009). Exploring persistence of immigrant and native students in an urban community college. *The Review of Higher Education*, 32(3), 321–352.

- Cook, B. J., & Cordova, D. I. (2007). *Minorities in higher education: 22nd annual status report, 2007 supplement*. Washington, DC: American Council on Education.
- Deil-Amen, R., & Rosenbaum, J. E. (2002). The unintended consequences of stigma free remediation. *Sociology of Education*, 75, 249–268.
- Deutsch, N. L., & Schmertz, B. (2011). “Starting from ground zero:” Constraints and experiences of adult women returning to college. *The Review of Higher Education*, 34(3), 477–504.
- Dolan, T. D. (2005). The community college crisis: How serious? *Education Digest*, 71(3), 50–54.
- Dougherty, K. J., & Kienzl, G. S. (2006). It’s not enough to get through the open door: Inequalities by social background in transfer from community colleges to four-year colleges. *Teachers College Record*, 108(3), 452–487.
- Eagan, M., & Jaeger, A. (2008). Closing the gate: Part-time faculty instruction in gatekeeper courses and first-year persistence. *New Directions for Teaching & Learning*, 2008(115), 39–53. doi:10.1002/tl.324. Retrieved April 29, 2009.
- Eddy, P. L., & Murray, J. (Eds.). (2007). Rural community colleges: Teaching, learning, and leading in the heartland. In Eddy & Murray (Eds.), *New directions in community colleges*. San Francisco: Jossey-Bass.
- Edwards, K. E., & Jones, S. R. (2009). “Putting my man face on”: A grounded theory of college men’s gender identity development. *Journal of College Student Development*, 50(2), 210–228.
- Ewert, S. (2012). Fewer diplomas for men: The influence of college experiences on the gender gap in college graduation. *Journal of Higher Education*, 83(6), 824–850.
- Field, K. (2011). *Pell Grant face cuts, possible overhaul*. Retrieved from [http://chronicle.com.mutex.gmu.edu/article/Pell-Grants-Face-Cuts/126807/](http://chronicle.com/mutex.gmu.edu/article/Pell-Grants-Face-Cuts/126807/)
- Florida Office of Program Policy Analysis and Government Accountability. (2006). *Steps can be taken to reduce remediation rates: 78 % of community college students, 10 % of university students need remediation* (OPPAGA Report No. 06–40). Tallahassee: Author.
- Gardner, L. (2012). *Survey of California community colleges reveal drastic effects of budget cuts*. Retrieved from <http://chronicle.com.mutex.gmu.edu/article/Survey-of-California-Community/134020/>
- Glazer, J. (1997). Affirmative action and the status of women in the academy. In C. Marshall (Ed.), *Feminist critical policy analysis: A perspective from postsecondary education*. London: Falmer Press.
- Goenner, C., & Snaith, S. (2004). Accounting for model uncertainty in the prediction of university graduation rates. *Research in Higher Education*, 45(1), 25–41.
- Goldrick-Rab, S. (2006). Following their every move: An investigation of social-class differences in college pathways. *Sociology of Education*, 79, 61–79.
- Goldrick-Rab, S. (2010). Challenges and opportunities for improving community college student success. *Review of Educational Research*, 80(3), 437–469.
- Greene, T. G., Marti, C. M., & McClenney, K. (2008). The effort-outcome gap: Differences for African American and Hispanic community college students in students engagement and academic achievement. *Journal of Higher Education*, 79, 513–539.
- Grubb, W. N. (1989). The effects of differentiation on educational attainment: The case of community colleges. *Review of Higher Education*, 12(4), 349–374.
- Hardin, C. J. (2008). Adult students in higher education: A portrait of transitions. In Betsy O. Barefoot (Ed.), *New directions for higher education* (Vol. 144, pp. 49–57). San Francisco: Jossey-Bass.
- Harris, F. (2010). College men’s meanings of masculinities and contextual influences: Toward a conceptual model. *Journal of College Student Development*, 51(3), 297–318.
- Harris, Z. M., & Kayes, P. (1996). *New statewide regional initiative on creating inclusive educational communities for minority students*. Paper presented at the Annual Convention of the American Association of Community Colleges, Atlanta, GA.
- Hart Research Associates. (2009). *Trends and emerging practices in general education*. Washington, DC: Association of American Colleges and Universities.

- Hoachlander, G., Sikora, A. C., Horn, L., & Carroll, C. D. (2003). *Community college students: Goals, academic preparation, and outcomes* (NCES 2003–164). Washington, DC: National Center for Education Statistics, U.S. Department of Education.
- Hollingsworth, S. (1997). Feminist praxis as the basis for teacher education: A critical challenge. In C. Marshall (Ed.), *Feminist critical policy analysis: A perspective from primary and secondary schooling* (pp. 165–182). London: Falmer Press.
- Home, A. M. (1998). Predicting role conflict, overload, and contagion in adult women university students with families and jobs. *Adult Education Quarterly*, 48(2), 85–98.
- Horn, L. J., & Nevill, S. (2006). *Profile of undergraduates in U.S. postsecondary education institutions: 2003–04, with a special analysis of community college students* (NCES Publication No. 2006–184). U.S. Department of Education. Washington, DC: National Center for Education Statistics.
- Horn, L. J., & Premo, M. D. (1995). *Profile of undergraduates in U.S. postsecondary education institutions: 1992–93* (NCES Publication No. 96–237). Washington, DC: National Center for Education Statistics.
- Hudson, L. (2003). Racial/ethnic differences in the path to a postsecondary credential. *Education Statistics Quarterly*, 5(2), 129–133.
- Huff, D. D., & Thorpe, B. (1997). Single parents on campus: A challenge for today. *NASPA Journal*, 34, 287–302.
- Ishitani, T. T. (2006). Studying attrition and degree completion behavior among first generation college students in the United States. *Journal of Higher Education*, 77, 861–885.
- Iverson, S. V. (2007). Camouflaging power and privilege: A critical race analysis of university diversity policies. *Educational Administration Quarterly*, 43, 586–611.
- Jacobs, J., & King, R. (2002). Age and college completion: A life-history analysis of women aged 15–44. *Sociology of Education*, 75, 211–230.
- Katsinas, S. (2011). The growing impact of new Pell Grant funding: A statewide profile of Iowa's community colleges. A research project of the Education Policy Center at the University of Alabama, Iowa State University, The National Rural Scholars Panel of the Rural Community College Alliance. Tuscaloosa, AL.
- Kerckhoff, A. C., Raudenbush, S. W., & Glennie, E. (2001). Education, cognitive skill, and labor force outcomes. *Sociology of Education*, 74, 1–24.
- Kim, S. H., & Sedlacek, W. E. (1996). Gender differences among incoming African American freshmen on academic and social expectations. *Journal of the Freshman Year Experience*, 8(1), 25–37.
- King, J. (2003). Nontraditional attendance and persistence: The cost of students' choices. *New Directions for Higher Education*, 121, 69–83.
- Kolajo, E. F. (2004). From developmental education to graduation: A community college experience. *Community College Journal of Research and Practice*, 28, 365–371.
- Kuh, G. D., Kinzie, J., Schuh, J. H., & Whitt, E. J. (2005). *Student success in college: Creating conditions that matter*. San Francisco: Jossey-Bass.
- Kuh, G. D., Kinzie, J., Cruce, T. M., Shoup, R., & Gonyea, R. M. (2007, Revised). *Connecting the dots: Multi-faceted analyses of the relationships between student engagement results from NSSE, and the institutional practices and conditions that foster student success*. Bloomington: Indiana University Center for Postsecondary Research.
- Laird, T., & Cruce, T. (2009). Individual and environmental effects of part-time enrollment status on student-faculty interaction and self-reported gains. *Journal of Higher Education*, 80, 290–314.
- Lammers, H. B., Kiesler, T., Curren, M. T., Cours, D., & Connett, B. (2005). How hard do I have to work? Student and faculty expectations regarding university work. *Journal of Education for Business*, 80(4), 210–213.
- Martorell, P., & McFarlin, I. (2007). *Help or hindrance? The effects of college remediation on academic and labor market outcomes*. Unpublished manuscript.
- MDRC, Inc. (2011). *Turning the tide five years of achieving the dream in community colleges*. Retrieved from http://www.mdrc.org/project/achieving-dream#featured_content

- Melguizo, T. (2009). Are community colleges an alternative path for Hispanic students to attain a bachelor's degree? *Teachers College Record*, 111, 90–123.
- Melguizo, T., Hagedorn, L. S., & Cypers, S. (2008). The need for remedial/developmental education and the cost of community college transfer: Calculations from a sample of California community college transfers. *The Review of Higher Education*, 31(4), 401–431.
- Milem, J. F. (2003). The educational benefits of diversity: Evidence from multiple sectors. In M. J. Chang, D. Witt, J. Jone, & K. Hakuta (Eds.), *Compelling interest: Examining the evidence on racial dynamics in colleges and universities* (pp. 126–169). Stanford: Stanford University Press.
- Miller, K., Gault, B., & Thorman, A. (2011). *Improving child care access to promote postsecondary success among low-income parents*. Washington, DC: Institute for Women's Policy Research.
- Mortenson, T. (1997, April). Actual versus predicted institutional graduation rates for 1100 colleges and universities. *Postsecondary Education Opportunity*, 58, 1–24.
- Mullin, C. M. (2012, February). *Why access matters: The community college student body* (Policy Brief 2012-01PBL). Washington, DC: American Association of Community Colleges.
- National Center for Education Statistics (NCES). (2007). *Status and trends in the education of racial and ethnic minorities*. Retrieved from <http://nces.ed.gov/pubs2007/minoritytrends/>
- National Center for Education Statistics. (2012). *Digest of Education Statistics, 2011* (NCES 2012–001). Retrieved from <http://nces.ed.gov/fastfacts/display.asp?id=76>
- National Center for Education Statistics. (2013). *Integrated Postsecondary Education Data System Glossary*. Retrieved from <http://nces.ed.gov/ipeds/glossary/?charindex=G>
- National Center for Higher Education Management Systems, & Jobs for the Future. (2007). *Adding it up: State challenges for increasing college access and success* (ERIC Document Reproduction Service No. ED499087). Boston: Jobs for the Future.
- New American Foundation. (n.d.). *Federal Pell Grant program*. Retrieved from <http://febp.newamerica.net/background-analysis/federal-pell-grant-program>
- Nodine, T., Venezia, A., & Bracco, K. (2011). *Changing course: A guide to increasing student completion in community colleges*. San Francisco: WestEd.
- Nodine, T., Jaeger, L., Venezia, A., Bracco, K. R., & with research support from Public Agenda. (2012). *Connection by design: Students' perceptions of their community college experiences*. San Francisco: WestEd.
- Núñez, A., & Cuccaro-Alamin, S. (1998). *First generation students: Undergraduates whose parents never enrolled in postsecondary education*. Washington, DC: U.S. Department of Education, National Center for Education Statistics (NCES).
- Obama, B. (2009). *Remarks by the President on the American Graduation Initiative*. Retrieved from http://www.whitehouse.gov/the_press_office/Remarks-by-the-President-on-the-American-Graduation-Initiative-in-Warren-MI
- Offenstein, J., & Shulock, N. (2009). *Community college student outcomes: Limitations of the Integrated Postsecondary Education Data System (IPEDS) and recommendations for improvement*. Institute for Higher Education Leadership and Policy, California State University, Sacramento. Retrieved from http://www.csus.edu/ihelp/PDFs/R_IPEDS_08-09.pdf.
- Ohio Board of Regents. (2006). *Costs and consequences of remedial course enrollment in Ohio public higher education: Six-year outcomes for fall 1998 cohort*. OH: Author. http://regents.ohio.gov/perfrpt/special_reports/Remediation_Consequences_2006.pdf
- Olivas, M., Chacon, M., Cohen, E., & Trover, S. (1986). Chicanas & chicanos barriers to progress in higher education. In M. Olivas (Ed.), *Latino college students* (pp. 296–324). New York: Teachers College Press.
- Parsad, B., Lewis, L., & Greene, B. (2003). *Remedial education at degree-granting postsecondary institutions in Fall 2000* (NCES 2004–010). Washington, DC: National Center for Education Statistics.
- Pascarella, E. T., & Terenzini, P. T. (2005). *How college affects students: A third decade of research*. San Francisco: Jossey-Bass.
- Pascarella, E., Blaich, C., Martin, G. L., & Hanson, J. M. (2011). How robust are the findings of academically adrift? *Change*, 43(3), 20–24.

- Phillippe, K., & Mullin, C. M. (2011). *Community college estimated growth: Fall 2010*. Washington, DC: American Association of Community Colleges.
- Pillow, W. (1997). Decentering silences/troubling irony: Teen pregnancy's challenge to policy analysis. In C. Marshall (Ed.), *Feminist critical policy analysis: A perspective from primary and secondary schooling* (pp. 134–152). London: Falmer Press.
- Porchea, S. F., Allen, J., Robbins, S., & Phelps, R. P. (2010). Predictors of long-term enrollment and degree outcomes for community college students: Integrating academic, psychosocial, socio-demographic, and situational factors. *Journal of Higher Education, 81*, 750–779.
- Porter, S. R. (2000). The robustness of the “graduation rate performance” indicator used in the U.S. News and World Report college ranking. *International Journal of Educational Advancement, 1*(2), 10–30.
- Rendon, L. I. (1994, February). *A systematic view of minority students in educational institutions*. Paper presented at the Social Education Foundation Panel on Educational Opportunity and Postsecondary Desegregation, Austin, TX.
- Rhoades, G. (2012). The incomplete completion agenda: Implications for academe and the academy. *Liberal Education, 98*(1). Retrieved at: <http://www.aacu.org/liberaleducation/le-wi12/rhoades.cfm>
- Rivera, C. (2012). *California community college board OKs new registration policies*. Retrieved from <http://articles.latimes.com/2012/sep/11/local/la-me-colleges-register-20120911>
- Roksa, J. (2006). Does the vocational focus of community colleges hinder students' educational attainment? *Review of Higher Education, 29*(4), 499–526.
- Rosenbaum, J. E. (2001). *Beyond college for all: Career paths for the forgotten half*. New York: Russell Sage.
- Ryder, R. A., Bowman, R. I., & Newman, P. P. (1994). Nontraditional students: Perceived barriers to degree completion. *College Student Affairs Journal, 13*, 5–13.
- Sanchez, I. M. (2000). Motivating and maximizing learning in minority classrooms. *New Directions for Community Colleges, 112*, 35–44.
- Sax, L. J. (2008). *The gender gap in college: Maximizing the developmental potential of women and men*. San Francisco: Jossey-Bass.
- Schneider, C. G. (2010). *The three-year degree is no silver bullet*. Association of American Colleges and Universities. Retrieved from <http://www.aacu.org/about/statements/2010/threeyears.cfm>
- Schwitzer, A. M., Griffin, O. T., Ancis, J. R., & Thomas, C. (1999). Social adjustment experiences of African American college students. *Journal of Counseling and Development, 77*, 189–197.
- Shaw, K. M. (2004). Using feminist critical policy analysis in the realm of higher education: The case of welfare reform as gendered educational policy. *Journal of Higher Education, 75*(1), 56–79.
- Shaw, K. W., & London, H. B. (2001). Culture and ideology in keeping transfer commitment: Three community colleges. *Review of Higher Education, 25*(1), 91–114.
- Sontam, V., & Gabriel, G. (2012). Student engagement at a large suburban community college: Gender and race differences. *Community College Journal of Research and Practice, 36*(10), 808–820.
- St. Rose, A., & Hill, C. (2013). *Women in community colleges: Access to success*. American Association of University Women. Retrieved from <http://www.aauw.org/resource/women-in-community-colleges/>
- State of California. (1960). *A master plan for higher education in California 1960–1975*. Retrieved from <http://www.ucop.edu/acadinit/mastplan/mp.htm>
- Stromquist, N. (1997). Gender policies in American education: Reflections on federal legislation and action. In C. Marshall (Ed.), *Feminist critical policy analysis: A perspective from primary and secondary schooling* (pp. 54–72). London: Falmer Press.
- Strong American Schools. (2008). *Diploma to nowhere*. Retrieved from <http://www.edin08.com/>
- Swigart, T. E., & Murrell, P. H. (2001). Factors influencing estimates of gains made among African-American and Caucasian community college students. *Community College Journal of Research and Practice, 25*, 297–312.
- Symonds, W. C., Schwartz, R. B., & Ferguson, R. (2011). *Pathways to prosperity: Meeting the challenge of preparing young Americans for the 21st century*. Cambridge, MA: Pathways to Prosperity Project, Harvard Graduate School of Education.

- Szelenyi, K. (2001). Minority student retention and academic achievement in community colleges. *ERIC Digests, ED451859*.
- The Aspen Institute. (n.d.). *Skills for America's future initiative*. Retrieved from <http://www.aspen-institute.org/policy-work/economic-opportunities/skills-for-americas-future>
- The Century Foundation. (2013). *Bridging the higher education divide: Strengthening community colleges and restoring the American dream*. Retrieved from <http://tcf.org/bookstore/detail/bridging-the-higher-education-divide>
- Townsend, B. K. (1994). How universities successfully retain and graduate Black students. *Journal of Negro Education, 27*, 89–125.
- U.S. Department of Education, *2009–2010 Federal Pell Grant Program End-of-Year Report*. Washington, DC: Office of Postsecondary Education, 2011. <http://www2.ed.gov/finaid/prof/resources/data/pell-2009-10/pell-eoy-09-10.pdf>
- U.S. Department of Labor. (2012). *US Labor Department encourages applications for Trade Adjustment Assistance Community College and Career Training Grant Program*. Retrieved from <http://www.dol.gov/opa/media/press/eta/eta20101436.htm>
- U.S. Department of Labor. (2013). *Grants totaling \$474.5 available from US Labor Department to strengthen training partnerships between community colleges and employers*. Retrieved from <http://www.dol.gov/opa/media/press/eta/ETA20130737.htm>
- United States Census Bureau. (2010). *Historical income tables: Income inequality*. Retrieved from <http://www.census.gov/hhes/www/income/data/historical/inequality/>
- Venezia, A., Bracco, K., & Nodine, T. (2011). *Changing course: A planning tool for increasing student completion in community colleges*. San Francisco: WestEd.
- Virginia Community College System. (2009). *The turning point: Developmental education in Virginia's community colleges*. Retrieved from <http://www.vccs.edu/Academics/DevelopmentalEd.aspx>
- Virginia Community College System. (2010). *The critical point: Redesigning developmental mathematics education in Virginia's community colleges*. Retrieved from <http://www.vccs.edu/Academics/DevelopmentalEd.aspx>
- Voorhees, R. A. (1986). *Toward building models of community college persistence: A log-linear analysis* (ED280428). Paper presented at the Annual Forum for the Association for Institutional Research, Orlando, FL.
- Wang, X. (2012). Factors contributing to the upward transfer of baccalaureate aspirants beginning at community colleges. *Journal of Higher Education, 83*(6), 851–875.
- Ward-Roof, J., & Cawthon, T. (2004). Strategies for successful transfer orientation programs. In B. Jacobs, B. Lauren, M. Miller, & D. Nadler (Eds.), *The college transfer student in America: The forgotten student*. Washington, DC: American Association of Collegiate Registrars and Admissions Officers.
- White House. (2013). *Support for higher education*. Retrieved from <http://www.whitehouse.gov/issues/education/higher-education>
- White House. (n.d.). *Strengthening community colleges*. Retrieved from <http://www.whitehouse.gov/issues/education/higher-education>
- Wirt, J., Choy, S., Rooney, P., Provasnik, S., Sen, A., & Tobin, R. (2004). *The condition of education 2004: Indicator 18. Remediation and degree completion*. Washington, DC: US Department of Education, National Center for Education Statistics.
- Yates, L. (1997). Gender, ethnicity and the inclusive curriculum: An episode in the policy framing of Australian education. In C. Marshall (Ed.), *Feminist critical policy analysis: A perspective from primary and secondary schooling* (pp. 43–53). London: Falmer Press.
- Zamani, E. (2000). Sources of information regarding effective retention strategies for students of color. *New Directions for Community Colleges, 112*, 95–104.

Chapter 11

Using IPEDS for Panel Analyses: Core Concepts, Data Challenges, and Empirical Applications

Ozan Jaquette and Edna E. Parra

Introduction

Higher education researchers are increasingly using causal inference methods to answer research questions that inform higher education policy (Zhang 2010). In particular, panel modeling methods have become popular due to the growing availability of panel data and because these methods allow researchers to make inferences about causal effects that cannot be made using cross-sectional models (Cheslock and Rios-Aguilar 2011). For example, Zhang and Ness (2010) used a difference-in-difference estimation strategy to evaluate the effect of state merit aid on the out-migration of state residents. Jaquette and Curs (2013) used a panel instrumental variables estimation strategy to analyze whether declines in state financial support caused nonresident enrollments to increase at public universities.

Panel models require panel datasets, which have one observation per time period (e.g., day, year) for each unit of analysis (e.g., person, organization, state). The Integrated Postsecondary Education Data System (IPEDS) is the primary source of annual panel data on accredited postsecondary institutions that are eligible for Title IV financial aid. IPEDS and its predecessor the Higher Education General Information Survey (HEGIS) consist of survey components that cover the different aspects of postsecondary institutions (e.g., Institutional Characteristics, Finance, Completions, Fall Enrollments). We use the term postsecondary “institutions” rather than postsecondary “organizations” because the term institution has a particular

O. Jaquette, Ph.D. (✉)

Educational Policy Studies & Practice, College of Education, University of Arizona,
1430 E. Second Street, Room 327A, Tucson, AZ 85721, USA
e-mail: ozanj@email.arizona.edu

E.E. Parra

Educational Policy Studies & Practice, College of Education, University of Arizona,
1430 E. Second Street, Room 3271B, Tucson, AZ 85721, USA
e-mail: ednap@email.arizona.edu

meaning in IPEDS data collections.¹ Other sources of institution-level data, such as data about financial aid disbursements collected by the Office of Federal Student Aid, also offer possibilities for panel analyses.

This chapter provides guidance on the appropriate construction of panel analysis datasets, in particular how to construct a panel using IPEDS data, so that researchers using panel models can make the correct inferences. Research questions addressed using IPEDS data often require the creation of a panel that incorporates data from multiple HEGIS/IPEDS survey components (e.g., Finance, Completions, Institutional Characteristics) and other sources of institution-level and state-level data. Merging data from multiple survey components is a complicated process because some survey components (e.g., Completions) may measure data at the campus level but other survey components (e.g., Finance) may measure data at the institution level or the system level. Failing to consider how data complexities and limitations affect specific analyses may result in biased results and misguided policy recommendations. Therefore, the fundamental goal of this chapter is to discuss core concepts and data challenges associated with using IPEDS data to construct panel datasets that are appropriate for answering the research question at hand.

We have learned about these core concepts and data challenges through the process of constructing panel datasets to answer specific research questions. For example, we created a panel dataset from multiple HEGIS/IPEDS survey components to analyze why many liberal arts colleges became comprehensive universities from 1969–1970 to 2009–2010 (Jaquette 2013a) and to analyze the production of master's degrees by US universities from 1969–1970 to 2010–2011 (Jaquette 2013b). We also created a panel dataset from multiple IPEDS survey components, data on Pell Grant recipients, and state-level data to analyze the effect of nonresident enrollment growth on the racial and socioeconomic diversity of public universities (Curs and Jaquette 2013).

The first section of this chapter provides an introduction to institution-level data and documentation. The primary focus is on IPEDS. We also discuss HEGIS data, data from the Office of Federal Student Aid, and premade panel datasets (e.g., Delta Cost Project Database). We do not present a detailed discussion of specific survey items. Researchers interested in a change over time in specific IPEDS survey items by survey component should consult the excellent work of Fuller (2011).

The second section discusses change over time in the HEGIS/IPEDS sampling universe and the unit of analysis represented by each observation of data (e.g., campus, institution, system). Seemingly idiosyncratic data patterns are really systematic once one understands the principles behind the sampling universe and the way data are collected from multicampus institutions. Understanding these data collection principles will help researchers create panel datasets in less time and with less measurement error. Furthermore, many of these data collection principles are

¹ Institutions is a term formerly used in HEGIS and IPEDS to define an institution that was accredited at the college level by an agency or association recognized by the US Department of Education. These schools offered at least a one-year program of study creditable toward a degree, and they were eligible for participation in Title IV federal financial aid programs.

intimately related to requirements for Title IV financial aid eligibility, so readers will learn about federal financial aid policy while they learn about dataset construction.

The third section discusses “parent-child reporting,” which is the core concept of this chapter because it affects nearly all empirical applications of IPEDS panel data. Parent-child reporting occurs when multicampus institutions respond to some IPEDS surveys at the (parent) institution level and some IPEDS surveys at the (child) campus level. Parent-child reporting also occurs when distinct postsecondary institutions report some variables at the system level (e.g., a community college district office or state system office) (U.S. Department of Education. NCES 2013d). Parent-child reporting makes it difficult to merge data from different IPEDS survey components. We identify patterns of parent-child relationships and discuss solutions to challenges associated with parent-child reporting. We demonstrate how the treatment of parent-child reporting by the Delta Cost Project (DCP) database makes its use inappropriate for answering some research questions.

The fourth section utilizes the lessons from parent-child reporting to discuss solutions to common data challenges. Specifically, we discuss merging issues, appending HEGIS and IPEDS data, collapsing IPEDS data to the state level. We also discuss several changes to IPEDS that affect many empirical applications of IPEDS data, specifically change in accounting standards used in the Finance component, change in degree classification systems used by the Completions component, and change race/ethnicity categories that affect several IPEDS survey components.

Two points merit mention before we proceed. First, this chapter presents several tables based on HEGIS/IPEDS panel datasets that we have constructed. The statistics presented in these tables may differ slightly from tables presented in published reports due to data manipulation decisions we made during the process of constructing the panel datasets. Second, this chapter measures time in academic years (e.g., 2010–2011 academic year). Further, academic years refer to the data period covered by a particular survey component rather than the year the data were collected. For example, 2010–2011 IPEDS Finance data refers to institutional finances for the period 7/1/2010–6/30/2011, which corresponds to the 2010–2011 academic year, but these data were collected in spring 2012.

Access to Institution-Level Data and Documentation

After choosing a research question that requires panel analyses, researchers must construct a panel dataset to address the research question. These analysis datasets often incorporate several sources of organization-level data and also state-level or local-level data. This section provides access to data and documentation for several sources of organization-level data. Specifically, we discuss HEGIS, IPEDS, organization-level data from the Office of Federal Student Aid, and premade panel datasets that use HEGIS and/or IPEDS data (e.g., the DCP Database).

Changes over time in specific variables and variable definitions affect what analysis variables can be created for what time periods and what institutions. Readers

interested in the temporal change in IPEDS-specific survey items answered by different types of institutions should consult Fuller (2011). Readers interested in a broader discussion of organization-level data sources should consult Brint (2002).

HEGIS Data

The National Center for Education Statistics (NCES) conducted HEGIS from 1965–1966 to 1986–1987 (Fuller 2011). HEGIS was comprised of several survey components, including the Earned Degrees/Completions, Institutional Characteristics (IC), Finance, and Fall Enrollment components, all of which were conducted annually. Additional survey components, such as Residence and, Employees, Salaries, and Libraries, were conducted sporadically and, therefore, are less useful for panel analyses.

The Inter-university Consortium for Political and Social Research Data Archive located at the University of Michigan maintains the most complete archive of HEGIS data.² HEGIS data can also be downloaded from the Cornell Institute for Social and Economic Research Data Archive located at Cornell University. The Consortium for Political and Social Research website contains downloadable data and data documentation (including file layout, survey instrument, and data notes) for each available survey component and year (e.g., 1977–1978 Finance).³

IPEDS Data

Beginning with the Institutional Characteristics (IC) component, IPEDS was phased-in from 1985–1986 to 1988–1989 as a replacement for HEGIS (Fuller 2011). Currently, IPEDS collects data on nine survey components over three collection periods (fall, winter, and spring), as shown in Table 11.1 (U.S. Department of Education. NCES 2013c). The fall collection consists of the IC, Completions, and 12-Month Enrollment survey components. The winter collection consists of Student Financial Aid. The spring collection consists of Fall Enrollment, Finance, Graduation Rates, 200 % Graduation Rates, and Human Resources.

IPEDS data can be downloaded from the IPEDS Data Center, which organizes data by year and survey component.⁴ For most survey components, multiple data files exist for each year. For example, five data files are associated with the 2012

²Students and employees affiliated with organizations that are members of ICPSR can download ICPSR data at <http://www.icpsr.umich.edu/icpsrweb/content/membership/index.html>

³To date, ICPSR has not completed the process of checking data and creating datasets in different programming languages (e.g., SAS, SPSS, and Stata). However, the raw text files and survey instruments are available for all years.

⁴<http://nces.ed.gov/ipeds/datacenter/>

Table 11.1 Data collection cycle for IPEDS survey components labeled as “2011” on IPEDS Data Center

Survey component	Year on IPEDS			When data collected	Period covered by data	Academic year ^d	IC response flags dataset
	Collection	Data Center	Data Center				
Institutional Characteristics (IC)	Fall	2011	2011	Fall 2011	Fall 2011 (snapshot)	2011–2012	Flags 2011
Completions	Fall	2011	2011	Fall 2011	7/1/2010–6/30/2011	2010–2011	Flags 2011
12-Month Enrollment	Fall	2011	2011	Fall 2011	7/1/2010–6/30/2011	2010–2011	Flags 2011
Student Financial Aid	Winter	2011	2011	Winter 2012	7/1/2010–6/30/2011	2010–2011	Flags 2011
Fall Enrollment	Spring	2011	2011	Spring 2012	Fall 2011 (snapshot)	2011–2012	Flags 2011
Finance	Spring	2011	2011	Spring 2012	7/1/2010–6/30/2011	2010–2011	Flags 2011
(150 %) Graduation Rates	Spring	2011	2011	Spring 2012	Graduation rate as of 8/31/2011 ^b	2010–2011	Flags 2011
200 % Graduation Rates	Spring	2011	2011	Spring 2012	Graduation rate as of 8/31/2011 ^c	2010–2011	Flags 2011
Human Resources	Spring	2011	2011	Spring 2012	November 1, 2011 (snapshot)	2011–2012	Flags 2011

^aThroughout this chapter we refer to academic year covered by the data, rather than year data collected unless otherwise specified

^bGraduation rate as of 8/31/2011 for BA seeking students who first enrolled in 2005–2006 academic year or students seeking a 2-year degree program or less who first enrolled in 2008–2009 academic year

^cGraduation rate as of 8/31/2011 for BA seeking students who first enrolled in 2003–2004 academic year or students seeking a 2-year degree or less who first enrolled in 2007–2008 academic year

IPEDS IC component, including “directory information,” “response status by survey component,” “student charges for academic year programs,” “student charges by program,” and “educational offerings, organization, admissions, services, and athletic associations.”

Documentation about IPEDS can be found within the IPEDS website.⁵ The online IPEDS Glossary provides official definitions for terms used in IPEDS data collection (e.g., what is a “Title IV institution?”).⁶ The IPEDS Resource Center provides general information about each survey component (including data collection cycle) and statutory requirements for IPEDS reporting.⁷ The Archived Survey Library (within the IPEDS Resource Center) maintains IPEDS survey forms for each survey component from 1994–1995 to present.⁸ Note that the timing of data collections is not necessarily the same as the academic year associated with the data. The Archived Survey Library also provides information on changes to IPEDS starting with data collected in 2003–2004. For example, IPEDS data collected in 2012–2013 included additional measures of distance education on the IC, Completions, and Fall Enrollments components. Finally, IPEDS has dedicated staff for each survey component; the IPEDS website lists staff by survey component and specialty/function.⁹ We have found IPEDS staff to be extremely knowledgeable, professional, and eager to answer complicated questions about the data and documentation.

Researchers must often create panel analysis variables using multiple years of data from a survey component. For each data file on the IPEDS Data Center, researchers can download a “data dictionary” that contains an overview of the data file and a list of variable names, variable labels, and variable descriptions. Researchers can triangulate information from multiple years of data dictionaries and survey forms to understand how long a variable has been collected, whether variable definitions have changed over time, and what types of institutions have non-missing values for the variable.

IPEDS panel datasets are typically created by merging panel datasets from individual survey components (e.g., Fall Enrollments and IC component from 2000–2001 to 2010–2011) by institutional identifier and academic year. Researchers must be careful when assigning academic years to each survey component. For example, IC data collected in the fall of 2012 refers to the 2012–2013 academic year, but Completions data collected in the fall of 2012 refers to the 2011–2012 academic year. Table 11.1 provides the list of IPEDS survey components that are labeled as “2011” on the IPEDS Data Center. For each survey component, Table 11.1 indicates the collection to which the survey component belongs (e.g., fall, winter, spring), the date of data collection, the time period

⁵ <http://nces.ed.gov/ipeds/>

⁶ <http://nces.ed.gov/ipeds/glossary/>

⁷ <http://nces.ed.gov/ipeds/resource/>

⁸ Note that survey forms typically differ by institutional sector (i.e., institutional control and award level).

⁹ <http://nces.ed.gov/ncestaff/survdetl.asp?surveyid=010>

covered, and the associated academic year (which is the time variable used in panel analyses). Table 11.1 also provides the “response flags” associated with each survey component. The response flags data file is part of the IC component and contains information—e.g., parent-child indicator variables—about each survey component (more on this later in the chapter).

While researchers typically desire an IPEDS panel analysis datasets with one observation per institution-year, the individual data files located in the IPEDS Data Center often do not have this data structure. For example, the IPEDS Data Center contains a Fall Enrollment data file called “race/ethnicity, gender, attendance status, and level of student.” This data file has one observation for each combination of institution, attendance status (full time vs. part time), and level of study (e.g., first time, first year, degree seeking; total undergraduates; graduate) and variables for each combination of race and gender. The 2011–2012 data file has 27 observations for the University of Arizona. The first observation represents the number of full-time, degree-seeking freshman, the second observation represents the number of full-time, degree-seeking transfer students, the fourth observation represents the number of full-time degree-seeking undergraduates, etc.

Therefore, creating panel datasets with one observation per institution and academic year often requires researchers to collapse data by summing down observations and/or to “reshape” data from “long” to “wide” by transforming observations (rows) into variables (columns). For example, creating the appropriate data structure from Fall Enrollment data typically requires researchers to reshape data from long to wide; instead of having observations for each combination of attendance status and level of study (e.g., part-time graduate students), there should be variables for each combination of attendance status and level of study.

Complementing IPEDS Data: The Case of Federal Student Aid Data

Timely, precise, and complete data are critical to identify problems and challenges within the higher education system. This means that researchers need to create panel datasets from all available sources of information that can deepen the understanding of issues important to the field. The different datasets available that contain information about Student Financial Aid provide a case in point. Several offices within the US Department of Education provide data about Student Financial Aid, and these data can be used to gain a broader and better understanding of the sources, types, and amounts of financial aid provided to students in our postsecondary education system. In addition, these data can be used to help understand the relationships between financial aid and policy goals promoted by the federal government and higher education institutions.

For example, two of the most common sources of Student Financial Aid information are from the Office of Postsecondary Education and the Office of Federal Student Aid. Both offices collect several sources of organization-level data on

postsecondary institutions that can be freely downloaded. Likewise, the Office of Federal Student Aid collects downloadable organization-level data on the number of disbursements and number of recipients of Title IV financial aid by program (e.g., Pell Grants, Direct Subsidized Loans).¹⁰ In addition, the Federal Student Aid Data Center provides information about federal financial aid provided to students and families through various loan and grant Title IV programs. The reports provide data about Title IV aid applicants, recipients, and disbursements. The Title IV Volume Reports are divided in three parts: (A) Loan Volume from 1999–2000 to 2012–2013, (B) Grant Volume available from 1999–2000 to 2012–2013, and (C) Campus-Based Volume data available from 2006–2007 to 2011–2012. The Office of Postsecondary Education also collects organization-level data about student loan default rates and campus crime and security statistics. The cohort default rate is a variable that in recent years has become popular because the dollar amount of student loans has been increasing over time and now surpasses all credit card debt, becoming the second largest debt in the USA. Therefore, this financial aid data can be used to complement panel datasets developed from IPEDS survey components and is available since 1992.

Faced with these multiple sources of information, a researcher may well ask, “Why should I merge information from the Office of Federal Student Aid if IPEDS has a Student Financial Aid (SFA) component?” An important reason is that the IPEDS SFA component focuses on first-time, full-time undergraduate students; therefore, if institutions have a large percentage of part-time students, financial aid disbursement by financial aid program may seem lower than institutions where the majority of students are full time. Although the financial aid report from the Office of Federal Student Aid provides information from *all* students receiving financial assistance, it does not distinguish whether the student is part time or full time, nor does it provide information about whether the student is an undergraduate or a graduate student. Also, the financial aid report from the Office of Federal Student Aid information does not have information on enrollments or other variables such as gender and sex that may be useful depending on one’s research question. Steele (2011) discussed the strengths and limitations of different sources of student financial aid data, as well as the advantages of merging from different sources.¹¹

Nonetheless, merging IPEDS data to the Office of Postsecondary Education and the Office of Financial Student Aid data can be challenging because IPEDS data utilize a different institutional identification code than the Office of Postsecondary Education and the Office of Federal Student Aid data. We discuss these merging issues in the Solutions to Common Data Challenges section later in the chapter.

¹⁰For financial data, see <http://federalstudentaid.ed.gov/datacenter/index.html>

¹¹<http://nces.ed.gov/pubs2012/2012834.pdf>

Premade HEGIS/IPEDS Panel Datasets

In addition to the option of creating your own panel data, several premade panel datasets using HEGIS and/or IPEDS data are available. The benefit of premade panel datasets is that researchers can avoid the time-consuming and complicated process of creating a panel from the original HEGIS or IPEDS datasets. However, premade panels also have limitations that may make them inappropriate for particular research projects.

The Delta Cost Project (DCP) database is a panel dataset that (at present) incorporates IPEDS data from 1986–1987 to 2010–2011, containing variables from the Finance, Fall Enrollments, 12-Month Enrollments, Human Resources, Graduation Rates, and Student Financial Aid survey components. The initial DCP Database was constructed by the Human Capital Research Corporation (HCRC), and it incorporated IPEDS data from 1986–1987 to 2004–2005 (Delta Cost Project 2011). HCRC provided the 2006–2008 annual updates and DCP staff provided the 2009 update. In 2012, DCP activities were split between the NCES and the Association for Institutional Research (AIR). The NCES assumed responsibility for maintaining and updating the DCP Database, and AIR assumed responsibility for the production of reports and policy briefs using the DCP.

The DCP Database has several strengths. It contains panel data on all postsecondary organizations included in IPEDS, new data are added each year, and the quality of DCP data documentation is unparalleled. The DCP Database has been used by many researchers to answer higher education policy questions. However, some researchers may be unaware that the DCP Database may be inappropriate for answering some policy questions due to the way the DCP Database handles parent-child relationships, which we will discuss later in the chapter.

A second source of premade panel data is the WebCASPAR system operated by the National Science Foundation (National Science Foundation 2013). The WebCASPAR system contains HEGIS and IPEDS data from the Completions, Fall Enrollments, Institutional Characteristics (tuition data), and Human Resource components. Unfortunately, as with the DCP Database, challenges associated with parent-child relationships make it difficult to create analysis datasets that merge WebCASPAR data with different IPEDS survey components.

A third premade dataset, the Colleges & Universities 2000 Database, spans the years 1969–1970 to 2009–2010 and contains variables from HEGIS, IPEDS, and many other sources (Brint et al. 2013). However, this database is useful for a limited range of research questions because it contains data for only 383 institutions and because measures are available at 5-year intervals (e.g., 1970, 1975).

In this section, we have outlined some of the options available for researchers interested in using the HEGIS and IPEDS in panel form. In the following section, we focus on the issue of changes over time in the HEGIS and IPEDS sampling universes and what each observation of data represents (e.g., an organization, a branch campus within an organization).

The Sample Universe and Unit of Analysis

Temporal Change in the Sample Universe

Understanding change over time in the sample universe helps researchers understand what types of organizations can be included in analyses of postsecondary organizational change. Understanding how HEGIS and IPEDS record data for multicampus organizations is also fundamental to merging data from different survey components to create an analysis dataset.

Eligibility for Title IV financial aid programs has been the primary determinant of whether an organization is included in both the HEGIS and IPEDS samples. A “Title IV institution” refers to a postsecondary institution that is eligible to enroll students that receive Title IV federal financial aid (e.g., Pell Grants, Direct Subsidized Loans) (U.S. Department of Education. NCES 2013b). A Title IV institution may be a single-campus organization or a multicampus organization. Non-Title IV institutions refer to organizations—either single campus or multicampus—that are not eligible to enroll students receiving Title IV financial aid.

HEGIS was a product of the 1965 Higher Education Act, which created Title IV financial aid programs. At that time any postsecondary institution accredited at the institutional level by an accrediting agency recognized by the Secretary of the US Department of Education was eligible to enroll students receiving Title IV financial aid (Hyatt and Dickmeyer 1980, p. 7). Although institution-level accreditation is conducted for an entire campus, “program-level” accreditation does so for a specific academic program (e.g., BS in Nursing) within a campus (Council for Higher Education Accreditation 2002). The 1965 Higher Education Act mandated that Title IV institutions would be required to complete an annual survey, leading to the creation of HEGIS (and its successor IPEDS).

The HEGIS sample universe was defined as all Title IV institutions that “offered at least a one-year program of study creditable toward a degree and they were eligible for participation in Title IV Federal financial aid programs” (U.S. Department of Education. NCES 2013b). These institutions were required to complete all HEGIS survey components.¹² Using data from the IC component, Table 11.2 shows that the number of Title IV institutions in the HEGIS sample universe increased from 2,900 in 1969 to 3,800 in 1986.

Although the contemporary IPEDS sample universe consists of all Title IV institutions, the initial IPEDS sample universe (1986–1987 to 2000–2001) included both Title IV institutions and non-Title IV institutions. IPEDS replaced not only HEGIS but also the Survey of Non-Collegiate Postsecondary Institutions and the Vocational

¹²The HEGIS sample universe included all “institutions of higher education.” An institution of higher education referred to institutions that were accredited at the institution level, were eligible for Title IV financial aid, and “offered at least a one-year program of study” (U.S. Department of Education. NCES, 2013b). What HEGIS refers to as an institution of higher education, we refer to as a Title IV institution.

Table 11.2 Number of observations in IC component, 1969–1970 to 2011–2012

Year	Frequency	Year	Frequency
1969	2,923	1991	10,445
1970	3,019	1992	10,410
1971	3,198	1993	11,005
1972	3,302	1994	10,768
1973	3,483	1995	10,608
1974	3,595	1996	10,309
1975	3,655	1997	10,180
1976	3,459	1998	9,982
1977	3,472	1999	9,822
1978	3,508	2000	9,613
1979	3,562	2001	9,564
1980	3,581	2002	7,059
1981	3,672	2003	6,998
1982	3,687	2004	7,014
1983	3,694	2005	6,939
1984	3,726	2006	6,973
1985	3,832	2007	7,006
1986	3,815	2008	7,012
1987	12,930	2009	7,125
1988	12,483	2010	7,207
1989	11,827	2011	7,393
1990	11,044	2012	7,591

Education Data System (U.S. Department of Education. NCES 1999). Referring to 1986–1987 IPEDS data, Cohen (1990) stated that “accreditation is not a requirement for inclusion in IPEDS as was the case with HEGIS: rather, accreditation is a characteristic about which data are collected in IPEDS.” Whereas the HEGIS sample universe was all Title IV institutions, the 1986–1987 IPEDS sample universe all “postsecondary institutions” which were defined as organizations “whose primary purpose is the provision of postsecondary education” (Cohen 1990, p. 511). Therefore, the 1986–1987 sample universe comprised all Title IV institutions included in HEGIS and also non-Title IV institutions that had been excluded from HEGIS. Table 11.2 indicates that the number of observations in the IC component increased from about 3,800 in the 1985–1986 academic year to about 13,000 in 1986–1987 with the inception of IPEDS.

