

Michael B. Paulsen
Editor

Higher Education: Handbook of Theory and Research

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Higher Education: Handbook of Theory and Research

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Chapter 1

The Privileged Journey of Scholarship and Practice

Daryl G. Smith

Being recognized as a scholar and contributing to the field of higher education as a researcher remains a wonderful surprise. How lucky am I to forge a career from my lifelong passions. Indeed, as difficult as preparing this essay has been, it has invited me to think about my career in higher education and how my work has emerged in the context of the developing field of higher education. Unenviably, it has required that I acknowledge I am old enough to have lived through much of this period as a working professional (hard to admit). In this essay I hope to set a context for the transformation of the study of and the professional work that has taken place in higher education over the last 50 years and in this context reflect on what it is I have learned or observed.

As I have thought about this daunting task I have wanted to acknowledge the many many people who have mentored, advised, supported, and encouraged me along the way. However, if I try to list them all, this chapter would be filled with lists of names from every segment of my life and career. Several years ago a student of mine taught me an Ubuntu expression that means “I am because we are.” I cannot emphasize enough how true this feels to me and never more true than in these reflections.

“If I am not for myself..who will be?

If I am for myself only...What am I?

If not now...When?”

Hillel

“Injustice anywhere is a threat to justice everywhere”

Martin Luther King Jr. Letter from Birmingham jail, April 16, 1963

“Never, never again shall it be that this beautiful land will again experience the oppression of one by another” (Nelson Mandela, 1994)

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Context of a Career

I graduated from Cornell University in 1965—a time that represented a period of fundamental changes and challenges for our society and certainly to higher education. I was part of a select few Cornell women who were allowed to live “off campus” as a test case. The Civil Rights Act of 1964 and the Voting Rights Act had become law. In one sense Cornell had diversity and inclusion in its DNA. Women and minorities were included in its founding charter. This was in stark contrast to the other Ivy League institutions. Indeed, the nation’s first Black fraternity, Alpha Phi Alpha, was established at Cornell University in 1906. But Cornell was constrained by the norms of the day. During my undergraduate years its practices did not reflect its founding values in terms of diversity. When I matriculated in 1961 women in Arts and Sciences were restricted to a 25 % quota and women were very rare in veterinary medicine. There were strict curfews for women and few African American students or faculty were present. But the pressure for change was escalating and the push to integrate the highly segregated fraternities and sororities was gaining momentum.

When I was an undergraduate, women at Cornell lived in a separate area of campus (north campus) and their limited number in many academic majors, including my own major in mathematics, created a de facto two-class system. While my experiences as an undergraduate were to be quite gendered, K. Patricia Cross was Dean of Students during my freshman year. To this day I remember Dean Cross’s speech to new students. She too majored in mathematics (and later pursued a PhD in Social Psychology) and I followed her career for a long time, watching, as she became a nationally recognized scholar. She was a model and her professional path meant a great deal to me.

The trajectory of my own career developed because society changed. And our academic homes changed. I have been privileged to be part of these and part of communities moving for change. As a young dean, I assumed equality would follow as I watched organizations like women’s student government and gendered administrative positions such as Deans of Men and Deans of Women slip away. But those expectations were challenged. Campuses still found it difficult to appoint women to senior leadership positions. Ironically, while deans of men and women had served on presidential cabinets as equal peers, in the new “progressive” organizations where efforts were being made to end anachronistic structures designed to “protect” women, most female administrators found their access to power diminished, rather than enhanced. One of my earliest professional mentors, Jean Walton, Dean of Women at Pomona College, warned me that when explicit attention to identities like gender and race were taken away, white males were more likely to be chosen for senior positions. By default, most deans of students were former deans of men, not deans of women.

I grew up Jewish in a small ethnic (mostly Jewish and Italian), working class beach town on Long Island. Some of my earliest memories center on my interest in interfaith discourse and my fascination with the ways in which diverse identities

enrich community and friendships. Even as I recognized the power of shared values in that small town, I found homogeneity stifling. My years at Cornell took place during a transitional period in society. Those years were transformative for me. Cornell was an Ivy League university and a Land Grant University at the same time located in a beautiful area of upstate New York. Gorges and waterfalls were part of my every day experience on campus. My leadership experiences on north campus and in campus leadership cemented my interest in pursuing student affairs professionally. Earning a degree in mathematics from an Ivy League institution has served me well, particularly in quantitative analysis. It also afforded me a measure of respect that was denied to many female colleagues. However, it was my introduction to social psychology and history that shaped me intellectually. The study of intergroup relations, discrimination and prejudice provided the foundation for my administrative career and influenced my eventual decision to get a PhD in social psychology.

My years at Cornell gave me proximity to those who were more radical than I in their methods for bringing about change. They made me seem moderate, but through them I became more attuned to the inequities in society that were soon to be challenged in dramatic ways. In the late 60s and 70s it was campus activism that pushed the university to make changes that would prove foundational. Out of dialogue and turmoil we saw the emergence of ethnic and women's studies, the hiring of more diverse faculty, and recognition that identity has intellectual significance. But it was societal activism beyond the campus—Title IX, the women's, civil rights, and gay rights movements, and legislation that addressed affirmative action and disabilities that pushed institutions to make changes that have not always been embraced with ease. Viewed through today's knowledge even those critical social movements have been limited by their inability to engage the diversity within themselves. The women's movement was largely white and middle class, with heterosexual women fearing to be associated with lesbians and women of color. The civil rights movement too often ignored the critical role of women in its success, etc.

I expected that I would have a career in student affairs. My goal was to be a dean of students eventually. I enrolled at Stanford University in 1966 and earned a Masters in student personnel administration. Subsequently, I worked as Dean of Freshman Women and Assistant Dean of Students at St Lawrence University for 2 years and then moved to Pomona College, a member of a consortium of highly selective undergraduate colleges east of Los Angeles. Campus norms included in loco parentis, and there was a great deal of sexism built into the system. Student and faculty diversity was noticeably thin but activism was a rising theme. My position at Pomona also mentioned something about institutional research, though there wasn't much clarity in 1968 about what that should include, but it intrigued me.

It should be noted that the academic study of students, and the field of higher education, was embryonic in the sixties and early seventies. The scholars I encountered in graduate school and in my early professional career were themselves at the relative beginning of the study of college students and institutions. Students offered a convenient population to study and campuses were responsive.

The first edition of *the Chronicle of Higher Education* was published in 1966. Having a national newspaper that covered higher education was seminal because it immediately connected institutions to national media and gave a national/international platform to events and perspectives in higher education. *The Chronicle* was key to strengthening the existence of a field of higher education. However, it would not have been successful but for the newly instituted federal requirements for well publicized, accessible national searches in hiring. *Change Magazine* developed to address key issues in higher education. In 1966, Sandy Astin at the American Council on Education began CIRP (the College Institutional Research program) that for over 50 years has provided national data on entering college students. At the same time that CIRP provided a national lens on college students, C. Robert Pace, George Stern and others were laying the groundwork for studying college environments. Arthur Chickering's theory of identity development, with its signature concept of student development, would not be published until 1969 (Chickering, 1969). Though much of this research focused on students, student outcomes and experiences, it laid a foundation for the study of institutions, faculty, and policy. Federal data has been collected on higher education even from the nineteenth century, but until 1970 the only racial categories used were black and white. Having first been the Association of Professors of Higher Education (as part of the American Association of Higher Education), ASHE was formally launched in 1976.

While at Pomona, I married and had a child; I was surprised when many faculty were judgmental about my intention to continue to work. The implication was that I could not be a good mother as well as a good administrator. Those were the days when women were openly paid less than men "because they didn't have families to support." Indeed, women could not have a credit card in their own name, even if they were employed.

I decided to continue my education in a PhD program in 1972. Claremont Graduate School afforded me the opportunity to create a dual degree in Social Psychology and in Higher Education, with an additional emphasis in the emerging field of evaluation. Because I hadn't taken enough psychology courses as an undergraduate I had to get a second masters in psychology. This was in the early seventies and while I was advised that it was not optimum for someone who was working and had a family to pursue a PhD, the context gave me focus and I completed the degree in 1975. My dream job expanded to be a dean of students, but also to teach psychology and develop IR for a campus. That position emerged just down the street, at Scripps College, where a national search was underway for a Dean of Students.

The Privilege of Meaningful Work

Scripps College introduced me to women's colleges and the important role they played for women as well as to important scholarship on women. By putting women at the center of a college's mission they have differed from coed institutions profoundly. These institutions have tended to be more gender balanced in faculty,

Boards of Trustees, and even senior leadership than “coed” institutions. I became aware that in all my previous work at coed institutions there was hesitation in focusing on women’s issues or men’s issues after the designed separation between women and men had been removed. This awareness represented a significant shift to looking at identities, not just from an individual view, but to an institutional one. That time also introduced me to the special contributions of additional special purpose institutions including HBCU women’s colleges, particularly Spelman College and Bennett College, and to tribal colleges.

I served as a college administrator through tumultuous times. It was a period that challenged, and even frightened, many. Almost every practice was questioned confrontationally. Sit-ins, protests, and bomb threats were common. I personally confronted the inequities in pay, discrimination in hiring, the challenges to being a working mother, and the slow progress for civil rights. I saw the need for campuses to broaden the intellectual work of the academy to include gender, race, class, and sexuality, as a matter of intellectual excellence not political pressure. And I saw the power of non-violence over violence to bring about change. My eight years as Dean of Students at Scripps College and the following 3 years as VP for Planning and Research provided a window on the embedded nature of identity in institutional culture, policies, and values.

The 21 years in which I held administrative positions were enormously satisfying. I felt excited and good about my work with students and the institutions in which I served. Increasingly, however, I found myself drawn to teaching and scholarly pursuits. At Scripps I taught courses in social psychology and I began to teach a course in governance at CGU. In addition, I began to delve more deeply into the scholarship in ethnic studies, women’s studies and student and adult development. When in the late 70s and early 80s, national and international events led to growing fiscal crises, the work in planning and evaluation grew exponentially. The evaluation and assessment movement for student learning and institutional effectiveness also produced new research and literature in the field. These experiences whet my interest in moving from practice to scholar.

At the beginning of my career I never would have imagined becoming a “scholar,” but I became more and more clear that I wanted to make a contribution to the field of higher education through research. In 1987 I was offered a tenure-track position at Claremont Graduate School. It was a bit daunting to pursue tenure at that point in my life. I had only published my dissertation and articles for student affairs journals. But in 1975 the Association for Professors of Higher Education (pre ASHE) had selected my dissertation, *Process-Outcome Study of Learning in Higher Education*, for the dissertation of the Year award (Smith, 1975). It was a seminal experience that suggested that perhaps I could do research that mattered. CGU, in its national search for that position, had to take a chance on an experienced administrator with good teaching experience and a few publications over others with a more established scholarly career. This was also a time of personal transitions as I began a supportive and long term partnership and marriage to another woman.

CGU was a perfect fit for me. The School of Educational Studies was founded in 1925 with an emphasis on adult learners who bring experience to their doctoral work.

Also, I was attracted to CGU's philosophy of encouraging these experienced professionals to pursue their own research. As a consequence of that approach, the role of the faculty has been quite different than in many graduate programs with more traditional age graduate students. It has been to facilitate the research development of our students—not to have graduate students simply do the faculty's research. In my time at CGU, students have participated in all of my research and writing, but none have used that experience for their own dissertations. They have had their own ideas for research. Their work, whether they have pursued administrative or faculty positions, continues to influence me to this day. In addition, like many higher education programs in the country, there were just a few of us who focused on higher education. When I arrived at CGU, Jack Schuster and the late Howard Bowen were the senior higher education professors. Jack has been a valued colleague ever since. Whether conducting joint research on governance (Schuster, Smith, Corak, & Yamada, 1994), discussing the future of faculty (Schuster & Finkelstein, 2006), or knowing I could rely on him for support and advice at a moment's notice, our collegueship has been something I will always treasure. Because CGU is so small, dividing us into departments was not strategic; therefore, all of the faculty across the school of education work with higher education students. This boundary crossing provides an intellectual richness that cannot be understated.

My research and teaching as a faculty member has focused on institutional change, governance, special purpose institutions and diversity in higher education. I taught courses on planning and assessment, the college student experience and adult development as well. My lens as a social psychologist has been a wonderful way to engage the interplay between people and institutions and the significant ways that institutions, their cultures, policies, mission, and ethos, influence behavior. It is clear to me that our scholarly knowledge has developed in the social context of the times. At its best our knowledge and our theories have grown in complexity and greater validity through the lens of diversity and in areas related to diversity: transformation, leadership and decision making, hiring a diverse faculty for the next generation, building capacity in the STEM fields, and creating educational environments where diverse faculty, staff and students can thrive.

While the field of higher education was still framing diversity issues in terms of access and pipelines for students, faculty and leaders, it became clear to me that the issues were not just about pipelines but about the limited capacity of institutions, disciplines, organizations to identify existing talent in people, especially when it didn't look like or follow conventional characteristics. This period was also deeply embedded with continuing calls for change to the curriculum. It was a time when identity and the intersections of identity became more prominent. The women's movement and women's studies had some hard lessons to learn about *which* women were the norm. For white women, the salient identity of gender became a code for white heterosexual women. This caused great controversy in many professional associations and departments where there was pressure to diversify things like women's studies. Similarly, issues of gender were prominent in many HBCU's. Places like Spelman and Bennett became leaders in the discussions about the role of Black women in the academy. In scholarship, one of the most fitting titles of the

time was: “*All the Women are White, All the Blacks are Men, But Some of Us Are Brave: Black Women’s Studies* (Hull, Scott, & Smith, 1982). In addition, the intersectionality and the complexity of race and ethnicity emerged in the scholarly literature in part to challenge the notion that race is a binary of Black and White. Jose Moreno’s (1999) pointed history of Chicano/as and the court battles that preceded *Brown v Board of Education* in 1954 and Ron Takaki’s book, *A Different Mirror: A History of Multicultural America* (1993) are just two books that capture the move to more fully engage history through multiple identities. Being on a college campus all these years has kept me involved in the need for change and underscored my gratitude for those who push for change and justice. And just like our campuses and our society I have been continually challenged to see things that I might not have seen before.

Associations of All Kinds

As a scholar in higher education, I have been drawn into an extraordinarily broad array of associations that have contributed to my research and experiences. In each and every case, collaborative projects developed to address important topics of concern (García, 2007). Significantly, so many of these collaborations have developed into wonderful, enriching, and lifelong friendships.

Professional Organizations

Professional organizations, whether research or practice oriented, have been critically important to me and I believe to many. I began my earliest involvement after graduate school with the National Association of Women Deans and Counselors (NAWDAC). Not only did NAWDAC include women deans from colleges and universities, but also from high schools. As a result it included many African American women from southern schools and HBCUs. I recall race being a significant part of the discussions at national meetings. NASPA and its regional organizations also provided many opportunities for growth and professional development. Having historically been for male professionals, NASPA has evolved into a professional home for student affairs professionals. As a college administrator, professional organizations offered opportunities for me to continue to grow and to develop professional colleagues throughout the country. They also provided opportunities to take on civic responsibilities.

In 1983 I was asked to participate in an ACE leadership forum for the advancement of women in leadership. My assigned mentor was Jackie Mattfeld, President of Barnard College. I learned a great deal from her and through Jackie I observed the challenges to women in leadership, even at a women’s college. One of Jackie Mattfeld’s most significant mentoring gifts to me was when she forced me to engage in an intellectual game for which I was not prepared. I had been Dean of Students at

Scripps for some time and she asked me about my plans for the future. I said I thought I'd like to move into strategic planning and institutional research, some of which I had done and enjoyed as a dean. When she asked me to sit down and write a description of my dream job I resisted. I said I was too busy, but she persisted. I mollified her but popped the assignment into my desk drawer afterward. The following week the President of Scripps called me to his office to tell me that the college was thinking of creating a new position: vice president for strategic planning. He asked me if I was interested and to draft a job description. I returned within minutes after pulling the job description from my desk. What followed were 3 interesting and fulfilling years in the position of VP for Planning and Research at Scripps. That method of inviting people to think and dream of what their futures might be is something I carry with me to this today. I do believe that part of professional development and mentoring is to invite people to imagine oneself in places one might not normally imagine and then to seek out people who might be helpful in the journey. In describing this time, I am reminded of Roberta Expinoza's (2011) research on pivotal moments in the lives of first generation students, when someone, often a faculty member or teacher, encouraged them to consider a possibility or encouraged them when they needed it.

When I joined the faculty at CGU in 1987 ASHE became my academic home (though I had been a regular attendee since 1976). The opportunity to be engaged nationally with many stellar and supportive scholars while working alongside supportive colleagues at CGU has provided me with the intellectual and practical grounding in things like publishing and developing a scholarly agenda, let alone guiding a lifelong administrator through the steps to tenure. I have never lost my sense that scholarship, research and practice are inextricably connected.

When ASHE was being challenged to address diversity in its membership as well as in its scholarship, The Committee on Ethnic Participation (CEP) was formed to provide a forum for members who were concerned about diversity and wanted to advocate for institutional transformation. Mildred García, Laura Rendon, Caroline Turner, Estella Bensimon, and Wynetta Lee were among those central to these efforts and I was pleased to participate as a member and to be supportive as an ASHE Board member. In my role as Chair of the ASHE Readers Series I was also endeavoring to ensure that the canon of higher education changed to incorporate the best in new scholarship on diversity in topics such as the History of Higher Education, College Students, Governance, the Economics of Higher education, and Institutional planning and Research. I have endeavored to give back to ASHE through participation, a little of what I have been given. Receiving the ASHE service award in 1995 and then the Howard R. Bowen Career Achievement Award in 2012 has been humbling and thrilling. This has been the professional home that has nurtured my passion for research and writing, has provided collaborators and friends, that has permitted me to contribute, and now makes me feel so honored and so humbled.

Over the years, extensive work with the Association of American Colleges and Universities, serving on the Board of the American Association of Higher Education (AAHE), chairing the Editorial Board of the Journal of Higher Education,

being part of the conversations on the next generation of diversity work in medicine at the Association of American Medical Colleges under Marc Nivet's leadership, and serving on a Kellogg Foundation project Advisory committee on diversity in the health professions at Harvard Medical School under Joan Reede and Emorcia Hill's leadership has provided many locations where I could partner with talented people pushing the envelope of change.

Accreditation

As VP for Planning and Research I was able to engage my interest in the role of data in institutional planning, in assessing the college experience, and quality. Scripps was very small, and much of the early research was done with pad and calculator and a work-study student. This position, however, provided numerous opportunities to participate in accreditation teams that were looking at the role of planning, institutional capacity, quality, and effectiveness. By participating on many WASC (Western Association of Schools and Colleges) teams, I also began to learn about accreditation and its role in higher education.

Active involvement in accreditation created extraordinary opportunities to think more deeply about excellence and the assessment of excellence. It also forced me to look at numerous self-studies and ask how campuses were demonstrating success in achieving their mission. I took away a number of lessons from these experiences. One was that until WASC began *requiring* the use of evidence (data), there was very little of it presented in self-study reports and very little interrogation of data by visiting teams (with the exception of financial data). In the early years retention meant, quite literally, how a campus would retain student records if it closed. It was years before student graduation and retention would become part of a campus' presentation concerning student success. It continues to be a struggle to find disaggregated data on student success by race, gender and especially class.

And yet why wouldn't these data be essential for most institutions that serve undergraduates? When the federal government began requiring the reporting of graduation rates the default metric was graduation of entering full-time first-time students who graduated within 150 % of the normal time, i.e., 4-year institutions were looking at this cohort and its graduation rates within 6 years. The immediate outcry was that this metric did not capture the profile of many campuses where there were increasingly adult and part-time student bodies. This is absolutely true. I spent hours on task forces in which people criticized this federal definition. However, the time spent criticizing has often seemed to me to be a substitute for addressing the core issue of graduation and completion rates of students in any program at any rate. Separating time to degree from completion and retention and then looking at retention and completion for any entering cohort (part-time or full time) disaggregated by race and gender (and class if possible) provides a basic metric for looking at success. Time to degree, learning outcomes, and quality of the experience can then be added.

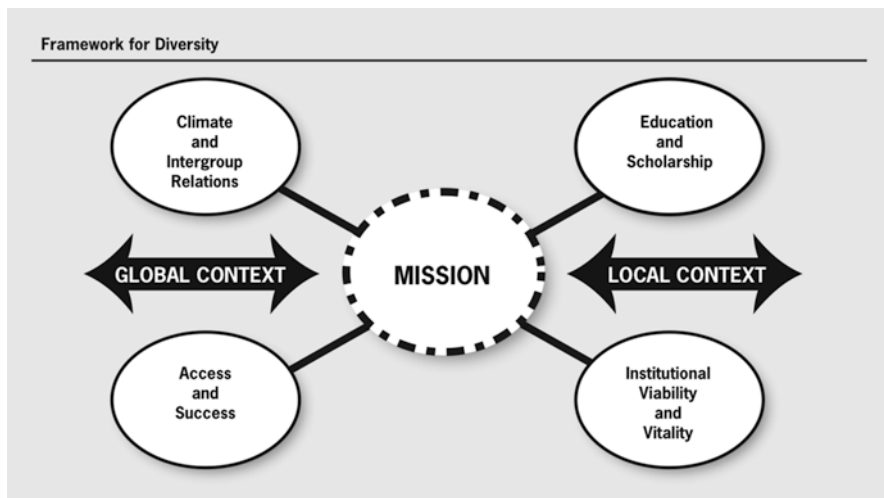


Fig. 1.1 A framework for Diversity

I have observed a dynamic between federal or state regulation and higher education. Rather than engaging the issue and developing strategies more appropriate to the campus, higher education and many campuses spend more time fighting the inadequacy of the regulation. This has happened for graduation rates, for diversification in hiring, for sexual violence on campus, for access to those with disabilities, and for many issues of equity.

In the 1990s WASC decided to move diversity to a central position when composing teams, arranging visits, and asking for self-studies. I sat on an advisory panel for the WASC initiative on diversity and recall the pressure on that group to “define” diversity. I had avoided that task because I knew that in the academic world we could spend decades debating definitions. But in the end, I had to think through how I would describe what we meant when we referred to diversity because the default definition seemed to be a list of identities that should be included, but were difficult to differentiate. That exercise helped frame my diversity work (Smith, 1995). As I reviewed the history and research on diversity in higher education from an institutional perspective I realized that most of the work could be mapped onto four dimensions and the dimensions conceptually created space for an inclusive approach to diversity but also a differentiated one.