The sector variable determined which IPEDS survey components each institution had to complete from 1986–1987 to 1999–2000 (Fuller 2011). Postsecondary institutions are categorized into nine sectors based on the dimensions of control (public, private not-for-profit, and private for-profit) and highest degree awarded (baccalaureate or higher; 2-year but less than baccalaureate; and less than 2-year). Table 11.3 displays the number of observations by sector from 1986–1987 to 2011–2012, using data from the IC component. Postsecondary institutions offering a two-year degree (e.g., associate’s) or above were defined as degree-granting institutions,

Table 11.3 Number of observations by sector, IC component 1986–1987 to 2011–2012

Award lvl		Baccalaureate or above			2-year but less than 4-year			Less than 2-year			Total
Control		Public	Non- profit	For- profit	Public	Non- profit	For- profit	Public	Non- profit	For- profit	
Sector	0 (admin)	1	2	3	4	5	6	7	8	9	
1987	170	641	1,960	144	1,267	923	892	533	563	5,769	12,862
1988	154	641	1,945	120	1,262	849	852	380	516	5,717	12,436
1989	141	633	1,907	112	1,244	773	877	321	467	5,252	11,727
1990	143	624	1,873	106	1,224	732	862	301	388	4,666	10,919
1991	123	623	1,867	114	1,221	629	845	280	361	4,224	10,287
1992	120	625	1,880	121	1,255	630	811	278	350	4,194	10,264
1993	126	626	1,976	149	1,272	627	758	277	372	4,703	10,886
1994	117	631	1,987	172	1,272	616	736	277	340	4,503	10,651
1995	105	629	2,005	185	1,284	627	746	299	335	4,293	10,508
1996	96	632	2,004	206	1,284	615	700	306	308	4,065	10,216
1997	94	635	2,002	217	1,288	599	988	278	303	3,691	10,095
1998	96	641	2,003	235	1,280	555	965	366	299	3,456	9,896
1999	91	645	1,998	264	1,269	527	970	365	303	3,312	9,744
2000	82	647	1,991	294	1,256	492	961	312	292	3,169	9,496
2001	83	651	1,991	348	1,254	459	932	361	292	3,142	9,513
2002	81	651	1,686	338	1,192	289	800	312	130	1,417	6,896
2003	80	655	1,673	312	1,181	274	788	306	132	1,422	6,823
2004	83	656	1,686	363	1,185	254	806	290	137	1,415	6,875
2005	83	661	1,648	381	1,165	236	817	272	128	1,413	6,804
2006	83	660	1,641	422	1,171	229	839	248	111	1,440	6,844
2007	84	665	1,629	465	1,164	219	859	240	104	1,462	6,891
2008	84	674	1,631	502	1,150	189	873	239	101	1,459	6,902
2009	84	674	1,629	542	1,143	195	915	236	94	1,522	7,034
2010	83	692	1,636	577	1,113	188	986	241	97	1,522	7,135
2011	81	698	1,637	662	1,098	182	1,043	254	98	1,614	7,367
2012	81	702	1,649	747	1,086	192	1,074	260	93	1,707	7,591

and postsecondary institutions whose highest degree awarded was less than 2 years were named nondegree institutions. From 1986–1987 to 1999–2000, all degree-granting institutions (sectors 1–6) and all public non-degree-granting institutions (sector 7) were required to complete all IPEDS survey components. Private non-profit non-degree-granting institutions (sector 8) and private for-profit non-degree-granting institutions (sector 9) were required to complete the IC component from 1986–1987 to 1989–1990 and the Consolidated Survey from 1990–1991 to 1999–2000, but not the remaining survey components (Fuller 2011).

Over time, Title IV eligibility became the primary criterion for inclusion in the IPEDS sample universe. Section 490 of the Higher Education Amendments of 1992 (P.L. 102–325) affirmed that completion of the IPEDS survey is mandatory for institutions participating in any Title IV program (U.S. Department of Education. NCES 2005). The US Department of Education’s NCES (1999) reported on redesigning IPEDS stated that the completion of all IPEDS survey

Table 11.4 Title IV eligibility flags 1999–00 to 2009–10, IC data

	Not eligible/missing data	Eligible	Branch campus	Deferment
2000	2,863	6,460	116	57
2001	2,733	6,613	116	51
2002	165	6,567	126	38
2003	171	6,503	105	44
2004	152	6,553	132	38
2005	138	6,509	127	30
2006	101	6,593	124	26
2007	108	6,637	120	26
2008	93	6,568	217	24
2009	154	6,652	211	17
2010	125	6,836	152	22

components would be mandatory for all Title IV institutions and mandatory for all postsecondary institutions applying for Title IV eligibility but would be optional for non-Title IV institutions. Table 11.4 indicates that the number of non-Title IV institutions included in the IC component decreased from 2,733 in the 2000–2001 academic year to 165 in 2001–2002.

To summarize, HEGIS and IPEDS data can be used to conduct panel analyses of Title IV institutions. The HEGIS sample universe consisted of all Title IV institutions that offered at least a one-year program of study, and these institutions were required to complete all IPEDS survey components. The IPEDS sample universe also included all Title IV institutions. However, from 1986–1987 to 1999–2000, Title IV institutions that were private nonprofit non-degree-granting (sector 8) and private for-profit non-degree-granting (sector 9) were not required to complete all IPEDS survey components; rather, they were required to complete either the IC component (1986–1987 to 1989–1990) or the Consolidated Survey (1990–1991 to 1999–2000) (Fuller 2011). From 1986–1987 to 2000–2001, IPEDS collected data on non-Title IV institutions. Depending on sector and year, these non-Title IV institutions were required to complete one of the following: (1) all survey components, (2) only the Institutional Characteristics, or (3) the Consolidated Survey component. Researchers interested in analyzing the behavior of non-Title IV institutions after 2000–2001 must use non-IPEDS data sources, such as data from state private postsecondary education regulatory agencies utilized by Cellini and Goldin (2012).

Potential problems with change over time in the sample universe are further complicated in the case of multicampus university systems, which are subject to Program Participation Agreements. We discuss this issue in the following section.

Program Participation Agreements

Program Participation Agreements (PPA) play an important role in IPEDS and have important implications for the creation of IPEDS panel datasets. A PPA is one of several requirements—including accreditation and legal authorization to operate in

the state—for a postsecondary institution to be considered a Title IV institution (Congressional Research Service 2007). A PPA is “a written agreement between a postsecondary institution and the Secretary of Education” that allows institutions to participate in Title IV financial aid programs and “conditions the initial and continued participation of an eligible institution in any Title IV program” (U.S. Department of Education. NCES 2013b). PPAs stipulate that the completion of all IPEDS survey components is one requirement to maintain Title IV eligibility (Legal Information Institute 2013).

PPAs apply to each branch campus of a multicampus Title IV institution (Legal Information Institute 2013). The IPEDS Glossary defines a branch institution as “a campus or site of an educational institution that is not temporary, is located in a community beyond a reasonable commuting distance from its parent institution, and offers full programs of study, not just courses” (U.S. Department of Education. NCES 2013b). Branches that do not have a separate PPA but are branches of a Title IV institution with a separate PPA are eligible to enroll students who receive Title IV financial aid. We refer to a Title IV main campus as the main campus of a multicampus Title IV institution that has its own PPA that it shares with branch campuses. We refer to a Title IV branch campus when a campus enrolls students receiving Title IV financial aid under the PPA of a Title IV institution, but the branch campus does not have its own PPA.

The example of Pennsylvania State University and the University of Wisconsin help illustrate these concepts. Pennsylvania State University has 24 campuses including the main campus at University Park. The University Park campus has a PPA that it shares with the branch campuses (e.g., Altoona, Harrisburg). Therefore, the 24 campuses of Pennsylvania State University represent a single Title IV institution with a Title IV main campus at University Park and 23 Title IV branch campuses. In contrast, the University of Wisconsin System includes 11 four-year universities (e.g., Madison, Milwaukee, Stout) (University of Wisconsin System 2013). Each four-year university in the University of Wisconsin System has their own PPA. Therefore, the 11 four-year universities in the University of Wisconsin represent 11 Title IV institutions. Whereas Pennsylvania State University–Harrisburg and University of Wisconsin–Stout may appear similar to a casual observer (e.g., both are “regional” state universities), they are different kinds of entities from the perspective of IPEDS.

For a researcher creating panel data from IPEDS, these distinctions become important when trying to merge institutions across survey components. Each Title IV institution receives an Office of Postsecondary Education ID code (OPEID). OPEID is a superior institutional identifier to UNITID—the primary institutional identifier used in IPEDS—because it is a hierarchical code that can be used to group Title IV branch campuses with a Title IV main campus. The variable OPEID has been included on the IPEDS IC survey component since 1995–1996. Table 11.5 displays the OPEID for selected campuses from Pennsylvania State University. Each unique OPEID is an eight-digit number, where the first six digits of the OPEID uniquely identify a specific Title IV institution with a Program Participation Agreement. For example, the first six digits of the OPEID for all 24 campuses of Pennsylvania State University are 003329. The two-digit suffix of OPEID identifies

Table 11.5 2010–11 OPEID and UNITID for all Pennsylvania State University, 2010–11 IC data

Institution	6-digit OPEID	OPEID suffix	8-digit OPEID	UNITID
Pennsylvania State University-Main Campus	003329	00	00332900	214777
Pennsylvania State University-College of Medicine	003329	01	00332901	214616
Pennsylvania State University-Penn State Lehigh Valley	003329	02	00332902	214670
Pennsylvania State University-Penn State Altoona	003329	03	00332903	214689
Pennsylvania State University-Penn State Beaver	003329	04	00332904	214698
Pennsylvania State University-Penn State Erie-Behrend College	003329	05	00332905	214591
Pennsylvania State University-Penn State Berks	003329	06	00332906	214704
Pennsylvania State University-Penn State Dubois	003329	07	00332907	214740
Pennsylvania State University-Penn State Fayette- Eberly Campus	003329	08	00332908	214759
Pennsylvania State University-Penn State Hazleton	003329	09	00332909	214768
Pennsylvania State University-Penn State Greater Allegheny	003329	10	00332910	214786
Pennsylvania State University-Penn State Mont Alto	003329	11	00332911	214795
Pennsylvania State University-Penn State New Kensington	003329	12	00332912	214625
Pennsylvania State University-Penn State Abington	003329	13	00332913	214801
Pennsylvania State University-Penn State Schuylkill	003329	14	00332914	214810
Pennsylvania State University-Penn State Worthington Scranton	003329	15	00332915	214652
Pennsylvania State University-Penn State Shenango	003329	16	00332916	214634
Pennsylvania State University-Penn State Wilkes-Barre	003329	17	00332917	214643
Pennsylvania State University-Penn State York	003329	18	00332918	214829
Pennsylvania State University-Penn State Great Valley	003329	19	00332919	214607
Pennsylvania State University-Penn State Harrisburg	003329	20	00332920	214713
Pennsylvania State University-Brandywine	003329	21	00332921	214731
The Dickinson School of Law of the Pennsylvania State University	003329	22	00332922	212018

Table 11.6 2010–11 OPEID and UNITID for University of Wisconsin campuses, 2010–11 IC data

Institution	6-digit OPEID	OPEID suffix	8-digit- OPEID	UNITID
University of Wisconsin-Madison	003895	00	00389500	240444
University of Wisconsin-System Administration	003895	A1	003895A1	240435
University of Wisconsin Extension	003895	A3	003895A3	260381
University of Wisconsin-Milwaukee	003896	00	00389600	240453
University of Wisconsin-Green Bay	003899	00	00389900	240277
University of Wisconsin-Stout	003915	00	00391500	240417
University of Wisconsin-Eau Claire	003917	00	00391700	240268
University of Wisconsin-La Crosse	003919	00	00391900	240329
University of Wisconsin-Oshkosh	003920	00	00392000	240365
University of Wisconsin-Platteville	003921	00	00392100	240462
University of Wisconsin-River Falls	003923	00	00392300	240471
University of Wisconsin-Stevens Point	003924	00	00392400	240480
University of Wisconsin-Superior	003925	00	00392500	240426
University of Wisconsin-Whitewater	003926	00	00392600	240189
University of Wisconsin-Parkside	005015	00	00501500	240374

each campus that shares the Program Participation Agreement. A Title IV main campus has the two-digit suffix “00” that signifies that this institution holds a Program Participation Agreement. For example, the OPEID for the Pennsylvania State University at University Park is 003329-00. A Title IV branch campus has the same six-digit OPEID as the Title IV main campus, but a different two-digit suffix. For example, the OPEID for Pennsylvania State University–Harrisburg is 003329-20. In contrast to Pennsylvania State University, the first six digits of OPEID in Table 11.6 differ from one another for each university in the University of Wisconsin System because each university in the University of Wisconsin System is a distinct Title IV institution with a separate Program Participation Agreement.

As mentioned earlier, each Title IV institution must complete all IPEDS survey components (U.S. Department of Education. NCES 2013a). For example, each four-year university in the University of Wisconsin System is a Title IV institution with a separate Program Participation Agreement and, therefore, must complete all IPEDS survey components. Multicampus Title IV institutions can decide whether they want to report IPEDS data for Title IV branch with the main campus or to report IPEDS data separately for each Title IV branch campus. For example, the University of Arizona chooses not to report separate IPEDS data for the University of Arizona South, which is a branch campus that offers BA, MA, and certification programs (UA South 2013). By contrast, Pennsylvania State University reports separate IPEDS data for each of the 24 campuses, but this is optional because all 24 campuses share the University Park campus PPA. Often Title IV branch campuses report separate IPEDS data for some survey components (e.g., Fall Enrollments) but report data for other survey component for the main campus, which is known as parent-child reporting (U.S. Department of Education. NCES 2013d). For example,

in 2004–2005 Pennsylvania State University–Harrisburg (OPEID=003329-20) reported Fall Enrollment data but did not report Finance data; the Finance data for Pennsylvania State University–University Park (OPEID=003329-00) included the data for the Harrisburg campus.

Given the above-mentioned complexities, researchers must pay very close attention to the way that multicampus institutions report data in IPEDS in order to ensure that the units of analysis are consistent. We discuss the issue of units of analysis further in the next section.

Unit of Analysis

Having discussed HEGIS/IPEDS sampling universes and Program Participation Agreements, we can discuss what each observation of HEGIS and IPEDS data represents. Panel datasets are organized by a time period (e.g., days, years) and a unit of analysis (e.g., students, organizations, campuses). The time period in HEGIS/IPEDS panel datasets is typically the academic year. Researchers often assume that organizations are the unit of analysis in HEGIS/IPEDS panel datasets; however, as shown in the previous section, each observation of HEGIS and IPEDS data does not necessarily represent an organization. Furthermore, within a single year of data, the units of observation present in a particular IPEDS survey component may differ from those in another IPEDS survey component, which makes it difficult to create a panel dataset that merges variables from multiple survey components. Therefore, understanding what kind of entity is represented by each observation of HEGIS and IPEDS data is vital to the creation of panel analysis datasets.

To reiterate the sampling universe discussion, the HEGIS and IPEDS collect data on Title IV institutions (we ignore non-Title IV institutions, which were in the IPEDS sample universe from 1986–1987 to 2000–2001). Title IV institutions may be single-campus organizations or multicampus organizations. Title IV branch campuses do not have separate institution-level accreditation, but they are eligible to enroll students receiving Title IV financial aid as branches of a main campus or system office that has institution-level accreditation. For the purpose of panel analyses, it is often useful to consider each Title IV institution as a distinct postsecondary organization, even though the difference between some Title IV institutions and Title IV branch campuses may sometimes appear semantic (e.g., University of Wisconsin–Stout vs. Pennsylvania State University–Harrisburg).

NCES refers to a “system” as two or more Title IV institutions under the control of a common governing body (U.S. Department of Education. NCES 2013b). The distinction between a system of postsecondary organizations and a multicampus postsecondary organization can often appear vague. For example, the University of Texas System (2013) has nine “universities” (e.g., Austin, San Antonio, El Paso), the University of California (2013) has 10 “campuses” (e.g., Berkeley, Irvine, Davis), and the Pennsylvania State University (2013) has 24 “campuses” (e.g., University

Park, Harrisburg). Focusing on the concept of a Title IV institution helps make the distinction between a system and a multicampus organization clearer for the purposes of data analysis. The University of Texas System is a system because each constituent “university” is a Title IV institution with separate institution-level accreditation. Likewise, the University of California is a system because each constituent “campus” is a Title IV institution with separate institution-level accreditation. In contrast, Pennsylvania State University is not a system because a system consists of two or more Title IV institutions, and Pennsylvania State University is a single Title IV institution with multiple Title IV branch campuses.

Change over time HEGIS/IPEDS data collection procedures affect whether each observation of data for a particular survey component represents a Title IV institution, a Title IV branch campus, or a system office. During HEGIS, each Title IV institution was required to complete all survey components. Title IV institutions included both single-campus institutions and multicampus institutions where branch campuses were not accredited at the institution level.¹³ Each Title IV institution was uniquely identified by the Federal Interagency Committee on Education (FICE) code. Title IV branch campuses that did not have separate institution-level accreditation did not receive a FICE code, and their data were reported with the Title IV institution.¹⁴ Therefore, each observation of HEGIS data represented either a single-campus Title IV institution or a multicampus Title IV institution (U.S. Department of Education, NCES 1976).

Similar to HEGIS, IPEDS requires each Title IV institution to complete all survey components.¹⁵ The unique institutional identifier for IPEDS is called the “UNITID” (sometimes called the IPEDS ID). Unlike HEGIS, Title IV branch campuses that choose to report IPEDS data receive UNITIDs. Prior to 2004, Title IV branch campuses that chose to report IPEDS data always reported IC data but had the option of reporting data for other survey components along with the main campus (Association for Institutional Research 2003). For example, given that the Pennsylvania State University campuses chose to report IPEDS data, the Harrisburg (UNITID=003329) campus was required to report IC data but had the option of reporting Fall Enrollment and Finance data along with the University Park campus (UNITID=214777). After 2004, Title IV branch campuses that chose to report IPEDS data were required to report separate data for all campuses except Finance. Therefore, given that Pennsylvania State University campuses chose to report

¹³ Additionally, HEGIS collected limited data (e.g., IC, some Finance data) on system offices.

¹⁴ The formal language for this rule is as follows: “Please note that each institution, branch, campus, or other entity separately certified by the accreditation and institutional eligibility unit of the U.S. Office of Education, with its own FICE code, and listed separately in the Education Director of Higher Education, should be reported on a separate survey form and not included or combined with any other such certified unit. Branches, campuses, and other organizational entities not separately certified should be included with the appropriate institution or branch report” (U.S. Department of Education, NCES 1976, p. 46).

¹⁵ However, from 1986–1987 to 1999–2000, certain Title IV institutions were not required to complete all IPEDS survey components as discussed in the Sampling Universe section.

IPEDS data, the Harrisburg campus was required to report separate data for all survey components except for Finance.

Ignoring non-Title IV institutions, each observation in IPEDS data from a particular survey component is represented by a unique UNITID code. Yet this code can represent one of five different entities: (1) a single-campus Title IV institution; (2) a multicampus Title IV institution where branch campuses do not report IPEDS data and do not have UNITIDs (e.g., University of Arizona South); (3) the main campus of a multicampus Title IV institution where the Title IV branch institutions report data separately (e.g., Fall Enrollment data in 2004–2005 for Pennsylvania State University–University Park); (4) a Title IV branch campus that reports data separately from the main campus (e.g., Fall Enrollment data in 2004–2005 for Pennsylvania State University–Harrisburg); or (5) a multicampus Title IV institution where the Title IV branch campuses report data with the main campus for that particular survey component (e.g., Finance data in 2004–2005 for Pennsylvania State University–University Park). As one might expect, this complexity presents challenges for a researcher trying to match institutions across different IPEDS survey components.

To summarize, panel datasets are defined by a measure of time (e.g., academic years) and a unit of analysis (e.g., organizations). A common unit of analysis in IPEDS panel analysis is the organization, and we argue that each Title IV institution should be considered a distinct organization for most analyses. The campus is another potential unit of analysis. Multicampus Title IV institutions are comprised of a Title IV main campus and one or more Title IV branch campuses. HEGIS did not contain observations for Title IV branch campuses, but IPEDS does. Researchers attempting to create an IPEDS panel dataset should be aware that each observation of data in IPEDS survey components does not necessarily represent a distinct organization. Rather, each observation of IPEDS data may represent a Title IV institution (which can be considered a distinct organization), a Title IV main campus (not a distinct organization), a Title IV branch campus (not a distinct organization), or a system (two or more distinct organizations).

The implications for researchers depend on their research question and whether it requires them to use data from one or more survey components. IPEDS panel analyses that use only one survey component (e.g., Fall Enrollments) may be able to use the campus as the unit of analysis for those multicampus Title IV institutions that choose to report branch campuses separately. IPEDS panel analyses that require a dataset that merges data from multiple survey components must often use Title IV institutions as the unit of analysis. Title IV branch campuses in IPEDS often report IC data but report data for other survey components with the main campus or the system office, which is called parent-child reporting. Parent-child reporting differs across IPEDS survey components and has changed over time (Association for Institutional Research 2003; U.S. Department of Education. NCES 2012). Parent-child reporting affects most panel analysis applications of IPEDS data and, in particular, makes it difficult to create a panel dataset with variables from multiple IPEDS survey components. The next section dissects parent-child reporting and discusses how to overcome challenges associated with this issue.

Parent-Child Reporting

Parent-child relationships are intimately linked to the organizational structure of an institution and the unit of analysis. A parent-child relationship occurs when data for a “child” campus (e.g., a branch) is reported by a “parent” campus, for a particular variable in a survey component. Parent-child relationships not only change over time but can also differ from one survey component to another, making construction and analysis of panel data a difficult task. For example, a child campus may report Finance variables with the parent campus, but that same child campus may report Fall Enrollment variables separately from the parent campus.

Parent-child relationships affect nearly all empirical applications of HEGIS/IPEDS panel data. Parent-child relationships make it difficult to (a) merge data from different HEGIS/IPEDS survey components, (b) merge HEGIS/IPEDS data to other sources of organization-level data, and (c) conduct analyses using a campus-level unit of analysis. This section describes parent-child relationships in detail, explains how they affect empirical research, identifies patterns of parent-child relationships across survey components and institutional types, and discusses solutions to challenges associated with the parent-child problem, with a focus on “collapsing” solutions. We explain the collapsing solution utilized by the DCP Database and use an empirical example to demonstrate how the DCP collapsing solution can lead researchers to draw erroneous conclusions.

What Is Parent-Child Reporting?

Parent-child reporting occurs when multicampus Title IV institutions report data for a Title IV branch campus as part of the Title IV main campus data: “the parent institution (normally the main campus) submits a combined report, which includes data for its own (main) campus plus data for one or more branch campuses (these branches, because they do not report data separately from the main campus or the system office, are referred to as “children”)” (U.S. Department of Education, NCES 2013d). Parent-child reporting for a multicampus Title IV institution often differs across survey components. For example, in 2004–2005, each of the 24 Pennsylvania State University campuses reported separate Fall Enrollment data, but they all reported Finance data as part of the University Park campus. Parent-child reporting also occurs when two or more Title IV institutions (either single campus or multicampus) that are part of the same system report some Finance variables at the system office level rather than reporting these variables separately for each Title IV institution.

For the remainder of this chapter, the concept “child” will refer to a UNITID-year observation that is a child in a parent-child relationship in some survey component. The concept “parent” will refer to a UNITID-year observation that is a parent in a parent-child relationship in some survey component. “Child-level”

observations will refer to UNITID observations in a parent-child relationship where there are distinct observations for the parent and for the child campuses. “Parent-level” observations will refer to UNITID observations in a parent-child relationship where observations for the child campuses do not exist and observations for the parent campus include combined data from both the parent and child campuses. Additionally, campus-level data refers to data that has distinct observations for each campus (e.g., Title IV main campus, Title IV branch campus). Organization-level data refers to data where each observation represents a Title IV institution (either single campus or multicampus).

Rutgers University provides an example of the parent-child relationship complexities. Rutgers University is a three-campus Title IV institution with a Title IV main campus (New Brunswick) and two Title IV branch campuses (Camden and Newark). Additionally, IPEDS also reported data for the Rutgers University Central Office in some years, but we would not refer to Rutgers University as a system because it consists of one Title IV institution rather than two or more Title IV institutions. Table 11.7 displays raw Fall Enrollments data for all Rutgers University campuses for selected variables over the 1986–1987 to 2010–2011 period. Note that each of the three campuses had enrollment data for each year. The variable “parid_ef” indicates the UNITID of the parent institution for the Fall Enrollment component. Parid_ef was missing for all observations from 1986–1987 to 2010–2011 because each Rutgers University campus reported Fall Enrollment data separately for each year, rather than reporting with the parent.

Table 11.8 displays raw Finance data for all Rutgers University campuses for selected variables from 1986–1987 to 2010–2011.¹⁶ In 1986–1987, 1987–1988, and 1990–1991, the Finance data contained observations for each Rutgers University campus; however, all finance variables were missing for the Camden and Newark campus observations and the observations for the New Brunswick campus contained the aggregated data from all three campuses. Therefore, the New Brunswick campus was the “parent” campus—as indicated by the variable “parid_f”—and the Camden and Newark campuses were child campuses. In 1988–1989, 1990–1991, and 2004–2005 to 2010–2011, the Finance data contained an observation labeled “New Brunswick campus,” but no observations for the Camden or Newark campuses. Here, the New Brunswick observations contained the aggregated data for all three campuses. From 1991–1992 to 2003–2004, the Finance data contained observations for the Rutgers Central Office but not for the New Brunswick, Camden, or Newark campuses; the Central Office observations contained aggregated data for all three of these campuses. In this case, the Central Office was the parent campus—as indicated by the variable “parid_f”—and the New Brunswick, Camden, and Newark campuses were child campuses. The example of Rutgers University demonstrates how parent-child relationships can vary across survey components and the designation of the parent institution can change over time.

¹⁶The variable “net assets” became available only after Rutgers transitioned from “common” accounting standards to “GASB 34/35” accounting standards in the 2001–2002 academic year.

Table 11.7 Fall Enrollments, Rutgers University, selected years, selected variables

Institution	UNITID	PARID_EF	Year	Undergrad full-time	Undergrad part-time	Grad full-time	Grad part-time
Rutgers, Camden	186371	-	1987	2,364	1,488	559	548
Rutgers, New Brunswick	186380	-	1987	22,090	3,930	2,386	5,563
Rutgers, Newark	186399	-	1987	4,089	2,102	1,067	2,353
Rutgers, Camden	186371	-	1990	2,717	1,406	672	542
Rutgers, New Brunswick	186380	-	1990	21,514	3,763	2,621	5,122
Rutgers, Newark	186399	-	1990	3,837	1,965	1,245	2,436
Rutgers, Camden	186371	-	1995	2,457	1,146	698	532
Rutgers, New Brunswick	186380	-	1995	21,281	3,619	2,789	5,775
Rutgers, Newark	186399	-	1995	4,000	1,967	1,182	2,328
Rutgers, Camden	186371	-2	2000	2,594	943	741	658
Rutgers, New Brunswick	186380	-2	2000	24,820	2,979	2,753	4,756
Rutgers, Newark	186399	-2	2000	4,059	1,717	1,178	2,267
Rutgers, Camden	186371	-2	2005	3,060	947	777	779
Rutgers, New Brunswick	186380	-2	2005	24,416	2,397	3,991	3,892
Rutgers, Newark	186399	-2	2005	5,035	1,573	1,311	2,374
Rutgers, Camden	186371	-2	2010	3,342	779	908	752
Rutgers, New Brunswick	186380	-2	2010	27,588	1,507	4,559	3,712
Rutgers, Newark	186399	-2	2010	5,754	1,553	1,719	2,475
Rutgers, Camden	186371	-2	2011	3,629	868	903	758
Rutgers, New Brunswick	186380	-2	2011	28,904	1,447	4,951	3,610
Rutgers, Newark	186399	-2	2011	5,880	1,599	1,812	2,507

PARID_EF: Identification Number for Parent Institution for Fall Enrollment component

Table 11.8 Finance, Rutgers University, selected years, selected variables

Institution	UNITID	PARID_F	Year	Account	State approp.	Current rev	Land value	Net assets
Rutgers, New Brunswick	186380	186380	1989	common	313,571,079	650,283,291	22,862,125	-
Rutgers, New Brunswick	186380	186380	1990	common	320,526,000	707,045,000	-	-
Rutgers, Camden	186371	186380	1991	common	-	-	-	-
Rutgers, New Brunswick	186380	186380	1991	common	307,768,000	735,131,000	22,991,000	-
Rutgers, Newark	186399	186380	1991	common	-	-	-	-
Rutgers, Central Office	186362	186362	1992	common	336,382,000	804,843,000	26,211,000	-
Rutgers, Central Office	186362	186362	1993	common	332,237,000	826,937,000	27,726,000	-
Rutgers, Central Office	186362	186362	1994	common	351,842,000	881,718,000	29,284,000	-
Rutgers, Central Office	186362	186362	1995	common	368,730,000	935,206,475	30,732,000	-
Rutgers, Central Office	186362	186362	1996	common	375,548,000	1,055,166,000	30,807,000	-
Rutgers, Central Office	186362	-	1997	common	373,798,000	983,445,000	33,472,000	-
Rutgers, Central Office	186362	-2	1998	common	388,237,000	1,038,362,000	33,694,000	-
Rutgers, Central Office	186362	-2	1999	common	397,072,000	1,100,557,000	34,609,000	-
Rutgers, Central Office	186362	186362	2000	common	421,537,000	1,189,937,000	35,682,000	-
Rutgers, Central Office	186362	186362	2001	common	437,081,000	1,261,644,000	38,052,000	-
Rutgers, Central Office	186362	186362	2002	gasb 34/35	436,602,000	1,248,159,000	57,063,000	1,687,307,000
Rutgers, Central Office	186362	186362	2003	gasb 34/35	436,122,000	1,314,121,000	59,517,000	1,795,135,000
Rutgers, Central Office	186362	186362	2004	gasb 34/35	435,347,000	1,410,163,000	68,214,000	1,879,574,000
Rutgers, Central Office	186380	186380	2005	gasb 34/35	455,033,000	1,465,054,000	76,682,000	1,946,335,000
Rutgers, New Brunswick	186380	186380	2006	gasb 34/35	495,934,000	1,548,195,000	77,401,000	2,040,826,000
Rutgers, New Brunswick	186380	186380	2007	gasb 34/35	455,764,000	1,659,656,000	79,843,000	2,219,394,000
Rutgers, New Brunswick	186380	186380	2008	gasb 34/35	476,511,000	1,687,708,000	80,959,000	2,310,436,000
Rutgers, New Brunswick	186380	186380	2009	gasb 34/35	450,134,000	1,767,729,000	95,414,000	2,309,115,000
Rutgers, New Brunswick	186380	186380	2010	gasb 34/35	444,009,000	1,870,938,000	107,168,000	2,426,600,000
Rutgers, New Brunswick	186380	186380	2011	gasb 34/35	438,156,000	1,985,979,000	115,595,000	2,636,769,000

PARID_F: Identification number for Parent Institution for Finance component

Account: Accountant standard used

How Does Parent-Child Reporting Affect Panel Construction and Analyses?

Parent-child reporting affects the construction and analyses of IPEDS panel data. Parent-child reporting creates difficulties for appending data over time within a survey component. Consider the goal of creating annual measures of state appropriations for each Rutgers University campus from the Finance data in Table 11.8. Researchers cannot know the state appropriations for each of the three campuses because finance variables were never reported separately for each campus. Furthermore, researchers cannot create annual organization-level measures by simply appending 1 year of data to the next because the parent institution changes over time.

Parent-child reporting makes it difficult to merge Fall Enrollment data in Table 11.7 to Finance data in Table 11.8 for several reasons. First, the child-level observations in the Fall Enrollment component contain UNITID-year observations that do not exist in the Finance component. Second, the observations for Rutgers Central Office (UNITID=186362) will not merge with the Fall Enrollment component because the Fall Enrollment component does not contain data for Rutgers Central Office. Third, the New Brunswick campus observations (UNITID=186380) from the Finance component will merge with observations from the Fall Enrollment component; however, this merge will be incorrect because the New Brunswick observations from the Finance component are parent-level observations, representing data from multiple campuses, but the New Brunswick observations from the Fall Enrollments component are child-level observations, representing data from one campus.

Parent-child relationships often affect whether panel analyses can be conducted using the desired unit of analysis (e.g., system level, organization level, or campus level). Panel analyses that utilize data from one survey component—other than Finance—can often use a campus-level unit of analysis for multicampus Title IV institutions that report separate data for each Title IV branch campus. For example, researchers can conduct campus-level analyses of change over time in nonresident enrollments at Rutgers University because Fall Enrollment data are reported at the campus level. However, panel analyses requiring variables from multiple survey components (especially Finance) often cannot use a campus-level unit of analysis. For example, analyses of the relationship between state appropriations and nonresident enrollments at Rutgers University cannot be conducted at the campus-level because Fall Enrollment data are reported at the campus level but Finance data are reported at the organization level.

In particular, parent-child relationships also affect the unit of analysis that can be utilized in panel analyses of for-profit institutions. The Title IV for-profit sector consists of a large number of Title IV institutions with one or a few campuses, and a smaller number of Title IV institutions with many campuses that operate across different states (e.g., University of Phoenix). Multicampus for-profit institutions often report campus-level data for some survey components (e.g., 12-Month

Enrollments) but organization-level data for other survey components, especially Finance. Therefore, panel analyses of for-profit institutions that require finance variables must often use an organization-level unit of analysis rather than a campus-level unit of analysis.

Patterns of Parent-Child Relationships

Understanding the patterns of parent-child relationships is a first step to overcoming problems associated with parent-child reporting. This section describes the extent of parent-child reporting, how parent-child relationships have changed over time, and which types of institutions are most likely to be effected by parent-child reporting. We focus mostly on the Finance component because parent-child reporting is the most prevalent and the most complicated in the Finance component.

As a general overview, parent-child reporting requirements changed in 2003–2004 (Association for Institutional Research 2003). Prior to 2003–2004, Title IV branch campuses often reported IC data but reported some or all of the remaining survey components at the parent level (U.S. Department of Education. NCES 2013d). Beginning in 2003–2004, multicampus Title IV institutions were asked to identify Title IV branch campuses that would not report any IPEDS data. These branch campuses appear in the NCES College Navigator website but do not appear in IPEDS data downloaded from the IPEDS Data Center (Association for Institutional Research 2013). However, for each Title IV branch campus that reported separate IPEDS data, it was required to complete all IPEDS survey components except Finance (Association for Institutional Research 2003).

Patterns of parent-child relationships can be described using parent-child “flag” variables. Flag variables exist for each survey component (e.g., Finance, Fall Enrollments) and identify the parent-child status (e.g., parent, child, neither) for that particular survey component. Table 11.9 presents the parent-child relationships over time for the Finance survey component.¹⁷

The first six columns of Table 11.9 indicate the parent-child Finance relationships from 1986–1987 to 2010–2011 using data derived from the Finance component. In 1986–1987, there were 3,604 observations in the Finance dataset (one observation per unique UNITID), 77 observations were parents, and 234 observations were children. Beginning in 1994–1995, the parent-child Finance flags indicated whether a child was a full child or a partial child. A full child refers to a child that reports all Finance data with the parent. Note that there were many full-child observations in data from the Finance component because full-child observations typically completed the IC component but not the Finance component. A partial child refers to a campus that reports

¹⁷Non-degree-granting private nonprofit and private for-profit institutions (sectors 8 and 9) did not complete the Finance component for academic years 1986–1987 to 1998–1999. The number of observations in Finance data increased dramatically in 1999–2000 when a separate Finance survey form was created for for-profit institutions (Fuller 2011).

Table 11.9 Parent-child Finance flags

	Data from Finance component				Data from IC component				Total			
	Neither/miss	Parent	Child	Full-child	Partial-child	Total	Neither/miss	Parent		Full-child	Partial-child	
1987	3,293	77	234	0	0	3,604						
1988	3,313	75	238	0	0	3,626						
1989	3,216	77	116	0	0	3,409						
1990	3,284	61	63	0	0	3,408						
1991	3,376	61	209	0	0	3,646						
1992	3,372	69	71	0	0	3,512						
1993	3,353	110	79	0	0	3,542						
1994	3,370	115	96	0	0	3,581						
1995	3,308	135	0	0	130	3,573						
1996	3,019	125	0	0	132	3,276						
1997	3,245	46	0	7	0	3,298						
1998	3,837	53	0	7	0	3,897						
1999	3,873	54	0	14	0	3,941						
2000	5,772	266	0	0	257	6,295	8,504	266	537	257	9,564	
2001	5,345	356	0	0	394	6,095	5,674	355	636	394	7,059	
2002	5,207	360	0	0	393	5,960	5,513	364	728	393	6,998	
2003	5,235	358	0	0	436	6,029	5,495	358	723	438	7,014	
2004	5,243	319	0	0	525	6,087	5,472	319	623	525	6,939	
2005	5,353	276	0	0	739	6,368	5,548	276	408	741	6,973	
2006	5,387	282	0	0	775	6,444	5,550	282	398	776	7,006	
2007	5,341	281	0	0	834	6,456	5,498	281	399	834	7,012	
2008	5,404	271	0	0	864	6,539	5,557	271	431	866	7,125	
2009	5,501	272	0	0	869	6,642	5,638	272	428	869	7,207	
2010	5,727	273	0	0	895	6,895	5,800	273	425	895	7,393	
2011	5,861	268	0	0	960	7,089	5,922	268	440	961	7,591	

some variables at the child-level and some variables at the parent-level. The number of partial-child observations increased from 257 in 1999–2000 to 960 in 2010–2011.

The remaining five columns of Table 11.9 dataset provide parent-child Finance relationships from 1999–2000 to 2010–2011, an IC component dataset that has variables about parent-child relationships for the Finance survey component. Beginning with the year 2000 IPEDS collection, parent-child flags for all survey components were included in the Response Status data file associated with the IC component. Note that the number of partial-child observations using data from the IC component is about the same as the number of partial-child observations using data from the Finance component (first six columns of Table 11.9) because branch campuses completed both the IC component and the Finance component. The number of full-child observations using data from the IC component was 537 in 1999–2000 and 440 in 2010–2011, but no full-child observations exist over the time period using data from the Finance component because these branch campuses (e.g., Rutgers University, Newark) did not complete the Finance component.

The distinction between full-child and partial-child campuses is intimately related to Program Participation Agreements (PPA) and accounting standards. Accounting standards are discussed in greater detail in the Common Data Challenges section of this chapter. Briefly, all institutions used the “Common Form” Finance survey from 1974–1975 to 1995–1996. Beginning in 1996–1997, the Finance component was revised for private not-for-profit institutions due to changes in accounting standards released by the Financial Accounting Standards Board (FASB). Beginning in 1999–2000, a FASB accounting form was created for for-profit institutions. Beginning in 2001–2002, the Governmental Accounting Standards Board (GASB) Finance form was phased-in for public institutions in order to satisfy new accounting standards implemented by GASB.

Title IV branch campuses (e.g., Rutgers University–Newark) that share a PPA with a Title IV main campus (e.g., Rutgers University–New Brunswick) have the choice of reporting all Finance data at the child level, reporting some Finance data at the parent level (partial child), or reporting all Finance data at the parent level (full child) (U.S. Department of Education. NCES 2012).

A Title IV institution with a separate PPA is not allowed to be a full child; however, Title IV institutions that are part of a system sometimes have difficulty reporting asset, liability, and equity variables separately for each Title IV institution in the system (U.S. Department of Education. NCES 2012). The Common Form Finance survey did not contain many survey items about assets, liabilities, and equity (U.S. Department of Education. NCES 2000). However, FASB accounting standards and GASB accounting standards require more information about assets, liabilities, and equities, making it difficult for some Title IV institutions within a system to answer all Finance survey items at the Title IV institution level (U.S. Department of Education. NCES 2012).

Therefore, Title IV institutions that are part of a system are allowed to report some variables at the system level (i.e., be a partial child). In particular, public institutions using GASB standards are allowed to report statement of net assets (Part A), summary of changes in net assets (Part D), debt and assets (Part L), and endowment assets (Part H) at the system level but must report revenues (Part B), expenses (Part C), and scholarships

and fellowships (Part E) separately at each Title IV institution (U.S. Department of Education. NCES 2012). Private nonprofit institutions using FASB standards may report statements of financial position (Part A), changes and net assets (Part B), and endowment assets (Part H) at the system level but must report scholarships and fellowships (Part C), revenues (Part D), and expenses (Part E) separately for each Title IV institution (U.S. Department of Education. NCES 2012). For-profit institutions may report balance sheet (Part A) and change in equity (Part B) at the system level but must report student grants (Part C), revenues (Part D), and expenses (Part E) separately for each Title IV institution (U.S. Department of Education. NCES 2012).

Relative to the Finance component, parent-child relationships for other survey components are simpler because children are always full children; partial children do not exist. Table 11.10 displays parent-child flags for the Completions and Fall Enrollments components, respectively. The first four columns of Table 11.10 display parent-child Completions flags using data from the Completions survey component, and the final four columns indicate the parent-child Completions flags using data from the IC survey component. Starting in 2003–2004 IPEDS required all Title IV branch campuses that report IPEDS data to complete all survey components except Finance (U.S. Department of Education. NCES 2013d). Examining the parent-child Completions flags from the IC component, the number of parents decreased from 83 in 2002–2003 to 43 in 2003–2004 to 9 in 2010–2011, and the number of children decreased from 165 in 2002–2003 to 64 in 2003–2004 to 13 in 2010–2011. Table 11.10 indicates that there are similar parent-child patterns for the Fall Enrollment component. In contrast, the number of parent-child relationships in the Finance component is much greater than the number of parent-child relationships in other survey components.

What types of organizations have been affected most often by these complexities in parent-child relationships? Table 11.11 displays parent-child Finance flags by selected sector for the 2000–2001, 2005–2006, and 2010–2011 academic years using data from the IC component. Table 11.11 excludes campuses ineligible for Title IV financial aid, using a Title IV flag indicator available beginning with IC data collected in fall 1997 (which refers to Finance data for 1995–1996). Table 11.11 also excludes administrative offices, which have sector=0.

For public four-year institutions (sector 1; sample size=649 in 2000–2001), the number of full-child observations increased from 17 in 2000–2001 to 36 in 2010–2011, whereas the number of partial-child observations decreased from 85 in 2000–2001 to 39 in 2010–2011. For private nonprofit four-year institutions (sector 2; sample size=1,620 in 2000–2001), the number of full-child observations decreased from 94 in 2000–2001 to 50 in 2010–2011, whereas the number of partial-child observations increased from 27 in 2000–2001 to 53 in 2010–2011. For public two-year institutions (sector 4; sample size=1,180 in 2000–2001), the number of full-child observations decreased from 109 in 2000–2001 to 23 in 2010–2011, whereas the number of partial-child observations increased from 54 in 2000–2001 to 148 in 2010–2011. Finally, at for-profit institutions (sectors 3, 6, and 9; sample size=2,503 in 2000–2001 and 3,454 in 2010–2011), the number of full-child observations decreased from 337 in 2000–2001 to 299 in 2010–2011, whereas the number of partial-child observations increased from 170 in 2000–2001 to 469 in 2010–2011.