Figure 1.1 displays the four dimensions of diversity and located it significantly around institutional mission.

The first dimension is really the historic root of diversity in higher education – *access and success of historically underrepresented students*. Here one is looking at admissions (who has access) but also who succeeds. Contemporary efforts address whether and how different groups are succeeding and thriving.

The second dimension focuses on *climate and intergroup relations* on the campus for students, staff, and faculty. What is the climate, culture and ultimate attractiveness

of the institution or its departments? This dimension is often the focus of concern for groups who have experienced marginalization based on many identities.

The third domain for diversity goes to the academic core – *education and scholarship*. This domain addresses the question of the knowledge that *all* students and professionals need to have in a pluralistic society and the capacity of faculty to provide the research, teaching, and curricular base for that knowledge in their fields and as a faculty.

This dimension also includes a concern for intergroup relationships. How do groups engage across difference? What is the capacity of the leadership on campus to address difficult dialogues –whether about race, religion, sexuality, gender identity or any of the contentious topics that emerge in a pluralistic society or interconnected world? While some institutions have begun to address, quite formally, intergroup relationships among students, there has been less facilitation of intergroup relationships among faculty and staff. Again, competence in this area includes the recognition of the asymmetry of privilege given any particular identity and the capacity to engage the multidimensionality and intersectionality of identities in an intergroup context.

The *institutional viability and vitality* domain, in particular, addresses institutional level concerns about capacity, including a mission statement that engages diversity deeply and not superficially. It suggests that core indicators of excellence and priorities for strategic planning are directly linked to diversity and not parallel to diversity efforts. Interrupting parallel conversations between excellence and diversity and integrating them is an important step for institutional change that is sustainable. This domain also includes how the institution is viewed from the perspective of diverse communities and whether it has the leadership capacity with the requisite expertise to meet the demands of serving a pluralistic society. Finally the domain includes the ability of the institution to hire and retain diverse faculty and staff.

Work with Foundations

As I reflect over the last decades as a researcher and sometimes as a consultant, participation in the work of Foundations has created significant opportunities to engage with campuses, to develop research, and to get a national and sometimes international perspective on the field of higher education. It also provided an opportunity to study the factors that influenced how and whether grant making can make a difference. It has also broadened my knowledge of fields such as medicine. The Kellogg Foundation's project at Harvard Medical School on diversity in the health professions and working with Joan Reede and Emorcia Hill has been exciting. Working with the Pew Foundation to evaluate their Hispanic Theological Initiative required deep learning about diversity within Protestant denominations and seminaries.

The Ford Foundation

In 1990, The Ford Foundation had begun a program called the Campus Diversity Initiative (CDI) to try to promote institutional transformation with regard to historically underrepresented students. Edgar Beckham was the program officer and he was gifted in working with campuses and also in trying to bring together campuses to learn from each other through annual national and regional meetings. In 1995, Beckham invited myself, Mildred Garcia, Yolanda Moses and Caryn McTighe Musil to undertake an evaluation of the CDI by looking at the institutional impact of the first round of grants made under the CDI to 19 residential colleges and universities. We had worked together over many years. Yolanda and I met while she was a Dean at Cal Poly Pomona. Millie and I had collaborated at ASHE and Caryn and I met through AAC&U. That project resulted in the publication of *Diversity in Higher Education: A work in Progress* (Musil, Garcia, Moses, & Smith, 1995). Another outcome of this and other projects were deep and long lasting professional and personal friendships. We all participated in Yolanda's inauguration as President of CCNY and Millie's three presidential appointments in New York and California. And, we continue to make the effort to meet annually just to stay in touch.

During this same period, a number of other foundations were funding diversity projects across the country. Again, thanks to Edgar Beckham and Ford, our Ford evaluation team along with evaluation teams from the Kellogg Foundation, Hewlett Foundation, the James Irvine Foundation, and the Lilly Foundation were invited to collaborate on a series of publications that would serve as a kind of meta-analysis of what we were learning from these efforts, particularly about institutional change. That resulted in three publications on change, research and assessment. (García, Hudgins, Musil, Nettles, & Sedlacek, 2001; Musil et al., 1999; Nettles et al., 2002; Smith et al., 2000).

Several years into the CDI, Ford began to invite small teams from India and South Africa to the annual meetings and was working with campuses in those countries to develop initiatives. The annual meetings were rich opportunities to learn and often to sustain individuals through some difficult times. At one such meeting in 1992, when all of us were discouraged by the recent Hopwood decisions in Texas, a student leader from South Africa, stood up in a town meeting called to discuss the implications of the court decisions limiting affirmative action, and chastised the group for allowing a few court decisions to discourage us. Coming from a student in recently post apartheid South Africa, this was an important reminder that there would be setbacks and we couldn't allow ourselves to give up. Indeed, there have been set backs and progress in recent years. Yet, the embedded structural issues concerning both race and gender, the continuing problems of police violence and sexual violence only underscore the unfinished business of diversity.

The legal challenges to affirmative action in admissions spawned a number of really important settings in which lawyers working on the cases collaborated with researchers to make sure that the questions and design of research would provide usable evidence for the policy decisions under scrutiny in the courts. Probably the best example of this partnership was the research that developed at the University of

Michigan in preparation for the Supreme Court. Patricia Gurin's research on the educational benefits of diversity and Jonathan Alger's work to develop a research-based amicus brief were truly impressive (Gurin, 1999). Designing studies that could contribute to our understanding of whether and how diversity affects learning was crucially important and has established a strong body of research that has only grown, and grown more sophisticated.

In 1997, the Ford Foundation, under the leadership of Alison Bernstein and Edgar Beckham, conceived of a tri national conference on Diversity, Democracy and Higher education with teams from South Africa (the newest democracy), India (the largest democracy) and the U.S. (the oldest democracy). One team of seven from each country met annually in one of the three countries and participated in a travelling seminar. I was fortunate to participate in the South Africa (1998) and U.S. seminars (1999). Out of those meetings came a number of publications. In South Africa, I think it is fair to say that all of us were struck by the significance to South Africans of the new constitution. Within our first hours there we had received copies of the full constitution, the abbreviated constitution and the pictorial one for those who couldn't read. While many of us took the significance of democracy for granted, the aspiration of a democracy that works for all became an underlying theme of my own future work on diversity in higher education. The other observation from that extraordinary experience was that while each country had different salient identities that underscored their diversity efforts (with the exception of gender), the themes that emerged about institutional change, scholarship, the need for strategic evaluation, adding new knowledge to the curriculum and the role of the faculty transcended nations (Beckham, 2000, 2002; Cross et al., 1999; Smith, 1999).

The James Irvine Foundation

During this period of the late 1990s, a number of foundations in addition to the Ford Foundation were supporting campus efforts to address the success of historically underrepresented minorities in higher education. The James Irvine Foundation had spent millions supporting the work of private colleges and universities in California. In 1997, they asked me to review the progress up to that date and make recommendations for how they should do grant making in the future. A report "The Progress of a Decade: An Imperative for the Future" outlined some of the lessons from the review of grants to 21 California institutions and 2 grants to WASC amounting to about \$20,000,000 (Smith, 1997).

What clearly emerged was the need to reframe the work of diversity from the development of projects and programs and the evaluation of projects and programs to a more fundamental question of how institutions themselves had changed as a result of institutional efforts and considerable foundation resources. For the most part, the review suggested that programs would be funded as long as there were outside funds to support them, that they existed too often in parallel to core institutional functions, and that they were only generically related to mission and strategic priorities.

In 2000, as they developed the next phase of the Campus Diversity Initiative, the Foundation sent out a request for proposals to evaluation teams who could work with campuses to build their capacity to evaluate their *institutional* progress on diversity. The CDI that resulted was a \$29 million dollar effort to assist 28 independent colleges and universities in California with improving campus diversity. The opportunity to work with 28 campuses and to develop institutional level data to evaluate was an important opportunity. Sharon Parker and I, at CGU, and Alma Clayton-Pedersen at AAC&U developed a proposal to work with campuses that would receive Irvine funding. It was important that we knew we could work well together for this large and complex project. Sharon and I had met when she was at Stanford and again on an evaluation for the Compact for Faculty Diversity. Alma and I met first, I think, through ASHE and her work at Vanderbilt. The foundation funding would include an expectation that campuses would evaluate their progress using organizational learning as a framework and that senior leadership would be involved. Irvine was interested in access and success for URM students and for low income students and campuses were asked to submit proposals to pursue that effort. Our role was to work with campuses to design and conduct evaluations on their progress. In a sense it was a multi-case study approach to change. The work involved a diverse team of 12 evaluators, doctoral students, a postdoctoral researcher and an intense partnership between the three co-PIs. It was an extraordinary opportunity and over 5 years we learned a great deal about facilitators of change, impediments to change, and the communication efforts required both within institutions and among institutions to sustain progress. Our purpose was to assist the Foundation and the individual campuses. Another primary objective, however, was to contribute to the field concerning diversity on campus, the role of evaluation and the new knowledge that was being developed through the research. Out of the project came a report (Smith, 2004), a monograph (Clayton-Pedersen, Parker, Smith, Moreno, & Teraguchi, 2007), a research report about building capacity (Smith, Parker, Clayton-Pedersen, Moreno, & Teraguchi, 2006), and three research briefs that explored faculty retention (Moreno, Smith, Clayton-Pedersen, Parker, & Teraguchi, 2006), “unknown students” (Smith, Moreno, Clayton-Pedersen, Parker, & Teraguchi, 2005) and the intersection of race and class (Moreno, Smith, Parker, Clayton-Pedersen, & Teraguchi, 2006). Additional work on organizational learning emerged (Smith & Parker, 2005) as did the awareness that programs and projects were not going to be sufficient for change (Shireman, 2003).

In all of these many collaborations over the years, I experienced and learned the value of creating diverse teams that worked well together. The outcome was always better than had any one of us had to produce the study or report. And the process was inspiring. In addition, there was a comfort in having so much talent and perspectives around the table that we reduced the probability of missing something or improperly framing an issue. I remember chairing one meeting when we were discussing the results of the Irvine study and the role of the Chief Diversity Officer (CDO). It appeared to me from our case studies that institutions with a CDO had made more institutional progress on student success, hiring, curriculum change, etc.

When I posed this to the team, I was corrected. All agreed that the CDO role, however called, was a significant factor but *under the right conditions*. That conclusion has held since then. Models of Chief Diversity Officers that are meant to be responsible for everything related to diversity and fundamentally parallel to the core business of the institution, were not the correct approach. In contrast when the CDO's role is to assist in working with leadership on embedding diversity in core functions, in working with senior leadership on building institutional capacity, and in monitoring institutional progress there is more likely to be systemic and sustained change. Without collaboration and multiple perspectives on the data, this might not have been the conclusion.

Moreover, working with the data developed for the Irvine project, I saw the damage done both in scholarly knowledge and personal experience when groups are made invisible by aggregation. In some California institutions, aggregating Latinos, African Americans, and Native Americans in one category often masks the very different experiences of success and engagement for each. With two Native American scholars on our team, the invisibility of Native Americans (often with the excuse that the numbers are too small) was painful. I vowed never to give a talk or write a paper or supervise research in which I did not give explicit attention to each of these groups and to make sure the data for Native Americans were discussed no matter how limited. Does collaboration take work and time? Yes. And the larger the group the more time and effort is required. Similar to other experiences, those of us who worked on the Irvine project have remained close colleagues and friends since then. Being in a diverse team that develops trust, that can speak frankly, and that assumes mutual responsibility for the work is a treasure never to be taken for granted.

Theory, Research and Practice: Developing a Research Agenda and Design Approach

There is and always has been ongoing tension in education at every level as to whether research has made a difference in the field, in practice. While there is always a tension between those interested in theory and research and the practitioners who want and need 'best practice,' I actually believe that there is much to point to about the role of research in practice. As higher education grew as a field of study, and as ASHE and AERA grew as professional academic associations, I observed a significant number of members both faculty and graduate students who had their roots in fields of practice; who had made the transition from an administrative post to faculty or who were simultaneously doing both. This pattern ensured a connection to questions or issues based in the field of practice. If anything the danger in some of this work was that it could be too localized. Yet with the introduction of greater numbers of multi institutional data sets, many of these research and policy questions are being addressed through multi-campus case studies or large- scale quantitative data.

We have also begun to understand that one study is not likely to provide a definitive answer and that literature reviews, in synthesizing what is known, can play an important practical role. Many scholars in higher education are making a difference with their research. I can cite many examples of this throughout the research community in higher education. The research done in preparation for Supreme Court cases is a perfect example (Alger, 2013; Chang, Witt, Jones, & Hakuta, 1999; Smith et al., 1997). I could cite hundreds of people and the bodies of research they have contributed. But let me cite just a few other examples of scholars whose work has made a difference on campuses and in policy circles: Sandy Astin at HERI (2003), George Kuh's development of NSSE (Kuh, Kinzie, Schuh, Whitt, & Associates, 2010), the impact of college by Pascarella and Terenzini (1991), Shaun Harper's work on race (2012), Will Perez's research on undocumented students (2009), Bruce Johnstone's work on financing (2005), Sylvia Hurtado's (2006) evidence about building student engagement for democracy, Mary Beth Gasman's research on HBCUs (Gasman, Baez, & Turner, 2008), Caroline Turner's research on faculty of color (2002, 2003; Turner, Gonzalez, & Wood, 2008; Turner & Myers, 2000), Estela Bensimon's equity scorecard (Bensimon & Malcolm, 2012), Daniel Solorzano's work on critical race theory (Solorzano, Ceja, & Yosso, 2000), Jack Schuster's work on the faculty (Schuster & Finkelstein, 2006), Vincent Tinto's work on retention (2012), Adrianna Kezar's contributions on organizational learning and contingent faculty (Kezar, 2005; Kezar, 2012). Laura Rendon's historic work on validation (1992), and Scott Thomas' and Laura Perna's policy research (2004). Would anyone doubt the impact at the highest level of Freeman Hrabowski's work on success of African students (Hrabowski, Maton, Greene, & Greif, 2002; Hrabowski, Maton, & Greif, 1998) or Claude Steele's (2010) path-breaking work on stereotype threat and the large body of work both of them have inspired?

For me, developing a research agenda when I moved to the faculty required thinking about where I could make a contribution, however small. In a way, I have drawn on the insights from the work on my dissertation to inform why I do the research I do and a way to think about it. In my doctoral work in Psychology, I had become interested in instructional psychology -- the psychology of teaching and learning in higher education. I was aware there was less work in higher education on teaching and learning than on out of class experiences. People like Wilbert McKeachie who was an instructional psychologist was very important to me at the time. Moreover, despite those who suggested that peer-to-peer interaction in the classroom was important, many studies at the time suggested that teaching method made no difference. That is, whether faculty led discussions or lectured, the outcome was no different. This conclusion from many studies puzzled me. I didn't believe it but there were years of empirical studies concluding that teaching method made no difference (Bloom, 1953; McKeachie, 1970). When I looked at the design of most of these studies, what I found was that the independent variable (lecture, discussion) was decided by self-report and the dependent measure was often a final exam or grades—not very sensitive measures. I had in my literature review come across a study from K-12 where Bellach (1967) studied teacher self-reports of their

teaching methods and found that the amount of time teachers spent talking in the classroom didn't vary between those who said they emphasized discussion and those who said they lectured. That study led to my dissertation design and informed my sense that design and operational definitions of studies were important. So my dissertation looked at the relationship between teaching method and outcomes in a different way. I selected classrooms for faculty who were seen as highly successful teachers and recorded the amount of time faculty talked and the amount of time students talked to each other using methodology developed by Flanders (1970), Bellach (1967) and others. The outcome measure was a pre and post test of critical thinking. The results were clear—the more students participated, the less time teachers talked, the more questions asked, the greater the positive change in critical thinking. I learned two lessons from that experience—empirical work and design mattered. I also was encouraged to think that I might make a contribution.

Scholarship on Diversity in Higher Education

My own work on diversity evolved as well from seeing the need for research and the hope that we as scholars could make a difference. When I first came to the faculty in 1987, there was a lot of discussion about the demographic changes in the country and an embedded assumption that with more access to students, institutions would also change. I decided to look at the empirical literature on the environment for diverse groups of students and their experiences in higher education. That led to the ASHE-ERIC monograph, *The challenge of diversity: Alienation or Involvement in the academy* in 1989 that was reprinted again in 2005 (Smith, 2005). The conclusions were clear that while students might be changing, institutions were not. I learned very quickly, however, that using only mainstream publications, especially journals, for this review would uncover very little diversity in the authors cited and the scholarship that had been occurring. By probing alternative sources, I was introduced to a plethora of significant scholarship and researchers that contributed significantly to the review but also to my thinking about the topic. While that monograph focused on students, my remaining work began to focus on institutions. It also highlighted for me the impact of special purpose institutions—women's colleges, HBCUs and Tribal colleges. That research suggested not only that these institutions had an impact on their students but also that they had a lot to teach the rest of higher education about what it means to engage race and gender at the core of an institution's mission and practices.

The work from the Ford and Irvine projects provided key lessons about diversity. Things like erasing gaps in achievement, diversifying the faculty and bringing transformation to the curriculum, curriculum transformation could be achieved with intentionality, leadership, sustained monitoring, and connection to mission. Now as we see, almost two decades later, because of changing demographics and the unfinished business with respect to historically URM as evidenced by the continuing

inequities in our society and the Black Lives Matter movement, diversity is not something we need to prove as a value. I wrote the following in 2016:

Diversity represents one of the most dramatic societal changes in the twenty-first century with significant implications for American higher education.¹ It is not only shaping higher education, but also higher education's role in society. Today, diversity is no longer a projection—it is a reality. The challenge, however, is that while the historic issues of diversity, which have occupied many in U.S. higher education over the last fifty years, have grown in their urgency, new issues are developing. Indeed, the breadth of concerns related to diversity on campuses throughout the United States include not only race, ethnicity, gender, and class, but religion, sexual orientation, gender identity, and disability, among others. The combination of shifting demographics and the increasing visibility of issues related to numerous identity groups indicates that the context for diversity is expanding. The growing context suggests that higher education's role in achieving the promise of democracy—developing a pluralistic society that works—could emerge as even more central than when the Truman Commission or the GI Bill articulated the link between higher education and a healthy democracy (2016, p.375).

The legacy of structural inequity is deeply embedded in every aspect of our social and institutional structures. This is true not only in the US but all over the world. The particular identities might differ—but the structures that create inequality for particular identities are universal. Today the list of identities has become even more inclusive and the viability of any university or institution will depend on its ability to build capacity for that diversity. This imperative requires more than just admitting diverse students – it also depends on its ability to hire talent from diverse groups of staff and faculty and develop the intellectual work required of successful democracies that work and the capacity to build robust communities. It is striking that as much as things have changed, much remains to be done. This has led to my interest in pursuing research at a number of different levels.

Women's Colleges

As was true of other special purpose institutions, the existence of women's colleges was under a lot of pressure when I began my academic role. Their viability as single sex institutions was being questioned. With national data provided by HERI, two students and I looked at the empirical question about the impact of women's colleges on students. Despite limited numbers and data, the study demonstrated their direct and indirect impact on outcomes. A follow-up study looked at the ways in which colleges and universities were still gendered. The design of this study, rather than using gender as a control variable as would have been common, located gender as part of the college experience and supported the notion that women and men experienced college differently (Smith, 1990; Smith, Wolf-Wendel, & Morrison, 1995; Smith, Morrison, & Wolf-Wendel, 1994). At the same time, Lisa Wolf-Wendel, in her path-breaking dissertation, demonstrated the important role women's colleges played in PhD production for women; and by looking at the intersection of race and gender, showed the particular role Spelman and Bennet played for

African American women and the role that women's colleges with special focus on Latinas played for Latinas. She would later go on to show that for these special purpose institutions that served women of color, institutional resources were not predictors for student success (Wolf-Wendel, 1998, 2000; Wolf-Wendel, Baker, & Morphew, 2000). Her research would be featured in a book that we developed in collaboration with Lee Tidball and Charles Tidball that pulled together the research on women's colleges including the development of why women's colleges had made such a difference (Tidball, Smith, Tidball, & Wolf-Wendel, 1999).

Academic Merit and Testing

At the time proposition 209 passed in California in 1996, I had been following the research evidence on the damaging role of high stakes testing, especially in admissions but had not done much research myself. Since anger and frustration about how policies and practices are framed is often an impetus for my research, I decided I needed to do some work on the role of testing. The structural inequities in admissions processes for large public and selective universities continue to generate a lot of public attention. But how we frame our responses has troubled me. The arguments for 209 had assumed a fundamental argument about *leveling the playing field* that is usually a powerful one. At the time of the vote, however, the message conveyed some sense that students of color who were being given some extra consideration based on race were not as prepared.

Sometime after the vote for 209, I served for the first time on an accreditation visit to a large selective public university in California. It was only then that I learned the details of the academic merit index that was being used for the "regular" admissions process. Only then did I see the embedded structural racism built into this campus's (and system's) notion of excellence. Three numbers formed the basis of merit: The SAT, the number of AP courses, and GPA. The SAT score we know is heavily related to preparation and class as well as race and gender. The number of AP courses simply meant that an applicant who went to a school with no or limited numbers of AP courses (something common at largely African American and Latino urban schools at the time) would have an immediate cap on this number. To make matters worse, the number of AP courses would also impact the maximum GPA achievable from a 4 to a 5. A student at a more affluent school could take many AP courses and achieve a GPA of 5. A student from a school with no AP courses would get a 0 for that element and a maximum gpa of 4, putting that student below any consideration for admission based on "merit." In a large university a simple metric for academic excellence clearly expedites the admissions process. But these three numbers clearly manifested inequity. The solution prior to prop 209, was simply to create a parallel process that could consider race so that at least some limited number of students that were ineligible through routine processes could be considered. Every time an effort was made to alter the system by, for example, giving students

scores for the percentage of AP courses they took from those available it was resisted so as not to limit “excellence and merit.”

In collaboration with a research team of doctoral students, we decided to look at the particular role of high stakes testing in influencing student success by race. We knew that traditional studies looked at the predictive value of the SAT, most often to first year grades. Even when the statistics showed some predictive value, it was clear that the test was not a very good predictor for the first year and of almost no value over the longer course of study. And when the data were disaggregated by race and gender it often disappeared as a predictor. Nonetheless, the general notion was that it was a useful tool to predict success. We decided to look at the data through a retrospective lens. What if we took an indicator of success and retrospectively looked at the distribution of test scores for successful and unsuccessful students especially when the data were disaggregated.

We managed to find six different data sets that would allow us to conduct the study. Four were data from individual institutions, including data from one law school using the LSAT as the test. One was a system wide data set from a large system and one was a national data set. The available measures of success varied by data set but included metrics like gpa, graduation, bar passage, and honors designation at graduation. The results were dramatic in demonstrating that contrary to popular beliefs, the pattern did not fall into a linear line between test and outcome measure. Indeed, especially for URM students, there was no pattern even resembling this. In no cases was there even a threshold score below which you would not want to admit students. The distribution of scores for students with low scores looked very much like those patterns for high scoring students (Smith & Garrison, 2005; Smith, 2015).

Faculty Diversity

The role of the faculty and faculty diversity had been a consistent theme in the research on diversity. Yet as I visited campuses, campus leaders would regret their lack of progress in diversifying the faculty and explain it with a refrain used on most every campus: There aren't any, they are going into other lucrative fields, they wouldn't come here, we can't afford them, and they will be sought out by other more affluent campuses. Much like my dissertation research, the explanations did not ring true. While it was certainly the case that if all campuses in the country were seriously recruiting URM faculty, there would not be enough, I could see that by and large faculty of color were not being bid after. Indeed, the literature by scholars of color was clear that the recruiting of a diverse faculty was neither intentional nor successful. This was an empirical question deserving some additional empirical research. Otherwise, what we had in the field were parallel and competing narratives for the lack of change in the composition of the faculty.

I asked the Ford and Spencer Foundations for modest grants to study the hiring experiences of diverse faculty and invited a stellar advisory group who were

instrumental is shaping the design and implications of the study. The advisory group included Mildred Garcia, Jacqueline Mitchell, Yolanda Moses, Tom Rozell, Vicki Ruiz, Jack Schuster, John Slaughter, Blenda Wilson, and Frank Wong. To be honest, except for Edgar Beckham at Ford and John Burton at Spencer, most program officers did not understand the purpose of the study. To them, the obvious explanation was the low numbers of URM faculty and PhD students. Design was key. I wanted my audience to be senior leaders in higher education and faculty. With a team of 11 doctoral students, we solicited interviews with those who had received their PhDs and had been granted national fellowships. We were able to interview over 78 % of fellowship recipients from Ford, Mellon and Spencer (n=298). The result of that study demonstrated clearly that the explanation that campuses had been giving were largely myths (Smith, Wolf, Busenberg, & Assoc, 1996). This highly elite cadre of PhDs was doing well professionally but did not experience bidding wars. They were accepting positions at institutions that offered them positions (most often one, sometimes two). And to the explanation that people would be sought out by more prestigious institutions and thus would not stay, the participants were more likely to talk about the difficulties of moving because of family issues. The study, *Achieving Faculty Diversity: Debunking the Myths*, illuminated the self-fulfilling prophecy of faculty searches and the strategies that would interrupt the usual pattern of hiring. Indeed, the study showed that participants in disciplines in which URM faculty were highly underrepresented, and thus should have been in great demand, such as science, finance, and political science, were even less likely to be recruited. Thus a number leaving academe were doing so either because they got no offers and were highly recruited outside of academe, or because they felt that the search process was hostile.

The next research question related to faculty diversity was “what are the conditions under which faculty are hired, especially URM faculty?” Answering that question required access to institutional level data, not something usually available. Caroline Turner and I approached three major public universities and asked if they would provide the data for the study. All agreed. What we learned at the end when we asked why they would designate staff to provide us data from personnel files (with names and identifying characteristics removed), they answered that they needed to know the answer to that question and they didn’t.

Our research looked at whether people were hired using regular search processes or, instead, processes that used target of opportunity, special hires and/or job descriptions that dealt with ethnic minority issues (Smith, Turner, Osei-Kofi, & Richards, 2004). The results when disaggregated by race and gender were striking. We looked at the materials for 750 tenure track/tenured faculty searches. All of the Native American faculty (100 %) were hired through targets of opportunity or job descriptions (in this case hired in ethnic studies departments). None were hired using a “regular” search process. 86 % of African American faculty were also hired this way. For Latinos over 50 % of the hires were through targeted searches and job descriptions. Had we included faculty in Spanish language departments, the percentage would have been higher. Targets of opportunity hires were also used in 15 % of White and Asian hires. For women across all racial groups, targets of

opportunity and job descriptions were important. This study was conducted before it became clear that international faculty were being hired at a faster rate than URM faculty (Smith, 2015). Had we disaggregated international faculty, the pattern for Latinos and Asians might have been even more striking. But the conclusion was clear -- using traditional search processes doesn't work and that interrupting the usual will be necessary.

Out of our Irvine work, we also began to see the significance of retention of faculty. While I had been focused on hiring, the Irvine data allowed us to see that for some campuses there may have been good hiring but no overall change in diversity. In the 5 years of the Irvine work, these campuses had hired new faculty that represented 30 % of its existing faculty. Since then the hiring of the next generation of faculty has accelerated. From the data, it became clear that retaining faculty was a big factor for some campuses. To capture that, I developed the Turnover Quotient (TQ) so turnover could be calculated without having to review every personnel file. Based on 3 numbers (Moreno, Smith, Clayton-Pedersen, et al., 2006; Smith, 2015), it allows a campus or researcher to calculate what % of new hires go to replace those who left. On many campuses, the TQ for white faculty is high representing in most cases the reflection of expected retirements. On campuses with high turnover, the TQ for URM faculty was sometimes over 100 %. This means that not enough URM faculty are being hired to replace faculty who have left. If diversifying the faculty is so difficult, then losing faculty through attrition requires immediate attention. Most campuses at the institutional level had not done this analysis, though there were communities on campus that knew well what the issues were.

Another study done with Esau Tovar and Hugo Garcia (Smith, Tovar, & Garcia, 2012) explored changes in the diversity of the faculty over a 10-year period across 11 institutional types, providing a more granular look at the distribution of faculty over time and place.

The reality is that the diversity of the faculty is becoming more important. Yet the myths and excuses for little progress undermine sincere change efforts. All the research that provides counter narratives about myths and the inherent bias in search and retention processes is quite urgent. Designing the studies to capture the attention of leaders is critical to making the link between research and practice. (Banaji & Greenwald, 2013; Turner, Gonzalez, & Wood, 2008).

Implications Through a Global Lens

Increasing globalization along with the dramatic shifts in the demography of the U.S. because of large waves of immigration over a number of decades, means that the once clear boundary between domestic discussions of diversity and internationalization have become blurred. Racial and ethnic identity categories cannot be cleanly separated from international categories as they once might have been. While this additional dimension of diversity is indeed important for the mission of higher education, the challenge has been that internationalization has often been the chosen

imperative of an institution as its form of diversification. This is true for students as well as for faculty. Indeed, in my most recent work on faculty diversity, I have found that there has been far greater growth in international faculty (those listed as “non-resident alien” by the government) than for URM faculty. This has a particular impact on Asian and Latino faculty numbers. Internationalizing our campuses is critically important but not as a substitute for the unfinished business of race.

There is, however, a very important set of interconnections across the globe that can be made. When I was first invited to South Africa on a Fulbright specialist visit, I was asked by leaders in South Africa to look at institutional transformation in their context at the University of the Free State, an historically Afrikaans institution, whose extraordinary president, Jonathan Jansen, was the first black rector (Jansen, 2009, 2014). I was uncertain that anything I did in the U.S. would translate and while there were differences, the framework and the issues were quite relevant. South Africa is very much focused on transformation because access is simply not adequate in addressing the inequities of the past. Race, as a salient identity, has of course a very different dynamic in South Africa than in the U.S. but the intersection of race and gender is also similarly powerful.

What I learned through two Fulbright appointments was the significance of language and the ways language can be racialized. While South Africa recognizes eleven official languages, English and Afrikaans appear more centrally. For some Black South Africans, the link between Afrikaans and apartheid means that speaking English is much preferred so that at UFS classes offered with Afrikaans and English sections were often attended based on race and thus quite segregated. The dynamics concerning equity, identity and institutional capacity are not unique to the U.S. The significance of diversity in higher education is linked to many compelling issues in the world from immigration, to continuing inequities for many identity groups, to nation states, to histories of injustice, to the work place.

In a recent book I edited looking at the status of transformation and diversity in 5 countries, it became clear that every country has diversity issues though the particular identities may be different (Smith, 2014). Despite existing research by scholars in these countries that demonstrates the need for institutional transformation, too often the starting point for policy is still one of access. In contrast, in South Africa there is more recognition that institutional transformation is going to be necessary to interrupt inequities (Jansen, 2014; Parker & Johnston, 2014).

Reframing Diversity as an Imperative and Bringing It Together

As a social scientist my comfort has been in writing articles and monographs or books in collaboration with others. When Jackie Wehmüller at Johns Hopkins University Press approached me to present a proposal for a book on diversity in higher education that was research based, I resisted at first. It was not something I

pictured doing. In the end, though, I am glad I did (with her support and encouragement). In preparing *Diversity's Promise for Higher Education: Making it Work*, I committed to taking a truly transdisciplinary approach (Smith, 2015). Too many of our fields exist in isolation of one another. Research on the conditions that either facilitate or impede the development of diverse institutions that work is not unique to higher education. My goal was to draw from as many literatures as possible to bring together what is known, or not yet known, about building the capacity of institutions to function successfully in the context of an increasingly pluralistic society. The diversity of research methods employed in different fields also served a positive purpose. When the conclusions from a wide variety of studies, using different methodologies, begin to converge, it is easier to come to conclusions with reasonable confidence. That pattern emerged for many of the topics explored in the book.

It turned out that pulling the research together on diversity and synthesizing what we know about making it work, has provided me with new perspective on the conceptualization of diversity and the lessons we are learning from research and practice. It is humbling and gratifying to be on a campus with practitioners and find them with the book and engaging with the research and its implications for practice. Writing this as an academic with the purpose of its potential usefulness to campuses across the country has been exciting. The preface (2015, p.vii) begins with the following:

I see the significance of diversity everywhere. And, perhaps because I have devoted my professional career to higher education as an administrator and faculty member, I believe that higher education must play a critical role if we are to achieve the promise of our democracy – developing a pluralistic society that works. While few of us have lived or worked in such a setting, I believe that this is one of the foremost challenges of our day. This book is an attempt to bring together several large bodies of research along with lessons from the field of practice to reflect on the status of diversity in higher education, and more centrally, on what we are learning about the conditions necessary for developing effective and sustainable strategies that work.

Colleges and Universities throughout the country are becoming more diverse. Demonstrating the value of diversity (even as we don't seem to have to do that with technology) may be necessary and, indeed, has been the central starting point for a great deal of important research in higher education. But at the core, our challenge is to achieve the benefits of diversity for our institutions and for society. We know, that simply acknowledging diversity will not be sufficient. We can see throughout the world and the U.S., the difficulties inherent in creating truly diverse communities that work well. Fortunately, a reasonably robust body of knowledge from research and fields of practice now exists; these can help illuminate the conditions under which diversity works and the implications and imperative for colleges and universities – as institutions. Significantly, this change will not simply be achieved through add-on programs and projects. It goes to the core of academic excellence for a diverse democracy and requires the engagement of our best research, our best teaching, and the creation of communities and leadership.

I have learned, however, that reframing diversity to focus on building institutional capacity is not an easy transition. Understanding the notion of “building capacity”

requires, I believe, a clear picture of the stakes for *institutions* concerning diversity. For a long time I had the feeling that people listened, nodded their heads politely and had no idea what I meant about building capacity. Moreover, I continued to feel a huge disconnect between what most leaders thought about diversity and real institutional change – something many of us have been writing about for decades. As I began to think about this response, I challenged myself to think about examples where higher education did change deeply and dramatically. The parallel I have taken to use is with the imperative of campus efforts to build capacity for technology.

Several decades ago, as technological shifts began, campuses all across the country understood that their viability as institutions would rest on building capacity for technology.

Technology was understood to be central, not marginal, to teaching and research. But most critically, technology was also seen as central to the viability of every institution, i.e., how the institution communicated, built infrastructure, spent money, and went about hiring. Because technology has continually evolved, institutions, almost without question, have continually adapted as new technologies have been introduced. Significantly there have been many people who decry the changes and assume that technology will violate key academic values. While one might have listened to these concerns, the mandate meant that these voices not be allowed to hold up what had become an important imperative. Technology is now part of everyday life and every corner of institutional life. And it keeps changing and growing. How many hours are spent developing the capacity of staff and faculty, at every level, when a new information system is put in place? We don't, because we can't, send out a memo or do a workshop for a few and assume we've built the expertise we need. Building technological capacity has required that institutions develop the human, physical, fiscal, knowledge, and cultural resources to respond effectively.

Diversity, like technology, is an imperative central to higher education. For many enrollment-driven institutions it will determine viability. For public campuses serving "the people" of increasingly diverse states, it will determine credibility and relevance. Locating diversity as central to institutional effectiveness, excellence, and viability frames the orientation of my work on diversity. The issue today is more fundamentally about whether and how institutions are building the capacity to function in society in a way appropriate to their mission. Do we spend nearly the time supporting faculty in cutting edge research related to diversity or to having a successful conversation about difficult topics in class that is needed? We do for software, online education, and even encouraging globalizing the curriculum and research.

In this generation of diversity work, student success will be a necessary but not sufficient indicator of institutional effectiveness. The rhetoric about diversity as transformation has been used for quite some time. Some things will certainly need to change. But by framing diversity as central to the institution and understanding how diversity is an imperative for an institution and its mission, our campuses can become more vital to the health and well-being of their communities and the issues that challenge society as a whole. Diversity is now a strategic imperative for medicine, for public institutions that serve diverse communities, for schools, for the education

of anyone in leadership, for national capacity building in STEM fields, for cities, for businesses and non-profits, and for any entities that work with people.

As my own thinking about diversity has evolved it became apparent that I needed to do more to develop the concept of identity as well. While identity development is a common framework for human development approaches to diversity, it is also essential in understanding how diversity can be understood institutionally. Current research on the concept and how it functions in both institutional and social contexts is extraordinarily useful for thinking about the conditions under which diversity can be established as a strength rather than as a barrier in developing healthy institutions. Concepts of multiplicity, intersectionality, and context challenge some of the static ways in which identity is understood while at the same time underscoring the need to engage complex notions of identity in institutional approaches to diversity.

If I were to pull out the central tenets of this work, there would be five.

Diversity as Inclusive and Differentiated

Fundamentally we are reframing diversity today. There has been controversy about the word itself because it has been reduced too often to a laundry list of relevant and important identities but in such a way as to allow the unfinished business of racial inequity to be marginalized or to suggest that only certain groups (marginalized groups) are part of the diversity effort. Diversity can function as both **inclusive and differentiated**. Historic and largely unfinished efforts related to race, class, and gender remain and must be addressed. Other concerns related to growing racial diversity, ability, sexual orientation, gender identity, class, immigration, undocumented students, religion, among others, also need to be engaged deeply and well. It is possible to move forward on multiple fronts. In general, the issues associated with identity groups differ. Concerns about gender-neutral bathrooms, or accessibility, or class require strategies that are part of core functions of an institution. Faculty diversity and student success have been the central issues for historically URM and white women in some fields. Moreover, the research makes clear that intersections of identities and multiplicity of identities will need to be addressed for traditionally underrepresented populations, where gender and class, as well as other identities are gaining in significance. By emphasizing the intersections of identities there are more opportunities to create communities that work. As academic institutions, it would seem clear that in other areas we accept complexity and multiplicity as part of the nature of the work. The same must be done in engaging diversity and inclusion. Focusing on historic issues of inequity while addressing other important issues that emerge requires embedding responsibility and accountability in every area of an institution. The Mandela quote at the top of this chapter captures a way of understanding that standing against oppression for one group requires standing against oppression for all groups.

The diversity framework requires that we think of the scholarly and academic mission. What are we educating for? Twenty-first century knowledge in virtually

every field will require thinking about diversity—whether it is engineering design for airbags, names for products, clinical trials in medicine and how different drugs work for different populations, architecture, education, and leadership. How are students being prepared to lead in a pluralistic society? How are structures of inequity manifest all over the world for particular identity groups?

Talent Identification and Leadership Development

The concept of *building capacity* and the notion of *interrupting the usual* are central conclusions from the research. One critical area in which less progress has been made is identifying talent in higher education, particularly with respect to faculty diversity. How we identify talent and the criteria we use to define excellence most certainly need to change. However, the need for talent and excellence in the service of higher education should not change. Most every college and university aspires to prepare leaders and have centers on leadership. The reality is that in most of this work, diversity is rarely studied or developed (Eagly & Chin, 2010; Moses, 2014; Parker & Johnstone, 2014; Sanchez-Hucles & Davis, 2010; Smith, 2012a, 2012b). If diversity is mentioned, it is mostly in the task of needing diverse leaders. But at all levels, there is much less on what does it mean to lead in a diverse setting. How does the leader's identity impact the constraints and opportunities for leading? How does one go about developing trust when identities differ? What does it mean to be an active vocal member of a diverse team? The current national issues about race and leadership suggest this topic should be much more central than it currently is.

Difficult Dialogues and Community

Another key area is the question of successfully bringing together people from diverse backgrounds. The results of the synthesis from higher education research, organizational theory, and social psychology have profound implications for practice on our campuses (Gurin, Nagda, & Zúñiga, 2013). The higher education literature has focused on the conditions for bringing students together to realize the benefits of diversity. Today there is urgency concerning building capacity among faculty and staff to have those difficult dialogues in the classroom and outside. The silence and awkwardness that occurs increases a sense of isolation and alienation for those affected by Black Lives Matter, Islamophobia, and hate crimes of all sorts. Our campuses spend more time building faculty capacity to use technology, or even to teach international students, than they do helping increase capacity for difficult dialogues or responding to national incidents. At the core these topics have academic and intellectual significance but if we cannot facilitate discussion and the acquisition of knowledge, we cannot encourage learning.

Monitoring Progress

Building capacity for diversity will require that progress be monitored and that there be meaningful accountability. The reality on many campuses is that perceptions of progress for diversity are very much influenced by the perspective one has. Leaders often need to highlight positive changes even as many in the institution see little or no change in other domains. Talking past one another is common and frustrating. Change will only happen if we can agree on areas of progress and areas needing more work. The framework provides an opportunity in a manageable way to do that.

The idea of using information to guide change is at the heart of most change literature and organizational learning. The question remains whether higher education, these extraordinary learning institutions, are capable of learning? Real change requires monitoring of progress the way leaders must monitor budgets, fundraising, and enrollments today. It will require intentionality, commitment and alignment at all levels.

Mission Centered

How diversity will be understood as a strategic imperative is directly connected to mission. While there are overarching themes for institutional capacity building for diversity, how diversity manifests as an imperative will vary by campus mission. Diversity has to be embedded in that mission and in every core function. For research universities, comprehensive institutions, small private religious institutions, schools of medicine, seminaries, public universities designed to serve the public good and institutions whose mission involves preparing leaders, or problem solvers, diversity has to be understood as a strategic imperative (e.g. Smith, 2012b). If not, it will reside as an optional initiative parallel to many initiatives fighting for attention. And part of that will be building the expertise and capacity of people to do this work and create this change throughout the institution.

Concluding Thoughts

My reflections about my career would be incomplete if they did not include the recognition that without my family and friends this journey would not have been possible or nearly as satisfying. The support, love, fun and challenges from them have shaped it in every way.

On Change

It is clear to me that when diversity becomes an imperative for the institution – its mission, its viability, its currency—then real change will occur. As I write this it is easy to get discouraged. I am reminded of and often tell others of this humbling thought. How many of us know how important it is to exercise? And how many of us have reasons and excuses why we don't? If we cannot sustain change in ourselves, why do we expect it to be easy for highly decentralized, complex institutions? The fitbit on my arm monitors my progress and I recognize that at this stage in life exercise is an imperative for the active person I want to continue to be. And if I have to, I hire trainers to make me do it.

On Being a Faculty Member

What an extraordinary opportunity it has been to be a faculty member and researcher. I am also aware that having had years of administrative experience has been invaluable. I am grateful every day, that I spend my time doing things I am passionate about. Mentoring students who themselves often doubted that a PhD would ever be possible and who make important contributions every day to the field and to institutions has been extraordinary. I never take for granted the community of scholars within ASHE and AERA who are actively working for change within these associations, in the field, and in the society. Many of these scholars are now friends (García, 2007) and crossing that boundary has been especially wonderful. And I appreciate CGU for allowing me to do scholarship and teaching in areas that have been my passions.

On Staying Focused on the Future

What drives me is the vision of higher education's role in building a pluralistic and equitable society that thrives because of diversity. My impatience: too much of what we are discussing today, has been discussed for 50 years. I am finishing this at a time of renewed activism, the reality of deep shifts in our society related to diversity, the unfinished business of race, the challenge of nation rebuilding and urgent demands for change. Diversity and inclusion are no longer options. And, if higher education cannot or does not build its capacity, who will? Higher Education has an opportunity to model institutions achieving excellence for a pluralistic society and to position itself to engage the challenges in a democracy that works. Nothing less than the future of a healthy pluralistic society that works is at stake. If not on our campuses, how in our cities?

I have on my office wall a framed quote that I have had since my days at Cornell. It consists of a bookplate showing the Cornell tower and a quote from Rabbi Hillel:

If I am not for myself...who will be?
 If I am for myself only, what am I?
 If not now...when?

These words have been foundational to my own thinking about creating change in higher education. I understood the need to do this work not only because of my own identities and interests, but because one must stand with others in the quest to build an equitable society. It would feel self-interested if my interest in equity centered on personal concerns as a white woman, a lesbian, or as a Jew. The quotes from King, Mandela, and Hillel at the beginning of this chapter call on us to stand together in the service of and quest for a just, inclusive society that manifests the richness of diversity.