Table 11.10 Parent-child indicator for Completions component and Fall Enrollments component, academic years 1986–1987 to 2010–2011

	Parent-child flags for Completions component						Parent-child flags for Fall Enrollments component					
	From Completions data			From IC data			From Fall Enrollments data			From IC data		
	NA/miss	Parent	Child	NA/miss	Parent	Child	NA/miss	Parent	Child	NA/miss	Parent	Child
1987	4,874	51	0				6,485	52	0			
1988	5,564	42	1				6,449	59	0			
1989	5,757	32	0				5,324	31	0			
1990	4,852	25	0				5,564	26	0			
1991	4,995	19	0				5,273	23	0			
1992	5,015	27	0				6,464	15	0			
1993	5,109	48	0				6,589	28	0			
1994	5,091	63	0				8,775	52	0			
1995	8,442	103	167				8,494	88	0			
1996	6,554	104	0				8,378	107	0			
1997	6,373	113	0				6,566	100	0			
1998	7,087	86	0				6,359	102	0			
1999	6,151	76	0				7,053	84	0			
2000	6,571	99	0	9,286	100	178	6,144	72	0			
2001	6,435	101	0	6,757	101	201	6,476	80	0	9,347	80	137
2002	6,386	87	0	6,743	87	168	6,469	91	0	6,789	91	179
2003	6,498	83	0	6,766	83	165	6,457	69	0	6,786	68	144
2004	6,594	41	0	6,834	41	64	6,508	67	1	6,809	67	138
2005	6,696	21	0	6,922	21	30	6,612	17	0	6,897	17	25
2006	6,748	19	0	6,960	19	27	6,679	10	0	6,954	10	9
2007	6,769	16	0	6,972	16	24	6,745	3	0	7,000	3	3
2008	6,898	13	0	7,092	13	20	6,757	4	0	7,004	4	4
2009	7,018	11	0	7,181	11	15	6,885	1	0	7,123	1	1
2010	7,259	10	0	7,369	10	14	6,984	6	0	7,189	6	12
2011	7,480	9	0	7,569	9	13	7,241	5	0	7,382	5	6

Table 11.11 Parent-child Finance flags 2000–01, 2005–06, and 2010–11 by selected sector using IC data, excluding non-Title IV campuses

	Public, 4-year or above (sector=1)					Private nonprofit, 4-year or above (sector=2)				
	Neither	Parent	Full-child	Partial-child	Total	Neither	Parent	Full-child	Partial-child	Total
2001	524	23	17	85	649	1,449	50	94	27	1,620
2006	573	23	33	32	661	1,459	30	63	48	1,600
2011	601	20	36	39	696	1,481	26	50	53	1,610
	Public, 2-year (sector=4)					Private, for profit, (sectors 3, 6, 9)				
	Neither	Parent	Full-child	Partial-child	Total	Neither	Parent	Full-child	Partial-child	Total
2001	991	26	109	54	1,180	1,786	204	337	176	2,503
2006	944	11	75	131	1,161	2,039	170	189	330	2,728
2011	906	5	23	148	1,082	2,510	176	299	469	3,454

Collapsing Solutions to Parent-Child Reporting

Example of a Collapsing Solution

Parent-child reporting makes it difficult to create an IPEDS panel dataset with one observation per organization-year (or one observation per campus-year) that has variables from multiple IPEDS survey components. It is important to devise solutions to parent-child reporting that are relevant to the research question at hand. We discuss two general solutions, collapsing and allocation. The former method collapses child observations into parent observations separately for each survey component. The collapsed panel datasets for each survey component can then be merged to create an analysis dataset. The allocation solution allocates variables reported at the parent level to the child level so that the number of observations does not decrease.

We demonstrate a simple collapsing solution using Fall Enrollment and Finance data from the North Orange County (California) Community College District, which is comprised of Fullerton College (UNITID=114859), Cypress College (UNITID=113236), and the North Orange County Community College District Office (UNITID=120023). Table 11.12 provides Fall Enrollment variables (full-time student headcount and part-time student headcount) from 2001–2002 to 2006–2007. Fall Enrollment data are reported separately at Fullerton College and Cypress College, but no observations exist for the District Office. Table 11.13 provides selected finance variables from 2001–2002 to 2006–2007. From 2001–2002 to 2003–2004, all finance variables are reported at the parent level (the District Office), and there are no observations for Cypress College or Fullerton College. In 2004–2005 and 2005–2006, all finance variables are reported at the campus level, and there are no observations for the District Office. In 2005–2006 and 2006–2007, revenue variables (state appropriations and total current revenues) are reported at

Table 11.12 Fall enrollment data for North Orange County Community College District, prior to collapse

Institution	PARID	UNITID	Year	Undergrad full-time	Undergrad part-time
Fullerton College	114859	114859	2002	7,236	13,692
Cypress College	114859	113236	2002	4,951	8,945
Fullerton College	114859	114859	2003	7,817	13,106
Cypress College	114859	113236	2003	5,019	10,909
Fullerton College	114859	114859	2004	7,605	11,115
Cypress College	114859	113236	2004	4,881	7,800
Fullerton College	114859	114859	2005	8,079	11,695
Cypress College	114859	113236	2005	5,193	8,106
Fullerton College	114859	114859	2006	8,101	11,510
Cypress College	114859	113236	2006	4,933	17,032
Fullerton College	114859	114859	2007	8,245	11,750
Cypress College	114859	113236	2007	4,863	8,035

Undergrad full-time: total of undergrad students full-time

Undergrad part-time: total of undergrad students part-time

PARID: Identification Number of Parent Institution

the campus level, but asset variables (land value and net assets) are reported at the district level.

The first step in a collapsing solution is to choose the parent. We chose Fullerton College to be the parent because Fullerton College had higher enrollments than Cypress College in most years, but either choice is reasonable because neither campus is obviously a main campus. Choosing an administrative unit (e.g., North Orange County Community College District Office) to be the parent has strengths and drawbacks, as we discuss below.

The second step is to “collapse” variables measured at the child level to the parent level. This step must be conducted separately for each survey component. “Collapsing” means creating “output” parent-year observations that are the sum of all parent- and child-year “input” observations. Table 11.14 provides collapsed Fall Enrollment data for 2002–2007, which has one observation per year. The institutional identification code refers to Fullerton College, which we chose as the parent institution, but Table 11.14 contains Fall Enrollment data from both Fullerton College and Cypress College. For example, the value of undergraduate full-time enrollments in 2005 was 13,272 in Table 11.14, which is the sum of undergraduate full-time enrollments from Fullerton College (8,079) and Cypress College (5,193) in Table 11.12.

Table 11.15 provides collapsed Finance data from 2002 to 2007. The institution identification code refers to Fullerton College, but Table 11.15 contains Finance data from Fullerton College, Cypress College, and the District Office. For example, the value of 2006 state appropriations is \$73,636,315 in Table 11.15, which is the sum of 2006 state appropriations from Fullerton College (\$46,390,878), Cypress College (\$27,245,437), and the District Office (missing) from Table 11.10. The

Table 11.13 Finance data for North Orange County Community College District, prior to collapse

Institution	PARID	UNITID	Year	State approp.	Current rev	Land	Net assets
North Orange County Cc District	114859	120023	2002	42,270,926	178,950,478	13,566,862	130,731,217
North Orange County Cc District	114859	120023	2003	37,198,015	183,820,724	13,955,737	145,015,093
North Orange County Cc District	114859	120023	2004	43,209,813	180,175,915	14,943,597	182,429,509
Fullerton College	114859	114859	2005	37,903,411	116,583,456	9,055,820	125,621,107
Cypress College	114859	113236	2005	24,643,472	75,798,483	5,887,777	81,674,449
Fullerton College	114859	114859	2006	46,390,878	128,774,366	-	-
Cypress College	114859	113236	2006	27,245,437	75,629,390	-	-
North Orange County Cc District	114859	120023	2006	-	-	14,943,597	233,682,281
Fullerton College	114859	114859	2007	53,860,373	153,860,154	-	-
Cypress College	114859	113236	2007	33,011,196	94,301,384	-	-
North Orange County Cc District	114859	120023	2007	-	-	17,453,683	295,342,213

PARID: Identification Number of Parent Institution

Table 11.14 Fall enrollment data for North Orange County Community College District, after collapse

Institutions	UNITID	Year	Undergrad full-time	Undergrad part-time
Fullerton College	114859	2002	12,187	22,637
Fullerton College	114859	2003	12,836	24,015
Fullerton College	114859	2004	12,486	18,915
Fullerton College	114859	2005	13,272	19,801
Fullerton College	114859	2006	13,034	28,542
Fullerton College	114859	2007	13,108	19,785

Undergrad full-time: total of undergrad students full-time

Undergrad part-time: total of undergrad students part-time

Table 11.15 Finance data for North Orange County Community College District, after collapse

Institution	UNITID	Year	State approp.	Current rev.	Land	Net assets
Fullerton College	114859	2002	42,270,926	178,950,478	13,566,862	130,731,217
Fullerton College	114859	2003	37,198,015	183,820,724	13,955,737	145,015,093
Fullerton College	114859	2004	43,209,813	180,175,915	14,943,597	182,429,509
Fullerton College	114859	2005	62,546,883	192,381,939	14,943,597	207,295,556
Fullerton College	114859	2006	73,636,315	204,403,756	14,943,597	233,682,281
Fullerton College	114859	2007	86,871,569	248,161,538	17,453,683	295,342,213

value of 2006 net assets is \$233,682,281 in Table 11.15, which is the sum of 2006 state appropriations from Fullerton College (missing), Cypress College (missing), and the District Office (\$233,682,281) in Table 11.13. The final step of the collapse solution is to merge the collapsed Fall Enrolment data and the collapsed Finance data, as demonstrated in Table 11.17.

Having provided a simple example of collapsing an institution for one parent-child relationship (i.e., North Orange County Community College District), we next summarize the main steps in collapsing *all* child-level observations into parent-level observations. The first step is to create separate panel datasets of non-collapsed data for each survey component (as demonstrated in Tables 11.12 and 11.13 in the North Orange County example). The second step is to create a parent-child list that identifies the UNITID of the parent associated with the UNITID for each child. In the North Orange County example, we chose Fullerton College (UNITID = 114859) to be the parent campus and Cypress College (UNITID = 113236) and the District Office (UNITID = 120023) to be the child campuses. The parent-child list would specify the parent campus and the child campuses for all parent-child relationships. The third step is to merge the parent-child list to the panel

dataset for each survey component. The fourth step is to collapse the panel datasets for each survey component to the parent level, as shown in Tables 11.14 and 11.15. The fifth step is to merge the collapsed panel datasets from each survey component by UNITID (i.e., the UNITID of the parent) and year, as shown in Table 11.16.

The fourth and fifth steps are somewhat different for the IC survey component. Panel datasets of IC data should not be collapsed to the parent level because most IC variables (e.g., highest award level, zip code) cannot be summed across institutions. When merging IC data to collapsed data from other survey components, researchers should drop “child” observations from IC that do not merge with the parent-level observations from other survey components. However, researchers should be aware that merging campus-level observations from IC (i.e., not collapsed to the parent level prior to merging) to parent-level observations from other survey components means that the IC data attached to each parent observation in the analysis dataset is not representative of campuses in the collapsed record. We will demonstrate that this issue has important effects for research using the DCP Database.

Parent-Child Lists

The most important and most time-consuming step in implementing a collapsing solution is creating the parent-child list. A parent-child list is essentially a dataset with two important variables, “parent_UNITID” and “child_UNITID.” Table 11.17 displays selected observations from one potential parent-child list. Note that each child_UNITID is unique and that the UNITID of the parent is also included as an observation in the child_UNITID variable.

Although one collapsing solution may differ from another, all collapsing solutions follow two general rules that relate to the parent-child list. First, for a given parent-child relationship, the designation of which campus is the parent and which campuses are children must be constant over time and across survey components. This rule is enforced by the fact that each child_UNITID in the parent-child list is unique and is associated with only one parent_UNITID. In the example of Finance data at the Rutgers University campus (Table 11.8), the New Brunswick campus was the parent in some years and the Central Office was the parent in the other years, but the parent-child list allows only one Rutgers University campus to be the parent.

The second general rule of collapsing is that if a child campus *ever* reports an analysis variable of interest at the parent level for a particular survey component, then the child campus must be collapsed to the parent level for all years, and all survey components, and all variables. This rule is enforced by the fact that (1) the same parent-child list is merged to the panel dataset for each survey component (i.e., parent-child list is the same across survey components) and (2) the parent-child list is merged to the panel datasets for each survey component by child_UNITID rather than by child_UNITID and year (i.e., parent-child relationships are constant over time). For example, state appropriations for North Orange County campuses were not reported at the child level for some years (Table 11.13);

Table 11.16 Merged Fall Enrollment and Finance data for North Orange County Community College District

Institution	UNITID	YEAR	Undergrad full-time	Undergrad part-time	State approp.	Current rev.	Land	Net assets
Fullerton College	114859	2002	12,187	22,637	42,270,926	178,950,478	13,566,862	130,731,217
Fullerton College	114859	2003	12,836	24,015	37,198,015	183,820,724	13,955,737	145,015,093
Fullerton College	114859	2004	12,486	18,915	43,209,813	180,175,915	14,943,597	182,429,509
Fullerton College	114859	2005	13,272	19,801	62,546,883	192,381,939	14,943,597	207,295,556
Fullerton College	114859	2006	13,034	28,542	73,636,315	204,403,756	14,943,597	233,682,281
Fullerton College	114859	2007	13,108	19,785	86,871,569	248,161,538	17,453,683	295,342,213

Undergrad full-time: total of undergrad students full-time

Undergrad part-time: total of undergrad students part-time

Table 11.17 Selected observations from a master parent-child list

Parent institution	Child institution	UNITID_parent	UNITID_child	OPEID_child
The University Of Alabama	The University Of Alabama	100751	100751	001051-00
The University Of Alabama	University Of Alabama Gadsden Center	100751	102401	
Faulkner University	Faulkner University	101189	101189	001003-00
Faulkner University	Faulkner University-Birmingham	101189	101198	001003-01
Faulkner University	Faulkner University-Florence	101189	101204	001003-02
Faulkner University	Faulkner University	101189	101213	001003-03
Faulkner University	Faulkner University-Mobile	101189	261418	001003-04
Glendale Community College	Glendale Community College	104708	104708	001076-00
Glendale Community College	Maricopa Community College System Office	104708	105136	001075-00
Glendale Community College	Gateway Community College	104708	105145	008303-00
Glendale Community College	Mesa Community College	104708	105154	001077-00
Glendale Community College	Phoenix College	104708	105428	001078-00
Glendale Community College	Rio Salado College	104708	105668	021775-00
Glendale Community College	Scottsdale Community College	104708	105747	008304-00
Glendale Community College	South Mountain Community College	104708	105792	021466-00
Glendale Community College	Paradise Valley Community College	104708	364016	026236-00
Glendale Community College	Chandler/Gilbert Community College	104708	364025	030722-00
Glendale Community College	Estrella Mountain Community College	104708	384333	031563-00
City College Of San Francisco	City College Of San Francisco	112190	112190	004502-00
City College Of San Francisco	San Francisco Community College Skills Center	112190	122481	
City College Of San Francisco	San Francisco Community College District	112190	122621	
Jones College-Jacksonville	Jones College-Jacksonville	135063	135063	001497-00
Jones College-Jacksonville	Jones College-Miami Campus	135063	402633	001497-10

Table 11.18 Sample size for selected years by 2005 Carnegie classification and control

		DCP Database									
		Public institutions					Private non-profit institutions				
		Res/Doct	Mast	Bach	Assoc	Specialized	Res/Doct	Mast	Bach	Assoc	Specialized
1987	152	241	63	822	65	90	319	493	126	534	
1990	152	241	64	828	68	90	319	493	128	542	
1995	152	243	65	837	72	90	319	495	134	570	
2000	152	244	65	837	72	90	317	489	128	562	
2005	152	244	66	835	68	88	313	481	113	532	
2010	152	242	66	833	64	88	311	474	103	505	
		Jaquette & Parra Panel									
		Public institutions					Private non-profit institutions				
		Res/Doct	Mast	Bach	Assoc	Specialized	Res/Doct	Mast	Bach	Assoc	Specialized
1987	165	267	79	908	69	90	321	485	114	505	
1990	165	267	80	910	70	91	319	484	119	519	
1995	165	268	79	922	77	91	318	488	127	538	
2000	165	269	80	924	79	90	318	487	136	550	
2005	165	270	81	922	71	88	313	481	115	515	
2010	165	269	81	917	67	88	310	470	103	496	

therefore, we collapsed child-level observations (Fullerton College, Cypress College, and the District Office) into parent level (Fullerton College) for all years. We conducted this step separately for both the Finance component and the Fall Enrollments survey component, even though Fall Enrollment data were reported at the child level for all years.

How does a researcher actually create a parent-child list? For each survey component and year, parent-child flag variables identify the presence of a parent-child relationship and parent-id variables identify the UNITID of the parent associated with each child. The first step in creating a parent-child list is to identify and group together all campuses that have *ever* been in a parent-child relationship during the desired analysis period in a survey component that is used to create analysis variables. This step is completed using parent-child flag variables and parent-id variables.¹⁸ Researchers should be aware that parent-child flag variables and parent-id variables from a single year of data (e.g., 2002–2003) cannot be used to create a parent-child list for an analysis dataset that spans multiple years of data.

For example, if a researcher is creating an analysis dataset for the academic years 2000–2001 to 2010–2012 using variables from IC, Finance, and 12-Month

¹⁸This step should be conducted separately for each survey component. With respect to the Finance component, the researcher would sort un-collapsed Finance data by UNITID and parent_UNITID (idx_f) and “fill down” the parent_UNITID variable for all years of data for campuses that have ever had a non-missing parent_UNITID variable. The variable parent_UNITID should be equal to UNITID for any campus that has ever been a parent. Finally, the researcher can group all observations that have ever been in the same parent-child relationship (for a particular survey component) by sorting by parent_UNITID, year, and UNITID.

Enrollments, then the parent-child list should be created using Finance data and 12-Month Enrollment data from 2000–2001 to 2010–2012. Additionally, if the analysis dataset uses revenue and expenditure variables but not asset and liability variables, then the parent-child list should not include partial children that always reported revenue and expenditure variables at the child level during the analysis period.

Once all observations that have ever been in a parent-child relationship are identified and grouped together, the researcher must decide which UNITID will be the parent and which UNITIDs will be the child campuses. When the list of observations in a parent-child relationship does not include an administrative unit (e.g., Maricopa Community College System Office), researchers can usually identify a main campus to choose as a parent. Some decisions are obvious, as in the case of University of Alabama in Table 11.17. Other decisions require investigation, as in the case of Jones College in Table 11.17.

Selecting the parent is less obvious when the list of observations in a parent-child relationship includes an administrative unit. If the researcher wants to avoid selecting the administrative office as the parent, it may be that none of the remaining campuses are main campuses (e.g., California Community College districts) and the researcher should just choose one campus to be the parent. Choosing administrative units (e.g., North Orange County District Office, Rutgers University Central Office) as parents has both drawbacks and strengths. The drawbacks are that administrative units have many missing IC variables (e.g., 25th percentile SAT score, tuition, and fees) and cannot be easily merged to other data sources (e.g., Carnegie Classification). The strength is that identifying the collapsed observations as an administrative unit consisting of multiple campuses is more accurate than assigning the collapsed observations the IC data associated with one particular campus.

The sample parent-child list in Table 11.17 also displays the OPEID for each child. An alternative approach is to create a parent-child list based on the first six digits of OPEID. The rationale for this approach is that each Title IV institution with a separate Program Participation Agreement (PPA) must complete all IPEDS survey components but Title IV branch campuses do not have to complete all IPEDS survey components (U.S. Department of Education. NCES 2012). In theory, the first six digits of OPEID could be used to identify all campuses in a parent-child relationship, and the two-digit suffix of OPEID could be used to assign the parent (suffix=00) and the child observations (suffix≠00). A benefit of this approach is that using six-digit OPEID to identify parent institutions would make it easier to merge IPEDS data to data from the Office of Postsecondary Education and Federal Student Aid, which we discuss below. We have not yet attempted this approach because we only recently learned about the relationship between PPA, OPEID, and parent-child reporting.

However, using OPEID to create parent-child lists involves at least two difficulties. First, the IC component began collecting OPEID in 1995–1996 and some children—for example, the University of Alabama–Gadsden Center in Table 11.17—never received an OPEID because they last reported IPEDS data prior to 1995–1996. This problem makes it difficult to identify child campuses using OPEID alone. Second,

parent-child relationships can involve multiple Title IV institutions when some finance variables (e.g., assets) are reported at the system level (U.S. Department of Education, NCES 2012). In Table 11.17, each community college in the Maricopa Community College System is a Title IV institution with a separate PPA, but some Finance data has been reported at the system level. The OPEID variable is not effective for identifying parent-child relationships that span Title IV institutions. Although both of these difficulties are tractable, researchers should be aware that creating a parent-child list based on OPEID may require triangulating several additional sources of data (e.g., parent-child flags, parent-UNITID variables).

In the following section, we analyze the collapsing solution used by the Delta Cost Project. As mentioned before, the DCP Database is a premade panel dataset that incorporates IPEDS data containing variables from Finance, Fall Enrollments, 12-Month Enrollments, Human Resources, Graduation Rates, and Student Financial components. Because of its popularity, it is important to understand the rationale behind the DCP's parent-child collapsing solution and the potential problems that can ensue when applying DCP to study particular research questions.

The Delta Cost Project Collapsing Solution

The DCP Database used a collapsing solution to create a panel dataset using data from multiple IPEDS survey components. DCP used the following rule to decide whether to collapse campuses: "Institutions that reported data together (on any of the IPEDS surveys) for any year starting in 1987 have been grouped together for all years to maintain consistency of the data over time" (Delta Cost Project n.d.).¹⁹ The DCP parent-child list shown in Delta Cost Project (n.d.) has 222 parent institutions linked to 593 child institutions. These 815 institutions (593+222) were collapsed into 222 observations per year. About 71 % of these 815 institutions are public, reflecting the tendency for public institutions to have multicampus institutions with centralized data reporting.

For many state systems, the DCP solution collapsed multiple Title IV institutions into a single observation representing the entire state system. For example, all University of Texas (UT) campuses (e.g., Austin, El Paso, San Antonio) were collapsed into a single observation. Other examples include all University of Alaska campuses, all University of Illinois campuses, all University of Maine campuses, all University of Massachusetts campuses, all University of Tennessee campuses, all University of Missouri campuses, and all Indiana Community College campuses. For each state system collapsed into a single observation, the DCP parent-child list typically defined the parent as the "flagship" campus (e.g., University of Texas–Austin and Pennsylvania State University–University Park). Therefore, UNITIDs that represent state systems on the DCP Database often have IC data associated with

¹⁹ At the time this manuscript was prepared, Delta Cost Project (n.d.) could not be downloaded from the DCP website.

the flagship campus, but Fall Enrollment, Finance, Completions, and other component data associated with the entire state system.

Additionally, DCP collapsed several substate systems of Title IV institutions into single observations. For example, each City University of New York (CUNY) campus (e.g., CUNY Graduate School and University Center, LaGuardia Community College) is a Title IV institution with a separate PPA. However, the DCP Database solution collapsed all 20 CUNY campuses into a single observation with the parent defined as CUNY City College.

The decision by DCP to collapse systems of Title IV institutions to the system level affects the kinds of research questions that can be answered using the DCP Database. The DCP Database should not be used to answer research questions that compare one type of public university to another, for example “what is the effect of banning affirmative action on underrepresented minority enrollments at public flagship campuses versus public regional campuses?” (e.g., research vs. master’s). In addition, the effect of state appropriations on nonresident enrollments cannot be reliably answered using the DCP Database because the observations for “flagship” campuses will include many “regional” campuses that have weak demand from nonresident students. Also, the DCP Database cannot be used to address research questions that compare public and private universities of the same type. For example, it cannot be used to compare expenditure per FTE at public research universities versus private research universities because the expenditure per FTE measures at public research universities will include data from non-research universities.

Collapsing Title IV institutions to the system level is unavoidable when desired finance variables are reported only at the system level. However, our preliminary investigation of the DCP Database suggests that some state systems did not need to be collapsed to the system level. For example, each University of Missouri campus reported revenue, expenditure, and asset variables in all years of data. The University of Missouri system office also reported finance variables (e.g., revenues, assets), but the amounts were small relative to those of the flagship Columbia campus. Nevertheless, the DCP collapsing solution collapsed all University of Missouri campuses to the system level.

Furthermore, the DCP Database collapsed institutions that were purchased by another institution in ways that may cause problems for some research applications. For example, Barat College was an undergraduate college for women founded in 1858 in Chicago. Facing severe financial problems, Barat College was purchased by DePaul College in 2000–2001. Barat College continued to report IPEDS data until 2004–2005 when the Barat College campus was sold by DePaul College to become a condominium development.²⁰ However, the DCP parent-child list identified Barat College as a child of DePaul University; therefore, the DCP Database collapsed data from Barat College into DePaul College for the years 1987–2001 even though the two institutions had no relationship during this time period. The DCP collapse solution treats other mergers similarly. It is inappropriate to collapse a purchased child institution into the purchasing parent institution prior to the point of sale.

²⁰http://en.wikipedia.org/wiki/Barat_College

Collapsing Solutions for Specific Research Questions

The DCP parent-child list is not “wrong,” but it is not appropriate for all research questions because no single parent-child list is appropriate for all research questions. Rather than rely on a readily available panel dataset with a one-size-fits-all collapsing solution, researchers should develop collapsing solutions that are appropriate for the particular research question at hand.

When considering what—if any—collapsing solution to implement, researchers should consider what unit of analysis (e.g., campus level, organization level, system level) is appropriate, which IPEDS survey components will be utilized, and whether it is necessary to merge across IPEDS survey components. An organization-level unit of analysis (i.e., each observation representing a Title IV institution) requires researchers to implement some kind of collapsing solution because Title IV branch campuses often report IPEDS data. However, researchers selecting a campus-level unit of analysis should not collapse Title IV branch campuses to the Title IV institution level. A campus-level unit of analysis may be possible when analyses do not require merging data from multiple survey components.

In general, research questions that require an analysis dataset with data from multiple survey components (especially Finance) necessitate collapsing to the organization level or even the system level. Analyses that require asset and liability measures may require collapsing to the system level for Title IV institutions that reported the desired measures at the system level. However, analyses that utilize revenue/expenditure/scholarship measures, but not asset/liability measures, typically do not have to collapse Title IV institutions to the system level because revenue/expenditure/scholarship measures are generally reported separately for each Title IV institution. The DCP Database collapsed many Title IV institutions to the system level to create asset/liability variables even though researchers often use the DCP Database to conduct analyses that do not require asset/liability measures.

To illustrate the idea that collapsing solutions should be appropriate for the research question at hand, we answer a simple research question using the DCP Database and an alternative IPEDS panel we constructed. The research question is, “How does instructional expenditure per student vary across different types of public institutions?”

The motivation for this research question is that public universities have responded to declining state appropriations by attempting to generate “alternative” revenue sources (e.g., research funding, donations, nonresident students). However, research suggests that only flagship public universities can generate substantial revenues from these sources (Cheslock and Gianneschi 2008; Jaquette and Curs 2013; Slaughter and Leslie 1997; Winston 2003). Widening differentials in spending per student at flagship universities relative to regional universities and community colleges may undermine the policy goal of equality of opportunity.

The Jaquette-Parra Panel was created using a collapsing solution that is adequate to answer the above research question. Because answering this research question requires only expenditure measures from the Finance component, we did

not collapse partial-child observations to the parent level so long as all the campuses within the parent-child relationship always reported expenditure data at the child level. Therefore, we did not collapse Title IV institutions to the system level when they reported asset/liability variables at the system level but also reported expenditure variables at the Title IV institution level. Additionally, we did not collapse child campuses that failed to report expenditure data to the parent level if we perceived those campuses to represent an entire state system. For example, we did not collapse Louisiana Technical College campuses or Pennsylvania State University campuses to the parent level. Had we understood the difference between a multicampus Title IV institution (e.g., Pennsylvania State University) and a state system (e.g., University of Texas System) more completely at the time we created the collapsing solution, we would have been willing to collapse any multicampus Title IV institutions.

Table 11.18 shows the sample sizes of public institutions by 2005 Carnegie Classification for the DCP Database and the Jaquette-Parra Panel. Compared to the Jaquette-Parra Panel, the DCP Database has fewer observations for public doctoral/research (Res/Doct), public master's (Mast), and public baccalaureate (Bach) because many distinct Title IV institutions are collapsed to the state system level and were assigned the parent-UNITID associated with the flagship campus. The DCP Database also has fewer public associate's (Assoc) observations because community colleges in several state systems (e.g., Kentucky, Louisiana, and Indiana) were collapsed into a single observation. However, the DCP decision to collapse all Louisiana and Kentucky community colleges to the state level *is* warranted because most of the campuses in these systems are Title IV branch campuses rather than Title IV institutions.

Table 11.19 compares "education and related expenditures per FTE student" in the DCP Database to the Jaquette-Parra Panel measures for the same across selected years. This crude measure of E&R per FTE was calculated by adding total expenditures on instruction, student services, and academic support and dividing it by a measure of FTE for students from the Fall Enrollment component (that counted a part-time student as 1/3 of a full-time student). Values of E&R per FTE in the DCP Database and the Jaquette-Parra Panel are identical for institutions that were not collapsed. However, compared to the Jaquette-Parra Panel, mean E&R per FTE at Res/Doct from the DCP Database is much lower because many flagship public universities in the DCP Database contain data from both flagship and regional universities. Similarly, the ratios of mean Res/Doct expenditure to mean expenditure at Mast, Bach, and Assoc institutions are much lower in the DCP Database than the Jaquette-Parra Panel.

Policy researchers using the DCP Database to investigate differentials in spending per student between public flagship and public regional universities may, therefore, underestimate the spending differential between public research universities and public master's/bachelor's institutions because observations for research universities include data from master's and bachelor's institutions. However, the Jaquette-Parra collapsing solution is also imperfect (e.g., we should have collapsed Pennsylvania State University to the Title IV institution level).

Table 11.19 Mean education and related expenditure (E&R) per FTE at public institutions, by 2005 Carnegie Classification

	DCP Database						
	Mean E&R per FTE				Ratio of mean Res/Doct to mean:		
	Res/Doct	Mast	Bach	Assoc	Mast	Bach	Assoc
2004	13,152	8,703	8,060	6,951	1.51	1.63	1.89
2005	13,409	8,761	7,930	7,000	1.53	1.69	1.92
2006	13,643	8,871	8,385	7,200	1.54	1.63	1.89
2007	13,946	9,057	8,572	7,477	1.54	1.63	1.87
<i>N</i> (2005)	152	244	66	835			
<i>N</i> non-missing (2005)	151	242	63	824			
	Jaquette-Parra Panel						
	Mean E&R per FTE				Ratio of mean Res/Doct to mean:		
	Res/Doct	Mast	Bach	Assoc	Mast	Bach	Assoc
2004	14,186	8,739	8,336	7,101	1.62	1.70	2.00
2005	14,470	8,786	8,348	7,161	1.65	1.73	2.02
2006	14,712	8,894	8,624	7,331	1.65	1.71	2.01
2007	15,063	9,071	8,923	7,616	1.66	1.69	1.98
<i>N</i> (2005)	165	270	81	922			
<i>N</i> non-missing (2005)	164	265	81	884			

Allocation Solutions to Parent-Child Reporting

Rather than collapsing child institutions into parent institutions, allocation solutions allocate data reported at the parent level to child institutions. Allocation solutions appear particularly useful when variables for a state system are reported at the parent level such that collapsing solutions would collapse an entire state system into a single observation. For example, the University of Alaska System has three campuses (Fairbanks, Anchorage, and Southeast). Fall Enrollment data and Completions data are reported separately for each campus in all years. Revenue and expenditure data are also reported at the campus level, but many asset variables (e.g., market value of endowment) are reported at the system office level. The allocation solution leaves measures of Fall Enrollment, Completions, and revenues and expenditures untouched, but asset variables reported at the parent level are allocated to the child level based on some predetermined rule. Whereas the collapsing solution results in one observation per year, the allocation solution results in three observations per year (ignoring the system office). If a reasonable allocation rule is available, then an allocation solution is preferable to a collapsing solution because distinct campuses (e.g., University of Alaska Fairbanks, University of Alaska Anchorage) remain distinct observations in the analyses.

The most critical step in an allocation solution is choosing an “allocation factor variable” that identifies what proportion of a parent-level variable to allocate to each campus. For example, in 2010 the University of Alaska System Office reported an end-of-year market value of their endowment of \$182 million. What proportion of this \$182 million should be allocated to the Fairbanks, Southeast, and Anchorage campuses? IPEDS reports allocation factor flags for each survey component that identify the proportion of parent-level variables that should be allocated to each child campus. However, we have found the IPEDS allocation factor flags unhelpful because they are unavailable prior to 2004 and each organization uses a different metric to allocate parent-level data to child campuses; often, the allocation flags allocate 100 % of parent-level data to a “main campus.” Alternatively, a researcher could allocate parent-level variables based on the proportion of total enrollments, current revenues, etc. at each campus.

Although the allocation solution is attractive in theory, we have found it to be infeasible in practice. Relative to collapsing solutions, the programming for allocation solutions is arduous. Collapsing solutions only require the creation of a parent-child list, and then all variables are easily collapsed to the parent level in all years and in all survey components. By contrast, allocation solutions require allocating specific variables from the parent level to the child level, but the designation of the parent may change from year to year (e.g., the main campus or the system office) and in some years the variable may be reported at the parent level rather than the child level. Therefore, allocation solutions must be done one parent-child relationship at a time and one variable at a time. We spent hundreds of hours creating a programming solution that could allocate parent-level variables to child campuses on the basis of allocation factor variables of our choosing (e.g., percent of total enrollments, percent of total revenues, percent of total assets), which could change from year to year.

Although the programming for allocation solutions is tedious, the primary reason for rejecting allocation solutions is the inherent arbitrariness of any allocation factor chosen. For example, imagine that you are a reviewer for a journal manuscript conducting panel analysis of IPEDS. Imagine that the author uses proportion of total FTE enrollments to allocate finance variables from the parent level to the child level, for systems where all finance variables are reported at the parent level. Or imagine that the author uses proportion of total current revenues to allocate parent-level asset variables to the child level, for systems where asset variables are reported at the parent level but other finance variables are reported at the child level. The choice of a particular allocation factor variable is inherently arbitrary, and the resulting allocation factors will not reflect the “true” allocation from parents to children. Readers—and reviewers in particular—are skeptical of arbitrary decisions. Therefore, in light of the considerable effort to implement allocation solutions and in light of the disappointing results of these efforts, we recommend that researchers avoid allocation solutions altogether.

Common Data Challenges

This section describes solutions to common data challenges inherent when creating a panel dataset using IPEDS data. Parent-child reporting plays an important role in most data challenges. We begin by discussing merging issues. In particular, we discuss merging data from different IPEDS survey components, merging IPEDS data to Office of Postsecondary Education and Office of Federal Student Aid data, and merging organization-level HEGIS/IPEDS data to NCES student-level data. Second, we discuss collapsing organization-level data into state-level data to conduct state-level analyses. Third, we discuss appending HEGIS and IPEDS data to create a HEGIS/IPEDS panel. Fourth, we discuss institutional closures and mergers. Fifth, we discuss key changes in IPEDS that affect many empirical applications of IPEDS, specifically change in accounting standards used in the Finance component, change in degree classification systems used by the Completions component, and change race/ethnicity categories that affect several IPEDS survey components.

Merging Data

Merging IPEDS Survey Components

Panel analyses of IPEDS data often require researchers to merge data from different IPEDS survey components, where the resulting analysis dataset has variables from multiple survey components and one observation per organization-year. “Merging” *joins* observations from the dataset currently in memory to observations from another dataset, so that the merged dataset contains variables from both datasets, as demonstrated in Table 11.16 which contains merged data from the Fall Enrollments and Finance survey components for the North Orange County Community College District. “Appending” *adds* observations from one dataset to observations from another dataset, so that the appended dataset contains observations from both input datasets. For example, the Fall Enrollment variables in Table 11.12 contain observations from Cypress College and Fullerton College for the years 2002–2007 because individual years of Fall Enrollment data—e.g., 2002, 2003, and 2004—were appended one to another.

When merging, observations from the dataset currently in memory are “matched” by one or more identification variables (e.g., institutional ID, student ID) to observations in the other dataset.²¹ In IPEDS, the UNITID variable matches observations

²¹ A “one-to-one” merge means that the “matching variable” uniquely identifies observations in both the current dataset and the using dataset. A “many-to-one” merge means that there may be duplicate observations of each matching variable in the current dataset but the matching variable uniquely identifies observations in the other dataset.

from one survey component to observations from another survey component (in HEGIS, the matching variable is called a FICE code). When merging a dataset containing a single year of IPEDS data from one survey component (e.g., Fall Enrollment data from 2002) to a dataset containing a single year of IPEDS data from another survey component (e.g., Finance data from 2002), researchers merge “by” UNITID. When merging a dataset containing multiple years of IPEDS data from one survey component (e.g., Fall Enrollment data from 2002 to 2007) to a dataset containing multiple years of IPEDS data from another survey component (e.g., Finance data from 2002 to 2007), researchers merge “by” UNITID and year.

Researchers can create a panel dataset from multiple IPEDS survey components in one of two ways. First, one could merge data separately for each year—e.g., merge finance variables from 2012 to Fall Enrollment variables to 2012 by UNITID and merge finance variables from 2013 to Fall Enrollment variables from 2013 by UNITID—and then append the merged datasets to one another. However, it is more efficient to follow a second approach of creating separate panel datasets for each survey component (e.g., append finance variables for 2012 and 2013 and append Fall Enrollment variables for 2012 and 2013), and then merging the two panel datasets by UNITID and year.

Time is a tricky element when merging different IPEDS survey components. Panel analyses of IPEDS usually measure time in academic years. For example, 2012 refers to the 2011–2012 academic year running from August 2011 through July 2012. When merging IPEDS survey components by UNITID and year, researchers must be careful that merged UNITID-year observations from each survey component represent the same academic year. For example, the IC and Completions survey components are collected each fall. IC data collected in the fall of 2012 measures Institutional Characteristics for the fall of 2012, which corresponds to the 2012–2013 academic year. However, Completions data collected in the fall of 2012 corresponds to the 2011–2012 academic year. Fall Enrollment and Finance survey components are collected each spring. Fall Enrollment data collected in the spring of 2013 corresponds to the 2012–2013 academic year, but Finance data collected in the spring of 2013 corresponds to the 2011–2012 academic year. Prior to merging data from different survey components, researchers should read about the data collection cycle on the “IPEDS Resource Center” website and should read the documentation associated with each data file to confirm what academic year the file refers to.

The primary complication in merging data from different survey components is the parent-child relationship. In the example of North Orange County Community College, Finance data were reported at the District Office (UNITID=120023) from 2002 to 2004 (Table 11.13). Fall Enrollment data were reported at the Fullerton College campus (UNITID=114859) and the Cypress College campus (UNITID=113236) from 2002 to 2004 (Table 11.9). Therefore, merging Finance data and Fall Enrollment data by UNITID and year would not work for 2002–2004. Researchers must collapse data from each survey component to the parent level prior to merging, as demonstrated in Tables 11.14 and 11.15. Once each survey component is collapsed to the parent level, merging is straightforward, as shown in

Table 11.16. However, even after collapsing all survey components to the parent level, merging data from two survey components will usually result in merges with missing data because some specific campuses may not fill out all survey components in each year.

It is inappropriate to collapse IC data to the parent level because IC variables (e.g., highest degree offered, cost of room and board) should not be summed across observations in a parent-child relationship. Therefore, researchers should generally drop “child” observations from IC data that do not merge with data from other survey components that have already been collapsed to the parent level.

Researchers may want to merge IPEDS data to the DCP Database to add variables that were not included in the latter. However, the parent-child relationship makes this difficult. Consider an observation from one year of data where the UNITID is a “parent” in the DCP Database. In the DCP Database that UNITID represents aggregated data from parent in child campuses, but in the raw IPEDS data, that UNITID only represents data for the parent institution. Therefore, it is often inappropriate to merge DCP data with raw IPEDS data. To correctly merge DCP data to raw IPEDS data, the researcher would have to collapse raw IPEDS data to the parent level using the DCP parent-child list. Unfortunately, this is not yet possible because DCP has not made their parent-child list publicly available.

Merging IPEDS to Office of Postsecondary Education/Office of Federal Student Aid Data

Some research questions may require researchers to create a panel dataset that incorporates variables from different data sources from the US Department of Education (e.g., IPEDS data and Office of Postsecondary Education/Office of Federal Student Aid data). For example, Deming et al. (2012) constructed a panel dataset from 1999–2000 to 2008–2009 using IPEDS data for enrollments (fall, 12-Month, and full-time equivalent), degrees and awards, tuition, revenues and expenditures, and other Institutional Characteristics. This data was matched to institution-level data of Pell Grants, student loan volumes, and cohort default rates from the Office of Federal Student Aid. In this article, the authors were trying to assess student outcomes for the for-profit institutions relative to other higher education institutions after adjusting for observable differences in students who have attended these different types of schools. Another example of a research question that might more easily enable merging different data sources is: “How many students receive grants and scholarships from colleges and how much do they receive?”

In this section, we first describe the general process for creating a panel data that combines different data sources from the US Department of Education. We then describe the major data-matching challenges that researchers may face when merging different data sources and how to overcome those challenges. The general process for creating a panel dataset that incorporates IPEDS data, Office of Postsecondary Education, and Office of Federal Student Aid data is, first, to create separate panel datasets from each data source (e.g., a panel dataset of IPEDS

Table 11.20 Pell grant volume recipient from OFSA, 2000–2011

Institution	Recipients	OPEID	Year
Pennsylvania State University (The)	15,230	00332900	2000
Pennsylvania State University (The)	15,108	00332900	2001
Pennsylvania State University (The)	15,611	00332900	2002
Pennsylvania State University (The)	16,042	00332900	2003
Pennsylvania State University (The)	15,947	00332900	2004
Pennsylvania State University (The)	15,884	00332900	2005
Pennsylvania State University (The)	15,068	00332900	2006
Pennsylvania State University (The)	15,692	00332900	2007
Pennsylvania State University (The)	16,633	00332900	2008
Pennsylvania State University (The)	20,467	00332900	2009
Pennsylvania State University (The)	23,574	00332900	2010
Pennsylvania State University (The)	23,934	00332900	2011

measures; a panel dataset of the Office of Postsecondary Education measures; and a panel dataset of the reports from the Office of Federal Student Aid measures). Next, merge each panel dataset by institutional identifier and year. The two main challenges that a researcher may face when matching IPEDS data with data from other data sources are (a) inconsistent school identifiers and (b) incomplete matches.

Inconsistent School Identifiers

The main problem that researchers will have to deal with when merging two different data sources such as IPEDS components and data from the Office of Federal Student Aid is that they use different identifier codes for institutions and campuses (Steele 2011). IPEDS uses a six-digit identifier called UNITID for each campus, whereas data from the Office of Federal Student Aid uses the eight-digit OPEID code that is a hierarchical eight-digit code discussed in the Program Participation Agreements section of this chapter.

To remedy this problem, researchers may use the IPEDS Institutional Characteristic (IC) files that include both the UNITID and the eight-digit OPEID. Researchers can first merge data from the Federal Student Aid Data Center with the Institutional Characteristic files from IPEDS using the eight-digit OPEID and then merge this file with any other IPEDS components using the UNITID. But this remedy is imperfect because almost all datasets from the Federal Student Aid Data Center have eight-digit OPEIDs where the two-digit branch code is always “00.” In other words, IPEDS data often includes observations for Title IV branch campuses (that have two-digit suffixes that do not equal “00”) but, from the Office of Federal Student Aid, do not have separate observations for Title IV main campus and the Title IV branch campuses.

As an example, Table 11.20 shows that Pennsylvania State University has only one observation per year in the Student Financial Aid files (OPEID=00332900). However, Table 11.5 shows that Pennsylvania State University has 24 observations

per year in IPEDS data, with each observation representing a different campus. The campus assigned with OPEID=00332900 in the IPEDS file is Pennsylvania State University at University Park. If the researcher merges the two datasets, he or she might end up using the total amount of financial aid data for Pennsylvania State University with enrollment or graduation data from only one campus. We call this mistake “incomplete matches.”

Incomplete Matches

To illustrate some of the challenges of and remedies for incomplete matches, we provide examples using the grant volume data from the Federal Student Aid Data Center and the 12-Month Enrollment component files available on the IPEDS Data Center.