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Chapter 2

Do Diversity Courses Make a Difference? A Critical Examination of College Diversity Coursework and Student Outcomes

Nida Denson and Nicholas A. Bowman

Introduction

The United States is as racially diverse as it has ever been. More than half of all children younger than 5 years old are racial or ethnic minorities, reflecting how the population as a whole has also become more diverse in the last decade, from 33 % of the population being from a minority background in 2004, to 38 % in 2014 (U.S. Census Bureau, 2015). However, in this era of increased racial heterogeneity, the United States is also becoming more racially and socioeconomically segregated in neighborhoods and K-12 schools (Kucsera & Orfield, 2014; Orfield, Kucsera, & Siegel-Hawley, 2012). The proliferation of social media further allows people to self-select into interactions with those who are similar to themselves. Thus, the need to promote interracial and intergroup understanding is arguably even greater now than in previous decades.

Colleges and universities can play a critical role in shaping these dynamics. Hundreds of studies have demonstrated that intergroup interactions and friendships predict improved intergroup attitudes; many of these examined samples of college students (see Davies, Tropp, Aron, Pettigrew, & Wright, 2011; Pettigrew & Tropp, 2011). Institutions have a limited amount of control over the quantity and quality of intergroup interactions, whereas they can require students to take coursework that

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focuses on diversity issues as part of their general education requirements. As a result, diversity coursework holds a unique position on many campuses as a shared—and sometimes introductory—experience to issues of difference. Creating a common curricular experience also comes with significant challenges, since such courses must attempt to promote learning among students who have spent very little time thinking about issues of inequality as well as others who spent their whole lives confronted by it. For the purposes of this chapter, diversity courses are “courses that have content and methods of instruction that are inclusive of the diversity found in society” (Nelson Laird, Engberg, & Hurtado, 2005, p. 450). Some institutions have implemented a “diversity” general education requirement, while others do not have a diversity requirement but have integrated into the curriculum. According to a nationally-representative survey of 325 Chief Academic Officers of the Association of American Colleges and Universities (AAC&U), 60 % of institutions have incorporated diversity courses in their general education programs; in addition, one-third (34 %) of institutions require all their students to participate in diversity studies and experiences, but the vast majority (87 %) offer these activities to all students (Hart Research Associates, 2016). Diversity courses are also housed in specific departments that may include not only ethnic studies or women’s studies, but also the social sciences, humanities, professional fields, and even natural sciences.

The overarching goal of this chapter is to examine the current research on how diversity courses affect student outcomes in higher education. The purpose of this chapter is threefold: (1) to provide a critical examination of the research and theory on college diversity coursework and student outcomes; (2) to provide a critique of the extant literature in terms of its conceptual and methodological rigor; and (3) to provide directions for future research. To date, there has not yet been a systematic review of the extent to which diversity courses affect a broad range of student outcomes in higher education. Thus, this chapter is guided by the following overarching research question: *To what extent do diversity courses affect student outcomes?* To answer this question, the following questions will be discussed:

1. What are the various types of diversity courses on campuses?
2. What are the current theoretical frameworks regarding the relationship between diversity courses and student outcomes?
3. What are the nature and quality of the research evidence regarding the relationship between diversity courses and student outcomes?
4. How can research be improved to promote a greater understanding of the relationship between diversity courses and student outcomes?
5. What questions remain for further exploration regarding diversity courses and student outcomes?

Diversity Courses on Campuses

The ultimate goal of diversity courses is to equip students for participation in an equitable and just society (Banks, 2013; Nelson Laird, 2003, 2014). Nelson Laird (2003) reviewed models of diversity courses that specifically identified goals for

diversity education, and he formulated four major goals of diversity courses. The first goal is to prepare students with a greater understanding of the history and reality of their self and other cultural groups in society. The second goal is to develop students' abilities to function effectively within and across various cultural groups, including their own. The third is for students to become proficient in "basic education" areas, such as literacy, numeracy, and perspective-taking. The final goal is to reduce students' biases and prejudices while simultaneously empowering them to combat discrimination and oppression from others and the larger society. These goals fall along a continuum from the first goal (least inclusive) to the fourth goal (most inclusive) (Nelson Laird, 2003).

In a more recent iteration, Nelson Laird (2014) provides a "diversity inclusivity framework" that outlines how the different elements of diversity courses are more or less inclusive of diversity. The diversity inclusivity framework is meant to assist faculty who are incorporating (or considering incorporating) diversity into their courses. The framework lists the following nine elements that relate to the design and delivery of diversity courses: purpose/goals, content, foundations/perspective, learners, instructor(s), pedagogy, environment, assessment/evaluation, and adjustment. Each individual element carries equal weight, and each element falls along a continuum ranging from not inclusive to fully inclusive. Thus, each diversity course can vary in their level of diversity inclusivity for each individual element. When conceptualized in this way, what counts as a "diversity course" is broader than the traditional classification of diversity courses and also takes into account the contextual and pedagogical aspects of courses (Nelson Laird, 2011; Nelson Laird & Engberg, 2011).

As Nelson Laird and Engberg (2011) point out, the majority of past research focuses either on the "nominal classification" (e.g., diversity course requirements) or "content-based derivatives" (e.g., ethnic studies courses). In terms of nominal classification, these courses tend to be either a "diversity requirement" (which is more frequent) or can be infused throughout the entire curriculum (which is less frequent and more difficult to implement) (Gaff, 1991; Humphreys, 1997; Nelson Laird, 2003). An institution can also choose not to provide any diversity course offerings at all. In terms of content-based derivatives, sometimes diversity courses are categorized in terms of their curricular location, such as ethnic studies and women's studies departments (Nelson Laird, 2003). The curricular location can also refer to the level of study within the course, that is, as an upper-level or lower-level course (Nelson Laird, 2003).

Not surprisingly, institutions vary considerably in how they implement their diversity course requirements, with the most common being a diversity requirement in which students select from among a list of approved diversity courses. Over 15 years ago, a national survey by the Association of American Colleges and Universities (AAC&U) revealed that almost two-thirds (63 %) of the nation's colleges and universities either already had a diversity requirement in place or were currently developing one (Humphreys, 2000). Humphreys noted that the continued rise in diversity courses reflected public opinion that diversity courses contained important experiences in global citizenship, and they needed to be considered as a key part of the curriculum. At the time the survey was conducted, 54 % of colleges

and universities had at least one required diversity course in the curriculum. Of those institutions with diversity requirements in place, 25 % had them for at least 10 years or more, 45 % for 5–10 years, and 30 % for less than 5 years. Furthermore, of the colleges and universities with diversity requirements in place, 58 % required students to complete only one diversity course, while the remaining 42 % required students to complete two or more courses. More recently, the National Survey of Student Engagement (NSSE, 2011) found that 52 % of graduating senior students had taken courses that encouraged understanding of other cultures.

Overview of Theoretical Frameworks on Exposure to Diverse Content and People

Over the years, various theoretical frameworks have been developed in an attempt to explain the processes and benefits of exposure to diverse content and people, with the majority of current theoretical frameworks focusing predominantly on White or majority perspectives as well as on attitudinal change. Given the increasing racial heterogeneity in U.S. society and college campuses across the country, there has been a recent shift to perspectives from groups that have been excluded historically from the curriculum, as well as outcomes other than attitudinal change. The current theoretical frameworks that attempt to explain the processes of exposure to diverse people and content originate mainly from social psychology and higher education disciplines and are described briefly below.

Social Psychological Frameworks

Allport's (1954) classic book, *The Nature of Prejudice*, is the most widely used theoretical framework regarding the potential benefits of intergroup contact, and the basic principles of his framework have been used extensively to inform the overall effect of intergroup contact in the higher education context. In brief, Allport argued that people typically have more favorable perceptions of ingroup members and express more negative stereotypes and prejudices toward outgroup members. He reasoned that ignorance surrounding the outgroup and any resulting conflict was likely the result of limited contact between the ingroup and outgroup; a reduction in the stereotypes underlying prejudice could be achieved through substantive contact between members of each group. Importantly, Allport made a distinction between the types of contact, arguing that superficial contact will likely have less impact than 'true acquaintance' contact. In order to achieve a reduction in prejudice through interaction, he outlined that a number of specific conditions in the interaction had to be present, including equal status among group members, personal and informal interaction, cooperative activities toward a common goal, and support of authority figures for the interaction.

While Pettigrew's (1998) comprehensive review of Allport's theory provided support for the four conditions for optimal interaction, he did add a fifth condition of *friendship potential*. Pettigrew found that participants who reported having outgroup friends were more tolerant and had more positive feelings toward the outgroup generally than participants who did not report such friendships. Pettigrew's revised contact theory added that Allport's conditions are important because they allow for the possibility of friendships to develop between ingroup and outgroup members. Specifically, Pettigrew (1998) suggested that cross-group friendships contributed to prejudice reduction as it generated *affective connections* to the outgroup members.

One critique of Allport's (1954) theory is the lack of detail regarding the *process* for how contact might change attitudes and behavior. As Pettigrew (1998) notes, Allport's theory "predicts only when contact will lead to positive change, not how and why the change occurs" (p. 70). A decade later, Pettigrew and Tropp (2008) conducted a meta-analysis to examine three possible mediators in reducing prejudice. Specifically, intergroup contact leads to a reduction in prejudice for three reasons: (1) contact between ingroup and outgroup members leads to increased knowledge about the outgroup; (2) interaction encourages understanding and empathy between members; and (3) contact reduces anxiety about the outgroup. While their meta-analysis showed mediational effects of all three processes in prejudice reduction, increased empathy and anxiety reduction were stronger mediators as compared to increased knowledge. Thus, Pettigrew and Tropp (2006) argued that mere exposure to the outgroup could either increase or decrease negative feelings toward the outgroup, and this theory was used to explain why superficial contact may have led to negative outcomes in some studies. These meta-analytic findings are consistent with the growing literature on the central role of affective processes in reducing prejudice through intergroup contact.

Crisp and Turner (2011) provide a cognitive adaptation explanation to experiences of diversity that is based on multiple social categorization and intergroup attitudes. Crisp and Turner's (2011) categorization-processing-adaptation-generalization (CPAG) model proposes that diversity experiences may stimulate greater cognitive flexibility in individuals, but *only* in situations that challenge stereotypical expectations. They posit that when people are faced with culturally incongruous information (such as a Harvard-educated carpenter), they are likely to employ greater cognitive effort in order to resolve the apparent conflict. Crisp and Turner draw on numerous theoretical frameworks and previous research to offer two pathway models to explain the likelihood of positive and negative appraisal in diversity experiences. On the one hand, reappraisal may include the reassignment of new attributes, but also may operate to inhibit the automatic stereotypical traits that are normally activated with each separate category (e.g. 'Harvard graduate' and 'carpenter'). In this pathway, diversity experiences challenge existing stereotypes and may therefore lead to a reduction in an individual's reliance on them to guide their appraisals. On the other hand, the alternative pathway will likely be used when people lack the motivation to engage with—or ignore or deny altogether—alternative

information that challenges a stereotyped viewpoint (Conway, Schaller, Tweed, & Hallett, 2001). Thus, enhanced cognitive flexibility is more likely to occur in individuals who are motivated and able to engage with stereotype-disconfirming information, which can occur either before or after experiencing the stereotype-disconfirming information. While proposed in the context of intergroup contact, the CPAG model is also applicable to college diversity experiences such as diversity courses, and colleges and universities in particular are an ideal context for providing curricular and co-curricular courses and activities that challenge stereotypical expectations.

In a similar vein, Dovidio et al. (2004) proposed that exposure to diversity content through structured diversity interventions (e.g., multicultural education) may help trigger important cognitive and affective processes that will lead to the development of more positive ingroup attitudes. In brief, their theory posited that teaching content about other racial groups can also lead to an acknowledgment of previous injustices and recognition that prejudice is undeserved. Their model is largely based on the dual influences of cognitive and affective processes in reducing intergroup bias, although to varying degrees. Since the emphasis of multicultural education (which reflects diversity coursework) is on gaining new knowledge and awareness of different groups, the focus is more likely to occur through cognitive rather than affective pathways. Those courses that also include structured intergroup contact (e.g., through facilitated class discussions) may also draw upon the affective pathways.

All of these theories share a focus on how exposure to diverse people and content affects attitudinal change, but they all lack a delineation of how attitudes and beliefs are translated into behavior. Ajzen's (1985, 1991) theory of planned behavior accomplishes exactly this task. His theory proposed that three forces influence behavioral intentions: attitudes towards the behavior (i.e., how the individual views the behavior), subjective norms regarding the behavior (i.e., what other people think about the behavior), and perceived controllability of the behavior (i.e., whether the person thinks they can engage in or achieve the behavior). In turn, behavioral intentions will influence and lead to planned behavior. In other words, more favorable attitudes towards the behavior in combination with higher subjective norms and greater perceived controllability of the behavior will lead to stronger behavioral intentions. Of the three forces influencing behavioral intentions, diversity courses are likely to influence attitudes most often, particularly by becoming more aware of issues of inequality and/or discrimination. Through diversity coursework and possibly interactions with diverse others in the course, students may also perceive and experience subjective norms that more strongly promote egalitarian attitudes towards diversity. Thus, diversity courses will likely have direct effects on influencing students' attitudes, and possibly indirect effects on students' behavior.

Higher Education Frameworks

Following from Allport's and later Pettigrew's work, diversity experiences (broadly defined) was one of the strongest contributors to a wide range of student outcomes of any aspect of college (whether considering experiences that happen with a college or institutional attributes that occur between colleges) (Mayhew et al., 2016). Emerging higher education models in this area over the past 15 years have attended to the processes and conditions under which diversity experiences may affect student outcomes. Gurin, Dey, Hurtado, and Gurin (2002) proposed such a framework, which was grounded in Piaget's (1971) concept of cognitive disequilibrium. In their view, the greater presence of diversity at many college campuses (compared with the relatively homogeneous environments of most K-12 schools and neighborhoods) offers students the unique opportunity to encounter experiences with difference that are novel and inconsistent with their pre-existing attitudes and perspectives. Gurin et al. theorized three specific dimensions of diversity experiences: structural diversity (i.e., the numerical representation of students from different backgrounds), informal interactional diversity (the quality and frequency of interactions with student peers), and classroom diversity (the diversity of the learning content, from readings to classroom experiences). Structural diversity itself does not directly promote student outcomes; instead, it provides a necessary condition for interactional diversity to occur. Gurin et al. argue that experiences with diversity through course content, workshops, and interracial interaction occur in a developmental period in which young adults are forming their personal and social identities and therefore may be particularly likely to reconsider their pre-existing worldviews when they encounter diversity. When students' experiences with diversity contradict their previously held assumptions, they may experience a sense of disequilibrium, which can be resolved either by assimilating the experiences into their existing worldviews and attitudes or by accommodating or changing their belief structures to fit with these new experiences.

Bowman's (2009) theory on divergent experiences of diversity extends Gurin et al. (2002) model and provides a framework for understanding how the impact of college diversity coursework on cognitive growth may vary between students from differing social groups. In particular, Bowman seeks to explain the differences between privileged groups (i.e., White/Caucasian, male, wealthy) and marginalized groups (i.e., students of color, female, lower or middle-income). Bowman (2009) posits two possible opposing predictions. On the one hand, the *exploration perspective* draws upon Gurin et al.'s (2002) concept of disequilibrium and reconsidering one's existing worldviews, which results in cognitive growth (Piaget, 1971; Ruble, 1994). It posits that students from privileged backgrounds generally have had less frequent diversity exposure than students from marginalized backgrounds; as a result, diversity experiences should be more novel and therefore more beneficial for privileged students. In addition, if the attitudes and beliefs of students from

privileged groups are further from those taught in diversity courses than are the attitudes and beliefs of students from marginalized groups, then this greater deviation also provides a greater opportunity for learning and growth for students from privileged (relative to marginalized) groups. On the other hand, the *resistance perspective* posits that students from privileged groups may resist learning about the content in diversity courses, especially when it challenges students' own privilege in society. Students who feel personally threatened may become less open-minded and may be less likely to undergo cognitive disequilibrium. In this case, students from privileged groups would experience less cognitive growth than students from marginalized groups. As Bowman points out, some students are much more inclined than others to be more open to diversity and challenge and thus more likely to seek out diversity courses and diverse friends. That said, both perspectives can operate simultaneously, such that some privileged students are resistant while others are not, and students who initially resist may eventually realize some or all of the intended course benefits.

Hurtado, Alvarez, Guillermo-Wann, Cuellar, and Arellano (2012) extend previous conceptualizations of the campus climate for diversity by putting forth a holistic model that accounts for campus climate, educational practices, and student outcomes. Modifying and extending upon Hurtado, Milem, Clayton-Pedersen, and Allen' (1998, 1999) model for the campus climate for racial/ethnic diversity, Hurtado et al. (2012) *Multi-contextual Model for Diverse Learning Environments* (MMDLE) model provides increased specificity about curricular and co-curricular diversity activities on campus and how campus climate can shape these two diversity activities. The MMDLE model also incorporates staff and student identities, which were largely lacking in previous conceptualizations of campus climates for diversity. The MMDLE model provides a multicontextual model for diverse learning environments that incorporate a much broader range of factors, including macro-level factors (socio-historical, institutional, and policy contexts) as well as micro-level factors (including individuals and roles). Most importantly, the MMDLE model places diverse students and their multiple student identities at the core of educational processes that occur in curricular and co-curricular diversity contexts. They note that, most importantly, interactions between the student and faculty member are influenced by their own social group identities. In other words, "diverse learning environments are characterized by the dynamic interplay between faculty and student identity, content, and pedagogy, all of which are facilitated by processes such as intentional socialization, validation, and inclusion that creates the psychological sense of integration or sense of belonging" (Hurtado et al., 2012, p. 76). In sum, this model recognizes the variation in racial climate across campuses and how institutions are impacted by internal as well as historical and political forces. The MMDLE model allows for a more contextual and student-centered view of campus climate and diversity.

The Nature and Quality of Current Research on Diversity Courses and Student Outcomes

We used several different strategies to identify relevant articles. These approaches included a keyword search of several library databases and Google Scholar, a hand search of every article published in a top-tier U.S. higher education journal (see Bray & Major, 2011) as well as *Journal of Diversity in Higher Education*, and a review of the literature cited in the publications we obtained. We used several criteria to determine whether a study was included in the review: (1) it provided original empirical results, (2) the study investigated the relationship between at least one diversity course and at least one student outcome, (3) the key predictor did not combine diversity coursework with other forms of diversity engagement (which would obscure the unique effect of courses), (4) participants were undergraduate students or were reporting about their previous undergraduate experience in the United States, (5) the article was published from 1990 to 2014 (so as to focus on studies that explored a reasonably recent version of a diversity course). We also considered whether to include Intergroup Relations and service-learning, since both of which are arguably forms of diversity coursework. However, because these are defined in terms of their use of a specific pedagogy (which cannot be differentiated from their content), such courses were excluded from this review. Our search and selection criteria resulted in 92 primary studies examining the relationship between diversity courses and student outcomes. These studies often did not specify whether the diversity course was required or not, so we did not examine the differential effects for required versus non-required diversity courses as other reviews have done (e.g., Engberg, 2004).

For the purposes of this review, we have classified the diversity courses based on their curricular location within the institution (i.e., course department or program). In addition, some studies examined a number of courses in multiple departments, or they did not specify the location of the course(s). Other studies created a composite of curricular diversity exposure, while others examined the number of diversity courses taken. Thus, we review the studies based on the following six categories.¹

- Ethnic studies courses (16 studies)
- Women's studies courses (10 studies)
- Courses located in other departments/programs (20 studies)
- Courses in unknown departments or multiple courses (19 studies)
- Curricular diversity composite (7 studies)
- Number of courses (28 studies)

Within each of these categories, we first classified them according to their methodological approach, including quantitative, qualitative, and mixed-methods designs. Then, the studies were assessed by their findings, which included whether

¹Some papers conducted multiple studies, so these have been included in more than one category.

diversity courses had positive, negative, nonsignificant, or mixed findings. Studies were then reviewed along the following criteria: overall and differential findings, sample characteristics, research design and methodology, and outcome type. We also provide a brief summary at the end of each subsection as well as an overall summary across the six subsections at the end.

Ethnic Studies Courses

There were 16 studies that examined the relationship between ethnic studies courses and student outcomes (15 quantitative studies and 1 mixed-method study). Of these studies, four found positive relationships (Antony, 1993; Astin, 1993; Hyun, 1994; Milem, 1994), two found nonsignificant relationships (Hurtado, 1994; Park, 2009), and 10 found mixed relationships (Antonio, 2001; Bowman, Brandenberger, Hill, & Lapsley, 2011; Brantmeier, 2012; Chang, 1996; Gurin et al., 2002; Hurtado, 2001; Jayakumar, 2008; Johnson & Lollar, 2002; Tsui, 1999; Vogelgesang, 2001). Of the 16 total studies, 13 of them utilized secondary data from UCLA's Cooperative Institutional Research Program (CIRP), and three did not (Brantmeier, 2012; Hurtado, 1994; Johnson & Lollar, 2002).

Quantitative Studies While the majority of these studies used matched student data from the freshman and senior year surveys on a multi-institutional sample, Jayakumar (2008) used the 1994/1998/2004 data where students were followed up 6 years after graduation. Antonio (2001) used 1994 CIRP freshman data and followed up students in their third year at a single institution (UCLA), while Bowman et al. (2011) used 1990/1994 CIRP data from a single-institution with a third survey 13 years after graduation in 2007.

Positive Findings Of the quantitative studies, the four that found positive results all examined the goal of helping to promote racial understanding (a diversity-related outcome) and all used the 1985/1989 CIRP data (Antony, 1993; Astin, 1993; Hyun, 1994; Milem, 1994). Antony (1993), Astin (1993), and Hyun (1994) all conducted analyses on the overall sample. Hyun (1994) disaggregated the sample by White and African American students, while Milem (1994) disaggregated the sample by White women and White men. The simple correlation between having taken an ethnic studies course and helping to promote racial understanding was moderate in magnitude for all the studies. When they controlled for relevant background characteristics, the pretest, environmental characteristics, and other college experiences (both diversity-related and non-diversity related), the final Beta coefficients indicated small but still significant relationships. Hyun (1994) compared White and Black students; while the White students had slightly higher simple correlations than the Black students, the final Beta coefficients for both groups were identical. Milem (1994) compared the relationship between having taken an ethnic studies course the goal of promoting racial understanding for White women and White men. Both the simple correlations and final Beta coefficients were similar.