As stated above, even if Student Financial Aid data has an eight-digit OPEID, a one-to-one merge to IPEDS data may not be correct. The main question that researchers need to ask is: How do I know if the merge is correct? There are several ways to ascertain the answer to this question, the first being when one obtains nonsensical results, for example, ending up with more Pell Grant recipients than there are enrollees as reported in the IPEDS 12-Month Enrollment file. To overcome such errors, first collapse IPEDS data at the OPEID eight-digit code level to the OPEID six-digit code level. For example, Table 11.21 displays several Pennsylvania State University campuses with different eight-digit OPEID codes but the same six-digit OPEID during the 2009–2011 period. Table 11.22 presents the same data after collapsing from the eight-digit OPEID level to the six-digit OPEID level. The last step is to merge the IPEDS data (Table 11.22) and the Federal Student Aid data (Table 11.20) by OPEID six-digit code and year as demonstrated in Table 11.23.

Merging HEGIS/IPEDS Data to NCES Student-Level Data

Researchers conducting student-level analyses using nationally representative NCES surveys may wish to merge organization-level variables from HEGIS or IPEDS to the student-level survey data (e.g., Chen 2012). NCES has created several nationally representative student-level surveys that track the progress of students from high school to postsecondary education and into the labor market. For example, the National Longitudinal Survey (NLS:72), the High School and Beyond Survey (HS&B:80), the National Education Longitudinal Survey (NELS:88), and the Education Longitudinal Survey (ELS:2002) track the high school senior classes of 1972, 1982, 1992, and 2004, respectively. NCES student-level datasets—especially for more recent surveys (e.g., ELS:2002)—include many postsecondary organization-level variables (e.g., average SAT score of the incoming class, tuition price). But if the desired organization-level variables do not exist in the student-level datasets, then the researcher may want to merge variables from HEGIS or IPEDS. NCES student-level surveys often contain transcript data, an institutional ID code, and the institutional name for each

Table 11.21 IPEDS data for Pennsylvania State University, selected campuses

UNITID	Institution	Undergrad full-time	Undergrad part-time	OPEID-8	OPEID-6	Year
214777	Pennsylvania State University-Main Campus	36,749	1,239	00332900	003329	2009
214777	Pennsylvania State University-Main Campus	37,485	1,145	00332900	003329	2010
214777	Pennsylvania State University-Main Campus	37,347	1,247	00332900	003329	2011
214616	Pennsylvania State University-College Of Medicine	0	0	00332901	003329	2009
214616	Pennsylvania State University-College Of Medicine	0	0	00332901	003329	2010
214616	Pennsylvania State University-College Of Medicine	0	0	00332901	003329	2011
214689	Pennsylvania State University-Penn State Altoona	3,778	235	00332903	003329	2009
214689	Pennsylvania State University-Penn State Altoona	3,924	223	00332903	003329	2010
214689	Pennsylvania State University-Penn State Altoona	3,888	240	00332903	003329	2011
214698	Pennsylvania State University-Penn State Beaver	696	140	00332904	003329	2009
214698	Pennsylvania State University-Penn State Beaver	658	193	00332904	003329	2010
214698	Pennsylvania State University-Penn State Beaver	690	216	00332904	003329	2011
214591	Pennsylvania State University-Penn State Erie-Behrend Coll	3,963	255	00332905	003329	2009
214591	Pennsylvania State University-Penn State Erie-Behrend Coll	3,988	302	00332905	003329	2010
214591	Pennsylvania State University-Penn State Erie-Behrend Coll	3,929	323	00332905	003329	2011
214810	Pennsylvania State University-Penn State Schuylkill	885	131	00332914	003329	2009
214810	Pennsylvania State University-Penn State Schuylkill	859	148	00332914	003329	2010
214810	Pennsylvania State University-Penn State Schuylkill	876	158	00332914	003329	2011
214652	Pennsylvania State University-Penn State Worthington Scran.	1,108	271	00332915	003329	2009
214652	Pennsylvania State University-Penn State Worthington Scran.	1,084	304	00332915	003329	2010
214652	Pennsylvania State University-Penn State Worthington Scran.	1,096	290	00332915	003329	2011
214713	Pennsylvania State University-Penn State Harrisburg	2,482	481	00332920	003329	2011
214731	Pennsylvania State University-Brandywine	1,420	195	00332921	003329	2009
214731	Pennsylvania State University-Brandywine	1,383	224	00332921	003329	2010
214731	Pennsylvania State University-Brandywine	1,376	237	00332921	003329	2011
212018	The Dickinson School Of Law Of The Pennsylvania State Uni.	0	0	00332922	003329	2009
212018	The Dickinson School Of Law Of The Pennsylvania State Uni.	0	0	00332922	003329	2010
212018	The Dickinson School Of Law Of The Pennsylvania State Uni.	0	0	00332922	003329	2011

Table 11.22 12-Month Enrollments for Pennsylvania State University, after collapse

UNITID	Year	Institution	Undergrad full-time	Undergrad part-time	OPEID-8	OPEID-6
214777	2000	Pennsylvania State University-Main Campus	1,397	57	00332900	003329
214777	2001	Pennsylvania State University-Main Campus	1,289	33	00332900	003329
214777	2002	Pennsylvania State University-Main Campus	1,399	39	00332900	003329
214777	2003	Pennsylvania State University-Main Campus	1,511	50	00332900	003329
214777	2004	Pennsylvania State University-Main Campus	1,472	58	00332900	003329
214777	2005	Pennsylvania State University-Main Campus	1,460	63	00332900	003329
214777	2006	Pennsylvania State University-Main Campus	1,652	62	00332900	003329
214777	2007	Pennsylvania State University-Penn State Main Campus	1,814	46	00332900	003329
214777	2008	Pennsylvania State University-Main Campus	1,863	41	00332900	003329
214777	2009	Pennsylvania State University-Main Campus	1,923	50	00332900	003329
214777	2010	Pennsylvania State University-Main Campus	2,001	34	00332900	003329
214777	2011	Pennsylvania State University-Main Campus	1,763	46	00332900	003329

Undergrad full-time: total of undergrad students full-time
 Undergrad part-time: total of undergrad students part-time

Table 11.23 Merged IPEDS 12-Month Fall Enrollment and Pell Grant Recipients from Office of Financial Student Aid

UNITID	Year	Institution	Undergrad full-time	Undergrad part-time	OPEID-6	Recipients
214777	2000	Pennsylvania State University--Main Campus	1,397	57	003329	15,230
214777	2001	Pennsylvania State University--Main Campus	1,289	33	003329	15,108
214777	2002	Pennsylvania State University--Main Campus	1,399	39	003329	15,611
214777	2003	Pennsylvania State University--Main Campus	1,511	50	003329	16,042
214777	2004	Pennsylvania State University--Main Campus	1,472	58	003329	15,947
214777	2005	Pennsylvania State University--Main Campus	1,460	63	003329	15,884
214777	2006	Pennsylvania State University--Main Campus	1,652	62	003329	15,068
214777	2007	Pennsylvania State University--Penn State Main Campus	1,814	46	003329	15,692
214777	2008	Pennsylvania State University--Main Campus	1,863	41	003329	16,633
214777	2009	Pennsylvania State University--Main Campus	1,923	50	003329	20,467
214777	2010	Pennsylvania State University--Main Campus	2,001	34	003329	23,574
214777	2011	Pennsylvania State University--Main Campus	1,763	46	003329	23,934

postsecondary education institution the student attends. Student-level data from NLS:72 and HS&B:80 should be merged to the appropriate year of HEGIS data by FICE code using a many-to-one match (several students may attend the same institution). Student-level data from NELS:88 and ELS:2002 should be merged to the appropriate year of IPEDS data by UNITID also using a many-to-one match.

Unfortunately, earlier NCES surveys—especially NLS:72 and HS&B:80—often have the incorrect FICE codes for the postsecondary institution attended (e.g., sometimes providing the FICE code of a system office rather than the campus). Student-level observations with an incorrect FICE code may fail to match with the organization-level dataset or may match to the incorrect organization. Therefore, prior to merging student-level data to organization-level data, researchers must check that each FICE code in the student-level data is correct by comparing a list of institutional names and FICE codes from student-level data to a list of institutional names and FICE codes from organization-level data. Additionally, researchers must be careful that they record the FICE code for the appropriate campus of a multicampus organization/system since the Institutional Characteristics may differ greatly across them (e.g., University of Michigan–Ann Arbor is very different than the University of Michigan–Dearborn).

Collapsing Data to Create State- or Organization-Level Measures

Increasingly, policy researchers are conducting panel analyses where each observation represents a state-year (e.g., Arizona in 2008) rather than each observation representing an organization-year. For example, Toutkoushian and Hillman (2012) constructed a state-level panel dataset by merging state-level IPEDS measures by year and state to state-level measures from other data sources. They analyzed the effect of state-level expenditures on state appropriations (data from the “Grapevine” dataset), need-based grants (data from National Association of State Scholarship and Grant Aid Programs (NASSGAP)), and merit-based grants (data from NASSGAP); state-level higher education enrollments (from IPEDS); and state-level out-migration (also from IPEDS) (i.e., a state resident enrolling in an out-of-state postsecondary institution).

IPEDS data can also be used to create annual, state-level measures, such as total undergraduate enrollments per state and year, total number of bachelor’s degrees awarded per state and year, and total net tuition revenue per state and year, among others. The process for creating annual, state-level measures—e.g., total number of bachelor’s degrees awarded—follows these steps: first, sort the data by state and year; second, create a new variable that is the sum of bachelor’s degrees awarded at all institutions in each state and year; and third, keep the last observation for each state and year. The statistical programming for creating annual, state-level measures is almost identical to the statistical programming for collapsing child-level data to parent-level data.

When creating state-level measures from IPEDS data, it does not matter whether observations for public institutions represent one campus or all campuses in a state system. Therefore, the DCP Database can be used to create state-level IPEDS measures despite the fact that it collapses many state systems into a single observation. However, researchers creating state-level measures using raw IPEDS data should be careful about collapsing child-level data to the parent level for private nonprofit and private for-profit institutions because the parent may be located in a different state than the child. Therefore, state-level measures should generally be created prior to collapsing child-level data to the parent level. Finally, researchers must carefully consider the timing of data collection when merging state-level IPEDS measures to other state-level.

Appending HEGIS and IPEDS Data

Panel analyses that span HEGIS and IPEDS show that some variables we might consider to be “fixed”—e.g., highest degree awarded—may actually vary over time. For example, Jaquette (2013a) demonstrated that of the 678 organizations defined as “liberal arts colleges” by the 1973 Carnegie Classification, more half either no longer existed or “became a university” (defined by a change in organizational name) by 2010.

The HEGIS/IPEDS panel created to conduct this analysis was developed by appending HEGIS data to IPEDS data, separately for each survey component, and then merging panel data from different survey components by institutional ID code and year. As mentioned above, the FICE code is the ID variable for HEGIS data and UNITID is the ID variable for the IPEDS data. The greatest challenge in creating the HEGIS/IPEDS panel is defining an institutional ID variable that identifies each campus across all HEGIS and IPEDS years. Just as an IPEDS panel dataset has one observation per organization-year, with each distinct organization represented by a unique UNITID, a HEGIS/IPEDS panel dataset should have one observation per organization-year, with each distinct organization represented by a unique UNITID.

To facilitate the development of this panel, we created a FICE-UNITID crosswalk, which identified a unique UNITID for each FICE code. First, a preliminary FICE-UNITID crosswalk was created using IC IPEDS datasets from 1986 to 1999 because these datasets contain both UNITID and FICE code. The second step was to investigate why some FICE codes did not have a corresponding UNITID in the preliminary FICE-UNITID crosswalk. Investigations were conducted using targeted observation lists and web searches. We found two general reasons for the lack of correspondence: (1) the organization was no longer in existence (i.e., it closed or merged with another institution) prior to the inception of IPEDS; and (2) the FICE code represents a “child” campus which existed after the inception of IPEDS but never received a UNITID because it ceased reporting HEGIS data prior to the inception of IPEDS.

The third step in construction of this panel was to create a final FICE-UNITID crosswalk by assigning an ID code to FICE codes that did not have a UNITID.

Institutions that closed prior to IPEDS were assigned a UNITID equal to the FICE code, and branch campuses that ceased reporting HEGIS data prior to IPEDS were assigned a UNITID equal to the UNITID of the “parent” institution. To complete the crosswalk construction process, we merged the FICE-UNITID crosswalk to HEGIS data, separately for each survey component.²²

Once each observation of HEGIS data has a UNITID, it is fairly straightforward to create a HEGIS/IPEDS panel with data from multiple survey components. First, data from HEGIS years are appended to IPEDS years, separately for each survey component. Second, child-level observations are collapsed into parent-level observations, separately for each survey component. Finally, panel data from each survey component are merged by UNITID and year. However, the analysis period may often be shorter than the duration of a HEGIS/IPEDS panel because variables of interest may be unavailable in some years.

Institutional Closures and Mergers

As part of creating a HEGIS/IPEDS panel, we have investigated hundreds of closures and mergers, triangulating lists of HEGIS/IPEDS observations with published lists of closed/merged institutions, and web searches for each closed/merged institution.²³ When an organization closes, it ceases reporting IPEDS data and the UNITID of the closed organization is not used again. Our investigation of mergers

²² A complication to creating a FICE-UNITID crosswalk is that FICE codes were assigned to each campus with separate institution-level accreditation but were assigned to each campus that offered a complete degree program. Therefore, each FICE code may represent more than one UNITID. For example, the University of Nebraska–Lincoln (UNITID=X) and the University of Nebraska, Technical Agriculture (UNITID=X) have the same FICE code (FICE=X). If one FICE code is associated with more than one UNITID, then the FICE-UNITID crosswalk has duplicate observations for certain FICE codes. Merging HEGIS data (more than one observation per FICE code) by FICE code to a FICE-UNITID crosswalk with more than one observation per FICE code represents a “many-to-many” merge. This many-to-many merge would result in duplicate FICE-year observations for each FICE code associated with more than one UNITID. For example, for each year of HEGIS data, there would be two observations for the University of Nebraska–Lincoln. Therefore, the FICE-UNITID crosswalk should only contain one UNITID for each FICE code. For a FICE code associated with two UNITIDs, one UNITID will be connected to the FICE code, creating a panel that spans HEGIS and IPEDS years, and the other UNITID will not be connected to a FICE code, implying that the campus did not exist prior to IPEDS. Therefore, we recommend that researchers create a parent-child relationship when more than one UNITID refers to the same FICE code. The UNITID associated with the FICE code in the FICE-UNITID crosswalk should be defined as the parent, and the UNITSIDs not associated with any FICE codes should be defined as children.

²³ All organizations eligible for Title IV eligibility must report IPEDS data. Therefore, IPEDS data can identify whether an organization loses Title IV eligibility, but IPEDS data alone cannot identify whether the organization ceased to exist. Furthermore, for multicampus organizations, IPEDS data alone cannot distinguish between a branch campus that closes versus a branch campus that ceases to report data at the child level.

suggests that one organization is typically the “acquiring” organization (e.g., DePaul University) and one organization is the “acquired” organization (e.g., Barat College). In all cases, the acquiring organization continues to report IPEDS data using its preexisting UNITID. In some cases, the acquired organization stops reporting IPEDS data immediately following the merger. More often, the acquired organization continues reporting IPEDS data under its preexisting UNITID for several years after the merger (e.g., Barat College).

How should researchers handle institutional mergers when creating IPEDS panels? “Acquired” organizations should be treated similarly to closed organization; once acquired, the organization—and its associated UNITID—should no longer exist. For the years prior to the merger, the UNITID of the acquiring organization should have no connection to the UNITID of the acquired organization. However, if the UNITID of the acquired organization continues to report data after the merger, then the researcher should replace the UNITID of the acquired organization with the UNITID of the acquiring organization for the post-merger years. This is equivalent to defining the acquired organization as a child of the acquiring organization in the post-merger years.

As described previously, the DCP Database handles many mergers inappropriately by defining the acquired organization as a child of the acquiring organization in both pre- and post-merger years. Therefore, the DCP Database collapses acquired organizations into acquiring organizations prior to the two organizations having any connection with one another.

IPEDS Changes: Accounting Standards, Degree Classification, and Race Categories

IPEDS has undergone many important changes since its inception. This section discusses three IPEDS changes that create difficulties for many empirical applications of IPEDS data. First, we discuss change over time in accounting standards used by the IPEDS Finance component, which makes it difficult to create variables that span the desired analysis period or that span different types of institutions (i.e., public, private nonprofit, and private for-profit). Second, we discuss change over time in degree classification systems, which affects research on degree production and the adoption of degree programs (e.g., Kraatz and Zajac 1996; Rojas 2006). Third, we discuss recent changes in race/ethnicity categories used by IPEDS survey components.

Accounting Standards

The IPEDS Finance component has undergone a series of revisions to its accounting standards, and these have important repercussions for researchers interested in creating panel data. Although a detailed discussion of change over time in variables is beyond the scope of this chapter, we briefly discuss these broad changes.

HEGIS Finance data were collected from 1968–1969 to 1985–1986, and IPEDS Finance data have been collected since 1986–1987. Recommendations from the American Institute of Certified Public Accountants (1974) led to the revised “Common Form” Finance component which was used by all institutions from 1974–1975 to 1995–1996 (U.S. Department of Education. NCES 2000). Beginning in 1996–1997, the Finance component was revised for private not-for-profit institutions due to changes in accounting standards released by the Financial Accounting Standards Board (FASB) (U.S. Department of Education. NCES 2000). Then, in 1999–2000, a shortened version of the FASB accounting form was created for for-profit institutions (Fuller 2011). Prior to 1999–2000, most for-profit institutions did not complete the Finance component; instead they completed the Consolidated Survey.

Beginning in 2001–2002, the Governmental Accounting Standards Board (GASB) Finance form was phased-in for public institutions in order to satisfy new accounting standards implemented by GASB (U.S. Department of Education. NCES 2009). Starting with the 2003–2004 Finance data, all public institutions were required to use the GASB Finance form. In 2008–2009, the GASB Finance form was modified to align information collected from public institutions using GASB standards with that from institutions using the FASB standards (U.S. Department of Education. NCES 2009).

There are two general differences between the newer Finance survey forms—FASB for private nonprofit, FASB for private for-profit, and GASB for public institutions—and the older Common Form (U.S. Department of Education. NCES 2009). First, the Common Form used accrual accounting and the newer Finance forms use cash accounting (U.S. Department of Education. NCES 2000). Accrual accounting differentiates “unrestricted” and “restricted” revenues. Unrestricted revenues (e.g., tuition revenue, state appropriations) can be used for any purpose and are recognized upon receipt. Restricted revenues (e.g., research grants, donations) can be used only for specific purposes and are recognized once the revenue has been expended (e.g., graduate student tuition paid by a research grant). Cash accounting does not recognize a difference between restricted and unrestricted revenues, so all revenues are recognized upon receipt. Second, the newer Finance survey forms require detailed reporting about assets, liabilities, and equity, but the Common Form did not (U.S. Department of Education. NCES 2012). For example, the GASB Finance form for public institutions includes these components: Statement of Net Assets (Part A), Summary of Changes in Net Assets (Part D), Debt and Assets (Part L), and Endowment Assets Data (Part H).

Researchers creating panel measures from Finance data often want to know whether a particular variable can span changes over time in accounting standards. In general, many of the revenue and expenditure variables on the newer Finance forms can also be created for data years using the Common Form because the transition from accrual to cash accounting does not affect expenditures and generally has only modest effects on revenues (U.S. Department of Education. NCES 2000). Researchers should note that endowment revenue and private grant revenue from the Common Form are not consistent with the newer Finance forms. However, many variables relating to assets, liabilities, and equity that can be created on the

newer Finance forms cannot be created using the Common Form simply because the Common Form did not request these survey items.

Several excellent resources exist for researchers interested in creating specific variables that span longitudinal and cross-sectional differences in accounting standards. For example, the US Department of Education's NCES (2000) provided a very helpful discussion of the underlying differences in accounting principles used by the Common Form and the FASB form for private nonprofit institutions. US Department of Education's NCES (2000) also contained a variable crosswalk between the Common Form and the FASB form and identified which variables were not comparable between the two survey forms. US Department of Education's NCES (2009) provided a broad overview between FASB and GASB accounting standards. Fuller (2011) identified change over time in specific survey items available in each Finance form. Finally, the Delta Cost Project (DCP) Database Mapping File and the Delta Data Dictionary are perhaps the best resource for constructing specific finance variables. Both spreadsheets can be downloaded from the DCP Database website.²⁴ The Database Mapping File identifies which specific variables—organized by the categories of revenues, expenditures, and balance sheet—can be created over time and across accounting standards and identifies the “input” variables used to create each “output” variable.

Classification of Instructional Programs (CIP)

Many empirical studies have used HEGIS and IPEDS data from the Completions component to analyze degree adoption (e.g., Jaquette 2013b; Kraatz and Zajac 1996; Rojas 2006) and degree production (e.g., Turner and Bowen 1990). The creation of panel measures of degree production or degree adoption requires an understanding of degree classification systems used by HEGIS and IPEDS.

Table 11.24 indicates change over time in the degree classification systems used by the Completions component. From 1965–1966 through 1970, the HEGIS Completions component used a system that is now commonly referred to as the “pre-HEGIS” system (Huff et al. 1970). The “HEGIS” degree classification system was used from 1970–1971 through 1981–1982. The 1980 Classification of Instructional Programs (CIP) system was applied to HEGIS completions data beginning in 1982–1983 (Malitz 1981). The CIP has been revised periodically to reflect the creation of new degree programs (e.g., new degree programs that emerged following the creation of the internet). The 1985 CIP revision was introduced in 1986–1987 (Malitz 1987). The 1990 CIP revision was introduced in 1991–1992 (Morgan et al. 1991). The 2000 CIP was introduced in 2002–2003 (U.S. Department of Education. NCES 2002). The 2010 CIP was introduced in 2010–2011 (U.S. Department of Education. NCES 2010). However, the underlying

²⁴<http://nces.ed.gov/ipeds/deltacostproject/>

Table 11.24 Change over time in degree classification systems

System	Academic years
Pre-HEGIS System	1965–1966 to 1969–1970
HEGIS System	1970–1971 to 1981–1982
1980 Classification of Instructional Programs (CIP)	1982–1983 to 1985–1986
1985 Classification of Instructional Programs	1986–1987 to 1990–1991
1990 Classification of Instructional Programs	1991–1992 to 2001–2002
2000 Classification of Instructional Programs	2002–2003 to 2009–2010
2010 Classification of Instructional Programs	2010–2011 to present

logic of the CIP has remained constant since the inception of the CIP. The CIP User Site provides general and technical information about the CIP.²⁵

The Classification of Instructional Programs (CIP) was created to overcome three flaws in previous degree classification systems. First, the CIP is a hierarchical classification system. Each individual degree program has a six-digit CIP code (e.g., 13.0406 is higher education administration). These individual degree programs are categorized within four-digit series (e.g., 13.04 is educational administration) and then within two-digit series (e.g., 13 is education). Therefore, researchers can create measures of degree production or degree adoption at the degree level (i.e., six-digit CIP), at the broader four-digit CIP level, or at the broadest two-digit level. By contrast, previous degree classification systems were hierarchical only at a very broad level. For example, in the HEGIS degree classification system, all degree programs relating to education were numbered 800–899, but there was no hierarchical organization within education programs.

Second, the CIP covers all postsecondary education degree levels. Prior to the CIP, separate classification systems existed for “higher education” degrees (pre-HEGIS and HEGIS systems) and for sub-baccalaureate vocational degrees (called the “Handbook VI” classification system) (Malitz 1981). In theory, each six-digit CIP degree (e.g., higher education administration = 13.0406) could be awarded at any level (e.g., associate’s degree). Third, whereas previous degree classifications systems only contained degree names, the CIP has detailed descriptions for each degree code, leading to higher levels of accuracy when institutions classify degrees.

In practice, we have found that degrees at the six-digit CIP code level—and even the four-digit CIP code level—are often coded inconsistently across institutions and even over time within institutions. For example, many universities offer an MA program in business that would be described as a “general” MBA program by a higher education researchers and administrators. However, our investigations of IPEDS Completions data found that these general MBA were assigned several different six-digit CIP codes, for example, 52.0101 (business/commerce, general), 52.0201 (business administration and management, general), or 52.0299 (business administration, management and operations, other). Sometimes individual

²⁵<http://nces.ed.gov/ipeds/cipcode/Default.aspx?y=55>

institutions changed the CIP code assigned to general MBA programs, even in years that did not span revisions to the CIP system. Therefore, researchers creating degree production measures at the six-digit and four-digit CIP code level should first investigate the variation in how specific degree programs have been coded by institutions.

Degree classification “crosswalks” link codes from older degree classification systems to codes from newer degree classification systems. Huff et al. (1970) provided a crosswalk between pre-HEGIS and HEGIS degree codes and the Resources page within the CIP website contains crosswalks between HEGIS and the 1985 CIP and also crosswalks between different iterations of the CIP.²⁶ Researchers must use degree classification crosswalks to create degree adoption and production measures that span changes in degree classification systems. In particular, research on degree adoption must differentiate whether the first observation of a particular CIP code at an institution represents the adoption of a new degree program by the institution or whether it represents a previously existing degree program that received a new CIP code due to a revision in the CIP.

Jaquette (2011) used the following rule to create measures of degree adoption: observing a new CIP code at an institution would not be counted as degree adoption in the first 2 years of a new iteration of the CIP (e.g., the 2010 CIP was introduced in 2010–2011) if that CIP code was not used in prior iterations of the CIP. For example, the four-digit CIP code 15.16 refers to “nanotechnology” and was first introduced in the 2010 CIP. Observing the CIP code 15.16 for the first time in 2010–2011 or 2011–2012 would not be counted as degree adoption, but observing this code for the first time in 2012–2013 would be counted as degree adoption.

Race/Ethnicity Categories

The US Department of Education’s NCES (2007) describes the adoption of new race categories for IPEDS, which has affected the Fall Enrollment, 12-Month Enrollment, Human Resources, and the Graduation Rates survey components. The old race categories were as follows: nonresident alien; race and ethnicity unknown; black, non-Hispanic; American Indian/Alaskan Native; Asian/Pacific Islander; Hispanic; and White, non-Hispanic. The new race categories are as follows: non-resident alien; race and ethnicity unknown; Hispanic of any race; American Indian or Alaska Native; Asian; Black or African American; Native Hawaiian or other Pacific Islander; White; and two or more races.

New race codes were optional during phase-in years and mandatory afterwards. During optional years some institutions used the old race/ethnicity categories and some institutions used the new categories. For the Fall Enrollments and Human Resources components, the new race codes were optional in the 2008–2009 and 2009–2010 academic years, and mandatory beginning in the 2010–2011 academic year. For the Completions, 12-Month Enrollment, and Graduation Rates

²⁶<http://nces.ed.gov/ipeds/cipcode/resources.aspx?y=55>

components, the new race categories were optional in 2007–2008, 2008–2009, 2009–2010 and mandatory beginning in 2010–2011. Note that we refer to the academic year covered by the data collection, but the US Department of Education’s NCES (2007) referred to the year the data were collected.

During the optional years, IPEDS data from each survey component contains three kinds of race variables: old race categories variables, new race category variables, and derived variables. Variables for the old race categories have non-missing observations for institutions that used the old race categories. Variables for the new race categories have non-missing observations for institutions that used the new race categories. IPEDS also created a set of derived race variables—roughly equivalent to the old race categories—that are non-missing for all institutions.

Researchers may want to conduct analyses using an analysis period that spans the years prior to new race categories, years when new categories were optional, and years when new race categories were mandatory. Researchers cannot use data reporting the old race categories to create variables approximating the new race categories (e.g., “Native Hawaiian or other Pacific Islander”) because these categories were not collected prior to change in race/ethnicity categories.

Researchers can use data reporting the new race categories to create variables approximating the old race categories. For example, the old category of “Asian/Pacific Islander” can be approximated by adding the new categories of “Asian” and “Native Hawaiian or other Pacific Islander.” However, for variables that span old and new race categories, years that use the old categories will not be truly comparable to years that use the new race categories. This is primarily because the category “two or more races” exists only in the new race categories and students that would have identified themselves as belonging to one racial/ethnic group under the old race categories may categorize themselves as “two or more races” under the new race categories. This affects empirical research using an analysis period that spans the change in race categories. Consider research on the effect of nonresident enrollments on racial diversity. Declines in the number of Black and Hispanic students due to adopting the “two or more races” category may be falsely attributed to growth in nonresident enrollments unless the proper year indicator variables are included in the model.

Conclusion: What Research Questions Can Be Answered Using IPEDS and DCP Data?

IPEDS Data

Having identified core IPEDS concepts and having discussed solutions to common data challenges, we conclude the chapter by discussing the kinds of research questions that can be addressed using IPEDS data and data from the DCP Database. IPEDS is an organization-level survey that yields organization-level

measures. IPEDS is useful for research questions where the dependent variable(s) and independent variable(s) can be reasonably measured at the organization level. For example, several papers have analyzed the relationship between organization-level factors and the adoption of academic degrees (Kraatz and Zajac 1996; Rojas 2006). Other papers have analyzed the relationship between organization-level factors and change in organizational name (Jaquette 2013a; Morphew 2002). Ehrenberg and Zhang (2004) analyzed the effect of growth in the number of non-tenure-line faculty on organization-level graduation rates. Ehrenberg et al. (2006) analyzed the effect of growth in the number of merit scholarships on socioeconomic diversity. Curs and Jaquette (2013) analyzed the effect of nonresident enrollment growth on racial and socioeconomic diversity.

IPEDS data are also useful for research questions where the independent variable is a measure of the external environment (e.g., a policy change or an economic change) and the dependent variable can be reasonably measured at the organization level. For example, Hillman (2013) analyzed the effect of local unemployment rate on community college enrollments. Long (2004) analyzed the effect of state adoption of merit-aid programs on institutional tuition levels and room and board price. Zhang and Ness (2010) analyzed the effect of state merit-aid expenditure on institutional enrollments by type of institution.

Dependent variables in many IPEDS analyses are often student-level measures that are aggregated to the organization level. For example, Webber and Ehrenberg (2010) analyzed organization-level measures of graduation and persistence. It can be problematic, however, to use organization-level data to study student-level variables. For example, a researcher might want to know how much institutional aid is devoted to resident students versus nonresident students at public research universities. The IPEDS Finance survey identifies the total amount of expenditure on institutional financial aid, but does not break out institutional aid expenditure by different categories of students. Therefore, when the independent variable is an organization-level measure and the dependent variable is a student-level measure, researchers should consider conducting student-level analyses. Transforming organization-level variables to student-level data is appropriate and exemplified by Chen (2012) and Doyle (2010).

IPEDS data are sometime insufficient even when the measure of students is appropriately measured at the organization level. Consider the hypothesis, "growth in nonresident enrollments will negatively affect the number of students from underrepresented racial groups." This hypothesis implicitly assumes that students from underrepresented racial groups are unlikely to be nonresident students, but this assumption may be incorrect. To properly account for any such differences the researcher would want to be able to identify the race and state residency status of each student. Unfortunately, the IPEDS identifies the number of students by race and (every other year) IPEDS identifies the number of freshman by state of residence, but IPEDS does not identify the number of students by race/ethnicity and by state residency. In general, the student measures in IPEDS (e.g., enrollments, graduation) cannot categorize students beyond the dimensions of gender and race/ethnicity. These limitations would disappear if student measures in IPEDS were created

from a student-unit record database that tracked the progress of all students in postsecondary education.

Finally, IPEDS cannot be used to address research questions that require detailed information about organizational subunits. In particular, IPEDS is a poor data source for cost studies. Researchers often hope to use IPEDS Completions data and Finance data to calculate how much it costs to produce a degree. Instructional costs differ dramatically by field of study and level of study, but the Finance survey does not break out instructional costs by field of study or level of study. Therefore, the best-cost studies use suborganization-level data (e.g., Middaugh et al. 2003). A related research topic is the extent to which student subsidies differ across students or whether some students cross-subsidize other students. Winston (1999) used IPEDS Finance data to calculate institutional average subsidy per student. However, IPEDS cannot be used to examine variation in subsidy per student or cross-subsidization (e.g., the extent to which MA students cross-subsidize PhD students).

DCP Database

The DCP Database is based on IPEDS data and can be used to answer many of the same questions that could be answered by creating a panel dataset from raw IPEDS data. However, many research questions cannot be answered using the DCP Database because of the way child-level organizations were collapsed into parent-level organizations and because the DCP Database contains only a subset of all the IPEDS variables.

The DCP Database is appropriate for most organizational analyses of community colleges. Community college campuses that ever reported Finance data at the parent level (e.g., district, main campus) were collapsed to the parent level. However, this limitation should not undermine most organizational analyses of community colleges because only three state systems were collapsed to the parent level (Kentucky, Louisiana, and Indiana). Similarly, most analyses of private nonprofit institutions using the DCP Database will not be affected by the DCP decision to collapse many branch campuses into the main campus. Additionally, the DCP Database can also be used to analyze for-profit institutions because for-profit institutions were not collapsed to the parent level. Finally, the DCP Database can be used for state-level analyses because collapsing is not an issue when analyzing at the state level.

However, the DCP decision to collapse many state university systems (e.g., all Pennsylvania State University campuses) into a single observation prevents its use for many research questions. The DCP Database should not be used to answer research questions that involve comparisons of one kind of public university to another kind of public university (e.g., master's universities vs. research universities). It also should not be used to answer research questions that involve comparisons of public universities to private universities (e.g., public research universities vs. private research universities).

Additionally, the way the DCP deals with parent-child collapsing makes it impossible to analyze institutional closures or mergers using the DCP Database. Many institutions that closed or merged were collapsed into the institution that acquired the campus, even for years prior to the closure/merger, and this solution is not appropriate. Finally, a research question might require some variables that are included in the DCP Database and some variables that are available only in raw IPEDS data. But before raw IPEDS data can be merged to the DCP Database, it must be collapsed to the parent level, using the DCP parent-child list, but to date that list has not been released, making this task impossible.

Our goal in this chapter was both to introduce the reader to the complexities of constructing panel datasets from IPEDS data and to provide some guidance on how to set about this task. We discussed some of the main features and challenges presented by IPEDS data, such as institutional level data and documentation, the issue of change over time in the HEGIS and IPEDS sampling universes—as well as its impact on determining institutional parent-child relationships—and the complexity of merging data from different IPEDS survey components, among others. We also discuss solutions to common data challenges that researchers may face. Despite its challenges, the analysis of panel data can be a powerful tool in higher education research, with the potential to uncover historical trends that have heretofore eluded researchers. We hope that researchers willing to construct their own panel dataset with IPEDS data find this contribution useful. We also believe that interested researchers would benefit from reading this chapter along with reading Fuller (2011), since Fuller (2011) provided an excellent discussion on change over time in specific IPEDS survey items by survey component, and could be a good complement to start working with IPEDS panel datasets.

Acknowledgments We thank Stephen DesJardins and Stephen Porter for their encouragement and valuable comments. Nicholas Hillman and Bradley Curs also provided guidance about data sources and statistical modeling. We thank Karina Salazar, Amanda Parkman, and Andrew Blatter for helpful editing. We would also like to thank current and former IPEDS staff—in particular Tara Lawley, Jessica Shedd, Allison Bell, Samuel Barbett, Colleen Lenihan, and Craig Bowen—answering the dozens of emails and phone calls that helped us understand the principles and intricacies of the IPEDS data. Thanks also to the Association of Institutional Research for providing dissertation funding to create the original HEGIS/IPEDS panel dataset this chapter is based on and to the Spencer Foundation for providing funding to improve this panel dataset.

References

- AICPA. (1974). *Audits of colleges and universities*. New York: American Institute of Certified Public Accountants.
- Association for Institutional Research. (2003). AIR Alert # 16: Changes in IPEDS for institutions with multiple campuses *AIR Alert*. Tallahassee: Association for Institutional Research.
- Association for Institutional Research. (2013). *Report mapping (IC-Header, 2012–13)*. Tallahassee: Association for Institutional Research.
- Brint, S. G. (2002). Data on higher education in the United States: Are the existing resources adequate? *American Behavioral Scientist*, 45, 1493–1522.

- Brint, S., Mulligan, K., Rotondi, M. B., & Apkarian, J. (2013). *College and Universities 2000 Databases*. Available from University of California, Riverside. <http://www.higher-ed2000.ucr.edu/databases.html>
- Cellini, S. R., & Goldin, C. D. (2012). *Does federal student aid raise tuition? New evidence on for-profit colleges*. Cambridge, MA: National Bureau of Economic Research.
- Chen, R. (2012). Institutional characteristics and college student dropout risks: A multilevel event history analysis. *Research in Higher Education, 53*(5), 487–505. doi:10.1007/s11162-011-9241-4.
- Cheslock, J. J., & Gianneschi, M. (2008). Replacing state appropriations with alternative revenue sources: The case of voluntary support. *Journal of Higher Education, 79*(2), 208–229.
- Cheslock, J. J., & Rios-Aguilar, C. (2011). Multilevel analysis in higher education 1920 research: A multidisciplinary approach. *Higher Education: Handbook of Theory and Research, 26*, 85–123.
- Cohen, M. P. (1990). *Error analysis of estimates for less-than-two-year postsecondary education institutions*. Washington, DC: National Center for Education Statistics.
- Congressional Research Service. (2007). *Institutional eligibility for participation in Title IV student aid programs under the Higher Education Act: Background and reauthorization issues*. Washington, DC: Congressional Research Service.
- Council for Higher Education Accreditation. (2002). *The fundamentals of accreditation: What do you need to know?* Washington, DC: Council for Higher Education Accreditation.
- Curs, B. R., & Jaquette, O. (2013, April). *Does non-resident enrollment growth lead to declines in socioeconomic and racial diversity?* Paper presented at the 2013 American Educational Research Association, San Francisco, CA.
- Delta Cost Project. (2011). *Delta Cost Project documentation of IPEDS database and related products*. Washington, DC: Delta Cost Project.
- Delta Cost Project. (n.d.). *Listing of “grouped” institutions in the Delta Cost Project IPEDS database*. Washington, DC: Delta Cost Project.
- Deming, D. J., Goldin, C., & Katz, L. F. (2012). The for-profit postsecondary school sector: Nimble critters or agile predators? *Journal of Economic Perspectives, 26*(1), 139–164.
- Doyle, W. R. (2010). Changes in institutional aid, 1992–2003: The evolving role of merit aid. *Research in Higher Education, 51*(8), 789–810.
- Ehrenberg, R. G., & Zhang, L. (2004). *Do tenured and tenure-track faculty matter?* (NBER Working Paper 10695). Cambridge, MA: National Bureau of Economic Research.
- Ehrenberg, R. G., Zhang, L., & Levin, J. M. (2006). Crafting a class: The trade-off between merit scholarships and enrolling lower-income students. *Review of Higher Education, 29*(2), 195–211. doi:10.1353/rhe.2005.0082.
- Fuller, C. (2011). *The history and origins of survey items for the Integrated Postsecondary Education Data System*. U.S. Department of Education. Washington, DC: National Postsecondary Education Cooperative.
- Hillman, N. W. (2013). Community colleges and labor market conditions: How does enrollment demand change relative to local unemployment rates. *Research in Higher Education, Advance Online Publication, 54*(7), 765–780. doi:10.1007/s11162-013-9294-7.
- Huff, R. A., Chandler, M. O., & NCES. (1970). *A taxonomy of instructional programs in higher education*. Washington, DC: National Center for Educational Statistics.
- Hyatt, J. A., & Dickmeyer, N. (1980). *An analysis of the utility of HEGIS finance data in conducting institutional and higher education sector comparisons*. Washington, DC: National Association of College and University Business Officers.
- Jaquette, O. (2011). *In pursuit of revenue and prestige: The adoption and production of master’s degrees by U.S. colleges and universities*. Ph.D. dissertation, Center for the Study of Higher and Postsecondary Education, School of Education, University of Michigan, Ann Arbor.
- Jaquette, O. (2013a). Why do colleges become universities? Mission drift and the enrollment economy. *Research in Higher Education, 54*(5), 514–543.
- Jaquette, O. (2013b). In pursuit of revenue and prestige: the production of master’s degrees by U.S. universities.

- Jaquette, O., & Curs, B. R. (2013, March). *The effect of state appropriations on non-resident enrollments at public universities*. Paper presented at the 2013 Association for Education Finance and Policy, New Orleans, LA.
- Kraatz, M. S., & Zajac, E. J. (1996). Exploring the limits of the new institutionalism: The causes and consequences of illegitimate organizational change. *American Sociological Review*, *61*(5), 812–836.
- Legal Information Institute. (2013). 34 CFR 668.14 – Program participation agreement. Retrieved June 19, 2013, from <http://www.law.cornell.edu/cfr/text/34/668.14>
- Long, B. T. (2004). How do financial aid policies affect colleges? The institutional impact of the Georgia HOPE scholarship. *Journal of Human Resources*, *39*(4), 1045–1066.
- Malitz, G. S. (1981). *A classification of instructional programs (CIP)*. Washington, DC: Center for Education Statistics.
- Malitz, G. S. (1987). *A classification of instructional programs (CIP)*. Washington, DC: Center for Education Statistics.
- Middaugh, M. F., Graham, R., Shahid, A., Carroll, C. D., & NCES. (2003). *A study of higher education instructional expenditures the Delaware Study of Instructional Costs and Productivity*. Washington, DC: U.S. Dept. of Education, Institute of Education Sciences, National Center for Education Statistics.
- Morgan, R. L., Hunt, S. E., & Carpenter, J. M. (1991). *Classification of instructional programs* (1990th ed.). Washington, DC: National Center for Education Statistics.
- Morphew, C. C. (2002). “A rose by any other name”: Which colleges became universities. *Review 1984 of Higher Education*, *25*(2), 207–223.
- National Science Foundation. (2013). *WebCASPAR integrated science and engineering resources data system*. Retrieved June, 2013. <https://webcaspar.nsf.gov>
- Pennsylvania State University. (2013). *Penn State campuses*. Retrieved June 22, 2013, from <http://www.psu.edu/academics/campuses>
- Rojas, F. (2006). Social movement tactics, organizational change and the spread of African-American studies. *Social Forces*, *84*(4), 2147–2166.
- Slaughter, S., & Leslie, L. L. (1997). *Academic capitalism: Politics, policies, and the entrepreneurial university*. Baltimore: Johns Hopkins University Press.
- Steele, P. (2011). *Suggestions for improvements to the collection and dissemination of federal financial aid data*. U.S. Department of Education. Washington, DC: National Postsecondary Education Cooperative.
- The University of Texas System. (2013). *The University of Texas System*. Retrieved June 22, 2013, from <http://www.utsystem.edu/>
- Toutkoushian, R. K., & Hillman, N. W. (2012). The impact of state appropriations and grants on 1999 access to higher education and outmigration. *Review of Higher Education*, *36*(1), 51–90. doi:10.1353/rhe.2012.0063.
- Turner, S. E., & Bowen, W. G. (1990). The flight from the arts and sciences: Trends in degrees conferred. *Science*, *250*(4980), 517–521.
- U.S. Department of Education. Institute of Education Sciences, National Center for Education Statistics. (1999). *Integrated Postsecondary Education Data System (IPEDS): An improved system*. Washington, DC: NCES.
- U.S. Department of Education. Institute of Education Sciences, National Center for Education Statistics. (2000). *IPEDS finance data comparisons under the 1997 financial accounting standards for private, not-for-profit institutes: A concept paper*. Washington, DC: NCES.
- U.S. Department of Education. Institute of Education Sciences, National Center for Education Statistics. (2002). *Classification of instructional programs: 2000 edition*. Washington, DC: NCES.
- U.S. Department of Education. Institute of Education Sciences, National Center for Education Statistics. (2005). *Integrated Postsecondary Education Data System data quality study*. Washington, DC: NCES.
- U.S. Department of Education. Institute of Education Sciences, National Center for Education Statistics. (2007). *Changes to race/ethnicity reporting to ipeds*. Retrieved June 19, 2013, from http://nces.ed.gov/ipeds/news_room/ana_Changes_to_10_25_2007_169.asp

- U.S. Department of Education. Institute of Education Sciences, National Center for Education Statistics. (2009). *IPEDS Finance DATA FASB and GASB: What's the difference?* Retrieved February 27, 2009, from http://nces.ed.gov/ipeds/factsheets/fct_ipeds_finance_03072007_1.asp
- U.S. Department of Education. Institute of Education Sciences, National Center for Education Statistics. (2010). *Introduction to the classification of instructional programs: 2010 edition (CIP-2010)*. Washington, DC: NCES.
- U.S. Department of Education. Institute of Education Sciences, National Center for Education Statistics. (2012). *Updated finance reporting solutions for jointly audited institutions*. Retrieved June 21, 2013, from http://nces.ed.gov/ipeds/factsheets/fct_new_finance_03072007_2.asp
- U.S. Department of Education. Institute of Education Sciences, National Center for Education Statistics. (2013a). *About IPEDS*. Retrieved June 13, 2013, from <http://nces.ed.gov/ipeds/about/>
- U.S. Department of Education. Institute of Education Sciences, National Center for Education Statistics. (2013b). *IPEDS glossary*. Retrieved June 22, 2013, from <http://nces.ed.gov/ipeds/glossary/>
- U.S. Department of Education. Institute of Education Sciences, National Center for Education Statistics. (2013c). *IPEDS survey components and data collection cycle*. Retrieved June 13, 2013, from http://nces.ed.gov/ipeds/resource/survey_components.asp
- U.S. Department of Education. Institute of Education Sciences, National Center for Education Statistics. (2013d). *Report and recommendations from IPEDS Technical Review Panel #1: Data reporting structures and clustering*. Retrieved June 19, 2013, from http://nces.ed.gov/IPEDS/news_room/trp_Technical_Review_03132003_28.asp
- U.S. Dept. of Education, & NCES. (1976). *Higher education opening fall enrollment, 1976*. Washington, DC: U.S. Dept. of Education, NCES.
- UA South. (2013). *About UA South*. Retrieved June 22, 2013, from <http://uas.arizona.edu/about-ua-south>
- University of California. (2013). *University of California*. Retrieved June 22, 2013, from <http://www.universityofcalifornia.edu/>
- University of Wisconsin System. (2013). *Campuses*. Retrieved June 22, 2013, from <http://www.wisconsin.edu/campuses/>
- Webber, D. A., & Ehrenberg, R. G. (2010). Do expenditures other than instructional expenditures affect graduation and persistence rates in American higher education? *Economics of Education Review*, 29(6), 947–958. doi:10.1016/j.econedurev.2010.04.006.
- Winston, G. C. (1999). Subsidies, hierarchy and peers: The awkward economics of higher education. *Journal of Economic Perspectives*, 13(1), 13–36.
- Winston, G. C. (2003). Differentiation among US colleges and universities. *Review of Industrial Organization*, 24, 331–354.
- Zhang, L. (2010). The use of panel data models in higher education policy studies. In J. C. Smart (Ed.), *Higher education: Handbook of theory and research* (Vol. 25, pp. 307–349). New York: Springer.
- Zhang, L. A., & Ness, E. C. (2010). Does state merit-based aid stem brain drain? *Educational Evaluation and Policy Analysis*, 32(2), 143–165. doi:10.3102/0162373709359683.

Chapter 12

Toward a Better Understanding of Equity in Higher Education Finance and Policy

Luciana Dar

What we mean by equality of opportunity depends on which opportunities we are thinking about and what we understand by equality. (Breen 2010, p. 420)

The Great Recession has brought on devastating socioeconomic effects, including growing inequality of income, wealth, health, and education (Stiglitz 2013). These inequalities have brought to the forefront the pressing need for more scholarship on the public policy roots, causes, and consequences of economic and political inequality in the United States (Gruski et al. 2011; Hacker et al. 2007). Scholars of higher education recognize the need for careful consideration of the political and moral dimensions of higher education policy in our collective efforts to address concrete problems, especially in difficult economic times (Baum and McPherson 2011; Brint 2011; McPherson and Schapiro 2010). It also has brought renewed attention to the lack of collaboration between social scientists and philosophers of education, as well as among social scientists, which limits greatly the “intellectual achievement and social usefulness of their work” (Hennessy et al. 2009).

As social scientists, higher education scholars seek to contribute to *both* the advancement of knowledge and social change. It follows that, as a field, we should strive to make scholarly contributions that are clear on their purposes and are cumulative (Gerring 2012). In other words, if we want to assess whether competing policy alternatives lead to more equitable outcomes, then we must ask what equity means, what should be equalized, and what are the trade-offs involved to achieve efficiency, effectiveness, educational quality, and collective well-being. If we are to advance as a field of study, and to effectively inform policy and practice, then we must address the need for more precision, clarity, and transparency in regard to the underlying assumptions of our scholarship.

L. Dar, Ph.D. (✉)

Graduate School of Education, University of California, Riverside, Riverside, CA, USA
e-mail: luciana.dar@ucr.edu

For example, in 2006 California implemented a new model for funding the state's community colleges as a way to improve equality of funding across institutions. With the passage of Senate Bill 361, the previous program-based funding model was replaced with what the Board of Governors for the California Community Colleges (2005) called "a simpler, more equitable method" (p. 2). Under this new model, community colleges receive a standard allocation based on the number of institutions in the district as well as equal funding based on each credit and non-credit full-time equivalent student (FTES).

Through the implementation of this new model, the state of California has introduced a significant shift in the distribution of state funds across districts and individual institutions (Garms 1981). However, as DesJardins (2003) reminded higher education researchers a decade ago, equal funding does not necessarily correspond to equitable funding. Moreover, changes in state financing strategies have consequences for taxpayers, institutions, students, and public finances. Does the new funding model, which equalizes per-FTE funding across districts, enhance equity (i.e., fairness), as argued by California's community college leaders? The answer, I maintain in this chapter, is that it depends on one's definition of equity.

Most debates about American higher education finance and policy fail to acknowledge that, in addition to any other economic and social objectives that governments and postsecondary institutions establish at a particular point in time, redistribution is also often a policy goal. A large number of issues debated in higher education involve equality and equity dimensions such as whether access to postsecondary education by disadvantaged students must be preserved, higher education provides collective benefits, or diversity is beneficial for educational outcomes. Debate also occurs with regard to how to finance (e.g., public vs. private provision, institutional vs. student support, cost-sharing arrangements), regulate (e.g., accountability rules, input vs. output indicators, competing measures of institutional/student success), and prioritize among competing alternatives (e.g., access vs. excellence, vocational vs. liberal arts education, need- vs. merit-based financial aid, affirmative action in admissions).

Although the expression of the need for "equality of opportunity" and the desirability of some type of equity-enhancing policy is common among higher education scholars and policymakers, there is much less discussion over how to equalize and what should be equalized, including welfare, wealth, resources, capabilities, and opportunity (Hausman and McPherson 2006; Roemer 2009a). Moreover, there are also imperfect understandings of the differences between concepts of equity and equality (Stone 2001).

Both in research and practice, there is little discussion about or acknowledgment of the philosophical principles that drive specific analytical strategies and policy prescriptions or the trade-offs involved in establishing priorities across competing individual and collective goals, particularly between economic efficiency and distributional fairness, and the complex interactions between the two (Baum 2010). Given the acceleration in socioeconomic inequality trends in the United States, including rising levels of economic insecurity among poor and middle-class families and little social mobility, it has become even more pressing not only to

understand the causes of growing economic and political inequality but also to reflect upon and craft equality-enhancing policy strategies (Stiglitz 2013). Identifying what, when, how, and by how much equalization of some type may be desirable in particular settings remains a little explored area of inquiry among social scientists, applied philosophers, and policymakers (Jacobs 2004; Salverda et al. 2009).

Although this chapter will not directly engage the rich debate over justice and fairness, it does explore a related argument that equality, equity, and efficiency can be competing or reinforcing policy goals and that normative issues involved in prioritizing across these dimensions should be recognized as we seek to understand and evaluate higher education policy and financing choices (Baum 2010; Dar 2012a). A brief review of scholarship in the field of higher education shows substantial attention to the need for governments and postsecondary institutions to promote equity, often understood as “fairness,” through various mechanisms and tools. Nevertheless, this scholarship presents very little recognition of the implicit values embedded in this perspective or the implications of employing different definitions of equity, which will be discussed later in the chapter, in the analysis of empirical evidence (McPherson and Schapiro 2010).

In this chapter, I address the question: under what conditions do higher education policies promote equalization of some kind? I argue that the lack of shared knowledge and precision over what constitutes equity-enhancing policies undermines our efforts to identify and compare educational policies and practices that reconcile individual and public needs in a democracy while taking into consideration the political process and feasibility concerns (Alexander 1982; Jacobs 2004).

First, I review the theoretical and philosophical foundations of the terms equality and equity, paying particular attention to the contributions of political philosophers interested in (higher) education as a means of achieving distributive fairness and democratic ideals. In addition to exploring economic-based approaches, I also consider other dimensions of distributive justice, such as capabilities (Sen 1992), primary social goods (Rawls 1971), resources (Dworkin 1981a, b), and educational achievement (Roemer 1998a), as they apply to educational policy issues (Walker and Unterhalter 2007). In the process, I highlight the independent role that universities, as political and economic institutions, play in the redistribution of various currencies of justice, including income, wealth, and opportunities (Brighouse 2010; Dar 2012b; Lamont and Favor 2013).

Even if we could assume that some consensus existed on principles of distributive justice, there is still the challenge of defining, measuring, and evaluating empirically whether a particular policy or outcome is more or less “equitable.” With this in mind, I review how social scientists have dealt with the empirical challenges of measuring and evaluating the various dimensions of inequality. In particular, I focus on the ways that social scientists have conceptualized and measured inequality of opportunity and outcomes in higher education in the United States. Here, I show that, in addition to the lack of cross-disciplinary collaboration and comparability challenges, there is limited consideration of the political dimensions of various measurement strategies.

I then follow with a hypothetical illustration that supports my general argument about the need for precision in policy evaluation. I show how competing views over distributive justice lead to very different higher education financing policy prescriptions. I highlight the ways that imprecision over normative criteria for policy proposals can lead to undesirable, unequal, and/or unfair outcomes in other important dimensions of redistribution. Using community colleges as an illustration, I conclude by presenting a hypothetical set of distributional criteria and identifying alternative state-funding policies that might be consistent with specific equity goals.

In sum, this chapter contributes to the higher education field by providing an examination of the dimensions of (in) equality in distributive conflicts over higher education policy issues (Stone 2001) and the philosophical foundations of various definitions of equity, including those provided by nonutilitarian approaches (Roemer 2009a). I then illustrate how competing views of distributive justice lead to very different higher education policy prescriptions, using choices about the allocation of government funding for community colleges as an illustration (Breneman and Nelson 1981). I conclude by arguing that scholars in the higher education field have a clear advantage over other social scientists in uncovering the mechanisms that link higher education policy decisions and specific distributive and performance outcomes at the institutional, group, and individual levels. Our ability to uncover these mechanisms, however, depends on (a) achieving more clarity and consistency in conceptualization and measurement (Perna and Thomas 2008), (b) actively taking advantage of theoretical and methodological insights from various disciplines (Cheslock and Rios-Aguilar 2011), and (c) being honest about the strengths and weaknesses of research design choices (Gerring 2010).

Part I: Theoretical Underpinnings and Application Challenges

Scholars have defended the need for the development of more precise understandings of equity (or a range of definitions of equity) guided by defensible principles of social justice and ethical reflection (e.g., Baum 2010; Hansen 1972; Hausman and McPherson 2006). Although precisely defining equity remains an elusive task, at least partial clarity on the currency and domain of redistribution is necessary for building our knowledge of and ability to evaluate education policy. Although recognized several decades ago (Hansen 1972), scholars have not produced a systematic analytical framework that may provide these more precise definitions.

The ideas that education is a matter of redistributive justice, and that inequality of outcomes is justified if disadvantaged people get an opportunity, are widely accepted in the United States (Hennessy et al. 2009; Roemer 2009b). Yet, when governments, policymakers, and other stakeholders talk about commitment to “equality of opportunity” as a political and economic ideal, they often use inconsistent definitions of the types/conceptions, justifications, and currencies of equality of opportunity (Arneson 2008). The same inconsistency occurs among social scientists and scholars of (higher) education. This is also true for the notion of

equity, as in distributional fairness, however defined (Breen 2010; DesJardins 2003; Le Grand 1990).

In this section of the chapter, I present a set of key elements needed to develop shared understandings of equity. To pursue specific social justice goals, however defined, a shared understanding of the distributive implications, intended and unintended, of specific policy strategies is required. Once there is agreement about what equity (e.g., fairness) means, it is possible to craft policy that advances social justice. In this chapter, I assume that, if there is not a shared understanding of the distributive goals of higher education policy, we can never succeed in crafting systematic policies that promote equity or achieve educational opportunity, social mobility or equality of outcomes, or other potential desirable distributional goals defined through the political process.

Distributive Justice: “Equality of What?”

Pursuing equality is for many of us, among the most noble and important endeavors of a modern government and society. This endeavor faces, however, a series of theoretical and practical challenges. The theoretical challenges reflect deep philosophical disagreements about what sort of equality should be pursued, and for whom. The practical challenges revolve around questions about which legal and political institutions are most appropriate vehicles for realizing egalitarian justice, and how to implement effectively egalitarian social policy. (Jacobs 2004, p. 3)

DesJardins (2003) offers a comprehensive discussion of competing moral philosophies that define equity, equality, and efficiency as decision-making criteria in higher education policy. In particular, DesJardins focuses on differentiating utilitarianism or social-welfarist approaches to distributive justice and concludes that welfare economics offers a powerful tool to build the needed analytical framework for policy evaluation and choice in higher. In this section, I focus on non-welfarist approaches to distributive justice, that is, those for which the focus on maximization does not concern utility but, rather, some other “objective” currency of distribution, and I refer the reader to DesJardins (2003) and Roemer (1998b) for additional resources for understanding the assumptions, strengths, and limitations of utilitarianism and welfare economics.

I concur with DesJardins (2003) on the utility of welfare economics to inform of higher education policy choices. However, I consider non-welfarist theories of distributive justice, that is, those for which the focus is not the maximization of utility but on the maximization of an “objective” standard and/or currency of distribution that may involve economic resources, as more promising approaches to inform efforts to define, measure, and evaluate distributive justice in higher education. Most of non-welfarist theories are considered “egalitarian.” In other words, they assume that equality is desirable and explore the why, what, how, and for whom various currencies of distribution should be equalized (Lamont and Favor 2013; Hausman and McPherson 2006).

The following questions provide a roadmap for the common themes covered in any discussion on the dimensions of distributive justice. First, why is equality desirable? Supporters claim that equalization is necessary on the grounds of (a) social justice (social/cultural/economic inequalities are not deserved, and hence, they must be compensated for); (b) scarce resources (equality is the “fairest” way to ration available resources); and (c) inequality has negative effects for human welfare and general well-being (Roemer 2009a). Some, however, have challenged these arguments on the grounds that (a) equalization is unfair because it deprives individuals of their rights over their own assets and freedom to make use of them (Nozick 1974) and (b) redistribution has negative incentive effects, as it limits production and innovation (Gosepath 2011). These views are unlikely to be reconciled among scholars and policymakers, as they espouse very different views about whether it is morally acceptable to redistribute resources and to compromise the promise of overall growth in favor of less economic inequality.

Second, what should be equalized and how? Currencies of equality and how equalization should take place are two key aspects of any theory of distributive justice that provides the “moral guidance for the political processes and structures that affect the economic benefits and burdens in societies” (Lamont and Favor 2013, p. 1). Political philosophers have proposed and debated a variety of conceptions of distributive equality. In this chapter, I summarize the conceptions that (a) have the most promise as guiding principles for higher education policy choices, in addition to those already explored in depth by other scholars, such as welfare economics/utilitarianism and equality of income/wealth (Arneson 2013; Gosepath 2011; DesJardins 2003), and (b) are most aligned with what have explicitly or implicitly been used as principles of distributive justice in higher education scholarship.

Finally, who should be the recipients/beneficiaries of redistribution? The main focus of most theories of distributive justice is the importance of individual responsibility over choices (Gosepath 2011); hence, individuals are considered the primary beneficiaries of distribution (Stone 2001). Nonetheless, debates about theory and application extend to the need to address inequality between and within groups and societies/nations.

Currencies of Justice: Primary Goods and Capabilities

Rawls (1971, 1982) argued that governments should not be concerned with equalizing welfare, something that he considers incommensurable across persons, but, instead, be concerned with equalizing what he calls “primary social goods.” Primary social goods are goods that all individuals need, independent of who they are or which conception of the good that they share (Roemer 1998b). Rawls (1971) initially identified education, food, housing, and the “elements that engender self-respect” as primary goods. Rawls (1982) subsequently expanded his argument to include categories of primary goods: basic liberties; freedom of movement and choice of occupation; powers and prerogatives of offices and positions of responsibility; income and wealth; and the social bases of self-respect (Roemer 1998b).

Among all the primary goods categories, only one specifically concerns economic resources (income/wealth), while the others are what Roemer (1998b) calls local public goods, which are contingent upon the political and socioeconomic institutions that shape individuals' contexts and abilities to exercise freedom of choice.

Rawls (1971) argued that justice is achieved by equalizing the distribution of primary goods across persons, whereby the allocation of resources maximizes the index of primary goods distributed to the worst-off individual/groups in society (Difference Principle). However, Rawls did not clarify what this index should be, an important limitation that I explore later in the chapter. In sum, Rawls argued against governments seeking the equalization of welfare and, instead, supported a redistribution of inputs such that individuals have the ability to achieve their own concept of welfare. This last point introduces the idea of individual responsibility for tastes and choices after initial conditions are judged "fair" in the political philosophy debates over social justice.

Although education is not explicitly on the list of categories of primary social goods, Hausman and McPherson (2006) make the case that education is relevant to the provision of almost all primary goods. Education is necessary for individuals' abilities to develop from childhood, enabling them to function as equal citizens and make sound choices about their lives (Gutmann 1980). Nonetheless, although Rawls argues that inputs should be the focus of equalization, he does not focus on individual differences in abilities to achieve, given a particular level of educational input (Brighouse and Unterhalter 2010).

Sen (1980) criticized Rawls for his focus on the equalization of goods versus the equalization of what goods do for people. According to Sen, the currency of equality should be an individual's ability to function, that is, the ability to perform certain tasks necessary for a normal life. Sen advocates the equalization of "capabilities" across persons (comprised of a variety of potential vectors of functioning or ability to make use of resources) as a way to achieve justice. According to Sen, there is not only one formula for distributive justice but at least four potential goals that individuals may have, as seen in two dimensions: well-being and agency goals in one dimension and achievement and freedom in the other, which leads to four possible currencies of equality—the ability/freedom to achieve well-being or one's individual goals.

Sen's (1992) argument for the equalization of human capabilities, or "a person's ability to do valuable acts or reach valuable states of being" (p. 30), and his or her potential to achieve desired outcomes offers a multidimensional, interdisciplinary, and flexible approach to social justice. This approach places human agency, heterogeneity of human preferences, or ideas about the "good life," human diversity of internal characteristics and external circumstances, and democratic participation front and center. Unlike other accounts of social justice, the capabilities approach allows for the consideration of the various roles of education: (a) intrinsically important or process (e.g., expansion of people's horizons), (b) socioeconomic instrumental (e.g., literacy), (c) noninstrumental (e.g., individual empowerment), and (d) redistributive (Robeyns 2006b; Walker and Unterhalter 2007). Moreover, Sen's capabilities approach allows for the consideration of external factors, e.g., the

choices of others and public policy constrain individuals in heterogeneous ways (Walker and Unterhalter 2007), how economic and political contexts matter (Roemer 2009b; Salverda et al. 2009), and how political engagement and policy feasibility shape (educational) distributional outcomes (Elkin 2006).

In addition to income/wealth, primary goods and capabilities have been the main “focal variables” or currencies of justice used by and debated by scholars interested in education as means of achieving distributive justice (Brighouse and Unterhalter 2010; Sen 1992). Roemer (1998b) noted that, despite the differences between these two approaches, they have important similarities. They are non-welfarist theories and egalitarian, and neither one espouses the notion of equalization of outcomes. Primary goods and functionings are both inputs, making inequality of outcomes a by-product of personal choices and acceptable, assuming initial conditions based on one of these two vectors of variables are distributed equally across persons.

Currencies of Justice: Resources

The next important contribution to the debates over distributive justice came from Dworkin (1981a, b). Dworkin would agree with Rawls and Sen that welfare is not an appropriate currency of social justice due to its incomparability across individuals and because of differences in preferences (or “tastes”) and related choices across individuals. With this argument, Dworkin brings even more front and center the idea that individuals should be compensated for situations over which they have no control but not for the consequences of their actions or beliefs (Roemer 1998b).

Dworkin (1981b) makes the case for equality of resources as the best currency of social justice. Dworkin defines resources not only as income, wealth, or economic assets but also as individuals’ social/cultural capital, family circumstances, and environments that both shape and limit their ability to accomplish goals. He advances the argument that one should pursue resource equality of a comprehensive “bundle of resources,” including external resources and “circumstantial” resources. That is, justice takes place when a policy or policies equalize bundles of resources for things or aspects of individuals’ situations for which they are not responsible (Hausman and McPherson 2006). After equality of initial resources is obtained, inequalities of outcomes are just and the result of individual’s choices.

Roemer (1998b) compared the three currencies of justice discussed so far and summarized how justice can be implemented according to each:

Both Rawls’s difference principle and Sen’s equality of capabilities can be considered theories of equality of resources, where resources are defined as things that help people realize their plans of life or achieve success. For Rawls, equality of resources has been attained when the bundles of primary social goods obtained by persons are equal, and for Sen it has been attained when the sets of vectors of functionings are “equal.” Both Rawls and Sen emphasize the distinction between their definitions of resource equality and equality of welfare or success in achieving life plans or, in Sen’s terminology, agency goals. This they have in common with Dworkin. Dworkin’s innovation is to distinguish, more carefully than Rawls and Sen do, between a person’s circumstances and his tastes and ambitions. His theory moves to the center stage the issue of responsibility, which appears only embryonically in the work of Rawls and Sen. (p. 246)

Dworkin's (1981a, b) work also highlighted that Rawls fails to incorporate the fact that individuals can be "unlucky" (e.g., disabled, unhealthy, less talented) and, hence, would need a much larger share of primary goods than would others to accomplish their goals in life (Lamont and Favor 2013). The same line of reasoning can be found in Sen's (1992) work and other authors supportive of the capabilities approach to social justice (Robeyns and Brighouse 2010). Rawls (1971) made a similar criticism of utilitarianism, as the theory does not consider individuals' differences when presenting principles of distributive justice.

Currencies of Justice: Equality of Opportunity/Educational Achievement

Equality of opportunity continues to be a fundamental measure of social justice in contemporary political philosophy debates and in education debates in particular (Roemer 2006). Different conceptions of equality of opportunity abound, and, although they all entail the idea of competition on equal terms, they vary greatly on the scope, focus, and processes that lead to a morally acceptable notion of "fair" competition (Arneson 2008). Here, I focus on the central conception of equal opportunity among distributive justice theorists, the notion of "leveling the playing field" (LPF), and, in particular, explore Roemer's (1998a) proposal for ways to provide equality of opportunity for educational achievement across different groups of individuals.

The main idea embedded in the concept of LPF is that justice requires making every individual's opportunities equal at a predetermined, common starting point (equal initial conditions). After that, individuals are responsible for their actions and unequal outcomes are considered fair. Obviously, the question remains as to where the starting point for equalization should be. In any case, LPF argues that, after a particular starting point is defined, social intervention should take place to correct for disadvantages beyond an individual's control.

Focusing on education as the key means of access to a good life, Roemer (1998a) advanced the notion that education is a fundamental currency to guarantee equality of opportunity for achievement. He argues that we must differentiate "between the circumstances beyond a child's control that influences her ability to process educational resources, and her acts of autonomous volition and effort" (p. 20). Hence, equalization of opportunity takes place when results are dependent only on individuals' efforts and not on their differential circumstances.

Roemer's (1998a) proposal involves an algorithm by which application depends on the previous definition of principles of distributive justice. That is, one must define the desired outcome, what constitutes relevant differential circumstances that must be compensated for, what constitutes a relevant measure of individual effort, and which policy instrument should be used to achieve equality of opportunity for educational achievement (Roemer 2000). When determining these principles, inequalities that are not the product of individual choices should be addressed, while those that emerge from individuals' own choices should not be the targets of social intervention (Arneson 2008).

Domains of Justice: Individuals and Groups

Assuming that there is agreement about the desirable currency of equality (the “what”) and equalization strategy (the “process”), one also must determine the beneficiaries of redistribution (among “whom”?). While most theoretical discussions about distributive justice focus primarily on individuals, as they are the “primary bearers of responsibility,” and their actions, social scientists focus more often on the desirability of minimizing differences within and between groups, and between particular groups and the rest of society (Gosepath 2011). This “mismatch” reflects an ongoing controversy over the definition of who should be the recipients of what is being redistributed. As Gosepath noted:

It is often groups that rightfully raise the issue of an inequality between themselves and the rest of society—e.g., women, so-called racial and ethnic groups. The question arises of whether inequality among such groups should be considered morally objectionable in itself, or whether even in the case of groups, the underlying concern should be how individuals (as members of such groups) fare in comparative terms. If we are worried about inequalities among groups of individuals why does this worry not translate into a worry about inequalities among members of the group? (p. 24)

Setting aside the complexity and underlying challenges to the application of any theory of distributive justice, scholars must define the desirable recipients of redistribution. Stone (2001) provides a useful strategy for doing so. The first step involves how to define group membership based on the “boundaries of community” (e.g., citizenship; p. 43). The second step involves focusing on the internal subdivisions of society, or “rank-based distribution” (e.g., merit, pay equality for similar levels of training, skill, and responsibility). The third step involves focusing on the major internal cleavages of society, or “group-based distribution” (e.g., sex, race, social class).

The notion of focusing on internal subdivisions of society to define the beneficiaries of redistribution is most common among economists. They define the concept of equity based on the notion of “equal treatment of equals,” or horizontal equity, and “unequal treatment of unequals,” or vertical equity (DesJardins 2003). In the education finance literature, there has been a shift in focus from input equity to outcome equity, whereby vertical equity has become synonymous with outcome equity (Dowd and Shieh 2013). In other words, “vertical equity ... simply refers to horizontal equity of educational outcomes or equal opportunity to attain specific educational outcomes” (Baker and Green 2009, p. 440). This growing focus on outcome equity in the (higher) education finance literature goes against advocacy for some kind of equality of opportunity present in most egalitarian theories of distributive justice (Lamont and Favor 2013).

In subsequent sections of this chapter, I further explore the notions of vertical/horizontal equity to illustrate the use of the term *equity* in higher education scholarship. I also offer hypothetical applications of various notions of distributive justice for the case of community college financing in the United States.

Governments, Higher Education Institutions, and Redistribution

We feel it is a mistake to think that values and evidence simply reside in different realms and have nothing to do with one another. In fact, important choices virtually always involve both value judgments and empirical evidence. (McPherson and Schapiro 2010, p. 40)

As argued earlier, we must define more explicitly principles of distributive justice in the context of higher education finance and policy to produce comparable findings and to build cumulative knowledge. However, theoretical and methodological challenges are not limited to making legitimate and clear choices about the “best” or “most applicable” theory of distributive justice within a particular context. We also must consider how economic and political feasibility of specific policies matter after we determine what is desirable. In other words, abstract theories that do not provide “a clear account of how to address the practical problems of realizing and implementing equality” are of little use, and the same is true for any analysis of public policy that ignores “philosophical discussions around what is equality” (Jacobs 2004, p. 3).

Political philosophers, political economists, and political theorists, as well as other social scientists interested in education, have argued consistently that political philosophy and theory should inform efforts to design social policies that are legitimate, politically robust, and effective, given resource constraints and specific political economy and (educational) governance contexts (e.g., Brennan 2012; Elkin 2006; Roemer 2006). That is, political, economic, and organizational processes matter for the distribution of resources and other currencies of equality, even when a “just” distribution has been defined (Alexander 1982; Salverda et al. 2009).

Inequality of access to economic, political, and social resources determines individuals’ ability to flourish as human beings and is now, more than ever, a predictor of a person’s social mobility (Duncan and Murnane 2011). Access to resources in their many forms (e.g., income/wealth, social/cultural capital, educational opportunities) is linked to institutional structures (e.g., markets, governments, organizations) in an interdependent relationship, with both affecting inequality and economic performance (Salverda et al. 2009).

In sum, scholars interested in the role of public policy in promoting social justice must not only consider the philosophical foundations of distributive justice but also the political and economic challenges involved in implementing any view of a just society through a variety of means, including education. According to Roemer (2006), there is an inherent challenge in combining democratic political institutions and policies that will produce equality of opportunity, or any currency of equality, through the financing, organization, and regulation of public (higher) education. Indeed, decisions over the financing of (higher) educational institutions and students take place through a political mechanism that more often than not privileges certain groups over others. Decisions over higher education financing also involve dealing with individual/group inequalities in income, education, political power, and academic ability levels, among others (Doyle 2007).

Sen (2009) addresses the aforementioned issues and argues for a comparative notion of distributive justice (not the “transcendental” or “ideal” route adopted by most political philosophers) that takes into consideration actual societies and policies rather than just theoretical institutions or rules. He further expands his proposal for a comparative notion of distributive justice by placing value on just processes of redistribution as well as on inputs and outcomes. Sen’s focus on processes emerges from the realization that social institutions interact with individual behaviors, which leads to distributive outcomes that may or may not be just. There is not one individual social contract that works but, instead, a variety of potential arrangements whereby institutions are the foundations and individuals are key players in the process of finding consensus on social choices that maximize social justice, however defined.

In sum, the notion of feasibility of implementation in debates over social justice is significant (Brennan 2012). Higher education scholars must not only expand their understanding of political philosophy debates (DesJardins 2003) but also of the political and economic issues and contexts in which the redistribution of opportunities and resources through higher education takes place (St. John et al. 2013). In the conclusion of this chapter, I further discuss this issue and defend a multidisciplinary research agenda that leverages higher education scholars’ in-depth knowledge of higher education institutions and their students as well as emphasize the importance of considering the values embedded in our research design choices and the constraints that influence the implementation of any vision of distributive justice.

Empirical Challenges: Definitions and Measurement

Even if we could assume that consensus existed on principles of distributive justice, there is still the challenge of defining, measuring, and evaluating empirically whether a particular policy or outcome is more or less “equitable.” An extensive literature applies the philosophical principles of distributive justice, discussed earlier in this chapter, to education issues broadly defined, although applications to the specific case of higher education are much less common (Brighouse and Robeyns 2010; Robeyns 2006a, b). I briefly review this literature, highlighting the challenges created by the multidimensionality of the purposes of education (Brighouse and Unterhalter 2010), the “index problem,” that is, how to define and measure what should be equalized among a variety of potential variables (Lamont and Favor 2013), and the need to incorporate the heterogeneity among individuals in any metric and assessment of justice (Sen 1992).

Definitions: Currencies of Justice and (Higher) Education

What is the purpose of education? And what is being distributed through education? These questions must be answered to identify and define the desired “focal variable” or currency of social justice allocated through educational opportunities, such

as income, primary goods, resources, or capabilities (Sen 1992, 1999). Brighouse and Unterhalter (2010) proposed a useful model of the value/goals of education and their overlapping dimensions.

The first dimension is the intrinsic value of education, that is, the pursuit of knowledge for the sake of knowledge and as a means to achieve valued goals in life (Saito 2003). Education broadens individuals' horizons and increases their agency/freedom and ability to accomplish subjective notions of well-being. Being educated constitutes a functioning that empowers individuals, independent of their economic status or individual preferences (Sen 1999).

The second dimension is the instrumental role of education, that is, the acquisition of skills through schooling that makes finding a job possible and guarantees minimal standards of living. Robeyns (2006a, b) breaks down further the instrumental role of education into two subdimensions: personal/collective and economic/noneconomic. A similar typology has been applied to the case of higher education (Institute of Higher Education Policy 1998). The instrumental personal role of education is explicitly included in Brighouse and Unterhalter's (2010) model. The instrumental collective role of education embodies the economic and noneconomic collective benefits of having educated individuals in society (e.g., economic productivity, democratic participation). The noneconomic personal and collective instrumental roles of education encompass individual/collective abilities to live in a diverse society as participating citizens (Sen 1999). The first two subdimensions are directly connected to human capital approaches to education, whereas the last two fit into Sen's capabilities approach to social justice (Robeyns 2006a, b).

The third dimension represented in the model is the positional value of education, defined as "the value of education is positional insofar as its benefits for the educated person depend on how successful she has been relative to others" (Brighouse and Unterhalter 2010, p. 210). The positional value of education is particularly relevant for uncovering and addressing disparities due to differences in social/cultural capital assets that individuals possess or discrimination based on gender, race, or class. For example, access to prestigious universities is limited to a set number of individuals and, hence, depends on how well a person performs relative to others within the criteria for admissions set by higher education institutions (Arrow 1993; Brighouse 2010; Doyle 2007).

Brighouse and Unterhalter (2010) place well-being and agency freedoms at the center, making them part of all three dimensions/values of education. They stated, "These freedoms relate to the social conditions to secure instrumental, intrinsic, and positional values through education" (p. 210). By placing well-being and agency freedoms at the center, the authors attempt to incorporate both the primary goods (freedoms) and capabilities (functionings) metrics of justice while establishing the other overlapping dimensions that encompass the roles/benefits of education. They conclude their discussion of the proposed model by arguing that any measure of educational justice must encompass all the described facets of education, something that I further discuss in the next section.

Brighouse and Unterhalter's (2010) model also makes clear the multidimensionality of the purposes and benefits of education. In terms of when each dimension

becomes salient, Brighouse and Unterhalter speculated that, in more unequal societies, policymakers will focus primarily on the instrumental role of education, as compared to the other roles of education, as a means to rectify the problems generated by growing economic inequalities (Stiglitz 2013). They also argue that, in societies with more equal distribution of income and wealth, the focus will shift toward the intrinsic value of education, which fosters the fulfillment of individuals' agency and ability to pursue well-being.

Dar (2012a) advocates an approach similar to that of Brighouse and Unterhalter (2010) to explain higher education finance policy decisions. Higher education provides both collective goods (i.e., instrumental economic and noneconomic collective benefits and intrinsic value of education) and particularized goods (i.e., instrumental economic and noneconomic individual benefits and positional value of education). The former is more likely to be the focus of distribution through education subsidies in more equal societies or in good economic times. The latter encompasses what Brighouse and Unterhalter identify as the positional and instrumental roles of education. In this case, redistribution of educational resources and/or opportunities becomes the means to rectify perceived injustices and inequalities.

Labaree (1997) also contributes to our understanding of the multidimensionality of the purposes of education and the resulting tensions that emerge from combining or privileging different dimensions at different points in time when making decisions about financing or policy. He notes three main goals of education: the private good, the public good focused on social efficiency, and the public good focused on democratic equality. Labaree argues that, presently, American society values social mobility (achieved through individual economic benefits of education) over the other two dimensions, to the detriment of democratic equality goals, including the noneconomic individual and collective benefits of education (St. John et al. 2013).

Walker and Unterhalter (2007) summarize Sen's (1999) argument about the roles of education, represented in the model(s) described above, but also expanding on the potential relationships among the various dimensions/benefits of education and their public/collective role:

Education, argues Sen (1999), fulfills an *instrumental social role* in that critical literacy, for example, fosters public debate and dialogue about social and political arrangements. It has an *instrumental process role* by expanding the people one comes into contact with, broadening our horizons. Finally, it has an *empowering and distributive role* in facilitating the ability of the disadvantaged, marginalized, and excluded to organize politically. It has *redistributive* effects between social groups, households, and within families. Overall, education contributes to the *interpersonal* effects where people are able to use the benefits of education to help others and hence contribute to the social good and democratic freedoms. (p. 8)

Thus, to answer the question, "equality of what?" scholars must define clearly which dimensions of distribution through education are of interest, which are most salient, and what is the focus of assessment of equality. Answering this question is a prerequisite before attention can be turned to measurement issues (Sen 1992).

In the case of higher education, the biggest challenge has been the lack of clarity on the definition of "higher education," specifically, what it is for and who should be the main beneficiaries of public subsidies. This lack of consensus is considered one

of the main reasons for the decreasing levels of support for public higher education over the past few decades (Dar 2012a; Selingo 2013; Zumeta et al. 2012). Moreover, scholars and policymakers disagree on whether higher education can do much to provide equality of opportunity or serve as a means to promote social justice, with some scholars (Brighouse 2010) arguing that inequalities are already so deeply rooted in society among children from different backgrounds and of different social/cultural capital assets that, by the time an individual reaches higher education, little can be done. Others advance the opposite view, noting the growing importance of a college education for social mobility and for individual and collective economic and noneconomic well-being (St. John 2003; St. John et al. 2013).

Measurement

The chosen metric of justice determines assessments and measurement of (in) equality. Whereas applied economists adopt income or wealth, measured in currency, as the main variable of interest,¹ philosophers and social scientists focus on other metrics such as opportunity, capability, or advantage (Roemer 2009a). The latter group also cares a great deal about comparing metrics of justice or relative inequality across individuals and/or groups (Lamont and Favor 2013). All measurement strategies have pitfalls. For instance, some currencies of justice, such as the noneconomic benefits of education, are almost impossible to quantify.

No matter the chosen currency of justice, scholars face what often has been called the “index problem.” That is, challenges include both measuring one variable as well as how to combine a variety of focal variables in one indicator of inequality. Given the multidimensionality of the purposes of education, the complexity of this problem can increase exponentially. Whether scholars focus on one particular variable or a combination thereof, defining and constructing a valid measurement strategy is a necessary step for any analysis and evaluation of equity in (higher) education, however defined.

Resources, including commodities, social and cultural capital assets, and income/wealth, are the most common variables used by scholars interested in individual- and social-level evaluations of inequality and distributive justice (Dworkin 1981b; Robeyns 2005). Sen (1992) argues that these variables are limited in their usefulness because “they are all concerned with the *instruments* of achieving well-being and other objectives” but do not comprise individuals’ freedom to pursue the “constitutive elements of well-being” (p. 42). According to Sen, well-being is not necessarily related to levels of income or wealth, as individuals have different preferences over their needs, and these same needs and preferences vary across different societies (Saito 2003). While education economists focus mainly on resources and income/wealth as measurement strategies to capture inequality, other scholars interested in

¹The same is true among education economists, policy scholars, and policymakers interested in educational issues.

social justice issues in education have shifted their efforts elsewhere, e.g., Rawls' social primary goods and Sen's capabilities as metrics of justice.

Rawls' (2001) list of social primary goods includes (a) basic rights and liberties such as freedom of thought and liberty of conscience; (b) freedom of movement and free choice of occupation; (c) powers and prerogatives of offices and positions of authority and responsibility; (d) income and wealth; and (e) the social basis of self-respect (pp. 58–59). How to identify “resources that are suitably connected to the exercise and development of moral powers and which are compatible with assigning the responsibilities for ends to persons” (Macleod 2010, p. 179) remains an unanswered question. In other words, the appropriate index of primary goods can be variable, depending on individuals' agency and responsibility for their choices.

Rawls' (2001) list emerges from a primary concern for identifying the conditions and resources that individuals need for “the development and exercise of two moral powers—the capacity for a conception of the good, and the capacity for a sense of justice” (Brighouse and Unterhalter 2010, p. 194). Education is fundamental for individuals to exercise these powers and to successfully achieve practically all social primary goods listed (Hausman and McPherson 2006). However, the kind of education necessary to achieve Rawls' vision that individuals should be provided equal opportunities to exercise an array of liberties, and the resources necessary to do so, regardless of their socioeconomic status, has not yet been examined.

Brighouse and Unterhalter (2010) believe that education can be construed as a primary good but highlight two major limitations of this approach for policy design and evaluation:

The first concerns the fact that children, like adults vary enormously in what they will achieve from a given level of educational input. If the value of education is to be understood not in terms of the outcomes it produces, but in terms of the costs of the inputs, as interpreting it as a primary good suggests, then its distribution must be insensitive to this variation. And, intuitively, that is wrong. ... If the value of the primary good of education is understood in terms of unit costs, then equal education will yield radically unequal outcomes for such children relative to other children, and, in our view, unfairly unequal outcomes. ... The second problem with the idea of education as primary good is that it does not, without a great deal more elaboration, give much guidance about precisely what content educational opportunities should have. (pp. 196–197)

In other words, Rawls' (2001) theory argues that individuals have equal opportunities if they have equal access to resources. However, individuals can differ on their capacity to convert resources into functionings. Thus, providing equal resources does not necessarily entail delivering equal opportunities (Sen 1992).

According to Robeyns (2006a, b), Sen's capabilities approach is often proposed as an alternative to social primary goods as a metric of justice in education. By focusing on what individuals have the ability and freedom to accomplish, instead of what they can acquire with resources, Sen argues that we should focus on individuals' capabilities to achieve any combination of desirable functionings. Nonetheless, other scholars have pointed out the many challenges involved in using the capabilities approach for policy design and evaluation (Saito 2003). Roemer (1998b) argues that Sen does not provide a specific index of valued combinations of functionings,

which, together, make up a capability set; this limits the applicability of the approach (Robeyns 2005).

Following Roemer's line of reasoning, Brighouse and Unterhalter (2010) also claim that the capabilities approach is underspecified. Sen (1999) defines capabilities as the "freedom to achieve actual livings that one can have a reason to value" (p. 73). Nevertheless, this definition does not enable us to answer, "what does one have reason to value?" (Brighouse and Unterhalter 2010, p. 200). If the capabilities approach is to be useful in educational policy applications, we must define which capabilities are valuable or more salient relative to others, an issue that is dependent on social, economic, and political contexts (Salverda et al. 2009; Walker and Unterhalter 2007).

Brighouse and Unterhalter's (2010) model constitutes an attempt to combine insights from both Rawls' (2001) and Sen's (1980, 1992) approaches to social justice. Although Brighouse and Unterhalter make a strong case for the limitations of each approach separately to inform educational policy design and evaluation, they offer only a preliminary proposal on how a combination of both could lead to a more useful approach to guide decisions about how to define, measure, distribute, and evaluate educational opportunities.

In summary, it should now be clear that we, as higher education scholars, have a lot more to do if we are to successfully make the case for particular policies and practices on the grounds that they are more "equitable." The task requires not only better understanding of political philosophy (DesJardins 2003; Hausman and McPherson 2006) but also of political theory, political economy, and normative economics (Elkin 2006). These subdisciplines provide the theoretical foundation for any rigorous deliberation over the choice between, and definitions and measurements of, competing currencies of social justice in (higher) education.

Equity in Higher Education Scholarship: A Social Network Analysis Application

In this section, I connect the theoretical/methodological foundations previously discussed to their applications in higher education scholarship. I explore the various perspectives and approaches used to address the definition, measurement, and empirical applications of equity in a representative sample of scholarly research that appears in the three leading peer-reviewed journals in the higher education field (*Journal of Higher Education*, *Review of Higher Education* and *Research in Higher Education*) from 2009 to 2013.²

Using social network analysis, I map how scholars have implicitly or explicitly defined and focused on equity as a benchmark of each of the four dimensions: (a) equalization of inputs (e.g., expenditures per FTE), processes (e.g., same chances

² Selected references used can be found in the Appendix.

of access to classes while in college across student groups), or outputs (e.g., graduation rates by racial/ethnic groups proportional to the share of students admitted from each group); (b) equalization benefiting different groups in society (i.e., students, institutions, and taxpayers); (c) vertical equalization strategy (unequal treatment of unequals) or horizontal equity strategy (equal treatment of equals); and (d) what should be equalized, that is, the currency of social justice.

A Primer on Social Network Analysis

Social network analysis, an analysis of social relationships based in network theory, is often used in the field of sociology (Hanneman and Riddle 2005). There are two important concepts within social network analysis. The first is a node. Nodes are displayed within network graphs by circles and typically represent individual actors within a network. The other concept is the tie or edge. Ties represent relationships between the individuals, or nodes, within a network; these relationships include friendships, family connections, and positions in an organizational system among others. Variations in size and color can be used to represent different functions or the strength of a relationship between nodes/ties and within a network. In social network analysis, the thicknesses of ties represent the strength of the relationship between two nodes. Different shades are used in my analysis to differentiate between different nodes.