Astin (1993) provided an overview of his findings from his 1993 book on *What Matters in College? Four Critical Years Revisited*, which utilized 1985/1989 CIRP data to examine 82 outcome measures on 25,000 students from 217 four-year colleges and universities. Astin controlled for pretests and other entering student characteristics to examine how various outcomes are affected by college environments. In addition to finding that taking an ethnic studies course is associated with helping to promote racial understanding, he also found that taking an ethnic studies course had significant positive associations with believing that racial discrimination continues to be a problem in America; self-ratings of cultural awareness, political liberalism, listening ability, foreign-language skills; importance of cleaning up the environment, participating in campus protests; and attending recitals and concerts. Thus, having taken an ethnic studies course was related to a number of diversity-related and non-diversity related outcomes 4 years after college entry.

Nonsignificant Findings There were two studies that found nonsignificant results (Hurtado, 1994; Park, 2009). Using the 1994/1998 CIRP data, Park (2009) examined predictors of student satisfaction with diversity at traditionally White institutions. She conducted separate analyses for White, African American, Latino/a, and Asian American students. She found that having taken an ethnic studies course had no significant relationship with student satisfaction with the racial/ethnic diversity of the campus for students from all four racial/ethnic groups. These analyses controlled for a number of other college diversity experiences such as cross-racial interaction, having a roommate of another race, other co-curricular diversity experiences, and various diversity-related perceptions and attitudes.

Hurtado (1994) examined the factors that predict student perceptions of diversity and campus climate using a national sample of academically talented Latino college students. She examined a perceptual (perceptions of racial/ethnic tension on campus) and a behavioral (whether they experienced discrimination on campus) dimension to reflect the institutional climate for diversity. Hurtado also controlled for a number of other college diversity experiences (e.g., informal social preferences in college, dating preferences, interacted across racial/ethnic groups, participated in Hispanic student clubs or organizations). She found no relationship of having enrolled in a Latino studies course on perceptions of the climate or experiences of discrimination.

Mixed Findings There were nine quantitative studies that found mixed results. Antonio (2001) used the 1994 CIRP Freshman Survey data for students at a single institution, and then administered a second survey in their third year. When only precollege characteristics were taken into account, having taken an ethnic studies course had significant positive associations with all three diversity-related outcomes (i.e., interracial interaction, cultural awareness, and promoting racial understanding). However, after controlling for friendship group characteristics and student involvement variables (which included co-curricular diversity experiences, interracial interaction outside their friendship group, and conversations around difference and diversity), the positive association of having taken an ethnic studies

courses became nonsignificant. This finding may reflect an indirect effect, since diversity courses involve conversations about difference and diversity by definition, which may then lead to these outcomes.

Tsui (1999) used 1985/1989 CIRP data to examine how various college courses (including ethnic studies courses) *and* instructional techniques predict self-reported critical thinking (a non-diversity related outcome). When only the courses were added to the regression analysis, ethnic studies courses had a significant but small positive link with self-reported critical thinking. However, this positive finding for ethnic studies courses became nonsignificant once the instructional variables were accounted for. In other words, ethnic studies courses may affect students' critical thinking indirectly, because these courses utilize likely used active learning instructional techniques, such as receiving instructor feedback on a paper, conducting an independent research project, or participating in a group project.

Three of these studies examined how enrolling in an ethnic studies course was associated with a number of diversity-related and non-diversity related outcomes (Chang, 1996; Hurtado, 2001; Johnson & Lollar, 2002). Chang's (1996) study showed that having enrolled in an ethnic studies course had significant positive associations with socializing with someone of a different racial group, discussing racial/ethnic issues, and college retention. Ethnic studies courses had no relationship with college satisfaction, intellectual self-concept, social self-concept, and college GPA, which are all non-diversity related outcomes. Similarly, Johnson and Lollar (2002) showed that having enrolled in a racial/ethnic studies course was positively associated with learning about contributions of other racial/ethnic groups to US society and the importance of promoting racial understanding, but had no association with interest in the 2000 elections or being a member of a university student organization. Hurtado (2001) conducted partial correlations (controlling for selectivity, student abilities, and academic habits) between enrollment in an ethnic studies course and students' self-reported growth on seven civic outcomes, five job-related outcomes, and eight learning outcomes. She found that having enrolled in an ethnic studies course was positively associated with 12 outcomes, negatively associated with two outcomes, and had no association with six outcomes. The largest positive partial correlations were for the diversity-related outcomes (e.g., cultural awareness, acceptance of people of different race/cultures, tolerance of people with different beliefs), with negative partial correlations for mathematical ability and competitiveness.

Two studies examined the relationship between ethnic studies courses and various outcomes across different racial/ethnic groups (Gurin et al., 2002; Vogelgesang, 2001). Vogelgesang (2001) found that having taken an ethnic studies course had significant positive links with both commitment to activism and promoting racial understanding for both Latino/a and White students, but had no such relationships for African American students, and was significantly and positively related to commitment to promoting racial understanding for Asian American students. Gurin et al. showed that having taken an ethnic studies course had significant and consistent positive relationships with both learning (intellectual engagement,

academic skills) and democracy outcomes (racial/cultural engagement, citizenship engagement) for White students. However, the findings were mixed for students of color. Ethnic studies courses had a significant positive association with all outcomes except for racial/cultural engagement for Latino/a students, while they were only significantly and positively related to racial/cultural engagement for the Asian American students (all other findings were nonsignificant). For African American students, having taken an ethnic studies course had no link with three of the outcomes, and had a significant negative association with academic skills.

Two longitudinal studies utilized structural equation modelling to examine both the direct and indirect effects of having enrolled in an ethnic studies course over the span of 10–17 years (Bowman et al., 2011; Jayakumar, 2008). Using a single-institution sample, Bowman et al. (2011) surveyed students at the start of college, end of college, and then 13 years after graduation. Having taken an ethnic studies course had significant positive direct effects on prosocial orientation and recognition of racism in the senior year. While ethnic studies courses had no direct effect on any of the postcollege outcomes, it had significant positive indirect effects on recognition of racism, volunteering behavior, identified/engaged purpose, and personal growth. There were no indirect effects of having taken an ethnic studies course on either environmental mastery or life satisfaction.

Jayakumar (2008) used a multi-institutional sample where students were surveyed at the beginning and end of college, and then again 6 years after graduation. She only examined White students, but she conducted separate analyses on White students from segregated precollege neighborhoods and White students from diverse precollege neighborhoods. Having enrolled in an ethnic studies course had significant direct effects on pluralistic orientation and cross-racial interaction in the senior year, and the effects were almost identical in magnitude across both groups. While having taken the course had no direct effect on any of the postcollege outcomes, it did have positive indirect effects on postcollege socializing across race for both groups. In addition, there were positive indirect effects on postcollege leadership skills and a racially integrated postcollege lifestyle for Whites from segregated precollege neighborhoods.

Mixed-Method Study Brantmeier (2012) conducted a mixed-method dissertation examining college students' attitudes towards Native Americans and their native studies course experience using a single-institution sample. Utilizing a pretest-posttest design, 31 students who took a native studies course had significantly more positive political and racial attitudes toward Native Americans at the end of the course than the beginning of the course. White and non-White students did not differ significantly on either the pretest or posttest. The qualitative portion examined how taking a native studies course might influence student attitudes toward Native Americans, their history, and contemporary experiences. The qualitative findings suggested three themes constructed around the experience and process of taking a Native American studies course: learning and unlearning the past, present, and future; awareness, emotion, and moving toward action; and locus of change. The students move through these three themes, ranging from relatively basic to more

advanced perspectives. Brantmeier concludes that the extent to which students move through the themes as a continuum is based on personal and educational factors. For example, a student for which this was their first exposure to Native American content may or may not move to the locus of change theme and into figuring out how they can create change.

Summary Overall, one-quarter of the studies that examined ethnic studies courses showed positive relationships, one-eighth identified no significant relationships, and the remaining majority had mixed findings. Most studies utilized CIRP data and the dichotomous variable on the survey which asked students whether or not they had enrolled in an ethnic studies course (yes or no). The studies that showed mixed findings were largely studies that examined a combination of both diversity-related and non-diversity related outcomes, disaggregated samples by race, examined both direct and indirect effects, or used mixed methods. Generally, ethnic studies courses tended to have more consistent, stronger positive associations with diversity-related outcomes, and less consistent, weaker, and/or no association with non-diversity related outcomes. The results were more likely to be statistically significant for White students as compared to students of color. Lastly, ethnic studies courses tended to have direct effects on outcomes that were diversity-related and/or proximal (e.g., senior-year outcomes), with indirect effects on outcomes that were non-diversity related and/or more distal (e.g., postcollege outcomes).

Women's Studies Courses

There were ten studies that examined the link between women's studies courses and student outcomes (nine quantitative, one mixed-methods). Of the ten studies, five reported positive findings (Antony, 1993; Astin, 1993; Eisele & Stake, 2008; Malkin & Stake, 2004; Tsui, 1999), one reported nonsignificant results (Hyun, 1994), and four reported mixed relationships (Antonio, 2001; Hurtado, 2001; Stake & Hoffmann, 2001; Vogelgesang, 2001).

Quantitative Studies Similar to ethnic studies courses, the majority of the quantitative studies in this category utilized CIRP data (Antonio, 2001; Antony, 1993; Astin, 1993; Hurtado, 2001; Hyun, 1994; Tsui, 1999; Vogelgesang, 2001), and these same studies also examined women's studies courses as well (see previous section).

Positive Findings In the overview of his book's findings, Astin (1993) points out that having taken an ethnic studies course or a women's studies course produces almost identical patterns of results on outcomes. Thus, similar to the findings on ethnic studies courses, Astin (1993) found that having taken a women's studies course has positive associations with a number of diversity-related and non-diversity related outcomes. Antony (1993) showed that having taken a women's studies course had a small to moderate correlation with promoting racial understanding.

Once controlling for background characteristics, environmental characteristics, and a number of college experiences (both diversity-related and non-diversity related), the final Beta coefficient was small but still significant and positive.

As described in the previous section, Tsui (1999) examined how college courses (including women's studies courses) and instructional techniques affect self-reported critical thinking. When only courses were included in the analyses, women's studies courses had a significant, small positive association with students' critical thinking. Unlike the findings for ethnic studies courses, this result stays significant even after the instructional variables are accounted for in the final model, meaning that any association of having taken a women's studies course is not driven by instructional techniques examined and is likely due to other factors.

Both Eisele and Stake (2008) and Malkin and Stake (2004) examined how women's and gender studies courses affect student development utilizing a pretest-posttest design on multi-institution samples. Eisele and Stake (2008) had a sample of 435 students (357 women, 78 men) enrolled in 29 women's and gender studies courses at six universities and junior colleges in the Midwest. At the end of the semester, the students had significant positive changes as compared to the start of semester on all four outcomes (i.e., feminist attitudes, feminist identity, personal self-efficacy, and feminist activism). When compared across gender, women reported higher scores than men in both time periods for feminist attitudes, identity, and activism. While men reported higher personal self-efficacy at the pretest as compared to women, there were no gender differences in personal self-efficacy at the posttest. Women also reported higher empowerment scores than men at the posttest (empowerment was only measured at the posttest). When compared across race/ethnicity, African American ($n = 45$) students had significantly higher personal self-efficacy and lower feminist identity scores on both the pretest and across time as compared to Euro American ($n = 325$) and 'Other' ($n = 16$) students. There were no racial/ethnic differences for feminist attitudes, feminist activism, or class empowerment.

Malkin and Stake (2004) surveyed 328 students (275 women, 53 men) enrolled in 23 women's and gender studies courses from four midsized universities in a large Midwestern metropolitan area. As compared to the beginning of the semester, the students in the women's and gender studies courses had significant positive increases on all four outcomes (i.e., appreciation/acceptance of diversity, understanding equality issues, performance self-esteem, and career goal confidence). Additional analyses showed that student readiness (positive women and gender studies class expectations and capacity for positive interpersonal relationships) was positively associated with classroom relationships (i.e., alliance with the teacher and cohesion with classmates). In addition, these classroom relationships mediated the link between student readiness and social attitude change.

Nonsignificant Findings There was one study that showed a nonsignificant result of having enrolled in a women's studies course on student outcomes. Hyun (1994) also simultaneously examined the effects of taking a women's studies course as well as an ethnic studies course. However, Hyun utilized stepwise multiple regression in

which only significant predictors emerged in the final model. While having enrolled in a women's studies course was included as a possible predictor in the initial regression, it did not enter as a significant predictor of promoting racial understanding, and so was omitted from the final regression equation.

Mixed Findings The last three quantitative studies reported mixed results of having taken a women's studies course (Antonio, 2001; Hurtado, 2001; Vogelgesang, 2001). All three studies also examined taking an ethnic studies course in addition to a women's studies course. Similar to the results for ethnic studies courses, Antonio (2001) also found that having taken a women's studies course had a significant relationship when only precollege variables were taken into account, but it then became nonsignificant when all variables (i.e., precollege characteristics, friendship group characteristics, numerous student involvement variables) were entered into the model. This pattern of findings was consistent across all three diversity outcomes (i.e., interracial interaction, cultural awareness, and the importance of promoting racial understanding). Hurtado (2001) conducted partial correlations (controlling for selectivity, student abilities, and academic habits) between having enrolled in a women's studies course and students' self-reported growth on seven civic outcomes, five job-related outcomes, and eight learning outcomes. She found that having enrolled in a women's studies course was positively associated with eight outcomes, negatively associated with two outcomes, and had nonsignificant associations with ten outcomes. The largest positive partial correlations were with cultural awareness, writing skills, and tolerance of people with different beliefs. The largest negative partial correlation with having taken a women's studies course was mathematical ability. Vogelgesang (2001) showed that women's studies coursework was significantly and positively related to a commitment to activism for White students only, but had no link with commitment to activism for Asian American, African American, or Latino/a students. Having taken a women's studies course did not enter in any of the preliminary stepwise regressions for all four racial/ethnic groups, and thus was unrelated to the outcome of commitment to promoting racial understanding.

Mixed-Method Study Stake and Hoffmann (2001) examined the effectiveness of women's studies courses utilizing a sample of 574 (398 women's studies, 176 non-women's studies) students from 32 college campuses. Students were surveyed at three time points: beginning, end, and 6 months after the semester. Students in the women's studies courses had higher scores than the non-women's studies students on all the outcomes: performance self-esteem, egalitarian attitudes toward women, general egalitarianism, awareness of sexism and discrimination, activism for women's issues, other activism, and likelihood of future activism for women's issues and other activism. Even when controlling for pretest scores, the women's studies students had significantly higher scores as compared to the non-women's studies students on all the outcomes except for performance self-esteem (at both the post-test and follow-up). In examining possible long-term effects, there were no discernible changes on any of the outcomes for the students in the women's studies group 6 months after the course. However, of the students who took the first women's studies course, those who took an *additional* women's studies course in the

follow-up period (and even controlling for their posttest scores) had significantly higher follow-up scores on all of the outcomes except for egalitarian attitudes towards women as compared to students who did not take the additional women's studies course. The authors also included subjective change measures to gain participants' views on their own perceived growth that may not be evident in other measures, and a content analysis was conducted on the written descriptions of change. With or without covariates, students in the women's studies course experienced greater self-perceived change in their egalitarian attitudes and awareness of discrimination as compared to students in the non-women's studies courses. The women's studies students were also more likely than the non-women's studies students to report in their written description of their changes that the course had caused them to be more aware of discrimination and/or engaged in social activism, paralleling the quantitative findings.

Summary Taken together, half of the studies showed positive results, and the other half showed a mixed results. The majority of the studies utilized CIRP data, and many of them overlapped with studies that examined ethnic studies courses. Generally, the CIRP studies that included both ethnic studies and women's studies courses showed slightly smaller relationships for women's studies courses as compared to ethnic studies courses, which may explain why one study showed no significant finding of having taken a women's studies course (i.e., using stepwise regression). In addition, this trend may occur because the outcomes in those studies tended to focus on racial diversity outcomes, which are more directly relevant to the content of ethnic studies coursework. The studies that showed mixed findings included a number of other college diversity involvement variables and friendship group characteristics in the models, examined a broad range of outcomes (both diversity-related and non-diversity related), and disaggregated samples by race. In general, women's studies courses tended to have stronger positive associations with gender-related and diversity-related outcomes, and less consistent, weaker, and/or no association with non-diversity related outcomes. There were no racial/ethnic group differences for gender-related outcomes, but the results were more likely to be statistically significant for White students as compared to students of color for diversity-related outcomes.

Courses Located in Other Departments/Programs

There were 20 studies that examined diversity courses that were located in departments or programs besides ethnic or women's studies (12 quantitative, six mixed-methods, and two qualitative). Of these, ten studies examined diversity courses located in psychology departments (Case, 2007a, 2007b; Case & Stewart, 2010a, 2010b; Chappell, 2014; Kernahan & Davis, 2007, 2009; Khan, 1999; Pettijohn & Walzer, 2008; Probst, 2003). The remaining ten studies examined diversity courses in business (Martin, 2006), communication (Carrell, 1997),

cultural studies (Hathaway, 1999), education (Bidell, Lee, Bouchie, Ward, & Brass, 1994; Burrell, 2008; Hasslen, 1993), human development and family studies (MacPhee, Kreutzer, & Fritz, 1994), life span development and family sciences (Doucet, Grayman-Simpson, & Shapses Wertheim, 2013), nursing (Caffrey, Neander, Markle, & Stewart, 2005), and social work (Hall & Theriot, 2007). Of the 20 studies, six found positive results (Bidell et al., 1994; Caffrey et al., 2005; Carrell, 1997; Case & Stewart, 2010b; Khan, 1999; MacPhee et al., 1994), and 14 found mixed results (Burrell, 2008; Case, 2007a, 2007b; Case & Stewart, 2010a; Chappell, 2014; Doucet et al., 2013; Hall & Theriot, 2007; Hasslen, 1993; Hathaway, 1999; Kernahan & Davis, 2007, 2009; Martin, 2006; Pettijohn & Walzer, 2008; Probst, 2003).

Quantitative Studies Of 12 quantitative studies examining diversity courses, three showed positive findings (Caffrey et al., 2005; Carrell, 1997; Case & Stewart, 2010b) and nine found mixed results (Case, 2007a, 2007b; Case & Stewart, 2010a; Chappell, 2014; Hall & Theriot, 2007; Kernahan & Davis, 2009; Martin, 2006; Pettijohn & Walzer, 2008; Probst, 2003).

Positive Findings Case and Stewart (2010b) showed that students ($n = 143$) in a Psychology of Race and Gender course showed significant changes in greater awareness of heterosexual privilege, reduced prejudice against lesbians and gay men, and increased support for same-sex marriage over the course of a semester. Caffrey and colleagues (2005) evaluated the integration of cultural content into an undergraduate nursing curriculum on female students' ($n = 39$) self-reported cultural competence. Students were surveyed at the beginning of the junior year and then again at the end of their senior year before graduating. In addition, they also compared students who participated in an additional 5-week clinical immersion program in international nursing ($n = 7$). While all students in the nursing program reported an increase in cultural competence at the end of the program, the ones that did not participate in the additional clinical immersion program showed small to moderate gains, while students in the clinical immersion program showed large gains in cultural competence. In the third quantitative study, Carrell (1997) examined the impact of integrating cultural diversity into the communication curriculum on students' empathy. Their findings showed that students in the treatment group showed significantly greater gains in empathy as a trait, attitude, and behavior as compared to the gains for the students in the control group.

Mixed Findings There were nine quantitative studies that showed mixed findings of having taking a diversity course (Case, 2007a, 2007b; Case & Stewart, 2010a; Chappell, 2014; Hall & Theriot, 2007; Kernahan & Davis, 2009; Martin, 2006; Pettijohn & Walzer, 2008; Probst, 2003). Using a one-group pretest-posttest design, three studies examined how taking a Psychology of Race and Gender course predicted changes in students' male privilege awareness and sexism (Case, 2007a, Study 1) and White privilege awareness and racial prejudice (Case, 2007b). In the first study (Case, 2007a), students ($n = 147$) in the diversity course increased significantly from pretest to posttest in male privilege awareness and support for

affirmative action, while they decreased significantly in modern sexism and hostile sexism. There were no differences in terms of benevolent sexism or feminist self-identification. In the second study (Case, 2007b), students ($n = 146$) in the diversity course increased significantly in White privilege awareness, awareness of racism, support for affirmative action, White guilt, and fear of other races (last finding was attributed to only one item regarding the number of cross-race friendships). Student prejudice against African Americans, Arab-Middle Eastern people, and Jewish people remained consistent, but prejudice against Latino/as increased. The authors attributed this increase in prejudice towards Latino/as possibly due to chance. Hall and Theriot (2007) examined a required multicultural social work course and showed that students ($n = 23$) had significant positive changes on their multicultural awareness and knowledge from the beginning to the end of the semester, but no changes in their multicultural skills.

Of the seven studies with mixed results in a two-group pretest-posttest design, six of the studies examined diversity courses in psychology, and one examined a diversity course in business. All six psychology studies compared students in a diversity course in psychology with a non-diversity course in psychology. The diversity courses included Psychology of Women and Introduction to Women's studies (Case, 2007a, Study 2; Case & Stewart, 2010a), a multicultural course (Chappell, 2014), Psychology of Prejudice (Pettijohn & Walzer, 2008), Psychology of Prejudice and Racism (Kernahan & Davis, 2009), and Cultural Diversity in Organizations (Probst, 2003). The last study examined a Cultural Diversity in Business course compared to a capstone public affairs course (Martin, 2006). These studies examined a range of attitudinal outcomes, such as those related to racial/ethnic diversity (e.g., multicultural awareness and knowledge; Chappell, 2014), gender diversity (e.g., prejudice against lesbians and gay men; Case, 2007a; Case & Stewart, 2010a), or other types of intergroup attitudes (e.g., attitudes towards disabled workers; Martin, 2006).

All seven studies surveyed students at the beginning and end of the semester, and one study also followed up students 1 year after completing the course (Kernahan & Davis, 2009). These studies showed that students who took a diversity course showed a significant increase in multicultural knowledge (Chappell, 2014); knowledge of diverse groups and cultural diversity issues (Martin, 2006); awareness of racial privilege, institutional discrimination, blatant racial issues, awareness and understanding, and action and responsibility (Kernahan & Davis, 2009); awareness of heterosexual privilege and support for same-sex marriage (Case & Stewart, 2010a); male privilege awareness, feminist self-identification, and support for affirmative action (Case, 2007a); and improved attitudes towards gender roles, disabled workers, gays/lesbians/bisexuals, racial minorities, and intercultural tolerance (Probst, 2003). Two of these studies showed that students who took a diversity course showed significant decreases in modern and hostile sexism (Case, 2007a) as well as old-fashioned and modern racism, modern sexism, and negative attitudes towards homosexuals (Pettijohn & Walzer, 2008). However, the diversity courses had no association with students' multicultural awareness (Chappell, 2014), comfort

and interaction (Pettijohn & Walzer, 2008), prejudicial attitudes (Martin, 2006), prejudice against lesbians and gay men (Case & Stewart, 2010a), attitudes towards older employees (Probst, 2003), and old-fashioned sexism (Pettijohn & Walzer, 2008).

Kernahan and Davis (2009) also followed up with students ($n = 17$) in the diversity course 1 year after completing the course. Since completing the course a year earlier, the students did not change in their awareness of racial privilege and blatant racial issues, but decreased in their awareness of institutional discrimination (marginally significant). Interestingly, while their awareness and understanding, and action and responsibility (marginally significant) decreased, their comfort and interaction increased. This is especially noteworthy since there were no changes from the beginning of the semester to the end of the semester on comfort and interaction, but then increased a year later suggesting possible indirect effects. However, the findings must be interpreted with caution given the small follow-up sample.

Mixed-Method Studies Of the six mixed-method studies, half showed positive findings (Bidell et al., 1994; Khan, 1999; MacPhee et al., 1994) and half showed mixed findings (Burrell, 2008; Hasslen, 1993; Kernahan & Davis, 2007) of having taken a diversity course. Of the studies that showed positive findings, Khan (1999) evaluated her experience of teaching a course on the psychology of racism using course evaluation results and the final written assignment. Her course evaluations were significantly higher than the departmental average on whether students thought this was an excellent course and whether they learned a great deal from this course. On the final written assignment, students discussed how their proposed solutions to end racism differed from their solutions before taking the class. According to Khan, their responses provided additional insight into how much they learned in this course. For example, some students noted that they had not carefully thought about racism before taking this course, and that this course allowed them to do so meaningfully. In addition, many students reported being unaware of the power of social norms on influencing behavior until this course. However, little detail was provided on the underlying processes of how this diversity course affected student development.

Bidell and Colleagues (1994) examined White undergraduates ($n = 55$) enrolled in a cultural diversity course. They were asked to respond to questions about their conceptions of the nature and causes of racism before and after their participation in the one-semester class. There were significant positive developmental differences for both questions. For example, at the beginning of the course, most students attributed racism to individuals, that is, the racist beliefs/actions of a few individuals. By the end of the course, most of the students generated conceptions about the nature and causes of racism that reflected increasingly complex dimensions of the problem (e.g., race-based social privileges). MacPhee and colleagues (1994) examined a curriculum infusion project within a Human Development and Family Studies department. Students in a diversity course ($n = 302$) were compared to controls in three other courses in behavioral science, natural science, and business ($n = 657$). Controlling for pretest scores and previous coursework, those in the diversity course had significant improvements in their views on person blame, system blame,

old fashioned racism, and modern racism. The results of the content analysis of their assignments showed that students increased in their critical thinking skills, decreased in ethnocentrism, and increased in their ability to distinguish poverty from ethnicity as developmental risk factors.

The other three mixed-method studies showed mixed results of having taken a diversity course. Burrell (2008) and Hasslen (1993) both examined a diversity course in education. Using a one-group pretest-posttest design, Burrell (2008) used vignettes and asked students whether they believed the situation to be an example of oppression (racism, sexism, classism, and heterosexism), if they believe actions should be taken, and (if so) what example actions they would take. There were mixed results for the racism, sexism, classism, and heterosexism vignettes. Hasslen (1993) examined 265 White students' experiences in a multicultural education course. Hasslen found that the students in the course increased on 16 of the 28 cultural awareness items (which reflect an individual's attitudes, beliefs, and behavior towards elementary children of culturally diverse backgrounds), and half of the situational attitudes (attitudes of Whites towards African Americans) showed a significant increase over the course of the semester. Kernahan and Davis (2007) demonstrated that students in a diversity course showed significant increases over the course of the semester on perceptions of racial privilege, institutional discrimination, blatant racial issues, noticing racism, White guilt, taking action, and responsibility. The qualitative findings supported the quantitative findings overall, except they did not find an increase in taking action on the qualitative measure.

Qualitative Studies The two qualitative studies showed mixed results of having taken a diversity course (Doucet et al., 2013; Hathaway, 1999). Doucet and colleagues (2013) conducted a phenomenological analysis of written assignments of 14 White female students enrolled in a required diversity course for majors in the Department of Life Span Development and Family Sciences. The students reported engaging in a transformative journey, part of which involved acquiring new knowledge that challenged their preconceived notions. However, there was substantial variation in the cognitive and relational transformative journeys across students. Hathaway (1999) also used a phenomenological approach to examine the impact of a required diversity course on nine White students' personal and societal beliefs regarding inequality. Her analysis revealed mixed results. While the course helped students reflect and question the ways in which dominant thinking is socially constructed, the students showed little change in reflecting and questioning their own personal belief systems regarding racial inequality.

Summary Overall, about one-third of the studies that examined diversity courses in other departments/programs showed positive results, while two-thirds showed mixed results. The studies that showed positive findings examined outcomes that were closely aligned with the goals of the diversity course in which the students were enrolled (e.g., nature and causes of racism). However, the majority of studies in this category showed mixed findings. Some of these studies examined a variety of dependent variables, so a study could be classified as "mixed" even if it exhibited positive findings for most—but not all—of the outcomes. In addition, they examined

a combination of attitudinal, cognitive, and behavioral outcomes, with more consistent positive relationships for attitudinal outcomes, and less consistent relationships for the cognitive and behavioral outcomes. There were also a number of qualitative and mixed-method studies, and this research may be more sensitive to the complex ways in which diversity courses may or may not be related to student growth. Importantly, the qualitative studies or qualitative components of the mixed-method studies were usually based on very small sample sizes, so the smaller sample sizes here (and for some of the quantitative analyses) may have resulted in less statistical power and therefore less consistent positive results.

Courses in Unknown Departments or Multiple Courses

There were 19 studies that examined diversity courses in unknown departments or examined multiple courses simultaneously (15 quantitative, two mixed-methods, and two qualitative). Of these, six studies reported positive results (Engberg & Mayhew, 2007; Henderson-King & Kaleta, 2000; Hurtado, Mayhew, & Engberg, 2012; Marin, 2000; Nelson Laird et al., 2005; Palmer, 2000), two studies reported nonsignificant results (Brehm, 1998, 2002), and 11 studies reported mixed results (Caviglia, 2010; Chang, 2002; Chick, Karis, & Kernahan, 2009; Cole, Case, Rios, & Curtin, 2011; Herzog, 2010; Hogan & Mallott, 2005; Hurtado, 2003, 2005; Remer, 2008; Warchal, 1999; You & Matteo, 2013).

Quantitative Studies Of the 15 quantitative studies, four studies were based on university campuses involved in the Preparing College Students for a Diverse Democracy Project (Hurtado, 2003, 2005; Hurtado et al., 2012; Nelson Laird et al., 2005). Of the remaining studies, two were based on multi-institution samples (Brehm, 2002; Remer, 2008), and the last nine studies were based on single-institution samples (Brehm, 1998; Chang, 2002; Cole et al., 2011; Engberg & Mayhew, 2007; Henderson-King & Kaleta, 2000; Herzog, 2010; Hogan & Mallott, 2005; Palmer, 2000; You & Matteo, 2013).

Positive Findings Of the five quantitative studies that found positive findings, two were classroom-based studies through the Preparing College Students for a Diverse Democracy Project. In both studies (Nelson Laird et al., 2005; Hurtado et al., 2012), students in a diversity course (a social diversity course and a women's studies course) were compared to students in a control course (a management course). One study (Nelson Laird et al., 2005) showed that students in the management course as compared to those in the diversity courses had greater increases in the amount of positive interpersonal diversity interactions and the importance placed on taking social action. In the other study (Hurtado et al., 2012), students in the diversity courses had increased moral reasoning relative to students in the management course, but there were no corresponding differences for changes in critical thinking disposition. However, enrolling in a diversity course had a positive indirect effect on critical thinking dispositions through increased active learning.

Engberg and Mayhew (2007) examined the extent to which a first-year success course with an explicit focus on diversity predicted students' learning and democratic outcomes. They compared students in the first-year success course ($n = 109$) to those in an introductory communication course ($n = 194$) and an introductory engineering course ($n = 168$). Although there were no differences among the three groups of students at the beginning of the semester, students in the diversity course made significant gains in all three outcomes (i.e., multicultural awareness, commitment to social justice, and attributional complexity), while students in the other two courses showed no significant changes. Even when controlling for background characteristics and previous exposure to diversity courses, students in the diversity course had greater increases than students in the other two courses on multicultural awareness and commitment to social justice. Palmer (2000) examined semester-long changes in over 1000 students' attitudes and knowledge in a random sample of courses meeting a diversity requirement at Pennsylvania State University. There were few methodological details of her study, as well as a lack of formal presentation of the results. She concluded that the students' racial and gender attitudes became more tolerant during the semester. In addition, students of color experienced greater gains in tolerance than did White students.

Henderson-King and Kaleta (2000) examined students who had enrolled in four Race and Ethnicity (RAE) course from a number of disciplines. The control group was a random stratified sample of 100 female and 100 male students who were not currently enrolled in a RAE course in the current semester. Those in the control group became less favorable towards Latina/os, African Americans, and men, which was largely due to White students attitudes towards group decreasing over time. Among the RAE group, there were no differences in attitudes towards various groups over the course of the semester. They concluded that in the absence of courses that focus on social diversity, undergraduate students become less tolerant of others.

Nonsignificant Findings Two quantitative studies found nonsignificant results of diversity courses on student outcomes. Brehm (1998, 2002) conducted a preliminary study of White students' stereotypes of and tolerance towards women, minorities, and gay people at a large Mid-Atlantic state university. Utilizing a convenience sample of approximately 100 students from 12 courses, she found no differences between the two groups on the pretest or posttest in terms of their stereotypes of and tolerance towards women, minorities, and gay people. Brehm (2002) also conducted a follow-up study on almost 1200 college students from 12 institutions mainly in the South. However, only 139 students responded to both the pretest and the posttest. Of the students who responded to both surveys, only ten had taken a course that could be classified as a diversity course during that semester, so the limited sample prevented any meaningful analysis of the possible impact of diversity courses on student outcomes.

Mixed Findings Of the eight quantitative studies that found mixed results for having taken a diversity course, three utilized multi-institution samples (Hurtado, 2003, 2005; Remer, 2008), and the remaining five studies were conducted at a single

institution (Chang, 2002; Cole et al., 2011; Herzog, 2010; Hogan & Mallott, 2005; You & Matteo, 2013). Remer (2008) utilized data from the beginning and end of the semester from almost 300 students (168 diversity course; 110 non-diversity course) in 23 courses from a variety of disciplines at three institutions. Their findings showed a significant increase in awareness of privilege and oppression over time, between the students in the diversity course as compared to students in the non-diversity course. However, there were no difference between the two groups in change over time for ethnocultural empathy and openness to diversity.

Hurtado (2003, 2005) summarized findings from the primary quantitative portion of the Preparing College Students for a Diverse Democracy Project, a longitudinal study of over 4000 students from nine public universities who were surveyed at the beginning of college and again at the end of the second year. Controlling for pretests, background characteristics, informal interaction with diverse peers, and participation in 9/11 activities, she examined the independent effects of four campus practices (including integrated diversity courses) on a variety of student outcomes. The diversity courses were “integrated” in the sense that two of the campuses did not have diversity course requirements, but had instead undertaken curriculum integration initiatives. Students who enrolled in an integrated diversity course scored higher on 19 of the 25 outcomes in the study. Specifically, diversity courses had significant positive relationships with attributional complexity, college retention, cultural awareness, interest in social issues, self-efficacy for social change, importance of creating social awareness, social identity awareness, perspective taking, support for institutional diversity and equity, pluralistic orientation, interest in poverty issues, perceptions of conflict enhancing democracy, concern for the public good, importance of civic contribution, support for race-based initiatives, tolerance for LGB people, and voting in federal or state elections. As expected, diversity courses had significant negative associations with two perceptions: that racial inequality is not a problem in society, and that social inequity is acceptable. There was no significant link between diversity courses and changes in analytical problem-solving skills, leadership skills, discomfort with racial/ethnically diverse peers, helping others in the community vote, voting in student government elections, and perceiving differences of values with other racial/ethnic groups.

The remaining five studies were single-institution studies which showed mixed results of having taken a diversity course. Two used a one-group design (Herzog, 2010; You & Matteo, 2013), two used a two-group design (Chang, 2002; Cole et al., 2011), and one study used a three-group design (Hogan & Mallott, 2005). Using a sample of 2801 students, Herzog (2010) showed that enrollment in a diversity course during the first year was positively related to GPA, but it did not predict persistence. You and Matteo (2013) surveyed 137 students in five diversity courses at a small Catholic liberal arts university in the Northeast. Using a one-group pretest-posttest design, students exhibited an increased number of multicultural experiences in three of the five courses, with no change in the other two courses. Students’ multicultural desire (i.e., effort or intention to increase their multicultural experiences) increased in two of the five courses. The authors point out that these two

courses (Intercultural Communication and Multicultural Issues in Psychology) both included structured interactions with people of different backgrounds, which may be responsible for these positive results.

The next two studies utilized a two-group design. Chang (2002) examined the impact of an undergraduate diversity course requirement on students' racial views and attitudes at a public university in the Northeast. Of the 25 approved diversity courses, half were randomly assigned to the pretreatment group and half to the treatment group. The pretreatment group ($n = 112$) were surveyed at the start of the semester, while the treatment group ($n = 81$) were surveyed during the last week of semester. All students who had already completed the diversity requirement in a previous semester were excluded. Controlling for background characteristics and degree of exposure to racial diversity, those who had nearly completed the requirement had more favorable views in general about African Americans (using the modern racism scale) than those who were just starting the diversity requirement course. He also examined the cumulative effect of an undergraduate diversity course requirement on students' racial views and attitudes by examining the students who were excluded earlier because they had already taken a diversity course. Controlling for the same covariates as before, there were no differences between the two groups, so taking more than one diversity course did not seem to have any cumulative benefits.

Cole and colleagues (2011) investigated the extent to which required race and ethnicity diversity courses at the University of Michigan predict students' understanding of racial inequality and their social development with regard to racial outgroups. A total of 173 students were surveyed at the beginning and end of a semester (106 students in diversity-themed courses, 67 students in introduction to psychology). Relative to students in the control course, students in the diversity courses had significantly greater increases in White privilege awareness and intersectional consciousness, and they were less like to believe that individuals get what they deserve in life. There were no differences between the two groups in denial of blatant racial issues, outgroup comfort, or acting to promote diversity. There was also evidence of two moderator effects by course and race. In particular, White students enrolled in diversity courses had significantly higher intersectional consciousness than White students in the non-diversity course, but this pattern was not the case for students of color. Moreover, diversity courses was associated with less endorsement that individuals get what they deserve, and this relationship was significantly stronger for White students than for students of color.

Hogan and Mallott (2005) examined prejudice using the Modern Racism Scale (MRS) at an institution in Cincinnati, Ohio. They compared three groups of students: a group that had *completed* a race and gender course before the semester of assessment (38 students), a group that had a race and gender course *in progress* (153 students), and a group that had done *neither* (59 students). In the between-group analyses, the students in all three groups did not differ significantly in prejudice at the pretest. On the posttest, however, those currently enrolled in the diversity course had lower prejudice than students who had already completed the course or those who had not enrolled in a diversity course. In the within-group analyses, those

currently enrolled in the course significantly improved their attitudes over the semester, while the students in the other two groups deteriorated slightly. The authors concluded that diversity courses reduce prejudice, but the benefit does not appear to persist across semesters.

Mixed-Method Studies There were two mixed-method studies that examined multiple diversity courses simultaneously. Chick et al. (2009) conducted a mixed-method study to examine how students feel about their learning in race-related diversity courses. They examined 91 participants from four diversity courses. The qualitative component consisted of analyzing anonymous journal assignments that were posted to online course websites, which students individually reflected upon and discussed in small groups. The quantitative findings corroborated the qualitative findings and showed that students in three of the four courses showed significant increased understanding and awareness of racism and racial privilege.

Warchal (1999) examined White students' racial identity attitudes, racism, sexism, and homophobia. She compared students in four diversity courses ($n = 50$) with students in three control courses ($n = 41$). The quantitative outcomes consisted of racial identity ego status, racism, sexism, and homophobia. Based on a MANOVA, she found no significant main effects for diversity course or time (i.e., no change from pretest to posttest) across the combined outcomes. In the qualitative portion of the study, students were asked to describe any critical incidents (major turning points) which occurred as a result of the course and changed the way they think, feel, or behave towards persons of the opposite sex, people from a different racial background, and people of a different sexual orientation (corresponding to sexism, racism, and homophobia respectively). The student ratings of critical incidents were assessed at the posttest to examine whether students perceived these three critical incidents as positive, negative, or neutral. Students in the diversity course reported more positive changes as compared to the students in the non-diversity course in terms of racism and sexism (not homophobia).

Qualitative Studies Two qualitative studies examined the relationship between unknown/multiple diversity courses and student outcomes. Marin (2000) conducted a case study to explore how student outcomes changed during three courses that infused diverse perspectives. She found that all three courses led to challenging or reducing racial stereotypes, broadening student perspectives, and developing critical thinking skills. Caviglia's (2010) qualitative study examined how 13 underrepresented students (African American, Latino/a, biracial students) at one academically selective institution perceive how diversity courses changed elements of their relational leadership through qualitative interviews. Some students had taken numerous courses, with one student having taken nine diversity courses. Caviglia found that these students perceived that the diversity courses increased their tolerance of difference in others and improved their relational leadership; in addition, classroom interaction had both a positive and negative effect, since tokenism was detrimental to student learning and development.

Summary Of the studies that examined multiple diversity courses or courses in which their departments were not specified, one-third found a positive relationship, while the majority found mixed results of having taken a diversity course. The studies that yielded positive results were consistent across a number of outcomes (both diversity-related and non-diversity related) even after controlling for previous exposure to diversity courses. Similar to previous sections, the majority of studies in this category found mixed results of diversity courses. Many of the studies examined a mixture of diversity-related and non-diversity related outcomes, as well as a combination of attitudinal, cognitive, and behavioral outcomes, which also contributed to the mixed findings. Other studies were qualitative or mixed-method studies, which also tended to have mixed findings. Some research indicated that taking more than one diversity course did not seem to have any cumulative benefits and that any benefits of having taken a diversity course may deteriorate slightly in the following semester if another diversity course is not taken. These latter findings are in contrast to other studies in this category which found positive results even when controlling for previous diversity coursework.

Curricular Diversity Composite

There were seven quantitative studies that used a curricular diversity composite to assess diversity course content: two found positive results (Milem, Umbach, & Liang, 2004; Smith, Parr, Woods, Bauer, & Abraham, 2010), one found only non-significant results (Inkelas, 2004), and four obtained mixed findings (Gurin et al., 2002; Lopez, 2004; Mayhew, Grunwald, & Dey, 2005; van Laar, Sidanius, & Levin, 2008).

Positive Findings Using a pretest-posttest survey, Milem et al. (2004) surveyed 536 students at a public research university in the mid-Atlantic region. Their “classroom diversity” composite consisted of five items asking students the extent to which they were exposed to diverse ideas and information in their classes. Controlling for pre-college diversity environments, pre-college interactions, and plans to engage in diversity-related activities, classroom diversity had significant direct effects on all three diversity-related outcomes (i.e., diverse interactions, extracurricular diversity activities, and involvement in institutionally sanctioned diversity activities) while in college. In addition, classroom diversity also had significant indirect effects on the first two outcomes through increased opportunities to learn about different racial/ethnic groups. Using a cross-sectional survey, Smith et al. (2010) surveyed social science graduates ($n = 156$) at a master degree-granting public state university approximately five-six years after graduating from college. Their curricular diversity composite consisted of six items relating to their experience with multicultural courses (e.g., globalization; inequalities within the US; issues of class, race, or gender within the US). Their findings showed that curricular diversity was a significant positive predictor of multicultural competence and volunteer service.

Nonsignificant Findings Inkelas (2004) was the one study that found nonsignificant results of diversity courses. She examined 184 Asian Pacific American (APA) undergraduates to assess whether participation in diversity activities facilitated a sense of ethnic awareness and understanding. Her curricular diversity measure was “depth of exposure to a diverse curriculum” (ranging from 1 = not at all to 5 = a great deal). Controlling for a number of student background characteristics, environments, and involvement in curricular and co-curricular diversity experiences, a diverse curriculum had no significant association with APA students’ self-reported gains in racial/ethnic awareness and understanding.

Mixed Findings The other four studies that utilized a curricular diversity composite found mixed results for diversity-related coursework (Gurin et al., 2002; Lopez, 2004; Mayhew et al., 2005; van Laar et al., 2008). Two of these used data collected at the University of Michigan. Specifically, Lopez (2004) utilized longitudinal data from the Michigan Student Survey, where students were surveyed at the beginning and end of the first year of college. She conducted separate analyses by race/ethnicity: 480 Whites, 165 Asian American, and 92 African American students. Her curricular diversity composite was constructed by summing participation in interdisciplinary activities and exposure through academic courses. She found that diversity courses had significant positive relationships with awareness of inequality and support for educational equity for White students, but it had no significant association with either outcome for Asian American and African American students (although support for educational equity was marginally significant and positive for African American students).