Dimensions of Equity

I screened all papers from the three above-noted journals for the past 4 years and selected those that explicitly used the term equity anywhere in the article as a desirable outcome in higher education policy and practice. I identified how the explicit, but more often implicit, use of the term equity by the author(s) fell within the four aforementioned dimensions. I then organized the documents using a binary coding system (1/0) for the presence/absence of each of the categories' elements.

I classified the articles using the following categories: equity type, equity mode, resource focus, type of capital, and population. For the first category (equity type), I ascertained whether the author(s) used the concepts of vertical or horizontal equity as strategies for equalization. For the second category (equity mode), I identified whether the authors were concerned with inputs, processes, and/or outputs as the points in time that mattered for equalization. For the third category (resource focus), I focused on whether the author(s) used resources as currencies of distribution. For the fourth category (type of capital), I identified whether "social/cultural capital" as currencies of distribution was present in the paper. By social or cultural capital in this category, I mean whether the authors mention if, when, or how individual or group networks (social), or whether environmental or cultural aspects (cultural), have an effect on students. For the fifth category

Table 12.1 Percentage of papers that use each concept by cluster

Concept	Cluster 1	Cluster 2	Percentage of papers that use each concept (%)
Vertical	0.72	1.00	76.47
Horizontal	0.28	0.00	23.53
Input	0.84	1.00	88.24
Process	0.32	0.50	38.24
Output	0.88	0.83	85.29
Resources	0.52	0.50	47.06
Social	0.52	0.50	52.94
Cultural	0.80	0.67	79.41
Students	0.72	1.00	79.41
Institutions	0.72	0.83	70.59
Taxpayers	0.04	0.00	2.94
Faculty	0.20	0.17	17.65

(beneficiaries), I focused on whether the author of the paper focused on particular groups in higher education that should benefit from equalization: students, institutions, taxpayers, and/or “other” (e.g., university faculty).

Methodology

Three primary tools were used in this analysis. First, I built a one-mode network that connected papers to papers via the number of equity categories/criteria that they had in common. Within this network, I used a hierarchical cluster analysis, which implies no overlap between clusters; each paper belongs to one and only one cluster. Hierarchical cluster analysis forces contrast by maximizing the dissimilarity of clusters. I then utilized two measures of cluster adequacy, Q-prime and E-I, to determine the optimal grouping solution.

Second, I produced a one-mode network graph that connected concepts of equity to each other via the number of papers that jointly employed them. Node sizes were determined by eigenvector centrality techniques, which resulted in node sizes proportional to the centrality of each concept in the network. Each node was also colored by category.

Finally, I utilized a two-mode correspondence analysis that scaled both papers and concepts in a multidimensional space as a means to generate a visual representation of how they relate to each other. Using a nonnegative n -by- m matrix, the algorithm performs a singular value decomposition that yields combined row and column scores to build a scatterplot.

Results

The distribution of the proportion of cases in each cluster by concept, along with the proportion of cases by concept for the entire sample, is displayed in Table 12.1. This solution had one dominant cluster that contained 73.5 % of cases, an alternative

cluster that contained 17.6 % of cases, and three clusters that each contained a single case. Because the three one-case clusters were deemed outliers, Table 12.1 displays only the two major clusters. The dominant cluster (Cluster 1) is distributed almost identically to the sample as a whole, and the smaller alternative cluster (Cluster 2) is highly correlated with the dominant cluster.

This lack of contrast in the emergent clusters means that, in general, scholars of articles in the sample define equity similarly. Scholars typically favor “vertical” equity as the desirable equalization strategy. They tend to emphasize equalization of “inputs” and “outputs,” but not “processes.” They favor “cultural capital” as an important element for desirable equalization over resources and focus on “students” and “institutions” as beneficiaries while ignoring “taxpayers” and “faculty.” Cluster 2 may be thought of as an ideal type for the treatment of equity as described above. Papers in this cluster treat equity as “vertical” and not “horizontal.” They contain a discussion of “input” and “students” while ignoring “taxpayers.” The remaining concepts are dealt with in accordance with the dominant approach to equity, but these are not necessary conditions for falling in Cluster 2.

In short, although there are few differences between Cluster 1 and Cluster 2, the main criteria for falling within Cluster 2 instead of Cluster 1 are the absence of horizontal equity as an equity type, the absence of taxpayers as a population, and a slightly greater emphasis on inputs and process as equity modes. As noted, hierarchical cluster analysis maximizes dissimilarities to form clusters; so the homogeneity of Cluster 1 and Cluster 2, as seen in Table 12.1, is surprising. Specifically, the homogeneity between Cluster 1 and Cluster 2 indicates a low amount of diversity on the topic of equity within recent scholarly literature.

The network graph that connects concepts of equity is shown in Fig. 12.1. Because node sizes represent a function of centrality, the sizes are very similar for all nodes except “taxpayers.” This diagram thus shows no central concepts that are core to the field and omnipresent. Tie thickness represents the strength of each tie and makes it clear that some concepts are more popular than others. For example, “vertical equity” is much more popular than is “horizontal equity.” Nonetheless, when present in a paper, neither concept is more likely to be connected to certain other specific concepts. If there were a core representation of equity that was usually present in papers, regardless of which other concepts also were present, there would be a large node in the center of the diagram. Instead, the figure shows equally distributed nodes of roughly equal size. The fact that “taxpayers” is on the periphery and tiny in comparison to all other concept nodes means that the term rarely appears. When “taxpayers” does appear, it only appears in conjunction with the concepts in the upper left corner of the Network Map in Fig. 12.1.

The two-mode correspondence analysis in Fig. 12.2 displays concepts in lighter shades and papers in darker shades. Commonly used concepts and papers that use them cluster around the origin of the graph at (0,0). The analyses show that three concepts are peripheral to the field: “faculty,” “taxpayer,” and “horizontal.” The figure also shows three outlier papers, each specifically labeled. Tandberg (2010) is the only paper to reference “taxpayers,” while Myers (2011) uses “faculty,” another underused concept within the sample analyzed. Mendoza et al. (2012) is the only

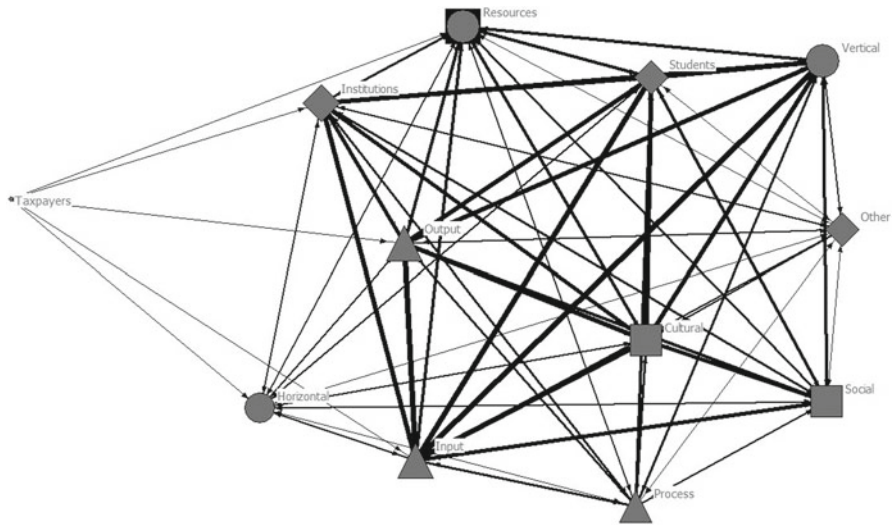


Fig. 12.1 Network map

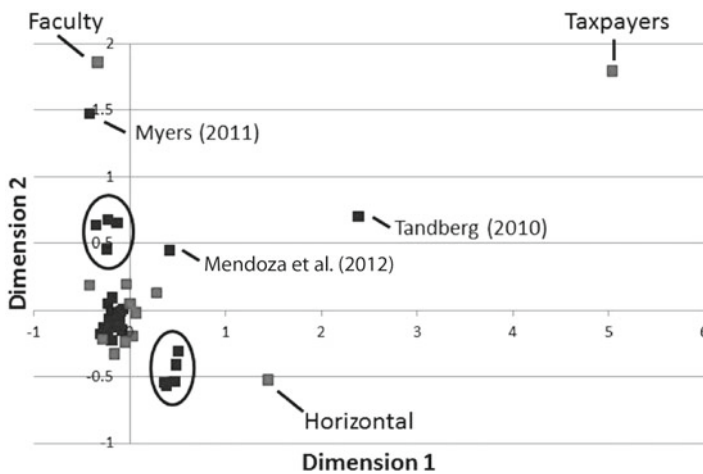


Fig. 12.2 Dimensionality literature map

paper in the sample to frame equity in terms of both “faculty” and “horizontal” concepts. There are also two small clusters of authors outside the main cluster that is found at the origin. These clusters treat equity as “horizontal” in the lower circled cluster and concern equity in terms of “faculty” in the higher circled cluster of the graph. Neither cluster fits within the commonly employed concepts in the origin cluster but are nonetheless close.

These results shed light on higher education scholars' shared understandings of distributive fairness. For example, the large imbalance on vertical equity as the main type discussed within the literature demonstrates these scholars' lack of focus on horizontal issues, i.e., issues that concern equal treatment among equals.

The findings also demonstrate contradictory uses of the concept of equity in the scholarship reviewed. For example, scholars often advocate the need for "equality of opportunity," a type of vertical, input equity. Yet, according to Table 12.1, there is a large focus on output equity in the papers reviewed for this analysis, but still none that focus on process, and only a few focus on horizontal equity. This pattern is apparent within the sample as a whole and both clusters. The findings demonstrate a dearth of focus in the recent literature on important higher education policy choice issues as well as on the desirability and distributional fairness of particular strategies that involve other types of equity beyond output equity as a goal.

Part II: Distributive Justice and Higher Education Finance

Debates over the allocation of public funds to higher education institutions offer a wealth of opportunities to explore the practical implications of the theoretical ideas explored in this chapter. Indeed, competing views over distributive justice in education, or what equity and justice require governments to provide through educational systems and the (re)distribution of resources, lead to very different higher education financing policy prescriptions (Alexander 1982). Moreover, a lack of clarity in the normative criteria for policy recommendations can lead to ineffective, undesirable, unequal, and/or unfair outcomes in other important dimensions of redistribution.

In the economics of higher education literature, the most common argument to advance distributive fairness maintains that governments should subsidize students who cannot afford to go to college (Baum 2010). Without such subsidization, low-income students' opportunities would be dependent on "unequally distributed parental income and wealth rather than on the ability to benefit from college. By setting an appropriate schedule of subsidies, the effects of differential economic well-being can be offset" (Hansen 1972, p. 261). Nevertheless, without defining specifically which individuals/groups of students should be subsidized or the type of subsidies and their value relative to what other students receive, overall educational attainment may increase, but inequalities of opportunities among different groups may persist (Bastedo and Jaquette 2011; Breen 2010).

As discussed in Part I, there are many competing proposals over the most appropriate/desirable currencies of distributive justice, with education as a fundamental component of almost all of them. Brighouse and Unterhalter's (2010) multidimensional model constitutes a promising conceptual framework to be further developed by higher education scholars and applied to the specific case of higher education finance. However, the multidimensionality of the goals or benefits of higher education and resulting complex measurement and application issues have created significant challenges for scholars who wish to advance an equity agenda. An emerging

consensus among scholars is that steps toward developing a systematic framework to define and evaluate equity and equity effects in higher education will depend on closer collaborations between political philosophers, social scientists, and higher education scholars (Baum and McPherson 2011; Hansen 1972; Hennessy et al. 2009). Efforts in this direction remain in their infancy, however, with some promising exceptions (e.g., Brighthouse 2010; St. John 2013).

In the higher education field, the most widely applied theory of distributive justice is Rawls' (1971, 2001). Instead of focusing on the elements that constitute primary social goods and Rawls' argument that justice is achieved by equalizing the distribution of primary goods across persons (Roemer 2009a), higher education scholars have narrowed their focus to the application of Rawls' defense of principles of basic liberties for all and the (re)distribution of resources or opportunities to maximize the absolute position of least advantaged (e.g., Brighthouse 2010; Levin 2007; St. John 2003).

St. John et al. (2013) articulate the challenges that face scholars who use Rawls' argument by which to analyze patterns of change in higher education, in general, and higher education finance policy, in particular. The authors show keen insight into the changing values that shape higher education policy today, e.g., focus on higher education as a private good, larger share of higher education costs transferred to students and their families, and the need for alternative approaches to inform the design and evaluation of policy prescriptions that advance principles of fairness (Hillman 2011). St. John et al. emphasize the potential of Sen's (2009) choice theory as an alternative approach to advance social justice goals through higher education while taking into consideration resource constraints, political-economic realities, and democratic processes.

In addition, as highlighted in Part I, higher education scholars and economists of higher education virtually always focus on the allocation of resources, income, or wealth through higher education subsidies as a means to achieve equity or address economic inequality (e.g., Carnoy 2011; Dowd and Grant 2006; Toutkoushian and Shafiq 2009). This focus is potentially a result of the operationalization challenges of alternative currencies of justice, such as capabilities or primary goods, but also due to the growing dominance of human capital theory in analyses of the benefits of education and, hence, an increasingly narrow focus on the instrumental individual and/or collective economic benefits of education that ignores important noneconomic benefits (Robeyns 2006b). In the next two sections, I adopt the currency of social justice to elaborate on the distributional effects of specific definitions of equity in higher education finance policy choices.

Equity in Higher Education Finance Policy

Any framework that seeks to define equity or fairness in higher education finance policy must address the four key questions presented earlier in the chapter: (a) who should be the beneficiaries of redistribution, or equity for whom, i.e., individual students, groups of students, institutions, or taxpayers? (b) which resources should

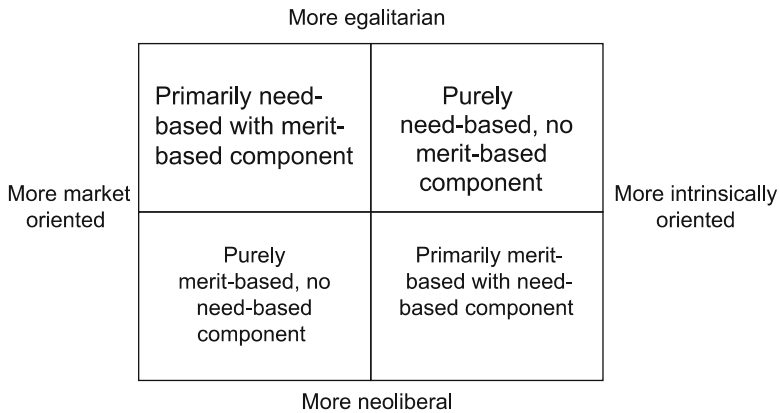


Fig. 12.3 Conceptual model for designing financial aid policy alternatives (Source: Hillman 2011)

be distributed and by which means, or equity of what, i.e., inputs, outputs, or processes? (c) how should redistribution take place, or which principles of justice should guide the redistribution, i.e., horizontal equity, vertical equity of equal opportunity? and (d) how much should be distributed (Berne and Stiefel 1984).

Writing over 40 years ago, Hansen (1972) emphasized the need for a precise definition of equity as a means to evaluate the consequences (intended and unintended) of pursuing equity-enhancing policies or strategies. Hansen noted that definitions of equity in higher education can be improved and made more clear by analyzing the extent to which competing proposals alter “the distribution of (1) student inputs to the educational system, (2) student outputs of the system, (3) subsidies among students, and (4) incomes” (p. 262).

Hansen’s (1972) first proposal for defining and achieving equity entails designing and implementing policies that redistribute student inputs into higher education systems. These policies are directly connected to admissions criteria and financial aid strategies (Baum 2010). The two main and overlapping normative questions to answer then are: what constitutes merit and what constitutes financial need in higher education? (Benabou 2000; Hillman 2011). Answers to these questions have changed significantly over time, as perceptions of the benefits of higher education have shifted from its being a public good to a private good (Zumeta et al. 2012). Moreover, there is great variance in the way that state governments and institutions reveal their preferences in regard to both issues through their financial aid strategies (needbased vs. meritbased), affirmative action policies, admissions criteria, and enrollment management choices (Cheslock and Hughes 2011; Stone 2001).

Hillman (2011) proposed a conceptual framework to analyze the competing priorities, (e.g., increase access and/or diversity, maximize prestige, increase graduation rates) that states and institutions face when deciding which students to admit and support through need- or merit-based financial aid strategies or a combination of the two (Fig. 12.3). Hillman highlights the ethical values (assumed to be driven

by egalitarian norms) and pragmatic incentives that drive decision-making. Each quadrant in the figure reveals “pure” or “combined” versions of financial aid policy alternatives that fall along a continuum between need-based and merit-based strategies. While Hillman’s conceptual model is useful to inform the design of admissions and financial aid policies given specific priorities, it remains for scholars and practitioners to determine what constitutes need and merit and which students or groups of students should be admitted, which has fundamental implications for equity and equality.

Hansen’s (1972) second proposal for defining and achieving equity entails the implementation of financing policies that shape the distribution of to-be-defined student outputs of higher education systems. These policies can be external to higher education institutions, that is, state governments’ choices over the absolute and relative amounts of institutional appropriations (e.g., per FTE, as a share of institutional costs), but also internal to institutions themselves (e.g., expenditures on student services geared toward disadvantaged students, proportions of full-time faculty). For example, Lowry (2001) shows that institutional spending on instruction, student services, academic support, and institutional functions depend on the level of autonomy that institutions receive from their respective states. While students’ likelihood of success after admission is highly correlated with previous preparation levels and background characteristics, states’ choices over how much or where to spend and institutions’ internal resource allocation strategies directly shape the role of higher education in determining (in) equality of outcomes, however defined (Benabou 2000; Bragg and Durham 2012). For example, tuition-discounting practices in public institutions have increased opportunities for low-income students but also tend to include higher discount rates and transfer of resources to middle- and upper-income students (Hillman 2010).

The third proposal for defining and achieving equity entails the unequal distribution of resources allocated to students depending on the type of institution attended and whether this funding considers students’ relative disadvantages and diverse educational needs (Hansen 1972; McMahon 1982). Two recent reports that examine higher education funding trends, class, and racial/ethnic stratification in the US higher education system and inequality of student outcomes show a great divide in resources spent per student between selective and open-access institutions at both two- and four-year schools (Carnevale and Strohl 2013), with community colleges at the greatest disadvantage, as they receive the lowest levels of funding per student, on average, while serving students with the greatest needs (Century Foundation 2013).

The economics of higher education literature focuses mainly on Hansen’s last objective. This objective involves the role of higher education institutions in providing skills and knowledge that maximize individuals’ abilities to generate income over their lifetimes and, by doing so, serving as a means to increase intergenerational social mobility, increase (in) equality, or maintain the status quo (Carnoy 2011; Hansen 1972; Robeyns 2006b). Scholars use human capital theory to inform their analyses, without much reference to the values dimension

embedded in particular expenditure choices, and limit their focus to the evaluation of competing policy strategies that maximize educational achievement and, hence, the overall stock of human capital (Carnoy 2009).

In sum, any policy proposal that promotes equity or fairness through higher education finance policy must be clear in its answers to the first four questions presented in the beginning of this section—who, what, how, and how much. Moreover, proposals must be clear about the means through which specific policy strategies (e.g., financing mechanisms) can be used to accomplish explicitly stated distributional goals and objectives of higher education.

Equity in Community College Funding

A central problem is that two-year colleges are asked to educate those students with the greatest needs, with the least funds, and in increasingly separate and unequal institutions. Our higher education system, like the larger society, is growing more and more unequal. (Century Foundation 2013, p. 12)

The above quote emphasizes the importance of increasing our understanding of which policies are more effective in counteracting the growing stratification and inequality in higher education. Using community colleges' funding strategies as an illustration, I conclude my discussion of equity in higher education finance policy through an applied exercise. I present hypothetical sets of distributional criteria and identify alternative state-funding policies that are consistent with previously determined equity goals. The reasons for my focus on community colleges are twofold. The first reason is the importance of community colleges in the current economic environment. Community colleges act as a means to promote access to higher education for low-income minority students and promote workforce development (Dowd 2003). They also play a role in the growing stratification of higher education by racial and socioeconomic status, with the most disadvantaged students disproportionately attending these under-resourced and low-completion-rates institutions (Carnevale and Strohl 2013; Century Foundation 2013).

The second reason is pragmatic and has two main elements. First, while the mission and priorities of community colleges are diverse and not often agreed upon (Breneman and Nelson 1981), scholars and policymakers have increasingly focused on community colleges' aforementioned workforce preparation and economic development functions. That is, there is an increasing focus on the social efficiency and social mobility functions of a community college education (Dowd 2003; Labaree 1997). As a result, the multidimensionality of the roles or benefits of a college education, as discussed in Part I, is often minimized and limited to two dimensions. One dimension encompasses the collective economic benefits of higher education, e.g., social efficiency, collective goods, and the other concerns the individual economic benefits of education, e.g., social mobility, redistribution (Dar 2012a). Finally, a sizable share of the American states collect the majority of revenue streams available to community colleges and redistribute them based on

enrollment per capita levels following a variety of formulas (Dowd and Shieh 2013). Focusing on states that share this particular characteristic of community college funding limits the complexity of any equity analysis by producing one main decision-maker, the state, and one amount of resources to be distributed across institutions and students by a variety of means.

One more recent proposal in regard to equity through community college funding comes from Dowd (2003). She argues that funding for community colleges should promote outcome equity across different socioeconomic and racial groups by focusing on equalizing patterns of “student enrollment, graduation rates, and participation in programs leading to high wage employment” (Harbour and Jaquette 2007, p. 197). Community colleges can do so by maintaining open-access and compensatory funding policies toward students with greatest needs (Dowd and Shieh 2013).

Harbour and Jaquette (2007) also argue for equity of outcomes as the most desirable goal but add that any “equity agenda” for community colleges would demand a more comprehensive approach as compared to Dowd’s. According to the authors, funding strategies also must take into consideration specific state and local contexts, both internal and external to community colleges. Specifically, Harbour and Jaquette advocate for “a state funding framework that (a) grants institutions greater autonomy and budget stability while also (b) targeting equity outcomes with financial incentives” (p. 203). Their framework entails a per-student funding formula that incorporates basic enrollment funding (base funding based on FTE enrollment), equity funding (additional funds provided to colleges that enroll more disadvantaged students), program funding (additional funds for colleges that offer high-cost programs that are of interest of the states), and performance funding (final piece in response to accountability pressures emanating from legislatures and constituents).

Both proposals advance pertinent goals for state community college funding strategies. They appropriately respond to the growing disparities in educational achievement across socioeconomic and racial groups and the decrease in the availability of public resources for higher education and community colleges, in particular (Century Foundation 2013). However, which specific groups should be beneficiaries of compensatory policies or what constitutes different educational “needs,” among others, remains undefined in these proposals.

Any potential alternative proposals also will have to cope with the index problem (or how to combine different funding strategies and means to reach particular equity goals) and the lack of precision in addressing at least one or more of the aforementioned dimensions as a means to define equity. Indeed, Dowd and Shieh (2013) recognize that the multidimensional nature of community college finance makes it difficult to determine how effectively the particular distribution of resources reaches competing equity and efficiency goals.

As an illustration, I discuss below two hypothetical sets of distributional criteria and identify alternative state-funding policies that may be consistent with specific equity goals in community college funding. I propose a hypothetical state that collects all community colleges’ revenue streams and then redistributes them according to predetermined criteria based on their spending priorities revealed through their funding formulas (Mullin and Honeyman 2007).

Fig. 12.4 State economic development

	Horizontal Equity	Vertical Equity
Input Equity	(a)	(c)
Output Equity	(b)	(d)

Fig. 12.5 Individual social mobility

	Horizontal Equity	Vertical Equity
Input Equity	(e)	(g)
Output Equity	(f)	(h)

First, I assume that the hypothetical state funding for community colleges can have two different, sometimes concurrent, goals: economic development through workforce development, i.e., the collective instrumental economic role of education, and social mobility, i.e., the distributive role of higher education subsidies toward individuals or groups through differentiated opportunities to acquire skills and, hence, maximize lifetime earnings and, potentially, increase their chances of upward socioeconomic mobility. The first goal entails absolute levels of educational achievement, while the second concerns relative levels across individuals from different socioeconomic background and preparation levels.

Second, I assume that individual students are the target beneficiaries of state funding of community colleges and the focus of any equity-enhancing financing policy strategy. While inequalities across groups have been the most common focus of analyses in the community college finance literature, I follow the economics of higher education and political philosophy literatures, which center on individuals as the main recipients of benefits, in this case, resources through redistribution.

Third, I consider two dimensions of the question “equity of what?”: equity of inputs and equity of outputs. My approach stems from these two forms of equity as the main foci in the higher education scholarly literature, as evidenced by the findings in this chapter’s social network analysis, whereby equity of processes is a much less common area of interest in the field.

Fourth, I use two principles of justice that guide distributive choices: horizontal equity, or the equal treatment of equals, and vertical equity, or unequal treatment of unequals. Finally, I assume that resources are scarce and that colleges must factor in the trade-offs involved in making financing choices, given their equity goals. Figures 12.4 and 12.5 present the potential combinations that emerge from the above assumptions.

In Fig. 12.4, the main hypothetical state goal is economic growth through investment in workforce development. In this scenario, a hypothetical state is more likely to consider economic efficiency in its funding choices by favoring investments in students who are more likely to succeed, based on academic merit and previous preparation. Horizontal equity is the most likely principle of distributive justice adopted in this case. When the focus is on input equity through the application of horizontal equity principles (a), distributive fairness is achieved when equals are treated equally or when foundational funds are distributed equally across all students enrolled. In this case, all students have equal educational opportunities by colleges that focus on covering costs by student equally.

Assuming fairness is achieved when students' outputs are equal through the application of horizontal equity principles, base funding can be coupled with the equal distribution of additional funds focused on incentivizing students to complete a degree or certificate (b). Given the main stated goal in this example is economic development, the focus on outcome equity would maximize overall graduation rates, without much concern for the differences between graduates and nongraduates.

There also is a possibility that, by adopting vertical equity principles in the allocation of resources per student, states also may maximize their community colleges' productive efficiency (Dowd and Shieh 2013). In the case of input equity as a goal, foundational equal funding per student would be coupled with resources for students with different educational needs based on their likelihood of success (c). Conversely, achieving output equity also would involve funding additional programs for students with greater needs, but such a strategy would have to take into consideration, and fund accordingly, the differences in likelihood of success of each student funded (d).

As seen in Fig. 12.5, the main hypothetical stated goal is promoting individuals' social mobility, also through investments in workforce development, but, in this case, with a much stronger focus on minimizing social inequalities across individuals instead of maximizing educational achievement only. The latter is certainly important, but the assumption here is that students who are well prepared and economically advantaged are more likely to attend and to succeed in college, anyway, making them a less deserving group of public higher education subsidies.

In this scenario, a hypothetical state is more likely to consider distributional fairness as a main goal, with its funding choices favoring students with greater needs. Vertical equity is the most likely principle of distributive justice adopted in this case. In any case, there are rationales to justify the use of horizontal equity principles as well. When the focus of funding is on input equity through the application of horizontal equity principles (e), distributive fairness is also achieved when equals are treated equally or when foundational funds are distributed equally across all students enrolled. In comparison, assuming that the state's goal is to increase individual social mobility, outcome equity would be achieved by the addition of compensatory funding streams beyond foundational funding to maximize the likelihood of individuals with different needs succeeding and to make their chances of success equal to those of their better-prepared peers (f).

The application of vertical equity principles as a way to secure input equity also would entail the combination of foundational funding plus additional resources to

compensate for students' different educational needs (g). However, when the focus shifts to outcome equity, funding strategies and mechanisms must be refined, based on the nature of students' differences in educational needs and life circumstances and on who is more "deserving" of additional funding, given their socioeconomic status (h).

The two proposed hypothetical models and their components are admittedly simplistic. Nevertheless, they offer an example of the first steps that higher education scholars must take in their work when defining, measuring, analyzing, and comparing higher education financing strategies from the perspective of their ability to promote distributive fairness, economic well-being, and less socioeconomic inequality and, hence, minimizing socioeconomic inequalities' negative consequences for societies (Stiglitz 2013).

Part III: Conclusion

What kind of college education and how much in subsidies should people deserve and/or receive, given their disadvantage? What is higher education for, and what are the benefits/goals of redistribution through higher education subsidies and/or opportunities? These are among the many questions that must be answered if higher education scholars are to design, implement, and evaluate policies that promote equity or fairness. As the discussion presented in this chapter made clear, determining what constitutes equity in the case of higher education demands a comprehensive analytical framework, one that still needs to be developed. Such a framework must incorporate the various dimensions of equity and the philosophical foundations of the questions: Equity of what and for whom, which mechanisms of distribution should be adopted, and how much should be distributed?

Moreover, scholars not only must provide detailed conceptual/theoretical foundations for their chosen definition(s) of equity but also couple that with practical applications and evaluations that may inform the feasibility and effectiveness of particular equity-enhancing policy strategies (Alexander 1982; Baum 2010). Further, even when a "just" distribution of resources/income/wealth, or primary goods, capabilities, and opportunities, is theoretically well defined, application and implementation challenges remain (Breneman and Nelson 1981). In the case of American higher education, not only do states' political-economic contexts matter but also governance structures and the independent role of different types of higher education institutions in redistributing resources, opportunities, and educational quality (Bragg and Durham 2012; Century Foundation 2013; Dar 2012b; Tandberg 2013).

Scholars in the higher education field have a clear advantage, as compared to social scientists working on education issues, in uncovering the mechanisms that link higher education policy decisions and specific distributive and performance outcomes at the institutional, group, and individual levels. Our ability to uncover these mechanisms, however, depends on (a) achieving more clarity and consistency

in conceptualization and measurement (Perna and Thomas 2008), (b) actively taking advantage of theoretical and methodological insights from various disciplines (Cheslock and Rios-Aguilar 2011), and (c) being honest about the strengths and weaknesses of research design choices (Gerring 2010).

As demonstrated in this chapter, when social justice issues and, hence, moral and political values are the focus, achieving clarity and consistency in conceptualization and measurement is a formidable challenge. Debates among political philosophers in regard to definitions of equality and its relationship to equity/justice are ongoing and often contentious (Gosepath 2011). Measurement challenges pervade the theories that advance competing principles of distributive justice (Lamont and Favor 2013). In regard to these challenges, some progress is being made through scholars applying Sen's capability approach to address social justice issues in education (Robeyns 2006a; Walker and Unterhalter 2007), but a unified theoretical framework remains elusive. Nevertheless, I hope that the information provided in this chapter will offer higher education scholars a foundation and preliminary tools to improve the precision and usefulness of their work and their successful application to policy and practice.

Indeed, higher education scholars often fail to make full use of the theoretical and methodological insights of other disciplines also concerned with social justice issues. Further, social scientists often ignore insights provided by political and economic philosophers (Hennessy et al. 2009). Further collaboration across disciplines and fields is needed for an understanding of how higher education policy may be used as tool to promote more egalitarian social outcomes.

Finally, higher education scholars will benefit greatly by expanding their knowledge of theory and methodology of political philosophy and other social science disciplines, either on their own or through collaboration with other scholars. As a result, they will be better able to select robust research designs, in light of the many trade-offs involved, and to present their rationale for doing so (Gerring 2010).

Acknowledgments The author wishes to thank Laura Perna and Michael Paulsen for their support and insights throughout the writing of this chapter. The author also thanks Lewis Luartz, Jacob Apkarian, and Sarah Yoshikawa for their outstanding research assistance.

References

- Alexander, K. (1982). Concepts of equity. In W. W. McMahon & T. G. Geske (Eds.), *Financing education: Overcoming inefficiency and inequity* (pp. 193–214). Urbana: University of Illinois Press.
- Arneson, R. J. (2008, Fall). Equality of opportunity. In E. N. Zalta (Ed.), *The Stanford encyclopedia of philosophy*. Retrieved from <http://plato.stanford.edu/archives/fall2008/entries/equal-opportunity>
- Arneson, R. J. (2013, Summer). Egalitarianism. In E. N. Zalta (Ed.), *The Stanford encyclopedia of philosophy*. Retrieved from <http://plato.stanford.edu/archives/sum2013/entries/egalitarianism/>
- Arrow, K. J. (1993). Excellence and equity in higher education. *Education Economics*, 1(1), 5–8.

- Baker, B., & Green, P. C., III. (2009). Conceptions, measurement, and application of educational adequacy and equal educational opportunity. In G. Sykes, B. Schneider, & D. N. Plank (Eds.), *Handbook of education policy research* (pp. 438–452). New York: Routledge.
- Bastedo, M. N., & Jaquette, O. (2011). Running in place: Low-income students and the dynamics of higher education stratification. *Educational Evaluation and Policy Analysis*, 33(3), 318–339.
- Baum, S. (2010). Taking fairness seriously in college admissions and financial aid. In Forum for the Future of Higher Education (Ed.), *Forum futures 2010* (pp. 46–50). Cambridge, MA: EDUCAUSE.
- Baum, S., & McPherson, M. (2011, October 11). *How can philosophers help in improving education?* Retrieved from <http://chronicle.com/blogs/innovations/how-can-philosophers-help-in-improving-education/30590>
- Benabou, R. (2000). Meritocracy, redistribution and the size of the pie. In K. J. Arrow, S. Bowles, & S. Durlauf (Eds.), *Meritocracy and economic inequality* (pp. 317–339). Princeton: Princeton University Press.
- Berne, R., & Stiefel, L. (1984). *The measurement of equity in school finance: Conceptual, methodological and empirical dimensions*. Baltimore: The Johns Hopkins University Press.
- Board of Governors, California Community Colleges. (2005). *A new approach to community college finance: System office recommendations based on report of work group on community college finance*. Sacramento: California Community Colleges.
- Bragg, D. D., & Durham, B. (2012). Perspectives on access and equity in the era of (community) college completion. *Community College Review*, 40(2), 106–125.
- Breen, R. (2010). Social mobility and equality of opportunity (Geary Lecture, Spring 2010). *The Economic and Social Review*, 41(4), 413–428.
- Breneman, D. W., & Nelson, S. C. (1981). *Financing community colleges: An economic perspective*. Washington, DC: Brookings Institution.
- Brennan, G. (2012). Economics. In R. E. Goodin, P. Pettit, & T. Pogge (Eds.), *A companion to contemporary political philosophy* (2nd ed., pp. 118–152). West Sussex: Wiley-Blackwell.
- Brighouse, H. (2010). Ethical leadership in hard times: The moral demands on universities. In Forum for the Future of Higher Education (Ed.), *Forum futures 2010* (pp. 51–56). Cambridge, MA: EDUCAUSE.
- Brighouse, H., & Robeyns, I. (2010). *Measuring justice: Primary goods and capabilities*. Cambridge: Cambridge University Press.
- Brighouse, H., & Unterhalter, E. (2010). Education for primary goods or for capabilities? In H. Brighouse & I. Robeyns (Eds.), *Measuring justice: Primary goods and capabilities* (pp. 193–214). Cambridge: Cambridge University Press.
- Brint, S. (2011, November). The educational lottery. *Los Angeles Review of Books*. Retrieved from <http://lareviewofbooks.org/essay/the-educational-lottery>
- Carnevale, A. P., & Strohl, J. (2013). *Separate & unequal: How higher education reinforces the intergenerational reproduction of white racial privilege*. Washington, DC: Georgetown University, Center on Education and the Workforce.
- Carnoy, M. (2009). Policy research in education: The economic view. In G. Sykes, B. Schneider, & D. N. Plank (Eds.), *Handbook of education policy research* (pp. 27–38). New York: Routledge.
- Carnoy, M. (2011). As higher education expands, is it contributing to greater inequality? *National Institute Economic Review*, 215, R34–R47.
- Century Foundation. (2013). *Bridging the higher education divide: Strengthening community colleges and restoring the American dream*. New York: Author.
- Cheslock, J. J., & Hughes, R. (2011). Differences across states in higher education finance policy. *Journal of Education Finance*, 36(4), 369–393.
- Cheslock, J. J., & Rios-Aguilar, C. (2011). Multilevel analysis in higher education research: A multidisciplinary approach. In J. Smart (Ed.), *Higher education: Handbook of theory and research* (Vol. 26, pp. 85–123). New York: Agathon Press.
- Dar, L. (2012a). The political dynamics of higher education policy. *Journal of Higher Education*, 83(6), 769–794.

- Dar, L. (2012b, November). *Higher education institutions matter: Federalism, representation and redistribution*. Paper presented at the Annual Meeting of the Association for the Study of Higher Education. Las Vegas, NV.
- DesJardins, S. L. (2003). Understanding and using efficiency and equity criteria in the study of higher education policy. In J. C. Smart & W. G. Tierney (Eds.), *Higher education: Handbook of theory and research* (Vol. XVII, pp. 173–220). Norwell: Kluwer.
- Dowd, A. C. (2003, March). From access to outcome equity: Revitalizing the democratic mission of the community college. *The Annals of the American Academy of Political and Social Science*, 586, 92–194.
- Dowd, A. C., & Grant, J. L. (2006). Equity and efficiency of community college appropriations: The role of local financing. *Review of Higher Education*, 29(2), 167–194.
- Dowd, A. C., & Shieh, L. T. (2013). Community college financing: Equity, efficiency and accountability. *The NEA Almanac of Higher Education*, 37–65.
- Doyle, W. R. (2007). The political economy of redistribution through higher education subsidies. In J. C. Smart (Ed.), *Higher education: Handbook of theory and research* (Vol. VII, pp. 335–409). New York: Springer.
- Duncan, G. J., & Murnane, R. J. (2011). Introduction: The American dream, then and now. In G. J. Duncan & R. J. Murnane (Eds.), *Whither opportunity? Rising inequality, schools and children's life chances* (pp. 3–23). New York: Russell Sage Foundation/Spencer Foundation.
- Dworkin, R. (1981a). What is equality? Part 1: Equality of welfare. *Philosophy & Public Affairs*, 10(3), 185–246.
- Dworkin, R. (1981b). What is equality? Part 2: Equality of resources. *Philosophy & Public Affairs*, 10(4), 283–345.
- Elkin, S. (2006). Political theory and political economy. In J. S. Dryzek, B. Honig, & A. Phillips (Eds.), *The Oxford handbook of political theory* (pp. 792–809). New York: Oxford University Press.
- Garms, W. I. (1981). On measuring equity of community college finance. *Educational Administration Quarterly*, 17(1), 1–20.
- Gerring, J. (2010). How good is good enough? A multidimensional, best-possible standard for research design. *Political Research Quarterly*, 64(3), 625–636.
- Gerring, J. (2012). *Social science methodology: A unified framework*. Cambridge, MA: Cambridge University Press.
- Gosepath, S. (2011, Spring). Equality. In E. N. Zalta (Ed.), *The Stanford encyclopedia of philosophy*. Retrieved from <http://plato.stanford.edu/archives/spr2011/entries/equality/>
- Gruski, D. B., Western, B., & Wimer, C. (2011). The consequences of the great recession. In D. B. Gruski, B. Western, & C. Wimer (Eds.), *The great recession* (pp. 3–20). New York: The Russell Sage Foundation.
- Gutmann, A. (1980). Children, paternalism, and education: A liberal argument. *Philosophy & Public Affairs*, 9(4), 338–358.
- Hacker, J. S., Mettler, S., & Soss, J. (2007). The new politics of inequality. In J. Soss, J. S. Hacker, & S. Mettler (Eds.), *Remaking America: Democracy and public policy in an age of inequality*. New York: Russell Sage Foundation.
- Hanneman, R. A., & Riddle, M. (2005). *Introduction to social network methods*. Riverside: University of California. Retrieved from: <http://faculty.ucr.edu/~hanneman/>
- Hansen, W. L. (1972). Equity and the finance of higher education. In T. W. Schultz (Ed.), *Investment in education: The equity-efficiency quandary* (pp. 260–273). Chicago: The University of Chicago Press.
- Harbour, C. P., & Jaquette, O. (2007). Advancing an equity agenda at the community college in an age of privatization, performance accountability, and marketization. *Equity & Excellence in Education*, 40(3), 197–207.
- Hausman, D. M., & McPherson, M. S. (2006). *Economic analysis and moral philosophy* (2nd ed.). Cambridge, MA: Cambridge University Press.
- Hennessy, J., McPherson, M., & Callan, E. (Speakers). (2009, June 29). *Ethical issues in higher education* [Audio podcast]. Stanford: McCoy Family Center for Ethics in Society,

- Stanford University. Retrieved from <http://itunes.apple.com/WebObjects/MZStore.woa/wa/viewPodcast?id=385630287>
- Hillman, N. (2010). Who benefits from tuition discounts at public universities? *Journal of Student Financial Aid*, 40(1), 17–30.
- Hillman, N. (2011). The ethical dimensions of awarding financial aid. *Tertiary Education and Management*, 17(1), 1–16.
- Institute of Higher Education Policy. (1998). *Reaping the benefits: Defining the public and private value of going to college*. Washington, DC: Author.
- Jacobs, L. A. (2004). *Pursuing equal opportunities: The theory and practice of egalitarian justice*. Cambridge: Cambridge University Press.
- Labaree, D. F. (1997). Public goods, private goods: The American struggle over educational goals. *American Educational Research Journal*, 34(1), 39–81.
- Lamont, J., & Favor, C. (2013, Spring). Distributive justice. In E. N. Zalta (Ed.), *The Stanford encyclopedia of philosophy*. Retrieved from <http://plato.stanford.edu/archives/spr2013/entries/justice-distributive/>
- Le Grand, J. (1990). Equity versus efficiency: The elusive trade-off. *Ethics*, 100(3), 554–568.
- Levin, J. (2007). *Nontraditional students and the community colleges: The conflict of justice and neoliberalism*. New York: Palgrave Macmillan.
- Lowry, R. C. (2001). Governmental structure, trustee selection, and public university prices and spending: Multiple means to similar ends. *American Journal of Political Science*, 45(4), 845–861.
- Macleod, C. M. (2010). Primary goods, capabilities and children. In H. Brighouse & I. Robeyns (Eds.), *Measuring justice: Primary goods and capabilities* (pp. 174–192). Cambridge: Cambridge University Press.
- McMahon, W. W. (1982). Efficiency and equity criteria for educational budgeting and finance. In W. W. McMahon & T. G. Geske (Eds.), *Financing education: Overcoming inefficiency and inequity*. Urbana: University of Illinois Press.
- McPherson, M., & Schapiro, M. O. (2010). Moral reasoning and higher education policy. In Forum for the Future of Higher Education (Ed.), *Forum futures 2010* (pp. 39–45). Cambridge, MA: EDUCAUSE.
- Mullin, C. M., & Honeyman, D. S. (2007). The funding of community colleges: A typology of state funding formulas. *Community College Review*, 35(2), 113–127.
- Nozick, R. (1974). *Anarchy, state and utopia*. New York: Basic Books.
- Perna, L., & Thomas, S. (2008). Theoretical perspectives on student success: Understanding contributions from the disciplines. *ASHE Higher Education Report*, 34(1), 1–87.
- Rawls, J. (1971). *A theory of justice*. Cambridge, MA: Harvard University Press.
- Rawls, J. (1982). Social unity and primary goods. In A. Sen & B. Williams (Eds.), *Utilitarianism and beyond*. Cambridge, MA: Cambridge University Press.
- Rawls, J. (2001). *Justice as fairness: A restatement*. Cambridge, MA: Harvard University Press.
- Robeyns, I. (2005). The capability approach: A theoretical survey. *Journal of Human Development*, 6(1), 93–117.
- Robeyns, I. (2006a). The capability approach in practice. *The Journal of Political Philosophy*, 14(3), 351–376.
- Robeyns, I. (2006b). Three models of education: Rights, capabilities and human capital. *Theory and Research in Education*, 4(1), 69–84.
- Robeyns, I., & Brighouse, H. (2010). Introduction: Social primary goods and capabilities as metrics of justice. In H. Brighouse & I. Robeyns (Eds.), *Measuring justice: Primary goods and capabilities* (pp. 1–13). Cambridge: Cambridge University Press.
- Roemer, J. E. (1998a). *Equality of opportunity*. Cambridge, MA: Harvard University Press.
- Roemer, J. E. (1998b). *Theories of distributive justice*. Cambridge, MA: Harvard University Press.
- Roemer, J. (2000). Equality of opportunity. In K. J. Arrow, S. Bowles, & S. Durlauf (Eds.), *Meritocracy and economic inequality* (pp. 17–32). Princeton: Princeton University Press.
- Roemer, J. E. (2006). *Democracy, education and equality*. Cambridge, MA: Cambridge University Press.