Gurin et al. (2002) used longitudinal data from the 1990/1994 Michigan Student Survey (MSS) in which students were surveyed at the beginning and end of college. They also conducted separate analyses by race: 1129 White students, 187 African American students, and 266 Asian American students. Their curricular diversity composite consisted of two items: the extent to which students had been exposed in classes to “information/activities devoted to understanding other racial/ethnic groups and interracial ethnic relationships”, and if they had taken a course during college that had an important impact on their “views of racial/ethnic diversity and multiculturalism.” They also controlled for other college diversity experiences (e.g., informal interpersonal interactions, events/dialogues). Curricular diversity had significant positive results for both learning outcomes (active thinking and intellectual engagement) across all three racial/ethnic groups. For the democracy outcomes, the pattern of relationships was mixed. Curricular diversity was significantly and positively related to all three democracy outcomes (compatibility of differences, perspective-taking, racial/cultural engagement) for White students, compatibility of differences and racial/cultural engagement for African students, and racial/cultural engagement for Asian students. All other findings were nonsignificant.

Mayhew and colleagues (2005) explored the factors that predict students’ perceptions of their institution’s success in achieving a positive climate for diversity among 544 students at a large, public, predominantly White Midwestern institution.

Their curricular diversity composite consisted of two items and was operationalized as “participation in diversity-related learning”. They also controlled for perceptions about curricular diversity, specifically, whether they *perceived* the curriculum to have included many courses on minority group perspectives, emphasized non-dominant cultures in the curriculum, and balanced the relative emphasis on Western civilization and non-dominant cultures is balanced in the curriculum. The results showed that *participation* in curricular diversity had a significant negative link with a positive climate for diversity, whereas *perceptions* of a diverse curriculum was a significant positive predictor of a positive climate for diversity. They also conducted separate analyses by race (Whites vs. students of color) and gender (men vs. women). While participation in curricular diversity was nonsignificant for students of color and negative for White students, the perception of curricular diversity was significant and positive for both groups of students. By gender, participation in curricular diversity was associated with a negative racial climate for women, but not for men. However, perceptions of a diverse curriculum was positively associated with a positive racial climate for both genders.

Finally, van Laar and colleagues (2008) used five-year longitudinal data to examine the long-term effects of courses with ethnic studies content and courses with Latino/African American professors on university students’ intergroup attitudes. Students at UCLA were surveyed at the start of college, then again at the end of each year for 4 years. Their curricular diversity composite with ethnic studies content consisted of three items, and they also included other controls such as the number of Latino/a, African American, Asian American, and female professors they have had each year as well as undergraduate major. In the full sample ($n = 2617$), curricular diversity was associated with significant improvements in attitudes towards outgroups by lowering their symbolic racism and social dominance orientation (marginally significant) in the fourth year of college. Curricular diversity was also associated with increases in identification with their ethnic ingroup and marginally greater interest in taking collective action (as opposed to individual action) on behalf of their ethnic group. In addition, curricular diversity was associated with increased beliefs that the status differences between ethnic groups are less permeable (e.g., it is harder for individuals from some ethnicities to achieve higher personal status or advancement in American society). They also examined the results separately for White ($n = 764$), Asian American ($n = 758$), Latino/a ($n = 466$), and African American students ($n = 144$). The findings were mixed when the results were analyzed separately for the four racial/ethnic groups. Through exposure to curricular diversity, White students tended to have a lower proportion of ingroup friends. In contrast, curricular diversity is associated with relatively more ingroup friends among Latino/a students. While curricular diversity did predict second- and third-year outcomes for African American students, no significant findings occurred for fourth-year outcomes. For Asian American students, curricular diversity was associated with decreased symbolic racism and perceptions that the social structure is permeable and legitimate, along with increased interest in collective action.

Summary As compared to all the categories, this category had the smallest number of studies, with only seven quantitative studies using a curricular diversity composite. These studies utilized a combination of single-institution and multi-institution samples, and they examined both diversity-related and non-diversity related outcomes. The two studies that found uniformly positive results utilized samples which combined students from various racial/ethnic groups, with the majority of studies obtaining mixed findings. The one study with a null result examined Asian American students only, and all the studies which found mixed results examined differential effects by race/ethnicity. In general, more consistent positive results were obtained for White students, with mixed findings obtained for students of color. In addition, these studies did not account for differential sample sizes, which can lead to significant results for larger groups (e.g., Whites) and nonsignificant results for smaller groups (e.g., students of color). One study examined both direct and indirect effects of curricular diversity to explore possible mediating effects, and two other studies examined possible moderating effects (i.e., diverse friendship groups, instructor's race/ethnicity). Interestingly, one study showed that while *participation* in curricular diversity had differential effects across White students and students of color, student *perceptions* of an inclusive curriculum had consistent, positive associations with a positive campus climate for both groups of students.

Number of Courses

There were a total of 28 studies that examined the number of diversity courses taken (27 quantitative and 1 mixed-methods). Of these, two studies reported positive results (Cole & Zhou, 2014; Zuniga, Williams, & Berger, 2005), seven found non-significant results (Lindsay, 2007; Loes, Pascarella, & Umbach, 2012; Loes, Salisbury, & Pascarella, 2013; Pascarella, Palmer, Moye, & Pierson, 2001; Saenz, Ngai, & Hurtado, 2007; Taylor, 1994; VanHecke, 2006), and 19 studies reported mixed results (Bolen, 2010; Bowman, 2009, 2010b, 2010c, 2012; Engberg, 2007; Engberg & Hurtado, 2011; Engberg, Hurtado, & Smith, 2007; Harper & Yeung, 2013; Kendall Brown, 2008; Mayhew, Seifert, & Pascarella, 2012; Nelson, 2010; Nelson Laird, 2005; Nunez, 2009; Pascarella, Salisbury, Martin, & Blaich, 2012; Pearson, 2012; Saenz, 2005, 2010; Yeazel, 2008).

Quantitative Studies Of the 27 quantitative studies, ten used data from the Wabash National Study of Liberal Arts Education (WNSLAE) (Bowman, 2009, 2010b, 2010c, 2012; Lindsay, 2007; Loes et al., 2012; Loes et al., 2013; Mayhew, Seifert, & Pascarella, 2012; Pascarella et al., 2012; VanHecke, 2006), eight used data from Preparing Students for a Diverse Democracy Project (Engberg, 2007; Engberg & Hurtado, 2011; Engberg et al., 2007; Nelson Laird, 2005; Nunez, 2009; Saenz, 2005, 2010; Saenz et al., 2007), one used data from the National Study of Student Learning (NSSL; Pascarella et al., 2001), and the remaining eight studies used other data sources (Bolen, 2010; Cole & Zhou, 2014; Harper & Yeung, 2013; Nelson, 2010; Pearson, 2012; Taylor, 1994; Yeazel, 2008; Zuniga et al., 2005).

Positive Findings There were two quantitative studies that reported a positive finding of having taken a number of diversity courses. Zuniga et al. (2005) evaluated a diversity initiative (Project Mosaik) implemented in residence halls at a large, predominantly White, public university in the Northeastern United States. A total of 597 students completed a pretest and posttest administered at the beginning and end of the year. Diversity coursework was indicated by the self-reported number of courses taken during the semester with diversity as a major focus (ranging from 1 = 0 courses to 5 = 7 or more courses). Controlling for diversity interactions and diversity-related co-curricular activities, the number of diversity courses taken had significant positive links with both motivation to reduce one's own prejudice and motivation to promote inclusion and social justice. Cole and Zhou (2014) conducted a longitudinal, single-institution study to examine the extent to which involvement in diversity experiences helped students become more civically minded. They utilized the CIRP Freshman Survey matched to a university senior survey along with transcripts ($n = 553$). They calculated the total number of multicultural courses among the first 40 courses each student had taken (range from 0 to 8). Their findings showed that the number of diversity courses was significantly and positively associated with civic mindedness in the senior year of college.

Nonsignificant Findings Seven quantitative studies reported nonsignificant results of the number of diversity courses on student outcomes. One study used a single-institution sample (Taylor, 1994). The remaining six studies utilized multi-institutional samples: four used WNSLAE data (Lindsay, 2007; Loes et al., 2012; Loes et al., 2013; VanHecke, 2006); one used NSSL data (Pascarella et al., 2001); and one used data from the Preparing Students for a Diverse Democracy Project (Saenz et al., 2007). Taylor (1994) analyzed data from the Michigan Study, using data from the beginning and end of the first year of college only from White students ($n = 575$). Taylor defined curricular diversity with a dummy variable (0 = no coursework taken on diversity issues, 1 = one or more courses taken). Curricular diversity was unrelated to the development of tolerance. She also conducted separate analyses for White women and White men, finding no association between curricular diversity and development of tolerance for either gender.

Of the four studies using WNSLAE data, VanHecke (2006) and Lindsay (2007) used data from the cross-sectional pilot phase of the WNSLAE, while Loes et al. (2012, 2013) used the longitudinal data. VanHecke (2006) simultaneously examined how the number of courses focusing on diverse cultures and perspectives *and* the number of courses focusing on issues of equality or social justice each predict responsible citizenship; both items were measured on a 5-point scale (ranging from 1 = 0 to 5 = 4+ courses). These two variables had identical raw correlations with the outcome of responsible citizenship, but these two variables became nonsignificant once all college experiences were included in the final model. Lindsay (2007) and Loes et al. (2012, 2013) also used WNSLAE data, but created a 3-item composite of the number of courses that focus on: "diverse cultures and perspectives," "women/gender studies," and "equality and/or social justice issues". All three individual items were on the same 5-point scale as VanHecke (2006). Also using WNSLAE

pilot data, Lindsay (2007) found that the number of diversity courses was not significantly related to need for cognition (although the coefficient was marginally significant and positive). Loes et al. (2012) utilized data from the first year of the full-scale WNSLAE study; this analytic sample consisted of 1354 students from 19 institutions who were surveyed at the beginning and end of the first year of college and completed the CAAP critical thinking test. When controlling for incoming critical thinking test and interactions with diverse others (among other variables), they observed no net effect of the number of diversity courses on first-year critical thinking. The results were still nonsignificant when disaggregating the sample by race/ethnicity. Loes et al. (2013) also used longitudinal data from the first year of college ($n = 2935$). They showed no net effect of diversity courses on positive attitudes toward literacy (the extent to which students enjoy reading literature, poetry, scientific texts, and/or historical material and expressing their ideas through writing). Additional analyses found no conditional effects by race, gender, precollege test preparation, pretest, the structural diversity of the institution, or attending a liberal arts college.

Pascarella et al. (2001) used longitudinal data from the National Study of Student Learning (NSSL) to examine how diversity experiences predict the development of critical thinking. Students were assessed at the beginning of the first year of college, then again at the end of the first, second, and third year. The number of diversity courses taken was defined as the cumulative number of courses taken in women's studies, Latin American studies, or African American studies. The analyses also included nine other diversity experiences (e.g., interactions with diverse others, co-curricular diversity experiences) and the pretest, and the analyses were conducted separately for several different subgroups (disaggregated by race/ethnicity, sex, and institutional type). Diversity coursework did not significantly predict critical thinking test scores (over and above these other diversity experiences) in the end of the first year or third year within any subgroup.

Another quantitative study that found nonsignificant results was conducted by Saenz et al. (2007). Using data from the Preparing College Students for a Diverse Democracy Project, Saenz et al. examined the number of courses taken that included readings/materials on race/ethnicity issues, gender issues, and issues of oppression; each item ranged from 1 (no courses) to 4 (3+ courses). Conducting separate analyses for African American, Asian American, Latino/a, and White students, they found that the number of diversity courses taken had no significant link with positive interactions across race for students from all racial/ethnic backgrounds. However, they had also included opportunities for intense dialogue as an additional predictor; they concluded that this construct eliminated the effect of diversity courses on positive interracial interactions.

Mixed Findings The remaining 18 quantitative studies reported mixed findings between the number of diversity courses taken and student outcomes. Of these 18 studies, five utilized single-institution samples (Bolen, 2010; Harper & Yeung, 2013; Nelson, 2010; Pearson, 2012; Yeazel, 2008), and 13 utilized multi-institution

samples (Bowman, 2009, 2010b, 2010c, 2012; Engberg, 2007; Engberg & Hurtado, 2011; Engberg et al., 2007; Nelson Laird, 2005; Nunez, 2009; Mayhew et al., 2012; Pascarella et al., 2012; Saenz, 2005, 2010).

Of the five single-institution studies, three were conducted at the University of Southern California (Bolen, 2010; Nelson, 2010; Pearson, 2012), one at UCLA (Harper & Yeung, 2013), and one at a community college (Yeazel, 2008). The three USC studies all utilized data from a larger study on diversity course requirements funded by the Teagle Foundation. The sample included USC students who took the 2004 CIRP Freshman Survey at the start of college, and then were followed up at the end of college using a university survey ($n = 553$). All three utilized the total number of diversity courses taken as a measure of curricular diversity, and they all controlled for the year the student took his/her first diversity course, diversity typology of the first diversity course they took, as well as other diversity experiences such as study abroad, community service, and racial/cultural awareness workshops. Bolen (2010) showed that the number of diversity courses taken had a significant positive link with critical thinking and social action engagement, but no significant association with student-faculty interactions. Nelson (2010) found that diversity courses were significantly and positively related to humanism and individualism, but they were nonsignificant for artistic orientation or materialism. Finally, Pearson (2012) showed that diversity courses were associated with greater analyticity, systematicity, and truth-seeking, but not with inquisitiveness, judgment, open-mindedness, or self-confidence.

Harper and Yeung (2013) utilized data from UCLA students who completed the Campus Life in America Student Survey (CLASS) at the start of college and then again at the start of junior year. Students were asked how many courses they had taken related to diversity, multiculturalism, or ethnic studies (6-point scale: 1 = none to 6 = 5 or more). They examined relationships for the overall sample and then separately for White students and students of color. The number of diversity courses taken was a significant positive predictor of openness to diverse perspectives in the overall sample as well as for students of color ($n = 244$), but this pattern was nonsignificant for White students ($n = 153$). Yeazel (2008) analyzed data from 161 community college students enrolled in an introduction to psychology course. The number of diversity courses taken was a categorical variable: never taken a diversity course, currently enrolled or have taken one diversity course, or currently enrolled or have taken two diversity courses. In the regression analyses, the number of diversity courses taken was a marginally significant positive predictor of open mindedness, and was a significant positive predictor of openness to diversity (whether or not critical thinking disposition was included as a covariate). The ANOVA results showed that there were significant differences between the three groups of students on open mindedness, openness to diversity, and critical thinking disposition. However, no post-hoc analyses were reported, so it is unclear where the significant differences were.

Of the 13 multi-institution studies, seven utilized Diverse Democracy data (Engberg, 2007; Engberg & Hurtado, 2011; Engberg et al., 2007; Nelson Laird, 2005; Nunez, 2009; Saenz, 2005, 2010) and six utilized WNSLAE data (Bowman, 2009, 2010b, 2010c, 2012; Mayhew et al., 2012; Pascarella et al., 2012). Of the seven studies that used Diverse Democracy data, Nelson Laird (2005) conducted a pilot project to examine how college diversity experiences predict students' academic self-concept, social agency, and disposition toward critical thinking. Students were asked whether or not they had taken an ethnic studies course, a course that involved serving a community in need, or a course that included activities that encouraged interactions across racial/ethnic groups. The students' responses were summed, ranging from 0 (had taken no such courses) to 3 (had taken at least one course in all three areas). His findings showed that the number of diversity courses taken had significant positive relationships with academic self-concept, social agency, critical thinking self-confidence subscale, and the California Critical Thinking Dispositions Inventory (CCTDI total score), whereas these were unrelated to the open-mindedness subscale of the CCTDI. He also examined diversity courses as a predictor of other college diversity measures, finding that diversity courses were positively associated with positive quality of interactions, but these were not a significant predictor of negative quality of interactions, interaction with diverse peers, or involvement with a fraternity/sorority.

The remaining studies analyzed data from the Preparing College Students for a Diverse Democracy Project in which about 4700 students from nine institutions were surveyed at the beginning of college, and then again at the end of the second year of college (Engberg, 2007; Engberg & Hurtado, 2011; Engberg et al., 2007; Saenz, 2005, 2010). Nunez (2009) included only Latino/a students in her sample ($n = 362$). Two studies used the number of courses taken that include readings/materials on race/ethnicity, gender, oppression or opportunities for intensive dialogue between students with different backgrounds and beliefs (Engberg, 2007; Engberg & Hurtado, 2011). Engberg and Hurtado (2011) conducted separate SEM analyses for White, Asian American, Latino/a, and African American students. The number of diversity courses taken had a direct positive effect on pluralistic orientation for Latino/a students, but they had no direct effect on pluralistic orientation for White, Asian American, or African American students. However, diversity courses had *indirect* positive effects on pluralistic orientation, through intergroup learning, for students from all four racial/ethnic groups. Engberg (2007) used the same variables as Engberg and Hurtado (2011), but conducted separate SEM analyses by six categories of majors (i.e., arts/humanities, life sciences, business, social sciences, engineering, and education/social work). Diversity courses had direct positive effects on pluralistic orientation for students majoring in the life sciences, engineering, and social sciences (marginally significant). And, diversity courses had direct positive effects on intergroup learning for students from all majors except for business. In terms of indirect effects, diversity courses had positive indirect effects on pluralistic orientation for students majoring in the social sciences, education/social work, arts/humanities, and engineering (the latter two were marginally significant).

The last four Diverse Democracy studies used a three-item composite for the number of diversity courses taken that include readings/materials on race/ethnicity, gender, or oppression (Engberg et al., 2007; Nunez, 2009; Saenz, 2005, 2010). Using structural equation modeling, Engberg et al. (2007) showed that the number of diversity courses taken had direct positive effects on acceptance towards lesbian, gay, and bisexual (LGB) persons. In addition, diversity courses had indirect positive effects, through identity centrality, on attitudes of acceptance towards LGB persons. While there was a direct positive effect of diversity courses on identity centrality (the extent to which students actively think about their various social memberships in racial, ethnic, gender, sexual orientation, and socioeconomic groups), there was no effect of diversity courses on intergroup anxiety.

Saenz (2005, 2010) examined the extent to which a number of college diversity experiences (including the number of diversity courses taken) predicts the frequency of positive cross-racial interactions, interactions with diverse peers, and the belief that racial/ethnic discrimination is no longer a major problem in the US. He conducted analyses on the full sample and then disaggregated the sample into four subsamples: Whites from predominantly White precollege environments (PWEs), Whites from predominantly minority precollege environments (PMEs), nonwhite students from predominantly White precollege environments (PWEs), and nonwhite students from predominantly minority precollege environments (PMEs). On the full sample, diversity courses had a significant positive relationship with positive cross-racial interactions when controlling for all precollege variables, but it then became nonsignificant in the full model. This pattern of findings was replicated in the four subgroup analyses, except for nonwhite PWE students; instead, for these students, diversity courses had a significant negative link with positive cross-racial interaction in the final model. For the overall sample, diversity courses had a significant positive relationship with interactions with diverse peers and the belief that racial/ethnic discrimination continues to be a major problem in the US. However, the pattern of findings is mixed when disaggregated by subgroup. Diversity courses were unrelated to interactions with diverse peers for White PWE and nonwhite PME students, but they were a significant positive predictor for White PME and nonwhite PWE students, suggesting that students' precollege environments can perpetuate their precollege lack of interactions with diverse peers. However, diversity courses were positively related to the belief that racial/ethnic discrimination continues to be a major problem in the US for White PWE and nonwhite PME students, but was unrelated for White PME and nonwhite PWE students. This finding suggests that diversity courses can also interrupt perpetuation effects, at least in terms of student attitudes or beliefs in the short-term.

Finally, Nunez (2009) used data from the 362 Latino/a students from the Preparing College Students for a Diverse Democracy Project. Her structural equation modeling analyses showed that the number of diversity courses taken had positive direct effects on positive cross-racial interaction, class participation, faculty interest, and perceptions of a hostile climate (marginally significant). And, diversity courses also had significant positive indirect effects on positive cross-racial interaction,

faculty interest, and a hostile climate. However, diversity courses did not have any direct or indirect effects on sense of belonging.

The last six quantitative studies utilized WNSLAE data (Bowman, 2009, 2010b, 2010c, 2012; Mayhew et al., 2012; Pascarella et al., 2012), in which the primary independent variable of interest consisted of three items which asked students how many courses they had taken that focused on diverse cultures and perspectives (e.g., African American studies, Latino studies), women's/gender studies, and equality and/or social justice. The first three Bowman studies utilized longitudinal WNSLAE data from the beginning and end of students' first year. To allow for possible nonlinear relationships, Bowman used a number of dummy-coded variables to represent the number of diversity courses taken. Predicting several measures of psychological well-being, Bowman (2010b) found that taking only one diversity course is associated with decreases in environmental mastery, self-acceptance, and overall psychological well-being (marginally significant), whereas taking two or three diversity courses predicts increased personal growth, positive relations with others, and purpose in life, along with a marginally significant positive result for overall psychological well-being.

Bowman (2010c) examined students' overall psychological well-being and three different orientations toward diversity within the overall sample and separately for White students and students of color. In the overall sample, students who take at least two diversity courses have greater gains on all four outcomes as compared to students who take just one course. Consistent with Bowman (2010b), this study also showed that students must take multiple diversity courses to experience some potential benefits from curricular engagement with diversity. When examining subgroup differences, White students received greater benefits from taking one diversity course as compared to students of color as compared to taking no diversity courses, and White students who take two or more diversity courses also experience greater gains than White students who take only one or no diversity courses. For students of color, the pattern of findings is more mixed, in that those who take two or more diversity courses do not experience greater gains than those who take just one course, and those who take one course have lower gains in psychological well-being as compared to those who have taken no diversity courses. However, students of color who take three or more courses (versus one course) have greater gains in diversity of contact, relativistic appreciation of diversity, and psychological well-being (latter two findings are marginally significant).