- Roemer, J. E. (2009a). Equality: Its justification, nature, and domain. In W. Salverda, B. Nolan, & T. M. Smeeding (Eds.), *The Oxford handbook of economic inequality* (pp. 24–37). New York: Oxford University Press.
- Roemer, J. (2009b). Prospects for achieving equality in market economies. In W. Salverda, B. Nolan, & T. M. Smeeding (Eds.), *The Oxford handbook of economic inequality* (pp. 693–708). New York: Oxford University Press.
- Saito, M. (2003). Amartya Sen's capability approach to education: A critical exploration. *Journal of Philosophy of Education*, 37(1), 17–33.
- Salverda, W., Nolan, B., & Smeeding, T. M. (2009). Introduction. In W. Salverda, B. Nolan, & T. M. Smeeding (Eds.), *Oxford handbook of economic inequality* (pp. 3–22). New York: Oxford University Press.
- Seligo, J. (2013, January 24). Higher ed's biggest problem: What's it for? *The Chronicle of Higher Education*. Retrieved from http://chronicle.com/blogs/next/2013/01/24/higher-eds-biggest-problem-whats-it-for?cid=pm&utm_source=pm&utm_medium=en
- Sen, A. (1980). Equality of what? In S. McMurrin (Ed.), *The Tanner lectures on human values* (pp. 196–200). Salt Lake City: University of Utah Press.
- Sen, A. (1992). *Inequality re-examined*. New York: The Russell Sage Foundation.
- Sen, A. (1999). *Development as freedom*. New York: Anchor Books.
- Sen, A. (2009). *The idea of justice*. Cambridge, MA: The Belknap Press of Harvard University Press.
- St. John, E. P. (2003). *Refinancing the college dream: Access, equal opportunity, and justice for taxpayers*. Baltimore: Johns Hopkins University Press.
- St. John, E. P. (2013). *Research, actionable knowledge, and social change*. Sterling: Stylus.
- St. John, E. P., Daun-Barnett, N., & Moronski-Chapman, K. M. (Eds.). (2013). *Public policy and higher education: Reframing strategies for preparation, access and college success*. New York: Routledge/Taylor & Francis.
- Stiglitz, J. (2013). *The price of inequality: How today's divided society endangers our future*. New York: W. W. Norton & Company.
- Stone, D. (2001). *Policy paradox: The art of political decision-making* (3rd ed.). New York: W. W. Norton & Company.
- Tandberg, D. (2013). The conditioning role of state higher education governance structures. *Journal of Higher Education*, 84(4), 506–543.
- Toutkoushian, R. K., & Shafiq, M. N. (2009). A conceptual analysis of state support for higher education: Appropriations versus need-based financial aid. *Research in Higher Education*, 51(1), 40–64.
- Walker, M., & Unterhalter, E. (Eds.). (2007). *Amartya Sen's capability approach and social justice in education*. New York: Palgrave MacMillan.
- Zumeta, W., Breneman, D. W., Callan, P. M., & Finney, J. E. (2012). *Financing American higher education in the era of globalization*. Cambridge, MA: Harvard University Press.

Appendix: Network Analysis References

- Bahr, P. R. (2010a). Preparing the underprepared: An analysis of racial disparities in postsecondary mathematics remediation. *Journal of Higher Education*, 81(2), 209–327.
- Bahr, P. R. (2010b). The bird's eye view of community colleges: A behavioral typology of first-time students based on cluster analytic classification. *Research in Higher Education*, 51(8), 724–749.
- Bowman, N. A. (2012). Promoting sustained engagement with diversity: The reciprocal relationships between information and formal college diversity experiences. *The Review of Higher Education*, 36(1), 1–24.
- Bowman, N. A., & Denson, N. (2012). What's past is prologue: How precollege exposure to racial diversity shapes the impact of college interracial interactions. *Research in Higher Education*, 53(4), 406–425.

- Cabrera, N. L. (2012). Working through whiteness: White, male college students challenging racism. *The Review of Higher Education*, 35(3), 375–401.
- Chen, R., & DesJardins, S. L. (2010). Investigating the impact of financial aid on student dropout risks: Racial and ethnic differences. *Journal of Higher Education*, 81(2), 179–208.
- Cole, W. M. (2011). Minority politics and group-differentiated curricula at minority-serving colleges. *The Review of Higher Education*, 34(3), 381–422.
- Cox, R. D. (2009). “I would have rather paid for a class I wanted to take”: Utilitarian approaches at a community college. *The Review of Higher Education*, 32(3), 353–382.
- Dowd, A. C., Sawatzky, M., & Korn, R. (2011). Theoretical foundations and a research agenda to validate measures of intercultural effort. *The Review of Higher Education*, 35(1), 17–44.
- Espino, M. M. (2012). Seeking the “truth” in the stories we tell: The role of critical race epistemology in higher education research. *The Review of Higher Education*, 36(1), 31–67.
- Gildersleeve, R. E., Kuntz, A. M., Pasque, P. A., & Carducci, R. (2010). The role of critical inquiry in (re)constructing the public agenda for higher education: Confronting the conservative modernization of the academy. *The Review of Higher Education*, 34(1), 85–121.
- Goode, J. (2010). Mind the gap: The digital dimension of college access. *Journal of Higher Education*, 81(5), 583–618.
- Griffin, K. A., Muñoz, M. M., & Espinosa, L. (2012). The influence of campus racial climate on diversity in graduate education. *The Review of Higher Education*, 35(4), 535–566.
- Harper, S. R., Patton, L. D., & Wooden, O. S. (2009). Access and equity for African American students in higher education: A critical race historical analysis for policy efforts. *Journal of Higher Education*, 80(4), 389–414.
- Hutcheson, P., Gasman, M., & Sanders-McMurtry, K. (2011). Race and equality in the academy: Rethinking higher education actors and the struggle for equality in the post-World War II period. *Journal of Higher Education*, 82(2), 121–153.
- Iverson, S. V. (2012). Constructing outsiders: The discursive framing of access in university diversity policies. *The Review of Higher Education*, 35(20), 149–177.
- Johnson-Bailey, J., Valentine, T., Cervero, R. M., & Bowles, T. A. (2009). Rooted in the soil: The social experiences of black graduate students at a southern research university. *Journal of Higher Education*, 80(2), 178–203.
- Jones, M. T., Barlow, A. E. L., & Villarejo, M. (2010). Importance of undergraduate research for minority persistence and achievement in biology. *Journal of Higher Education*, 81(1), 82–115.
- Klugman, J. (2012). How resource inequalities among high schools reproduce class advantages in college destinations [Advance copy]. *Research in Higher Education*. doi:10.1007/s11162-01209261.
- Kugelmass, H., & Ready, D. D. (2011). Racial/ethnic disparities in collegiate cognitive gains: A multilevel analysis of institutional influences on learning and its equitable distribution. *Research in Higher Education*, 52(4), 323–348.
- Mendoza, P., Kuntz, A. M., & Berger, J. B. (2012). Bourdieu and academic capitalism: Faculty “habitus” in materials science and engineering. *Journal of Higher Education*, 83(4), 558–581.
- Morrison, E., Rudd, E., & Nerad, M. (2011). Onto, up, off the academic faculty ladder: The gendered effects of family on career transitions for a cohort of social science Ph.D.s. *The Review of Higher Education*, 34(4), 525–553.
- Myers, C. B. (2011). Union status and faculty job satisfaction: Contemporary evidence from the 2004 National Study of Postsecondary Faculty. *The Review of Higher Education*, 34(4), 657–684.
- Niu, S. X., & Tienda, M. (2013). High school economic composition and college persistence. *Research in Higher Education*, 54(1), 30–62.
- O’Connor, N. (2009). Hispanic origin, socio-economic status, and community college enrollment. *Journal of Higher Education*, 80(2), 121–145.
- O’Connor, N., Hammack, F. M., & Scott, M. A. (2010). Social capital, financial knowledge, and Hispanic student college choices. *Research in Higher Education*, 51(3), 195–219.
- Ostrove, J. M., Stewart, A. J., & Curtin, N. L. (2011). Social class and belonging: Implications for graduate students’ career aspirations. *Journal of Higher Education*, 82(6), 748–774.

- Owen, D. S. (2009). Privileged social identities and diversity leadership in higher education. *The Review of Higher Education, 32*(2), 185–207.
- Peterson, R. D., & Hamrick, F. A. (2009). White, male, and “minority”: Racial consciousness among white male undergraduates attending a historically black university. *Journal of Higher Education, 80*(1), 34–58.
- Salisbury, M. H., Umbach, P. D., Paulsen, M. B., & Pascarella, E. T. (2009). Going global: Understanding the choice process of the intent to study abroad. *Research in Higher Education, 50*(2), 119–143.
- Szelényi, K., & Inkelas, K. K. (2011). The role of living-learning programs in women’s plans to attend graduate school in STEM fields. *Research in Higher Education, 52*(4), 349–369.
- Tandberg, D. A. (2010). Politics, interest groups and state funding of public higher education. *Research in Higher Education, 51*(5), 416–450.
- White, J. W., & Lowenthal, P. R. (2011). Minority college students and tacit “codes of power”: Developing academic discourses and identities. *The Review of Higher Education, 34*(2), 283–318.
- Yakoboski, T. (2011). “Quietly stripping the pastels”: The undergraduate gender gap. *The Review of Higher Education, 34*(4), 555–580.

Name Index

A

- Abes, E.S., 41, 42, 45, 50, 57, 76
Abraham, A., 209
Abrami, P.C., 280, 281, 289, 294, 300, 302,
303, 309–311
Abrego, L., 55, 72
Ackerman, R., 114, 116, 118, 120, 127,
128, 131
Acker, S., 427
Acuña, R., 71
Adams, M.J., 312
Adams, N., 427
Addison, W.E., 310
Adelman, C., 370, 425, 434, 435
Adler, P.S., 157, 243
Agamben, G., 67
Ainsworth-Darnell, J.W., 160, 169, 174
Albert, S., 230, 231, 237, 243, 247, 251,
255–259
Aleamoni, L.M., 282, 291, 301, 303, 305, 314
Alexander, K., 537, 545, 556
Alfonso, M., 434
Alhija, F.N.A., 311
Allan, E.J., 59, 75, 427
Allen, D., 215
Allen, E.J., 63
Allen, T., 95
Allen, W.R., 191
Alm, J., 371
Alon, S., 208
Altbach, P.G., 1–28
Altonji, J., 376
Altschuler, G., 95, 96
Alvord, H., 390
Ancis, J.R., 190, 191, 436
Anctil, E.J., 231, 258, 259
Andersen, P.L., 173
Anderson, C.A., 6
Anderson, C.J., 247
Anderson, C.K., 234
Anderson, H.M., 311
Anderson, J.D., 230
Andreoni, J., 349
Andrews, R.J., 354
Angrist, J.D., 100
Angulo, A.J., 396, 398, 400
Anthias, F., 34, 36–39, 47, 49–53, 55, 56, 63,
71, 74, 76
Antonio, A.L., 211
Apodaca, P., 310
Apple, R.D., 406
Arbona, C., 59, 61, 64, 81
Arcidiacono, P., 354
Armor, D., 108
Arneson, R.J., 538, 540, 543
Arnold, K.D., 41, 120, 134–137
Arno, R., 15
Arreola, R.A., 281, 290
Arum, R., 440, 441, 458
Ashburn, E., 259
Ashforth, B.E., 230, 243, 257, 261
Astin, A.W., 100, 133, 193, 199, 208, 209,
211, 242
Atherton, G., 385, 390
Atherton, G.W., 408
Attinasi, L.C. Jr., 129, 135, 196
Auerbach, S., 158, 173
Autor, D.H., 335–336
Avery, C., 367
Avery, R.J., 311, 312

B

- Babcock, P., 376
 Babor, T.F., 281
 Backes, B., 352
 Backes-Gellner, U., 376
 Baechtold, M., 109
 Baez, B., 153, 163, 173
 Baez, J., 4
 Bahr, P., 434, 435
 Bailey, M., 286
 Bailey, S.K., 242
 Bailey, T.R., 424, 425, 428, 429, 433–435,
 437–439, 450, 458, 459
 Bain, D.H., 236
 Baird, J.S., 304
 Baird, K., 376
 Baird, L.L., 205
 Baker, B.D., 255, 540
 Balán, J., 14, 25
 Baldridge, J.V., 242
 Bandura, A., 126, 179
 Barajas, H., 68
 Barnett, E.A., 204, 212
 Barrow, L., 352
 Basow, S.A., 297
 Bassett, R.M., 14
 Bastedo, M.N., 75, 258
 Bauman, M., 105, 118, 121, 131, 133,
 141, 142
 Baum, D., 536
 Baum, S., 189, 190, 535, 537
 Baxter-Magolda, M., 41
 Bean, J.P., 100, 106, 118, 119, 121, 126–128,
 131, 132, 138, 140, 141, 376
 Beattie, J., 313
 Becker, C., 386, 396
 Becker, G., 330
 Bee, E.K., 204
 Behaghel, L., 334
 Behle, J.G., 388, 394
 Belden, J., 413
 Beleche, T., 288, 291
 Bell, D., 334
 Belley, P., 368, 370, 374
 Bellow, S., 7
 Beltrán, C., 56, 66, 72, 74
 Bennett, M., 95
 Bennett, T., 178
 Bennis, W., 239
 Bensimon, E.M., 33, 35, 46, 47, 50, 67, 69,
 195–197, 427, 428, 439
 Benton, S.L., 279–317
 Beran, T., 308
 Berdahl, R., 246
 Berelson, B., 246
 Berger, J.B., 93–113, 118–121, 133, 137,
 138, 145
 Berk, R.A., 281
 Berl, R.L., 258
 Berryhill, J.C., 204
 Berry, W., 413
 Bettersworth, J., 386
 Bettinger, E., 340, 367
 Betts, J.R., 354
 Beyer, J.M., 249
 Bezilla, M., 386, 398, 401, 408
 Bhattacharya, C.B., 243
 Bidwell, C., 129
 Bifulco, R., 371
 Biggs, D.A., 249
 Biglan, A., 306
 Birnbaum, R., 229, 246, 260
 Bishop, M., 386, 396
 Bishop, R., 35, 46, 47
 Bissonnette, R., 215
 Black, D.A., 354
 Black, S.E., 362
 Blau, D.M., 333–334
 Bledstein, B.J., 233
 Blight, D.W., 415
 Bloomaert, J., 76
 Bloom, D., 436
 Blumin, S., 95, 96
 Bogue, A.G., 386
 Bok, D., 209, 255, 261
 Bollen, K.A., 204
 Bong, M., 215
 Bonilla-Silva, E., 34, 39, 47, 48, 53, 56,
 63, 74, 75
 Bound, J., 98, 99, 354, 371, 372, 376
 Bourdieu, P., 64, 153, 156–165, 167, 168,
 170–172, 174, 176–178, 180–182, 184
 Bourdieu, S., 157
 Bowen, N.K., 153, 173
 Bowen, W.G., 59, 61, 64, 81, 209, 524
 Bowman, N.A., 258
 Boyer, E.L., 19, 256, 261
 Boyles, D.R., 231
 Boyte, H., 253, 261
 Bozeman, W., 314
 Bragg, D.D., 426, 429
 Braskamp, L.A., 280, 281, 283, 286, 287,
 290, 294, 297, 298, 300, 301,
 303–306, 308–311
 Brawer, F.B., 424, 429, 435
 Braxton, J.M., 120, 121, 194, 197, 199, 204
 Bray, N., 36
 Breaux, R.M., 404

- Breen, R., 535, 538
 Breneman, D.W., 252, 253
 Brener, N.D., 281
 Brennan, G., 545, 546
 Brighthouse, H., 547–548, 550, 551, 556
 Brim, O. Jr., 121
 Brinko, K.T., 314
 Brint, S.G., 98, 230, 411, 470, 475, 535
 Brodigan, D.L., 231
 Brokaw, T., 96, 97
 Bronfenbrenner, U., 134–138, 145
 Brown, A.D., 256, 259
 Brown, J., 249
 Brown, M., 308, 316
 Brown, S.D., 215
 Brown, T.J., 257
 Brubacher, J.S., 233
 Bruggink, T.H., 249, 251
 Bryant, J., 98
 Buchert, S., 298
 Burdsal, C.A., 76, 294, 310
 Burgoon, J.K., 303
 Burke, C.B., 390
 Burland, D., 109, 112
 Burrell, L.F., 210
 Butler, D., 234
 Butler, J., 50, 74
 Buttel, F.H., 413, 414
- C**
- Caboni, T.C., 258, 261
 Cabrera, A., 118, 141, 191
 Cabrera, A.F., 191, 192, 202, 206, 208,
 215, 436
 Calavita, K., 72
 Calcagno, J.C., 450
 Callahan, M.K., 153, 166, 173
 Cameron, K.S., 243, 244, 258
 Cameron, S.V., 368, 370
 Campbell, D.T., 285
 Campbell, J.R., 314, 387
 Card, D., 348, 374
 Carneiro, P., 370, 375
 Carnevale, A.P., 424
 Carrell, S., 291
 Carrier, N.A., 301
 Carstensen, V., 397, 399, 407
 Carter, D., 190, 198
 Carter, D.F., 65
 Carter, P.L., 170, 171, 173, 178, 182
 Cartter, A.M., 247
 Cary, H.W., 386
 Cashin, W.E., 279–317
 Castellanos, J., 62, 69
 Castillo, M., 349, 352
 Cawthon, T., 436
 Cellini, S.R., 479
 Centra, J.A., 280, 281, 283, 286, 290,
 295–297, 299–300, 303–309, 311
 Cervantez, K., 39
 Chaffee, E.E., 244, 245, 247, 250–251, 258
 Chancey, B., 209
 Chang, M.J., 211
 Chapman, D.W., 248
 Chartrand, J., 118, 141
 Chase, M.M., 76, 427, 452, 456
 Chatman, J., 243
 Cheit, E.F., 242
 Chen, R., 208, 515, 528
 Cheslock, J.J., 467, 507
 Chickering, A., 118, 133
 Chitnis, S., 10
 Chittenden, R.H., 386
 Cho, S., 34, 36, 38, 39, 46, 53
 Chowdhury, S., 9
 Choy, S., 208, 209
 Chumney, D., 153, 173
 Chun, J.J., 40
 Clark, B., 69, 98, 240, 241, 258
 Clark, D.A., 96–98, 103, 111, 116, 232,
 234, 235, 365
 Clarke, E.H., 405
 Clayson, D.E., 290, 298
 Clegg, S., 173, 183
 Clotfelter, C.T., 423
 Coe, R., 314
 Cofer, J., 208
 Cohen, A.M., 229, 232, 233, 253, 424,
 429, 435
 Cohen, M., 123
 Cohen, M.D., 386, 388, 391, 392
 Cohen, M.P., 477
 Cohen, P.A., 288–290, 314
 Coleman, J.S., 156, 157
 Collins, P.H., 34, 39, 43, 47, 74, 76, 78, 80
 Colyar, J.E., 182
 Compton, J.I., 425
 Conable, C.W., 407
 Conan, J.B., 6
 Contreras, F., 33, 61, 64, 67, 71, 73, 82
 Conway, J., 234
 Conway, K., 425, 431, 435, 455
 Cook, B.J., 101, 116, 126, 129, 131, 425
 Cook, R.W., 249, 251
 Coomes, M.D., 137
 Cooper, A.M., 281
 Cooper, C.R., 81

- Cooper, H.M., 34
 Cordova, D.I., 425
 Corley, K.G., 259
 Corona, S., 175
 Costin, F., 281, 301
 Côté, J.E., 215
 Coury, T., 208
 Couturier, L., 252
 Covaleski, M.A., 251
 Covarrubias, A., 34, 36, 44, 45, 50, 58,
 61, 78
 Covert, C.M., 101
 Cragg, K.M., 370
 Creasman, P.A., 317
 Crenshaw, K., 34, 39
 Crisp, G., 45, 50, 60–61, 64–67, 78, 197, 213
 Cromley, J., 61, 62, 65
 Cronin, E.D., 399, 410
 Croninger, R.C., 77
 Croson, R., 348
 Crouse, J., 248, 249
 Crow, J., 402
 Crow, M.M., 413
 Cruce, T., 431
 Cuádras, G.H., 42, 59
 Cuccaro-Alamin, S., 433
 Curran, R.E., 236
 Curs, B.R., 467, 468, 528
 Curti, M., 397, 399, 407
- D**
- Dabars, W.B., 413
 Dale, S.B., 354
 Danbom, D.B., 413
 Danbom, D.D., 409, 413
 d'Apollonia, S., 309–311
 Dar, L., 535–565
 Daun-Barnett, N.J., 370
 Davies, P., 173
 Davis, B.G., 280, 281, 300
 Davis, C., 214
 Davis, J.E., 173, 180, 182
 Davis, K., 39, 43, 47
 Davis, R., 114, 123
 Deal, T.E., 244
 DeBard, R., 137
 DeBenedetti, C., 4
 DeCristoforo, J.R., 311
 De Graaf, N.D., 173
 De Graaf, P.M., 173
 Deil-Amen, R., 50, 67, 450
 Del Boca, F.K., 281
 Delgado Bernal, D.D., 48
 Delucchi, M., 249, 250, 261
 Deming, D.J., 513
 Dennis, J.M., 212, 215
 DePaoli, B., 341
 Desai, A.R., 8
 DesJardins, S.L., 208, 255, 261, 367, 376, 536,
 539, 540, 544
 Dethloff, H.C., 236, 386
 Deutsch, N.L., 431
 DeVaney, S.A., 358
 Dewey, J., 232
 Deyhle, D., 204
 Diamond, N., 126, 410
 Dickmeyer, N., 476
 Dickson, P., 95
 Dika, S.L., 156–158
 Dill, B.T., 38–40, 43, 44, 47, 49, 50, 52, 63,
 66–68, 74, 80
 Dill, D.D., 243
 DiMaggio, P.J., 159, 160, 166–168, 173, 175,
 176, 183, 251
 DiRamio, D., 101, 105, 114–121, 125–134,
 140, 142
 Dirsmith, M.W., 251
 Dohmen, T., 349, 355
 Dolan, T.D., 426
 Dommeyer, C.J., 311, 312
 Donato, R., 54–55
 Dorn, D.S., 298, 299
 Dougherty, C., 347, 348
 Dougherty, K.J., 431
 Dougherty, W.T., 386
 Douglas, D.K., 310
 Dowd, A.C., 50, 64, 65, 67, 69, 190, 192,
 193, 196, 200, 201, 204, 208, 216,
 217, 544, 557, 561
 Down, A.C., 202
 Downey, R.G., 311
 Downs, E., 298
 Doyle, W.R., 528, 545, 547
 Dubrow, G., 255
 Duggan, M., 358
 Dukerich, J., 244
 Dumais, S.A., 153, 159–162, 164, 166, 167,
 169, 173, 180
 Dunkin, M.J., 293, 294, 300, 303, 304,
 306–309
 Durham, B., 426, 429
 Dutton, J., 244
 Dworkin, R., 537, 542, 543
 Dwyer, R.E., 208
 Dyckhoff, A.L., 308
 Dyer, T.G., 236, 386, 399
 Dynarski, S.M., 208, 340, 365

E

Eagan, M., 435
 Eckel, C.C., 349, 353
 Eddy, E. Jr., 387, 389, 399, 402, 405
 Eddy, P.L., 456
 Edmond, J.B., 387, 389, 399
 Edwards, K.E., 432
 Ehrenberg, R.G., 254, 258, 528
 Ehrlich, T., 256
 Eliot, C., 230
 Elizondo, D., 64
 Elkin, S., 542, 545, 551
 Ellison, C.W., 236
 Elton, C.F., 238
 Elvie, R.Q., 236
 Erdle, S., 298
 Ettington, D.R., 244
 Evenson, R.E., 409
 Ewert, S., 431, 432
 Eyster, J.S., 211

F

Fairweather, J.S., 247, 251
 Farkas, G., 169, 173
 Farris, E., 209
 Faulkner, W., 235
 Favor, C., 537, 544
 Feagin, J.R., 191
 Feeley, T.H., 298
 Feldman, K.A., 280, 282, 284, 287–299,
 301, 303–306, 308–310
 Feuerverger, G., 427
 Field, K., 444
 Figley, C.R., 100
 Fincher, C., 243
 Finkelstein, M.J., 247
 Fitzgerald, D., 413
 Fitzgerald, F.S., 235
 Fitzgerald, H.E., 256
 Fitzgerald, P.H., 388, 394
 Flandrau, C.M., 235
 Flores-Lagunes, A., 337
 Flores, R., 63, 75
 Flores, S., 61, 63, 65
 Foreman, P.O., 259
 Forest, J.J.F., 14, 18
 Forster, E.M., 7
 Forsyth, D.R., 280, 281
 Foster, G., 371
 Foster, P., 6
 Fraga, L.R., 69
 Franklin, D., 119

Franklin, J., 307
 Frederiksen, N., 111, 114, 116, 123, 133
 Freed, G.H., 229–268
 Freeland, R.M., 398, 410
 Freeman, J., 266
 Freeman, R.B., 241
 Freier, M.C., 281
 Freire, P., 119, 138, 182
 Frenette, M., 371
 Fresko, B., 311
 Fretz, B.R., 212
 Frey, P.W., 301
 Frey, W.H., 55
 Friedberg, L., 334
 Fries-Britt, S., 43
 Fry, R., 104
 Fuller, C., 468, 470, 477–479, 491,
 523, 524, 530
 Fullilove, R.E., 212

G

Gabler, J., 166, 173
 Gabriel, B.C., 236
 Gabriel, G., 441
 Gaddis, S.M., 164, 173
 Galaskiewicz, J., 251
 Galbraith, C.S., 290
 Gallant, D.J., 284
 Gambhir, V., 249, 251
 Gándara, P.C., 33, 50, 64, 65, 67, 82
 Gandhi, M., 9
 Gardner, J.W., 239
 Gardner, L., 426
 Garms, W.I., 536
 Gasman, M., 43, 75, 231, 404
 Gates, G., 110
 Gatzimbe-Fernández, R.A., 74
 Gaubatz, N.B., 297, 299–300
 Geel, R., 376
 Geiger, R.L., 98, 238, 385–416
 Gelber, S.M., 393, 394
 Gerring, J., 535, 565
 Gerth, H.H., 49
 Gianneschi, M., 507
 Gibson, M.A., 70
 Gildersleeve, R., 68, 70, 73
 Giles, D.E. Jr., 211
 Gilleskie, D.B., 334
 Gillmore, G.M., 307
 Gilman, D.C., 385, 391, 392
 Gilroy, C., 108
 Gimenez, M.E., 55

- Ginorio, A.B., 59
 Gioia, D.A., 230, 256, 259, 262
 Gitlin, T., 5
 Glassick, C.E., 256
 Glazer, J., 427
 Gloria, A.M., 62, 69, 212, 215
 Gneezy, U., 348
 Godfrey, P.C., 247
 Goenner, C., 439
 Goldberg, K., 242
 Goldin, C.D., 335–337, 345, 346, 371, 374, 479
 Goldrick-Rab, S., 429, 431, 459
 Gonzales, L.D., 255, 261
 González, N., 181
 González, K.P., 48, 49, 64, 68, 69, 82, 191, 192
 González, R., 59
 Goodell, H., 390
 Goodstein, R.M., 333–334
 Gopaul, B., 160, 163, 173
 Gordon, L.D., 405–407
 Gosepath, S., 540, 544
 Goulding, A.J., 234
 Gracia, J.J.E., 55, 56, 71
 Grad, H., 310
 Graham, C.R., 315
 Graham, H.D., 410
 Grant, D., 291
 Greene, T.G., 433, 434
 Green, P.C., 540, 544
 Greenwald, A.G., 307
 Greenwood, J., 345
 Gregory, J., 405
 Grenfell, M., 173
 Griffin, K.A., 39, 42, 43, 45, 50, 76, 80
 Grosik, S.A., 68–69
 Gross, J.P.K., 208
 Grubb, W.N., 439
 Gruenfeld, D.H., 211
 Gruski, D.B., 535
 Guiffrida, D.A., 132, 191–194, 197, 202, 206, 210–215
 Guiso, L., 341
 Gumport, P.J., 243
 Guralnik, S.M., 390
 Gurin, P.Y., 211
 Guthrie, E.T., 279
- H**
- Hacker, J.S., 535
 Hacker, K., 175
 Hackett, G., 215
 Hagedorn, L.S., 65
 Hahn, M.T., 410
 Hamm, R.E., 244
 Hampton, S.E., 314
 Hamrick, F., 94, 101, 105, 115, 118, 119, 121, 124–129, 131–134, 140–142
 Hanel, B., 357
 Hannan, M.T., 266
 Hanneman, R.A., 552
 Hansen, M.N., 173
 Hansen, W.L., 558, 559
 Hanson, J.S., 55
 Harbaugh, C., 234
 Harbour, C.P., 67, 68, 73, 74, 76, 561
 Hardin, C.J., 425
 Hardy, N., 311, 312
 Hardy, T., 235
 Hargittai, E., 175
 Harklau, L., 62, 65, 68
 Harper, C.E., 43
 Harper, S.R., 46–48, 74, 104, 190, 199, 204, 210, 211
 Harris, D., 443
 Harris, F., 431, 432, 440
 Harrison, G.W., 349
 Harrison, N., 167, 176, 183
 Harrison, P.D., 294, 310, 311
 Harrison, T., 267
 Harris, Z.M., 436
 Hart, J., 46, 48
 Hartley, M., 231, 249, 250, 253, 256, 260, 261
 Harvey, D.L., 179
 Hatch, M.J., 256
 Hativa, N., 280, 281, 286, 287, 289, 294, 301, 304–308, 310, 311, 314
 Hattie, J., 299
 Hatum, A., 247
 Hausman, D.M., 536, 541, 542
 Hausmann, L.R.M., 204, 214
 Haveman, H.A., 251
 Haveman, R., 369
 Hawkins, H., 397
 Hearn, J.C., 252
 Heckman, J.J., 368, 370
 Hefferlin, J.B.L., 238
 Heller, D.E., 104, 109, 208
 Helm, E.G., 204
 Hennessy, J., 535, 538
 Herbold, H., 95, 98, 99
 Hernández, E., 41
 Herrera, F., 51

- Hickey-Lundquist, J., 109, 112
 Hidalgo, N.D., 70
 Hightower, T., 413
 Hill, C., 431
 Hillman, N.W., 519, 528, 558–559
 Hinrichs, P., 352
 Hirsch, B., 362
 Hirschy, A.S., 197
 Hirschy, L.A., 194
 Hoachlander, G., 435
 Hobson, S.M., 281, 310
 Hocevar, D., 286, 296
 Hoekstra, M., 354
 Hoffer, W.J.H., 388, 391, 392
 Hoffman, M., 214
 Hofstader, R., 399
 Hoge, C., 111
 Holder, K., 101, 102, 107–109, 113, 114, 121
 Hollander, E., 253, 261
 Hollingsworth, S., 427
 Home, A.M., 425
 Hopkins, J.F., 386
 Hopkins, M., 65
 Hopkins, N., 108
 Hornbeak, J.L., 293
 Horne, J.W., 235
 Horn, L.J., 208, 372, 425, 433, 435, 449
 Horowitz, A.W., 348
 Horvat, E.M., 166, 173, 180, 182
 Hoshino, E.S., 20
 Howard, A., 74
 Howard, G.S., 304
 Hoxby, C.M., 367, 371, 374, 376
 Hoyle, R.H., 204
 Hoyt, D.P., 281, 284, 286, 293, 298, 300, 303,
 305–307, 309, 310
 Huber, M.T., 256
 Hudson, E., 260
 Hudson, L., 436
 Huff, D.D., 425
 Huffman, W., 409
 Huff, R.A., 524, 526
 Hughes, S., 76
 Huisman, J., 251, 256
 Humphreys, M., 256, 259
 Humphries, F.S., 403
 Hunt, C., 406
 Hunter, J. M., 266
 Huntington, S., 72
 Hurtado, A., 39
 Hurtado, S., 34, 41, 44, 49, 57, 59, 65,
 66, 71, 74, 78, 79, 119, 137, 190–194,
 196–199, 201, 202, 204, 206, 211, 214
 Huston, M., 59
 Huston, T., 297
 Hutcheson, P., 75
 Hutchins, R.M., 230, 232
 Hyatt, J.A., 476
- I**
- Ikenberry, S.O., 239
 Immerwahr, J., 265, 267
 Inkelas, K.K., 62
 Ishitani, T.T., 208, 376, 434
 Iverson, S.V., 428
- J**
- Jacobs, J., 431
 Jacobs, L.A., 537
 Jacoby, C., 256
 Jaeger, A., 435
 Jaeger, D.A., 337, 352
 Jaffe, B., 77, 78
 Jæger, M.M., 173
 James, D., 173
 James, E., 397
 Jaquette, O., 467–530, 561
 Jarvis, K., 115, 116, 126, 129, 130, 132
 Jayakumar, U.M., 197, 211
 Jayaram, N., 27
 Jaycox, L., 111, 116
 Jefferson, T., 230
 Jellison, K., 413
 Jencks, C., 241
 Jenkins, D., 213, 214
 Jenkins, J.W., 399, 402–404, 410
 Jenkins, R., 173, 176
 Jenkins, S.J., 298
 Jenniskens, C.G.M., 247, 251, 261
 Jepsen, C., 372
 Joanning, H., 100
 Johnson, D.R., 204
 Johnson, E.L., 389, 394
 Johnson, G., 131, 134
 Johnson, I., 371
 Johnson, J., 259
 Johnson, M., 76
 Johnson, O., 235
 Johnson, R.H., 248
 Johnson, S., 386
 Johnson, T.D., 311, 312
 Jones, S.R., 40, 42, 45, 50, 51, 76, 77, 432
 Jonsen, R.W., 244, 247
 Juhn, C., 375

K

Kahn, L.B., 354
 Kalenkoski, C.M., 366, 375, 376
 Kalmijn, M., 167, 168, 173
 Kane, T.J., 109, 122, 340, 351–352, 365, 369
 Kanno, Y., 61, 62, 65, 68–69
 Kao, G., 60
 Karabel, J., 56, 98, 104, 230
 Katsinas, S., 443
 Katz, L.F., 335, 337, 374
 Kaufman, J., 166, 167, 173
 Kayes, P., 436
 Kazoleas, D., 260
 Kelderman, E., 252
 Keller, G., 242, 243, 246, 250
 Kelly, A.P., 33
 Kelly, G.P., 5, 13, 15, 22
 Kelso, D.D., 414
 Kember, D., 306, 307, 312, 315
 Kennedy, A.A., 244
 Kerckhoff, A.C., 434
 Kern, R.M., 168, 174, 175
 Kerr, C., 238, 410–412, 414
 Kezar, A., 75
 Khalifa, M., 170, 173, 178
 Kiang, P.N., 191, 192, 209, 211
 Kienzl, G.S., 431
 Kim, D., 58
 Kim, H., 358
 Kim, S.H., 431
 Kim, Y., 101, 116, 126, 129, 131
 King, J., 431
 King, R., 431
 Kingston, G., 249
 Kingston, P.W., 155, 167, 173
 Kirp, D.L., 255, 261
 Kirschenmann, F., 414
 Kisker, C.B., 229, 232, 233, 253
 Kline, R.R., 409
 Knight, J., 26
 Knobloch, F., 409, 413
 Knoll, R.E., 386
 Knol, M., 292, 314
 Knowles, A., 16
 Kolajo, E.F., 450
 Kraatz, M.S., 522, 524, 528
 Kraaykamp, G., 159–162, 167, 168, 173
 Krachenberg, A.R., 248
 Kramer, J.E., 234
 Krathwohl, D.R., 285
 Krinsky, S., 414
 Krueger, A.B., 354
 Kuh, G.D., 132, 191, 193, 194, 196, 198, 199,
 202, 205, 206, 216, 376, 434, 435
 Kulik, J.A., 282, 289, 293, 309

Kuncel, N.R., 281
 Kurpius, S.E.R., 215
 Kwon, S.-W., 157

L

Labaree, D.F., 548, 560
 Lachs, J., 246
 Laden, B.V., 65
 Ladson-Billings, G., 178, 179
 Laird, T., 431
 Lakoff, G., 68, 76
 Lammers, H.B., 441
 Lamont, J., 537, 540, 544
 Lamont, M., 155, 167, 173, 180
 Langseth, M.N., 260
 Lang, W., 102, 114, 120
 Lareau, A., 153, 155, 166, 167, 169, 173,
 176, 178, 179
 Larson, V.C., 409
 Layne, B.H., 311, 312
 Lazerson, M., 241
 LeBlanc, G., 258
 Lee, C.B.T., 242
 Lee, E.J., 284, 286, 293, 298, 300,
 305–307, 309, 310
 Lee, J.-S., 153, 166, 173
 Lee, R.M., 214
 Lee, S., 375
 Lee, V.E., 77
 Le Grand, J., 539
 Lehmborg, S., 410
 Lemann, N., 97, 98, 104
 Lemieux, T., 348, 374
 Lent, R.W., 215
 Leslie, L.L., 254, 261, 507
 Lester, J., 423–460
 Leung, D.Y.P., 306, 307, 312
 Leventhal, L., 291, 295
 Leventman, S., 100
 Levine, A., 244, 245, 247, 250–251
 Levine, C., 215
 Levin, J., 557
 Lewis, A.F., 190, 191
 Lewis, O., 178
 Light, A., 337, 376
 Lincoln, A., 385
 Linse, A.R., 312
 Linstromberg, R.C., 242
 Lipset, M., 13
 Lipset, S.M., 11, 13
 Litten, L.H., 231, 248–250
 Livingston, W., 105, 115–119, 121, 125–128,
 131–133, 140–142
 Li, Y., 297

- Lochner, L.J., 367, 368, 370, 374
 Locks, A.M., 211, 214
 Lokken, J., 125
 Lombardi, J., 128
 London, H.B., 436
 Long, B.T., 375, 450, 528
 López, M.H., 73
 Loss, C.P., 392, 409, 413
 Lovenheim, M.F., 340, 368
 Love, P.G., 132, 191
 Lowell, N., 313
 Lowry, R.C., 559
 Lubienski, S.D., 170, 173
 Lundberg, C.A., 62
 Lund, D.A., 236
 Lyall, K.C., 254, 261
 Lynch, L.M., 362
 Lyons, J.O., 234
- M**
- MacArthur, D., 95
 MacDonald, V.-M., 55
 MacKinnon, C.A., 45
 Macunovich, D.J., 334
 Mael, F.A., 230, 243, 257, 261
 Maeroff, G.I., 256
 Mahoney, C.R., 402
 Major, C.H., 36
 Malcom, L., 33
 Malitz, G.S., 524, 525
 Manchester, J., 334
 Mannix, L.H., 386, 396, 398, 400
 Maramba, D.C., 43, 45, 50, 76, 192
 Marchese, T.J., 248
 Marclay, W., 334
 Marcus, A.I., 386–388, 393, 399, 401, 409
 Marcus, J.M., 266
 Mare, R.D., 345
 Marginson, S., 35, 37, 47, 48
 Marincovich, M., 314
 Marklein, M.B., 252
 Marks, P., 376
 Marks, R.B., 309
 Marshall, C., 427, 428, 439
 Marsh, H.W., 280, 281, 286, 287, 292–296,
 299, 300, 302–310, 314, 317
 Martínez Alemán, A.M., 67, 71, 76
 Martin, J., 256
 Martin, W., 244, 247
 Martorell, P., 450
 Massé, J.C., 173
 Massey, D.S., 65, 70, 72, 209
 Massy, W.F., 243
 Mastrobuoni, G., 334
 Maxwell, S.E., 304
 Maxwell, W.E., 388, 394
 Mayberry, B.D., 402
 Mayhew, L.B., 242
 Mayo, A., 234
 McBain, L., 116, 118, 126, 133
 McCall, S., 50, 57
 McCarron, G., 62
 McCarthy, M.A., 290
 McCarthy, S.J., 3
 McConnell, T.R., 246
 McCormick, R.P., 386
 McDonough, P.M., 74, 153, 158, 164,
 250, 251
 McDowell, G.R., 387, 414
 McEwen, M., 40, 51
 McEwen, M.K., 203
 McFarlin, I., 450
 McGhee, D.E., 313
 McGinty, D., 311
 McGowan, W.R., 315
 McKeachie, W.J., 280–282, 287, 293, 299,
 300, 304, 309, 311
 McKinney, L., 208
 McLeod, N.Z., 234
 McMillan, J.J., 249
 McPherson, M.A., 296, 535, 537
 McPherson, M.S., 339, 369, 536, 541
 McVeety, C.S., 260
 Mead, M., 239
 Meek, V.L., 246
 Melguizo, T., 255, 376, 434, 449, 450
 Mendoza, P., 120, 137, 138, 554–555
 Menjivar, C., 55, 72
 Meredith, M., 258
 Messer, D., 377
 Messick, S., 287
 Metz, G., 118, 131, 145
 Metzger, W.P., 233, 399
 Metzner, B., 100, 106, 113, 118, 119,
 121, 126–128, 131, 132, 138,
 140, 141, 145
 Meyer, J.W., 251
 Midanik, L., 281
 Middaugh, M.F., 248, 249, 529
 Milem, J.F., 133, 137, 211, 440
 Miles, B., 4
 Miller, K., 431
 Miller, R.E., 236
 Millett, J.D., 242, 246
 Mills, C.W., 49
 Mills, M., 255, 256, 261
 Mincer, J., 330, 362
 Miner, D.C., 236
 Mohr, J., 173

Monge-Naranjo, A., 367
 Monks, J., 258
 Montgomery, M., 372
 Moore, H.T., 234
 Moos, M., 410–411
 Mora, C., 50, 51, 54, 63, 64, 71, 72, 74, 76
 Moran, C., 81
 Moran, P.L., 386, 388, 392, 394
 Morest, V.S., 424, 428, 429, 434, 438, 459
 Morgan, R.L., 524
 Morphew, C.C., 229–268, 528
 Morrill, J., 386, 405, 410
 Morrison, E., 258
 Mortenson, T., 439
 Mosqueda, E., 61, 64
 Motel, S., 66
 Mukhtar, T., 160, 167
 Mullin, C.M., 423, 426, 459
 Mullis, I.V.S., 329
 Multon, K.D., 215
 Munnell, A.H., 332
 Muñoz, S.M., 212
 Murakami-Ramalho, E., 36, 44, 45, 50,
 58, 76, 77
 Murray, H.G., 279, 280, 287, 294, 296,
 298, 307, 310
 Murray, J., 456
 Murrell, P.H., 434
 Museus, S., 132
 Museus, S.D., 43, 45, 50, 76, 80, 189–193,
 196–199, 202, 204–206, 208–216, 220
 Musoba, G., 153, 156, 163, 164, 173, 177,
 180, 183
 Myers, C.B., 554

N

Naftulin, D.H., 301–302
 Nao, K., 70
 Nash, R., 159, 173
 Neave, G., 245, 246
 Nelson, A.R., 388, 391
 Nelson-Laird, T.F., 212
 Nemeč, M.R., 388, 391
 Nerad, M., 406
 Ness, E.C., 467, 528
 Neth, M., 409, 413
 Neville, K., 197
 Nevill, S., 425, 435, 449
 Nevins, A., 387, 389, 402–403
 Newlin, M.H., 313
 Nguyen, N., 258
 Nienkamp, P., 388
 Nilson, L.B., 284

Noble, J., 173
 Nodine, T., 447, 448
 Noll, J.A., 281
 Nonaka, I., 267
 Nora, A., 59, 61, 64, 67, 81, 153, 174,
 191–193, 202, 203, 206, 209,
 212, 213, 215
 Norgård, J.D., 256
 Novak, H., 208
 Nozick, R., 540
 Núñez, A.-M., 33–65, 67, 68, 70, 73, 74,
 76–78, 81, 82, 433

O

Oakes, J., 64, 67, 68, 82
 Obama, B., 33, 329, 423, 424, 436, 438,
 442–444
 O'Connor, N., 50, 62
 Offenstien, J., 437
 Ogren, C.A., 390
 Oi, W., 361
 Ojeda, L., 59, 70
 Okunade, A.A., 258
 Olin, H.R., 407
 Oliva, M., 81
 Olivas, M.A., 190, 431
 Olneck, M., 170, 174
 Olson, K., 95–100, 102, 103, 111, 114, 116,
 118, 123, 133
 O'Meara, K.A., 255, 260
 O'Reilly, C., 243
 Ortiz, A.M., 59
 Ortiz, V., 63
 Ory, J.C., 280, 281, 283, 286, 287, 290, 294,
 297, 298, 300, 301, 303–306, 308–311,
 314
 Ost, J., 110
 Ostrower, F., 167, 174
 Ouchi, W.G., 244
 Overall, J.U., 294, 314
 Ovink, S., 174
 Owens, E.G., 340

P

Pablonia, S.W., 366, 375, 376
 Pacheco, M., 70, 81
 Padilla, R., 48
 Page, M.E., 337, 352
 Paino, M., 174, 184
 Pallett, W.H., 281, 305, 311, 315, 317
 Park, J.J., 79
 Park, T., 65

- Parra, E.E., 467–530
 Parsad, B., 434
 Parsons, M.D., 268
 Parsons, T., 238, 239, 241
 Pascarella, E.T., 99, 100, 102, 104, 107, 113,
 118, 126, 130, 131, 133, 141, 144,
 208, 209, 436, 441
 Passeron, J.-C., 64, 158
 Patrick, C.L., 298
 Patrick, D.L., 281
 Patten, E., 66
 Patton, L.D., 77
 Pauling, L., 4
 Paulsen, M.B., 208, 330
 Peck, E.S., 236
 Peña, E., 77, 78
 Peña-Talamantes, A.E., 58, 59
 Penny, A.R., 314
 Pérez, D., 43
 Pérez-Huber, L., 66, 73
 Pérez-Peña, R., 338
 Pérez, W., 72, 73, 82
 Perkins, J., 16
 Perna, L.W., 33, 41, 46, 49, 174, 538, 565
 Perry, R.P., 280, 291, 295, 302
 Pervin, L.A., 239, 241
 Peterson, M.W., 230, 242, 243, 247
 Peterson, R.A., 168, 174, 175
 Peters, S.J., 413
 Peters, T.J., 244
 Pettigrew, A.M., 239, 247
 Pettigrew, T.F., 212
 Pfeffer, J., 258
 Pflaum, A.M., 410
 Pfnister, A.O., 247
 Phillippe, K., 423
 Piaget, J., 117
 Picou, J.S., 244, 247, 250–251
 Pierce, J.L., 42, 59
 Pierson, G.W., 236
 Pillow, W., 427
 Ponjuán, L., 44, 59, 65, 69, 78
 Porchea, S.F., 426, 434, 435
 Porter, S.R., 439
 Portes, A., 60, 62, 79, 156, 157
 Potter, W., 266
 Potts, D.B., 390
 Powell, W.W., 251
 Powers, J., 102, 114, 120
 Praeger, F.A., 17
 Pratt, M.G., 259
 Premo, M.D., 433
 Pren, K.A., 72
 Pressey, S., 116, 123
 Pugh, E., 393
 Pusser, B., 35, 37, 47, 48, 243
 Puusa, A., 230, 231, 247
- Q**
 Quaye, S.J., 190
 Quintero, J., 252
- R**
 Radford, A., 101, 106–110, 112–114, 118,
 120, 123, 125, 131, 143
 Radke-Moss, A.G., 405–408
 Rae, C., 108
 Ragan, S.L., 249
 Rallis, S., 122, 142
 Ramírez, E., 36, 44, 50, 58, 59, 69, 76, 81
 Rankin, S.R., 191
 Rasmussen, W.D., 387, 388, 395, 402–404,
 409, 413
 Ravello, J.N., 197
 Raviv, A., 286
 Rawls, J., 537, 540–543, 550, 551, 557
 Ray, J.J., 282
 Razfar, A., 61, 65, 67, 69
 Reason, R.D., 39, 40, 46, 47, 191
 Reay, D., 169, 174
 Reddick, R., 42, 45, 50, 76
 Reed, M.H., 179
 Reel, J., 393
 Reese, L., 174
 Reid, P., 266
 Reiner, J.R., 249
 Reisberg, L., 14
 Reiser, R.A., 314
 Reisser, L., 133
 Renaud, R.D., 296, 298, 310
 Rendón, L.I., 52, 119, 123, 132, 140, 193,
 194, 196, 197, 201, 202, 204–206,
 212, 213, 216, 436
 Renn, K.A., 39–41, 46, 47, 49, 120, 134–137
 Renzulli, L.A., 174, 184
 Restuccia, D., 332
 Reynolds, C.L., 368
 Reynolds, T.S., 400, 411
 Rhoades, G., 243, 441, 459
 Richardson, S.R., 386, 393
 Riddell, W.C., 362
 Riddle, M., 552
 Riesman, D., 4, 232, 241, 245, 246, 260
 Rios-Aguilar, C., 154, 174, 181, 182, 467
 Riphahn, R.T., 357
 Rivera, C., 426, 454

- Robbins, D., 174
 Robbins, S.R., 215
 Robeyns, I., 547, 550
 Robinson, D.W., 249
 Robinson, R.L., 179
 Roche, L.A., 300, 304, 305, 307, 308, 314
 Rodríguez, C.F., 55, 61, 65, 67, 72, 82
 Rodríguez, L.F., 174
 Rodríguez, R., 55, 72, 82
 Roemer, J.E., 536, 539–543, 545, 550, 551
 Rogers, W.B., 396, 398–399
 Rojas, F., 522, 524, 528
 Roksa, J., 431, 440, 441, 458
 Romero, J., 59
 Ronnkvist, A., 68
 Rooney, G., 132
 Roose, K.D., 247
 Roscigno, V.J., 37, 38, 47–49, 52, 66, 68,
 71, 74, 76, 160, 161, 169, 174, 176
 Rosenbaum, J.E., 50, 67, 450
 Rosen, S., 355
 Ross, C.E., 332
 Ross, E.D., 236, 386–389, 394, 398, 399,
 402–403, 405
 Rossman, G., 122, 142
 Rostker, 101
 Roulo, C., 109
 Rouse, C.E., 352
 Rowan, B., 251
 Rowse, G.L., 249, 251
 Rudolph, F., 229, 232, 235, 389, 399
 Rudy, W., 233
 Ruggles, W., 234
 Ruiz Alvarado, A., 34, 44, 57, 59, 61,
 65–67, 73, 79
 Rumann, C., 94, 101, 105, 115, 118, 119, 121,
 124–129, 131–134, 140–142
 Rumbaut, R.G., 54, 60, 62, 79
 Russell, B., 4
 Rustin, B., 4
 Ryan, K., 287, 314
 Ryder, R.A., 425
- S**
 Sablan, J.R., 153–184
 Sacerdote, B., 371
 Sadlak, J., 15
 Sáenz, R., 54, 60
 Sáenz, V.B., 44, 59, 67, 69, 73, 78, 212
 Salancik, G., 258
 Salisbury, M., 174
 Sallee, D., 259
 Salmi, J., 14, 25
- Saltmarsh, J., 256
 Salverda, B., 537, 542, 545, 551
 Salverda, W., 537
 Sanchez, I.M., 436
 Sandmann, L.R., 256, 260
 Sanford, N., 238
 Santos, J., 67, 73
 Santos, S.J., 59
 Savage, M., 178
 Sawal, D., 109
 Sax, L.J., 211, 440
 Schapiro, M.O., 339, 369, 535, 537
 Schein, E.H., 244
 Schell, R., 267
 Schlossberg, N., 117, 130, 133, 140
 Schmelkin, L.P., 314
 Schmertz, B., 431
 Schnabel, C., 362
 Schneider, C.G., 441
 Schrader, W., 111, 114, 116, 123, 133
 Schrecker, E., 254
 Schrum, E., 410
 Schudde, L.T., 209
 Schultz, M., 256
 Schultz, R.E., 246
 Schulze, E., 297
 Schwitzer, A.M., 436
 Sciarra, D., 104
 Scott-Clayton, J., 208, 366
 Scott, R.V., 387, 393, 395, 409, 413
 Scott, W.H., 385, 388
 Scott, W.R., 242
 Seal, K., 111
 Sedlacek, W.E., 210, 431
 Seely, B., 401
 Segal, H.P., 387, 388, 415
 Seitz, G.B., 234
 Sell, K.R., 254, 261
 Selznick, P., 238, 239, 241, 259
 Sen, A., 537, 541–543, 546–551, 557, 565
 Seneca, J.J., 367
 Serna, I., 174
 Serow, R., 96–98, 103
 Shaw, K.M., 427
 Shaw, K.W., 436
 Sheffet, M.J., 298
 Shepardson, F.W., 236
 Sherk, J., 109, 122
 Shieh, L.T., 561
 Shils, E., 7, 22
 Shinseki, E., 104
 Shulock, N., 437
 Shurman, R.A., 414
 Silva, E., 243

- Simon, J., 61, 65, 67, 69
 Simpson, G., 242
 Sinclair, R.O., 386
 Singell, L.D., 375
 Singh, A., 10
 Singh, K., 156
 Sixbury, G.R., 306
 Skanes, G.R., 292, 296
 Slaughter, S., 13, 243, 254, 261, 507
 Slayton, A.E., 404
 Slosson, E., 397, 398
 Smart, J.C., 102, 126, 141, 238, 244, 280
 Smith, C., 234
 Smith, D.C., 386
 Smith, D.G., 34, 40, 42, 43, 48, 64, 66
 Smith, J.A., 354
 Smith, S.B., 313
 Snaith, S., 439
 Snider, W.D., 386
 Soeters, J., 106, 108, 118, 121–124, 132, 142
 Solbakk, M.N., 258, 259, 261
 Solberg, W.U., 386, 397, 399, 405
 Solomon, B.M., 405
 Solórzano, D., 33, 43, 44, 70, 71, 77
 Somers, P., 208
 Sommo, C., 436
 Song, J., 334
 Song, X., 362
 Sontam, V., 441
 Sorber, N.M., 385–416
 Spady, W., 129, 198
 Sporn, B., 243
 Sprenger, C., 349
 Stadtman, V.A., 397
 Stage, F., 78
 Stampnitzky, L., 174, 177
 Stanley, J.C., 285
 Stanton-Salazar, R.D., 157
 Stapel, D., 108
 Starkey, J., 208
 Stark, J.S., 248
 Staubli, S., 334
 Steele, C., 42, 65, 66, 70
 Steele, J., 101, 118, 123, 124
 Steele, P., 474, 514
 Steinberg, J., 250
 Steinberg, L., 117
 Steiner, L., 257
 Stensaker, B., 256, 259
 Stern, S., 12, 258
 Stevens, J.M., 249
 Stevens, M.L., 250
 Stewart, E., 114, 123
 Stickler, W.H., 246
 Stiglitz, J., 535, 537, 548
 Stinebrickner, R., 354, 376
 Stinebrickner, T.R., 354, 376
 St. John, E.P., 68, 73, 208, 268, 339, 367, 369,
 375, 557, 564
 Stone, D., 536, 538, 544
 Stone, J.A., 375
 Stowell, J.R., 310
 Stratton, J.A., 386, 396, 398, 400
 Stratton, L.S., 327–378
 Strayer, F.R., 234
 Strayer, W., 376
 Strayhorn, T.L., 43, 153, 166, 174, 214
 Strober, M.H., 255
 Stromquist, N., 427
 St. Rose, A., 431
 Strother, W.H., 410
 Suárez-Orozco, C., 62, 68, 72, 73, 77, 80, 82
 Suárez-Orozco, M., 73
 Sudkamp, A., 290
 Sui-Chu, E.H., 174
 Sullivan, A.M., 174, 292, 296
 Summerlot, J., 100
 Summers, F.P., 386
 Svinicki, M., 280–282, 299
 Swail, W.S., 190, 193, 197, 202
 Swartz, D., 159, 164, 174, 177, 180
 Sweitzer, K.V., 258, 261
 Swigart, T.E., 434
 Symonds, W.C., 424
 Sy, S.R., 59
 Szelenyi, K., 436
- T**
- Talbot, D.M., 281, 310
 Tamir, E., 163, 174
 Tanaka, G., 193, 200, 204
 Tandberg, D., 554
 Tanielian, T., 111, 116
 Tappan, H., 396
 Taussig, M.K., 367
 Taylor, B.J., 250, 261
 Taylor, R., 386
 Teferra, D., 14, 21
 Teichler, U., 26
 Telles, E., 54, 55, 63, 75
 Terenzini, P.T., 99, 104, 123, 125, 126,
 131, 208, 436
 Thacker, L., 255, 261
 Theall, M., 280, 282, 284, 307
 Thelin, J.R., 96–99, 103, 104,
 232–235, 241, 242
 Thomas, S.L., 33, 41, 46, 135, 354, 538, 565

Thompson, C.E., 212
 Thompson, D., 253
 Thompson, F., 248
 Thompson, R., 116, 123
 Thorpe, B., 425
 Thurston, R.H., 400–401
 Tienda, M., 60, 82
 Tierney, W.G., 132, 153–174, 184, 190,
 193–197, 202, 204, 206, 212, 216
 Tillman, B., 393
 Timmerman, J.J., 236
 Tinto, V., 100, 107, 113, 118, 120, 121, 123,
 128–131, 133, 137, 138, 141, 145,
 193–196, 198–206, 376
 Todd Jewell, R., 296
 Todorova, I., 73
 Tolbert, P., 251
 Toma, J.D., 257
 Tomal, A., 297
 Torres, V., 33, 41, 44, 56, 57, 60
 Toutkoushian, R.K., 330, 519
 Townsend, B.K., 232, 234, 235, 436
 Tramonte, L., 153, 166, 174
 Treadwell, D., 267
 Treisman, E.M., 212
 Tropp, L.R., 212
 Trow, M., 24, 229
 True, A.C., 409
 Trusheim, D.W., 248, 249, 251
 Tschirhart, M., 243
 Turner, C.S.V., 42, 59
 Turner, N., 375
 Turner, S.E., 98, 99, 354, 376, 524
 Tyler, K.M., 34, 70, 80, 81

U

Ulrich, D.O., 258
 Umakoshi, T., 14
 Umbach, P.D., 312
 Unterhalter, E., 537, 547–548, 550, 551, 556
 Uphoff, N., 11

V

Vacchi, D.T., 93–104, 106, 107, 115, 118,
 120, 122, 124–127, 130, 133–135,
 138, 144, 145
 Valadez, J., 174
 Valencia, R.R., 66, 197
 Vallerand, R.J., 215
 Van, D., 108
 Vandenbroucke, G., 332
 van Dijk, J., 175

Van Dusen, R., 117, 126
 van Eijck, K., 159, 160, 173
 Van Gennep, A., 194
 Van Hise, C., 397
 Vasterling, J., 111
 Veazey, B., 174
 Veblen, T., 232
 Venette, S., 312
 Venezia, A., 447
 Venti, S.F., 370
 Veysey, L.R., 387, 393, 397–399
 Villalpando, O., 43, 44, 48, 65, 70, 71
 Volkwein, J.F., 258, 261
 von Humboldt, W., 25
 Voorhees, R.A., 431
 Voss, Z.G., 259
 Vreeland, R., 129

W

Wachtel, H.K., 280
 Wacquant, L.J.D., 158
 Waeraa, S.A., 258, 259, 261
 Walejko, G., 175
 Walker, M., 548
 Wallenstein, P., 399, 410
 Waller, R., 167
 Walpole, M.B., 62
 Wang, A.Y., 313
 Wang, X., 431, 439
 Wan, H.H., 267
 Ward, A., 160, 161, 173
 Ward-Roof, J., 436
 Ware, J.E., 301–302
 Washburn, J., 254
 Wasserman, S., 251
 Waterman, R.H., 244
 Watkins, S., 109, 122
 Webb, A., 334
 Webber, D.A., 528
 Weber, M., 7
 Weerts, D.J., 229–268
 Wei, C.C., 208
 Weick, K.E., 239, 267
 Weidman, J., 121, 126, 128–131, 133, 141, 145
 Weimer, M., 315
 Weinberg, B.A., 291
 Weininger, E.B., 155, 169, 173
 Weisbuch, R.A., 258
 Weis, L., 13
 Wells, A.S., 174
 Wells, R., 174
 Wells, R.H., 244, 247, 250–251
 Wenger, E., 256

- West, J., 291
Whetten, D.A., 230, 237, 243, 247, 251, 255–259
White, A.D., 392, 396, 407
Widder, K.R., 386
Wildhagen, T., 174
Williams, R.G., 301–302, 389–390
Williams, R.L., 386, 390, 392, 402, 403, 408
Willis, R.J., 355
Willms, J.D., 153, 174
Wing, P., 249, 251
Winkle-Wagner, R., 153, 155, 159, 160, 162,
163, 165, 172, 180, 183
Winston, G.C., 253, 507, 529
Winters, J.V., 371, 376
Wirt, J., 435
Wise, D.A., 370
Witkowski, E.H., 238
Wolfe, B., 369
Wolf-Wendel, L., 217
Wolgemuth, J.R., 67, 68, 76
Wolman, L., 332
Wolter, S.C., 377
Woosley, S., 132
Wun, J., 101, 106–110, 112, 113, 118, 120,
125, 131, 143
- Y**
Yates, L., 427
Yosso, T.J., 70, 71, 77, 154, 170, 171, 174,
177–179, 182, 183
Yunker, J.A., 291
Yunker, P.J., 291
- Z**
Zabczyk, P., 341
Zajac, E.J., 522, 524, 528
Zallocco, R.L., 249, 251
Zamani, E., 436
Zambrana, R.E., 38–40, 44, 46, 47, 49, 50,
52, 55, 62, 63, 66–68, 74, 80
Zemsky, R., 254, 261
Zhang, L.A., 467, 528
Zhao, J., 284
Zieren, G., 388, 400–401
Zook, G., 97
Zuberi, T., 35, 47
Zuniga, X., 212
Zusman, A., 243
Zweigenhaft, R.L., 174
Zweimueller, J., 334

Subject Index

A

Ability, 70, 111, 127, 129–130, 135, 142,
157, 161, 165, 167–168, 176, 179, 182,
183, 208, 217, 329, 330, 352–353, 366,
368–372, 374–376, 432, 455, 467, 536,
538, 541–543, 545, 547, 548, 550, 556,
561, 564
Academic drift, 242, 245–247, 251, 264
Academic preparation, 64, 207, 209, 344, 351,
352, 369–371, 373, 425, 428, 434–436
Academic profession, 7, 14, 24, 26–28, 122,
388
Academic publishing, 10, 11, 14, 16–21
Access, 11, 33, 99, 153, 197, 235, 313, 348,
386, 424, 469, 536
African-American history, 98, 402–404, 415
Agency, 46–47, 138, 154, 166, 171, 179–181,
183, 184, 476, 541, 547, 548, 550
Agriculture, 232, 233, 385, 386, 388, 389,
391, 394–398, 400, 401, 408–409,
411–414, 416
Attainment, 33, 50, 57, 60, 63, 65, 67, 71, 96,
99, 102, 113, 120–122, 128, 133, 138,
161, 162, 164, 172, 181, 189, 190, 207,
211, 213, 215, 238–239, 329–332, 334,
341, 355–356, 364, 369, 370, 373, 374,
376–378, 426, 435, 438–439, 442, 444,
450, 452, 556

B

Barriers to collegiate success, 448, 453, 458
Benefits, 8, 73, 93, 158, 210, 237, 315, 327,
387, 458, 475, 536
Bias, 79, 116, 190, 193, 282, 285, 287, 291,
295–309, 311–315, 340

Branding, 230–231, 255, 257–361, 363–365,
368, 387

C

Campus
climate, 41, 43, 49, 50, 69, 73, 76, 78–79,
191, 192, 436
culture, 107, 124, 132, 191, 192, 196, 200,
201, 205, 213, 237, 244, 312, 407
Coeducation, 405–407
College, 2, 33, 93, 153, 189, 229, 279, 327,
386, 423, 468, 536
access, 34–38, 41, 43–47, 49, 52–54, 56,
57, 61–63, 67, 68, 70, 73–75, 77, 81,
153, 165, 432, 436, 455, 458
choice, 45, 248, 250, 251, 264, 268
impact, 94, 104, 120, 121, 128, 133, 137,
144–145, 370
persistence, 61, 81, 189, 197, 202, 207,
214, 215
students, 33, 98, 189, 241, 285, 338,
404, 423
success, 66, 71, 190, 192–195, 199–203,
206–216, 218, 219, 446, 455, 459
teaching, 315
Collegiate ideal, 232–235, 263
Community colleges, 45, 112, 162, 212, 230,
415, 423, 469, 536
Comparative higher education, 15
Completion, 41, 102, 189, 192, 329, 423,
468, 560
Consultation, 284, 292, 314, 315
Course evaluation, 3, 280, 284, 289, 295, 297,
310, 311, 315, 317
Critical theory, 70, 428

- Cultural capital, 153–184, 542, 545, 549, 552, 554
 Cultural integrity, 154, 181–182, 184, 204
 Cultural reproduction, 159, 164–165, 168, 177, 184
 Culture, 2, 54, 97, 154, 191, 229, 312, 394, 427
 Culture of poverty, 154, 171, 174, 178–181, 183, 184
- D**
 Developmental education, 64, 65, 425, 432, 434–435, 448–455, 458
 Discount rate, 330–331, 341, 348, 349, 352, 355, 358, 364, 559
 Distinctiveness, 236, 240, 262, 264, 410, 412
 Distributive justice, 537–546, 549, 556–565
 Diversity, 9, 33, 36, 42, 43, 51, 53, 55–57, 60, 79, 93, 125, 144, 229, 230, 246, 264, 387, 428, 432, 440, 457, 468, 527, 528, 536, 541, 554, 558
- E**
 Ecological systems, 134–138
 Economics, 46, 98, 238, 335, 360, 361, 406, 409, 413, 539, 540, 551, 556, 559
 Embodied state, 154, 159–162, 174, 176, 184
 Engineering, 98, 233, 307, 354, 386, 388, 395–401, 404, 407, 411, 415, 451
 Enrollment, 8, 33, 99, 166, 236, 327, 389, 424, 467, 558
 Equity, 38, 98, 213, 248, 403, 423, 493, 535
 Ethnicity, 36, 39, 42–44, 58, 78, 136, 343, 344, 349–353, 356, 357, 370–372, 426, 429, 432–434, 446, 451, 452, 454, 456, 458, 469, 473, 511, 522, 526–527
- F**
 Faculty
 development, 316, 317
 evaluation, 280, 315, 317
 Federal policy, 100, 104, 339, 340, 426
 Field, 6, 34, 140, 154, 194, 232, 285, 348, 386, 424, 473, 535
 Financial aid, 61, 67, 73, 127, 136, 208, 238, 254, 339, 340, 352, 367, 373, 378, 435, 453, 457, 468–470, 473–476, 480, 483, 494, 514, 515, 528, 536, 558, 559
- For-profit institutions, 24, 112, 116, 253, 443, 478, 479, 490, 491, 493, 494, 513, 520, 523, 529
- G**
 Gender
 equity, 59, 98, 426–432, 436, 440–442, 451, 452, 454–456
 history, 50, 57, 58, 136, 331, 343, 371, 387, 388, 405–408, 410, 425–428, 436, 441, 445, 454, 456
 GI Bill, 73, 93–105, 107–109, 112–115, 119, 123, 127–129, 134, 136, 138, 141, 142, 339, 377
 Globalization, 8, 15, 18, 19, 21, 23, 24, 26, 28
 Graduation rates, 114, 123, 329, 330, 351, 376, 378, 415, 423, 437–439, 441, 442, 448, 452, 454–458, 470, 475, 505, 526–528, 552, 561, 563
- H**
 Habitus, 154, 159, 163–165, 168, 172, 176–177, 180, 182, 184
 Higher education, 1, 33, 93, 153, 189, 229, 279, 327, 387, 423, 467, 535
 Higher education finance, 113, 536, 538, 544, 545, 548, 556, 557, 560, 564
 Higher education policy, 11, 16, 41, 424, 453, 467, 475, 535, 537–540, 547, 552, 556, 557, 564, 565
 Hispanics, 33, 36, 44, 52, 54, 55, 65, 66, 72, 77, 109, 168, 255, 329, 343, 344, 350–353, 370, 377, 414, 425, 432–436, 438, 448, 449, 526, 527
 Historical memory, 56, 388, 414–416
 Historiography, 385–416
 History, 3, 34, 94, 179, 192, 229, 279, 327, 386, 423, 530, 535
 of education, 390, 393
 of higher education, 390, 393
 of science, 240, 389, 441
 Human capital, 156, 157, 327, 330–345, 349, 353, 357, 372, 377, 391, 475, 541, 547, 557, 559–560
- I**
 Identity, 26, 34, 94, 160, 192, 229, 284, 327, 395, 427, 469, 537
 Immigration, 50, 51, 58, 60–62, 72, 78

- Inequality, 21–24, 26–28, 39–41, 47, 48, 52, 65, 66, 68, 76, 98, 153, 154, 161, 166, 175, 177, 178, 180, 181, 184, 210, 335, 353, 365, 373, 440, 535–538, 540, 542–545, 548, 549, 556, 557, 559, 560, 562–564
- Institutional histories, 231, 232, 235–237, 240, 264, 265, 268, 386, 398
- Institutional identity, 36, 42, 64, 72, 78, 217, 235, 237, 244, 250, 251, 256–259, 261, 262, 264, 265, 267, 472, 474
- Institutionalism, 1, 33, 93, 154, 189, 230, 281, 330, 386, 423, 467, 536
- Institutionalized state, 154, 159, 161–162, 169
- Interest rate, 330, 331, 338, 341–343, 348, 355, 356, 367
- Internationalization of higher education, 8, 12, 14–16, 18, 19, 23, 26, 28
- Intersectionality, 33–82, 120, 142–143
- Isomorphism, 246, 251, 264
- J**
- Journals, 10, 13, 15, 17–22, 36, 46, 94–95, 155, 240–241, 248, 280, 290, 300, 387, 397, 510, 551, 552
- L**
- Land-grant colleges, 385–395, 398–409, 413–414
- Latino, 33–82, 189, 213, 426, 446, 449, 453
- M**
- Marketing, 13, 20, 21, 24, 27, 63, 93, 230–231, 235–236, 238, 241–244, 247–262, 264–268, 279, 327, 334, 345–347, 349, 353, 355–359, 365–367, 374, 377, 378, 416, 445, 509, 510, 515, 545
- Methodology, 12–13, 26, 43, 48, 49, 54, 68, 69, 75–80, 102, 142, 143, 155, 168, 171, 172, 175, 176, 183, 184, 230, 231, 237, 238, 240, 241, 244–246, 250–251, 260–262, 264, 267, 268, 281, 283, 285, 288, 304, 307, 308, 310–313, 316–317, 340, 424, 427, 437, 451, 452, 456, 458, 467, 496, 536, 538, 545, 551, 553, 565
- Military, 5, 96–98, 100–115, 117–119, 121–125, 127–129, 132, 133, 136–139, 141–143, 336, 393, 399, 400, 402
- Mission, 24, 142, 143, 229–230, 232, 237, 243–247, 249–250, 254, 255, 260, 386, 387, 392, 395, 396, 406, 410, 412–414, 429, 439, 445, 455
- Mission drift, 246, 255
- Morrill Act of 1862, 385, 388, 399, 402
- Morrill Act of 1890, 386, 388, 402–404
- N**
- Nontraditional students, 94, 99, 100, 104–106, 108, 109, 112, 113, 116–122, 124–126, 128–132, 138, 140–142, 144, 145, 387, 448
- O**
- Objectified state, 154, 159–161, 174, 176, 184
- Online courses, 143, 265, 311, 313, 316
- Online ratings, 301, 312–313
- Organizational culture, 243–245, 255–256
- Organizational diversity, 79, 229, 264, 528
- P**
- Panel data, 467–469, 472–475, 479, 480, 483, 485, 486, 490, 496, 499–500, 505, 507, 511–514, 519–522, 529, 530
- Panel methods, 467
- Persistence, 59, 61, 62, 80–81, 104, 110, 113, 117, 121, 125, 126, 128–132, 140, 141, 144, 153, 177, 189, 194, 195, 197, 199, 202–205, 207, 208, 211, 213–215, 218, 258, 367, 370, 376, 404, 431, 432, 435–436, 445, 457, 528
- Populism, 386, 387, 393–395, 401, 403, 409, 413
- Postsecondary attainment, 33, 67, 71, 442
- Power, 12, 20–23, 27, 28, 33–82, 106, 118, 139, 153, 157, 158, 160–163, 165, 168, 179–183, 191–192, 198, 207, 215, 229, 241, 243, 252, 373, 374, 386, 392–394, 399, 401, 403, 414, 427, 530, 539, 540, 545, 550
- Praxis, 154, 182–184
- Prestige, 97, 246, 247, 249, 251, 252, 255, 258, 261, 396, 405, 411–412, 558
- Q**
- Quantitative methods, 43, 78–79, 143, 171, 172, 184, 246, 250, 251, 268

R

- Race, 34, 36, 42–44, 48, 50, 54, 56, 58, 75–77, 79, 98, 136, 179, 209, 210, 233, 238, 297, 331, 335, 343, 344, 349–353, 356, 357, 370–372, 387, 402–404, 424–427, 429, 432–434, 436, 438, 440, 446, 448, 449, 451, 452, 454, 456, 458, 469, 473, 511, 522–528, 544, 547
- Racial equity, 47, 170
- Rankings, 22, 26, 27, 69, 114, 128, 136, 247, 252, 255, 258, 262–264, 295, 296, 301, 328, 329, 370, 394, 459–460, 544
- Reliability, 26, 128, 141, 142, 218, 281–283, 285–287, 289–291, 294, 312, 313, 315, 317
- Research universities, 7, 14, 24–25, 27, 28, 230, 246, 260, 386–387, 395, 398, 410–412, 453, 506, 508, 528, 529
- Retention, 98, 100–102, 113, 114, 117, 119, 120, 127, 128, 130, 134, 137, 138, 141, 144, 145, 258, 446, 450, 455, 457
- Retirement, 7, 14, 330, 332–334, 343, 345, 355–358, 364, 374, 438

S

- Saga, 231, 237–238, 240–242, 257, 263–265
- Social capital, 135, 153, 156–158, 181, 184, 542, 547, 549, 552
- Social reproduction, 35, 36, 82, 154, 157–160, 164–165, 168, 170, 172, 177–181, 184
- Social theory, 156
- State policy, 41, 426, 427
- Strategic planning, 16, 243, 246, 262
- Structural determinism, 154, 171, 176–181, 184
- Structure, 15, 22, 37–41, 45–47, 50, 53, 54, 59–60, 70, 73, 75, 76, 121–123, 127, 131, 136, 156–157, 163–165, 177–183, 197, 201, 233, 239, 240, 244, 247, 251, 256, 262, 298, 299, 306, 309, 310, 312, 313, 378, 404, 453–454, 457, 458, 473, 486, 540, 545, 564
- Student development, 36, 39–41, 49, 108, 127, 135, 140, 144–145, 444
- Student political activism, 9, 11, 13
- Student ratings of instruction, 279–317

- Student transfer, 431, 435–436
- Student veteran, 93–145
- Success, 18, 33, 100, 158, 189, 233, 316, 329, 394, 425, 536
- Support, 7, 34, 94, 157, 197, 230, 280, 332, 387, 424, 467, 536

T

- Taxes, 72, 333, 356, 362, 365
- Teaching effectiveness, 279–284, 286–288, 290–295, 297–299, 303, 305, 310, 311, 314, 316, 317
- The American Graduation Initiative, 423–426, 438, 445, 451–452
- The Completion Agenda, 423–460
- Theory, 36, 117, 153, 193, 237, 280, 327, 390, 428, 504, 540
- Transition, 3, 9, 17, 81, 101, 103, 105, 107, 115, 117, 119, 120, 123–130, 133–138, 140, 143–145, 194, 244, 256, 409, 523
- Tuition, 73, 100, 112, 208, 254, 255, 338–340, 348, 352, 355, 366–369, 373, 375–378, 389, 397, 425, 434, 435, 443, 444, 450, 475, 504, 513, 515, 519, 523, 528, 559

U

- Undergraduate experience, 121, 122, 137
- Undergraduates, 3, 4, 107, 118, 121, 128–129, 143, 197, 209, 302, 395, 430, 437, 474
- Unemployment, 96, 356–362, 365, 373, 528
- Universities, 3, 64, 97, 157, 196, 229, 376, 386, 423, 467, 537
- Utilitarian education, 407–408

V

- Validity, 281–282, 285, 287–288, 304
- Veteran, 93, 238, 332
- Voice, 129, 154, 183, 193, 194, 203, 205, 207, 216, 237, 241, 406

W

- Wage premium, 335–337, 341–343, 347, 348, 350, 354–355, 362, 363, 374, 375, 377

VOLUME XXIV

Why Financial Aid Matters (or Does Not) for College Success: Toward a New Interdisciplinary Perspective Sara Goldrick-Rab, *University of Wisconsin-Madison*, Douglas N. Harris, *University of Wisconsin-Madison* and Philip A. Trostel, *University of Maine and University of Wisconsin-Madison*

The Use of Matching Methods in Higher Education Research: Answering Whether Attendance at a 2-Year Institution Results in Differences in Educational Attainment C. Lockwood Reynolds, *Kent State University* and Stephen L. DesJardins, *University of Michigan*

Othering Research, Researching the Other: De/Colonizing Approaches to Qualitative Inquiry Kakali Bhattacharya, *Texas A & M University Corpus Christi*

The Cultural Capital of Cultural and Social Capital: An Economy of Translations Glenda Musoba, *Florida International University* and Benjamin Baez, *Florida International University*

The Rise and Fall of Need-Based Grants: A Critical Review of Presidential Discourses on Higher Education, 1964–1984 Julie Renee Posselt, *University of Michigan*

A Review of Attributional Retraining Treatments: Fostering Engagement and Persistence in Vulnerable College Students Tara L. Haynes, *University of Manitoba*, Raymond P. Perry, *University of Manitoba*, Robert H. Stupnisky, *University of Manitoba* and Lia M. Daniels, *University of Alberta*

Globalization, Social Movements, and the American University: Implications for Research and Practice Robert A. Rhoads, *UCLA* and Amy Liu, *UCLA*

Hispanics and Higher Education: An Overview of Research, Theory, and Practice Amaury Nora, *University of Houston's College of Education* and Gloria Crisp, *University of Texas at San Antonio*

Turning from Time to Space: Conceptualizing Faculty Work Aaron M. Kuntz, *University of Alabama*

Student Aid and Its Role in Encouraging Persistence Don Hossler, *Indiana University*, Mary Ziskin, *Indiana University*, Jacob P.K. Gross, *Indiana University*, Sooyeon Kim, *University of Michigan* and Osman Cekic, *Indiana University*

Enter the Dragon? China's Higher Education Returns to the World Community: The Case of the Peking University Personnel Reforms Rui Yang, *University of Hong Kong*

Name and Subject Indexes

2009: 475 pages ISBN: 978-1-4020-9627-3

VOLUME XXV

The Role of Information in the Policy Process: Implications for the Examination of Research Utilization in Higher Education Policy Erik C. Ness, *University of Georgia*

From Theory to Action: Exploring the Institutional Conditions for Student Retention Vincent Tinto, *University of Chicago Press*

Reform Efforts in STEM Doctoral Education: Strengthening Preparation for Scholarly Careers Ann E. Austin, *Michigan State University*

Toward a More Complete Understanding of the Role of Financial Aid in Promoting College Enrollment: The Importance of Context Laura W. Perna, *University of Pennsylvania*

The Pursuit of Student Success: The Directions and Challenges Facing Community Colleges Linda Serra Hagedorn, *Iowa State University*

Studying the Impact of Parental Involvement on College Student Development: A Review and Agenda for Research Linda J. Sax, *University of California at Los Angeles* and Katherine Lynk Wartman, *Boston College*

Achievement Emotions in Higher Education Reinhard Pekrun and Elizabeth J. Stephens, *University of Munich*

The Use of Panel Data Models in Higher Education Policy Studies Liang Zhang, *The Pennsylvania State University*

Enlarging Our Understanding of Glass Ceiling Effects with Social Closure Theory in Higher Education Jerlando F.L. Jackson and Raul A. Leon, *University of Wisconsin-Madison*

Cultural Perspectives of Academia: Toward a Model of Cultural Complexity Ryan E. Smerek, *University of Michigan*

Research Libraries in the Twenty-First Century Yvonna S. Lincoln, *Texas A&M University*

An Examination of Faculty Work: Conceptual and Theoretical Frameworks in the Literature Vicki J. Rosser, *University of Nevada* and Lynn N. Tabata, *University of Hawaii*

Herding Cats and Big Dogs: Tensions in the Faculty-Administrator Relationship Marietta Del Favero, *University of New Orleans* and Nathaniel J. Bray, *The University of Alabama*

Name and Subject Indexes

2010: 567 pages ISBN: 978-90-481-8597-9

VOLUME XXVI

Undergraduate Living-Learning Programs and Student Outcomes Karen Kurotsuchi Inkelas, *University of Virginia* and Matthew Soldner, *University of Maryland's College*

Qualitative Research and Public Policy: The Challenges of Relevance and Trustworthiness William G. Tierney, *University of Southern California* and Randall F. Clemens, *University of Southern California*

- Multilevel Analysis in Higher Education Research: A Multidisciplinary Approach** John J. Cheslock, *Pennsylvania State University* and Cecilia Rios-Aguilar, *University of Arizona*
- The Financial Aid Picture: Realism, Surrealism, or Cubism?** Donald E. Heller, *Pennsylvania State University*
- Inside the Panopticon: Studying Academic Reward Systems** Kerry Ann O'Meara, *University of Maryland*
- In the National Interest: The College and University in the United States in the Post-World War II Era** Philo A. Hutcheson, *Georgia State University* and Ralph D. Kidder, *Marymount University*
- Conducting Multi-paradigm Inquiry in the Study of Higher Education Organization and Governance: Transforming Research Perspectives on Colleges and Universities** Adrianna Kezar, *University of Southern California* and Jay R. Dee, *University of Massachusetts Boston*
- An Exploration of the Scholarly Foundations of Educational Development** Gary Poole, *University of British Columbia's Faculty of Medicine* and Isabeau Iqbal, *University of British Columbia*
- Examining Pathways to and Through the Community College for Youth and Adults** Debra D. Bragg, *University of Illinois*
- A Review of the Theories Developed to Describe the Process of College Persistence and Attainment** Tatiana Melguizo, *USC Rossier School of Education*
- Using Student Development Theories to Explain Student Outcomes** Vasti Torres, *Indiana University*
- Name and Subject Indexes**
- 2011: 502 pages ISBN: 978-94-007-0701-6

VOLUME XXVII

- I Have Always Been a Student: A Tale of Two Careers** P.T. Terenzini, *Pennsylvania State University*
- A Model for Diverse Learning Environments** S. Hurtado, *University of California*, Cynthia L. Alvarez, *University of California*, Chelsea Guillermo-Wann, *University of California*, Marcela Cuellar, *University of California* and Lucy Arellano, *University of California*
- Understanding Academic Work in a Changing Institutional Environment** L. Leisyte, *University of Twente* and Jay R. Dee, *University of Massachusetts Boston*
- The Sociology of Academic Careers: Problems and Prospects** J.C. Hermanowicz, *The University of Georgia*
- Regression Discontinuity Design: Recent Developments and a Guide to Practice for Researchers in Higher Education** B.P. McCall, *University of Michigan* and Rob M. Bielby, *University of Michigan*

Toward a Greater Understanding of the Effects of State Merit Aid Programs: Examining Existing Evidence and Exploring Future Research Direction Shouping Hu, *Florida State University*, Matthew Trengove, *Florida State University* and L. Zhang, *Pennsylvania State University*

Access and Success for Students from Indigenous Populations S.L. Thomas, *Claremont Graduate University*, Shawn Malia Kana'iaupuni, *Kamehameha Schools*, Brandi Jean Nālani Balutski, *University of Hawai'i at Mānoa* and Antoinette Konia Freitas, *University of Hawai'i at Mānoa*

The Roles of International Organizations (IOs) in Globalizing Higher Education Policy R.A. Shahjahan, *Michigan State University*

Southern Higher Education History: A Synthesis and New Directions for Research A.W. Dolan, *University of Mississippi* and John R. Thelin, *University of Kentucky*

Rural Community Colleges S.G. Katsinas, *The University of Alabama* and David E. Hardy, *The University of Alabama*

What Do We Mean by Privatization in Higher Education? A. Hicklin Fryar, *University of Oklahoma*

Author and Subject Indexes

2012: 564 pages ISBN: 978-94-007-2949-0

VOLUME XXVIII

You Don't Have to Be the Smartest Person in the Room George D. Kuh, *Indiana University*

Student Engagement: Bridging Research and Practice to Improve the Quality of Undergraduate Education Alexander C. McCormick, *Indiana University*, Jillian Kinzie, *Indiana University* and Robert M. Gonyea, *Indiana University*

From When and Where I Enter: Theoretical and Empirical Considerations of Minority Students' Transition to College Deborah Faye Carter, *Claremont Graduate University*, Angela Mosi Locks, *California State University* and Rachele Winkle-Wagner, *University of Wisconsin*

Social Networks Research in Higher Education Susan Biancani, *Stanford University* and Daniel A. McFarland, *Stanford University*

Research Integrity and Misconduct in the Academic Profession Melissa S. Anderson, *University of Minnesota*, Marta A. Shaw, *University of Michigan*, Nicholas H. Steneck, *University of Minnesota*, Erin Konkle, *University of Minnesota* and Takehito Kamata, *University of Minnesota*

Instrumental Variables: Conceptual Issues and an Application Considering High School Course Taking Rob M. Bielby, *University of Michigan*, Emily House, *University of Michigan*, Allyson Flaster, *University of Michigan* and Stephen L. DesJardins, *University of Michigan*

On the Meaning of Markets in Higher Education William E. Becker, *Indiana University* and Robert K. Toutkoushian, *University of Georgia*

Learning Strategies, Study Skills, and Self-Regulated Learning in Post-secondary Education Philip H. Winne, *Simon Fraser University*

The History and Historiography of Teacher Preparation in the United States: A Synthesis, Analysis, and Potential Contributions to Higher Education History Christine A. Ogren, *University of Iowa*

A Review and Critique of the Literature on Community College Students' Transition Processes and Outcomes in Four-Year Institutions Peter Riley Bahr, *University of Michigan*, Christie Toth, *University of Michigan*, Kathryn Thirolf, *University of Michigan* and Johanna C. Massé, *University of Michigan*

Public Policy and Higher Education Attainment in a Twenty-First-Century Racial Demography: Examining Research from Early Childhood to the Labor Market Stella M. Flores, *Vanderbilt University* and Leticia Oseguera, *The Pennsylvania State University, University Park*

Advancing the Study of Student-Faculty Interaction: A Focus on Diverse Students and Faculty Darnell Cole, *University of Southern California* and Kimberly A. Griffin, *University of Maryland*

State Support of Higher Education: Data, Measures, Findings, and Directions for Future Research David A. Tandberg, *Florida State University* and Casey Griffith, *Florida State University*

Name and Subject Indexes

2013: 728 pages ISBN: 978-94-007-5835-3