When examining cognitive outcomes, Bowman (2009) found that students who took one diversity course had greater gains in need for cognition than those who took no such courses, but there was no additional increase after the first course. Also, there was a significant interaction effect that showed that White students who took two diversity courses experienced greater gains in need for cognition as compared to students of color. There was no significant link between number of diversity courses taken and gains in moral reasoning or critical thinking. Lastly, Bowman (2012) used three-wave longitudinal data in which students were also surveyed at the end of their senior year. He used diversity experiences during the first year of college to predict diversity experiences in the senior year, controlling for precollege

characteristics and other college experiences. The number of diversity courses taken was positively related to diversity coursework in the senior year and negative diversity interactions occurring at least rarely (versus never), but these were unrelated to positive diversity interactions. These findings were consistent regardless of students' openness to diversity.

The last two studies which utilized WNSLAE data examined non-diversity related outcomes (Mayhew et al., 2012; Pascarella et al., 2012). Pascarella and colleagues (2012) showed that diversity courses were positively associated with an orientation toward social/political activism, but were unrelated to liberal political views. Additional analyses showed that there was a conditional effect for diversity courses and precollege liberal political views for an orientation toward social/political activism. For students who entered college with liberal or far left political views, diversity courses had no relation with an orientation toward social/political activism. However, for students who entered college with conservative, far right, or middle of the road political views, diversity courses had a positive relation with an orientation toward social/political activism. Mayhew and colleagues (2012) disaggregated the student sample by their moral reasoning scores: students in the consolidation phase (more likely to use consistent cognitive strategies for reasoning when confronted with moral dilemmas) and students in the transition phase (less likely to use consistent cognitive strategies when faced with moral dilemmas). Their findings showed that the number of diversity courses taken was positively related to moral reasoning, but only for students in the transition phase. Diversity courses were unrelated to moral reasoning for those in the consolidation phase. In other words, taking a diversity course(s) spurred development gains by students in moral transition. The authors asserted that these students in transition were likely more developmentally "ready" as compared to students in the moral consolidation phase who were likely less equipped for dealing with cognitive disequilibrium. This pattern of findings was consistent, even when other curricular experiences (i.e., good teaching and high quality interactions with faculty; challenging classes and high faculty expectations) were taken into account.

Mixed-Method Study Kendall Brown (2008) examined how background characteristics and college experiences predict intercultural effectiveness. She used pilot data from WNSLAE, which included a cross-sectional survey of 600 undergraduates from four institutions. Her diversity coursework scale was a 3-item composite of courses that focus on "diverse cultures and perspectives", "women/gender studies" and "equality and/or social justice issues". All items were on a 5-point scale: 0, 1, 2, 3, 4+ courses. On the full sample, her quantitative findings showed that diversity courses had a significant positive correlation with intercultural effectiveness, but it was not associated with intercultural effectiveness when controlling for all the other college diversity experiences and having a developmentally effective intercultural experience. However, when examined separately for White students and students of color, the number of diversity courses taken was positively associated with intercultural effectiveness for White students in the final model, but it had no association with intercultural effectiveness for students of color. She also analyzed a

subset of the 174 qualitative interviews to examine how students make meaning of their diversity experiences, and eight students described and interpreted their experiences of having taken a diversity course(s). However, diversity courses were only one of many college diversity experiences that they described in their interviews, so the unique effect of diversity courses on their development was unclear.

Summary Overall, the number of diversity courses taken has mainly mixed results or nonsignificant results on student outcomes. The diversity of these findings highlight the complexity of the link between diversity courses and student outcomes. Unlike previous sections in this review, this section examines the cumulative impact of diversity coursework. Of the studies that found null results, most of them examined non-diversity related outcomes (e.g., Loes et al., 2012) and/or controlled for a number of other college diversity experiences such as interracial friends and having serious discussions with diverse others (Pascarella et al., 2001). The majority of the studies had mixed findings, many of which also examined a number of non-diversity related outcomes (e.g., Nelson Laird, 2005). Various studies simultaneously examined direct and indirect effects of diversity courses, with one showing an interesting indirect effect through identity centrality (e.g., Engberg et al., 2007). Some of these studies examined differential effects of the number of diversity courses taken by major (Engberg, 2007), by race/ethnicity (Engberg & Hurtado, 2011), and even by race/ethnicity *and* precollege racial environments (Saenz, 2005, 2010). Most importantly, a handful of recent studies has illustrated that the potential effects of diversity courses may be nonlinear (Bowman, 2009, 2010b, 2010c).

Overall Effectiveness of Diversity Courses

Table 2.1 presents a summary of the extent to which diversity courses predict student outcomes. In our review, we counted each research study (e.g., journal article, book chapter, dissertation) once. So if one study had five outcomes, that study was still counted once and would have been categorized as a “mixed finding” if some relationships were positive and some were nonsignificant. However, if they examined both ethnic studies and women studies courses (i.e., some of the CIRP studies), then they were counted twice, once in ethnic studies and once in women studies).

Table 2.1 Summary of overall findings for diversity courses

	Ethnic studies	Women studies	Other departments/ programs	Unknown/ multiple	Curricular diversity composite	Number of courses	Total
Positive	4	5	6	6	2	2	25
Negative	0	0	0	0	0	0	0
No change	2	1	0	2	1	7	13
Mixed	10	4	14	11	4	19	62
Total	16	10	20	19	7	28	100

There were eight studies that fit this description. In total, there were 100 findings resulting from 92 studies: 25 reported positive findings, 13 nonsignificant findings, and 62 studies reported mixed findings. Not a single study reported only negative results of having taken diversity courses, so it is clear that diversity courses do *not* have a detrimental effect on student outcomes. What is not clear, however, is the *extent* to which diversity courses affect particular student outcomes. One-fourth of the studies obtained exclusively positive findings, with the majority of studies yielding mixed findings. The positive findings tended to examine diversity-related outcomes, attitudinal outcomes, and outcomes that were closely aligned with the diversity courses themselves. Thus, the mixed results may largely be attributed to the outcome(s) examined, diversity course(s) examined, research design, and analytic approach. Moreover, these mixed findings are almost exclusively a combination of positive and nonsignificant results, with only a handful of significant negative relationships across hundreds—and perhaps over 1000—effect sizes reviewed here.

Probably the most significant source of variation in the studies was due to the variety of outcomes examined. While many studies examined the relationship between diversity courses and diversity-related outcomes, an increasing number of studies examined non-diversity related outcomes. In general, diversity courses were more likely to be positively associated with diversity-related outcomes, such as the goal of promoting racial understanding, multicultural awareness, and positive quality of interactions with diverse others. Comparatively, diversity courses tended to have no association with non-diversity related outcomes such as intellectual self-confidence, college grade point average, and interest/voting in elections. Occasionally, diversity courses had negative effects on outcomes related to mathematical ability or job-related skills. This pattern of findings is consistent with Bowman's (2011) meta-analysis, which showed that college diversity experiences (broadly defined) are more strongly related to diversity-related civic outcomes than to non-diversity-related civic outcomes. In addition, while not discussed in detail in this review, the majority of studies examined attitudinal outcomes, with a smaller number of studies exploring cognitive, behavioral, or behavioral intention outcomes (e.g., Loes et al., 2012; Miley et al., 2004). According to Ajzen's (1985, 1991) theory of planned behavior, diversity courses will likely have direct effects on students' attitudes ("proximal outcomes"), whereas they will likely have indirect effects on students' behavioral intentions and actual behaviors (more "distal outcomes") that are driven by attitudinal change. Thus, studies that examine the effects—and specifically the direct effects—of diversity courses on cognitive, behavioral, and behavioral intention outcomes are more likely to yield mixed findings than those that exclusively predict student attitudes.

The diversity courses included in this review varied significantly, as did the ways in which diversity courses were examined. Among the studies of a specific diversity course or courses, many were located in ethnic studies, women's studies, and psychology departments. But there were also courses in education, social work, and business, to name a few. The studies varied significantly in their reporting details about the content that was covered in the diversity courses. Many studies reported basic information, such as the name of the course and at times the department in

which the course was located (e.g., Pettijohn & Walzer, 2008). A minority of studies reported more detailed information, such as the weekly course content (e.g., Case & Stewart, 2010b), the course textbook and assignments (e.g., Hall & Theriot, 2007; Hathaway, 1999), and even the gender and/or race/ethnicity of the instructor (e.g., Chappell, 2014). Some studies examined content related to race/ethnicity, and others examined gender-related content. In their study examining the degree of diversity inclusivity across a variety of courses, Nelson Laird and Engberg (2011) found that some non-required courses were more inclusive of diversity than other courses that met institutional diversity requirements. Thus, they posit that researchers have likely *underestimated* the effectiveness of diversity courses, as they have probably included comparison or control courses that also have significant curricular experiences; this inclusion of diversity-related content likely further contributes to the mixed findings. In addition, many of the studies that utilized a multi-institutional survey operationalized diversity courses in a number of ways, ranging from a dichotomous variable (yes/no), to a curricular diversity composite consisting of multiple items, and to the number of diversity courses taken. Thus, differences in the ways that researchers measure *how* students are exposed to diversity courses is also a source of variation in measuring the effectiveness of diversity courses on student outcomes.

The variability in the research designs is another factor that contributes to the mixed findings of diversity courses and student outcomes. Some of the studies used a cross-sectional design, while others used a longitudinal pretest-posttest design. Some controlled for other college experiences, and others even controlled for a range of college diversity experiences that may be a product of taking diversity courses (e.g., intergroup interactions). Meta-analyses on the effects of college diversity experiences showed that studies that used self-reported gains have larger effect sizes than those that used longitudinal gains (Bowman, 2011); in addition, studies that controlled for college experiences have smaller effect sizes than those which do not (Bowman, 2010a; Denson, 2009).

The studies also varied significantly in terms of their analytic approach. As a whole, the studies were heavily quantitative in nature, consisting of 77 quantitative studies, 4 qualitative studies, and 11 mixed-method studies (see Table 2.2). While many of the earlier quantitative studies utilized multiple regression, there has been an increasing trend towards more advanced statistical methods, such as hierarchical linear modeling (e.g., Bowman, 2012) and path analysis and structural equation modeling (e.g., Engberg et al., 2007). Hierarchical linear modeling allows for more

Table 2.2 Summary of analytic approach for examining diversity courses

	Ethnic studies	Women studies	Other departments/ programs	Unknown/ multiple	Curricular diversity composite	Number of courses	Total
Quantitative	15	9	12	15	7	27	85
Mixed-methods	1	1	6	2	0	1	11
Qualitative	0	0	2	2	0	0	4

Table 2.3 Summary of overall findings by race/ethnicity

	White	Asian American	Latino/a	African American	Students of Color	Other
Positive	23	6	4	9	3	4
Negative	1	2	1	0	0	0
No change	13	14	12	17	7	0

accurate estimates on samples for which students are nested within institutions (Raudenbush & Bryk, 2002), and path analysis and structural equation modelling allow for the simultaneous examination of direct and indirect effects while controlling for measurement error (Kline, 2015). The analysis of the indirect effects of diversity courses is relatively new; this approach can reveal how a nonsignificant result in a previous study may actually occur through an indirect effect in a subsequent study.

In addition, most of the research examined the overall effects of diversity courses, while some examined differential effects by race/ethnicity (Engberg & Hurtado, 2011), gender (Eisele & Stake, 2008), major (Engberg, 2007), precollege racial environments (Saenz, 2005, 2010), and other groups. Among the relatively few studies that disaggregated by race/ethnicity (see Table 2.3), diversity courses appear to have more consistent, positive effects for White students as compared to students of color (e.g., Gurin et al., 2002; Lopez, 2004; van Laar et al., 2008; Vogelgesang, 2001). Unfortunately, no systematic differences have been found across the even fewer studies that have examined differential effects by major and precollege environments, and the problem of unequal sample sizes further contributes to the uncertainty.

Suggestions for Future Research

In conducting our systematic review of studies examining diversity coursework and student outcomes, we found substantial variability in the conduct of research into the effectiveness of diversity courses, thereby resulting in a large proportion of mixed findings which we discussed in the previous section. As a result, we have identified some suggestions for future research that relate to moderating effects, mediating effects, and accounting for self-selection. First, more focused attention should be paid to the moderating or conditional effects of diversity courses. For example, *for whom* are diversity courses more effective or less effective? Under *what conditions* can the benefits of diversity courses be realized? Some of the studies reviewed here have begun to examine how the outcomes associated with diversity courses differ by race/ethnicity, gender, major, and precollege environments. While this practice is becoming increasingly common (especially for race/ethnicity), there is still room for further exploration. In addition to examining differential effects through subgroup analyses, researchers should also test for significant differences across groups. A key problem with not testing for differences across groups is

that differences in sample size can lead to significant results for a larger group (e.g., Whites) and nonsignificant results for a smaller group (e.g., students of color) even if the size of the relationships is virtually identical. Since much of the research has examined attitudinal outcomes, future research would benefit from additional exploration of non-attitudinal outcomes. Another area that has been understudied as a possible moderator is the attributes of the diversity courses themselves. These attributes would include, at the very least, the content of what is covered in the diversity course as well as the pedagogical approaches taken in the course. Since past research has shown that interactions with diverse others can improve intergroup attitudes, diversity courses that have an embedded intergroup interaction component would likely yield better student outcomes.

Second, future studies should devote more effort into understanding the mediators or the underlying processes of *how* diversity courses impact on student outcomes. Related to a further examination of non-attitudinal outcomes in the first recommendation, it is likely that the effects of diversity courses on some outcomes (e.g., non-diversity-related outcomes, cognitive or behavioral outcomes) may be indirect, rather than direct. For example, one study showed that instructional variables collectively accounted for the positive association between having taken an ethnic studies course and critical thinking. Another study showed that student identity may be an important mediator in the relationship between diversity courses and student outcomes (e.g., Engberg et al., 2007). Thus, further work in examining mediating pathways is a promising avenue for future research, and more attention should be paid to indirect effects. These can be examined using mediation analyses such as path analysis or structural equation modeling (MacKinnon, 2008). Researchers can use multiple regression and hierarchical linear modeling by adding potential mediators in separate blocks, rather than running one large overall model where all variables are entered simultaneously. By examining how the coefficients change from block to block, possible mediators may be identified. Path analysis and structural equation modeling have some advantages over multiple regression and hierarchical linear modeling as they allow for a detailed understanding of mediation effects, since direct, indirect, and total effects can be examined simultaneously while also controlling for measurement error. Bootstrapping approaches can provide a non-parametric test for testing mediation on small sample sizes or when the assumption of normality is not met (Preacher & Hayes, 2004, 2008).

Third, given that many students self-select into diversity courses, future studies should better account for self-selection. Ideally, randomized experiments would be best, but these are often implausible when examining students in real-world settings. One alternative would be to take advantage of natural experiments, for example, by examining changes in course content over time; the primary challenge of this approach is that relevant data would need to have been collected both before and after the change. Another alternative would be to utilize quasi-experimental methods (see Shadish, Cook, & Campbell, 2002) to more rigorously examine the causal effect of diversity courses. Propensity score matching (PSM) is one such quasi-experimental approach that statistically controls for self-selection (Guo & Fraser, 2015; Holmes, 2013).

What Further Questions Remain

Despite the presence of a growing body of research on the potential effects of diversity courses on student outcomes, what exactly constitutes a “diversity course” is a definitional question that scholars need to address conceptually (Nelson Laird, 2003, 2011; Nelson Laird & Engberg, 2011). Deciding what counts as “diversity courses” is important for assessing students’ curricular experiences with diversity, which will improve the research into the effects of diversity courses on student outcomes. As Nelson Laird and Engberg (2011) point out, classifying diversity courses simplistically (e.g., ethnic studies course, women’s studies course) is likely to overlook other courses that may be highly inclusive of diversity but not labelled as such. They also advocate for an increased focus on faculty and course characteristics, as these factors are also likely to influence the diversity inclusivity of such courses.

In our review of the literature, diversity courses do appear to have a positive effect on various student outcomes in certain conditions. However, the nature and extent of this impact on college students still needs further examination. As our review has shown, considerable variation exists both between studies and within studies, leading to mixed findings overall. And while some interesting conditional or moderating effects have been identified, there has been little consistent replication, especially for outcomes that are cognitive, behavioral, or non-diversity related. Although we have synthesized the current knowledge base, there is still one large missing piece of the puzzle: What is the “recipe” for creating an effective diversity course?

In their model for Diverse Learning Environments, Hurtado et al. (2012) emphasize that the central features of effective curricular (and cocurricular) experiences should focus on “who we teach (student identities), who teaches (instructor identities), what is taught (content), and how it is taught (pedagogies/teaching methods)” (p. 49). Thus, instructor identities are also important; however, the main effect of these identities, along with how they might interact with students’ identities, has been virtually unexamined in diversity coursework. The course content and the pedagogical practices also merit attention. Some of the theoretical frameworks discussed earlier can lead to testable hypotheses about the course components that might be most effective in promoting student outcomes, but these predictions have also been essentially untested. We need to examine the contextual and pedagogical practices in more depth before we can more accurately pinpoint what it is about diversity courses specifically that influence student learning.

In summary, despite the presence of a fairly large literature on diversity coursework and student outcomes, considerably more work is needed. It seems clear that diversity courses promote desired student outcomes, but further inquiry must explore the conditions and processes through which this widely used curricular approach can be most effective for all students.

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Chapter 3

The Impact of College Students' Interactions with Faculty: A Review of General and Conditional Effects

Young K. Kim and Linda J. Sax

Introduction

Universities and colleges are increasingly under public scrutiny for their effectiveness in educating and graduating students. The National Center for Education Statistics (2014) reports that of first-time undergraduates matriculating to four-year colleges and universities in the fall of 2006, only 59.2 % completed a degree within 6 years (or by 2013). A steady stream of reports and initiatives, including the Spellings Commission report (U.S. Department of Education, 2006) and the Voluntary System of Accountability (McPherson & Shulenburg, 2006), has triggered dialogue among various higher education stakeholders about the quality and value of a college education. State legislators, accreditors, parents, and employers want to know what students are learning in college and how these institutions affect student development. Rising college costs and shrinking public funds have also fueled this concern.

Critical to this conversation is the consideration of the college experiences that facilitate students' learning and development, and student-faculty interaction is perhaps among the most widely heralded college experiences associated with positive college outcomes. Chickering and Gamson (1987) proposed "Seven Principles for Good Practice in Undergraduate Education," one of which was student-faculty interaction. They argued that students' frequent interactions with their faculty members,

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both in and out of classes, not only improve student motivation to work harder but to be more engaged in other desired educational experiences. In *What Matters in College? Four Critical Years Revisited*, Astin (1993) also found that student-faculty interaction is positively related to a wide range of college outcomes, including college satisfaction, intellectual and personal development, personality and attitudinal outcomes, and career outcomes. Specifically, he highlighted that faculty interaction is positively associated with “every academic attainment outcome” (Astin, 1993, p. 383) included in his study, such as college GPA, degree attainment, graduation with honors, and enrollment in graduate or professional school. Similarly, the first national report of the National Survey of Student Engagement (NSSE, 2000), *the NSSE 2000 Report*, set five national benchmarks for effective educational practice in college, one of which was students’ interactions with faculty members. A case study of Kuh, Kinzie, Schuh, Whitt, and associates (2005) investigated about twenty institutions with high scores on the five NSSE national benchmarks and confirmed the importance of meaningful student-faculty interaction to students’ “high-quality learning experiences” (p. 207).

Longstanding college impact models also identify faculty members as one of the most influential socializing agents within institutions (Astin, 1984; Pascarella, 1985; Tinto, 1987, 1993; Weidman, 1989). For example, Tinto (1987, 1993) suggests in his theory of student departure that the degree of students’ academic and social integration at their institutions determines their voluntary college departure and that integration is largely shaped by their interactions with faculty, both formally in the classroom and informally outside of class. In his general causal model for assessing the effects of college experiences on student outcomes, Pascarella (1985) also situates faculty members as critical institutional agents that contribute to student learning and cognitive development in college.

While numerous empirical studies have supported the theorized favorable link between student-faculty interaction and student outcomes, it is also important to acknowledge that the impact of student-faculty interaction may be conditioned not only by students’ demographic characteristics but also by their academic sub-environments. Studies since the 1990s have paid increased attention to the conditional (i.e., differential) effects of student-faculty interaction, specifically how the impact of student-faculty interaction may differ by various student characteristics such as gender (Colbeck, Cabrera, & Terenzini, 2001; Kezar & Moriarty, 2000; Kim & Sax, 2009; Sax, Bryant, & Harper, 2005), race (Cole, 2010; Kim, 2010; Kim & Sax, 2009), and socioeconomic status (Kim & Sax, 2009). Some more recent studies have also expanded the investigation of conditional effects by disaggregating student samples by institutional sub-environments, such as academic majors, departments, or disciplines (Kim, Armstrong, & Edwards, 2015; Kim & Sax, 2011, 2014). Furthermore, consideration of the nature (or type) of student-faculty interaction has been identified as another critical factor that uniquely shapes the outcomes of student-faculty interaction. For example, studies have shown that, despite the general association between faculty interaction and positive student outcomes, some types of student-faculty interaction may have no effect or even negative effects

on student outcomes (Cole, 2007; Kim & Sax, 2009, 2014, 2015; Komarraju, Musulkin, & Bhattacharya, 2010).

Consequently, it seems reasonable to assume that the impact of student-faculty interaction may be *conditional* depending on various influences. However, the field lacks a nuanced understanding of the relationship between student-faculty interaction and student learning and development. This chapter provides a comprehensive review of the literature relevant to the effects of student-faculty interaction among undergraduate students, including general and conditional effects, and proposes a research agenda that will improve our understanding of the theoretical and practical implications of the impact of student-faculty interaction. We begin our review by examining theoretical frameworks used in the current research on the impact of student-faculty interaction. We then highlight the methodology used in these studies, both quantitative and qualitative. Next, we discuss empirical findings on the impact of student-faculty interaction. Finally, we offer conceptual and methodological recommendations for future research in this topic.

Theoretical Approaches to Studying the Impact of Student-Faculty Interaction

In explaining how student-faculty interaction might impact student outcomes, researchers have relied on the underlying principles of various theories and models not only from the field of higher education (i.e., college impact theories and models) but also from other academic disciplines, mostly sociology and psychology. In the following section, we first discuss how the relationship between student-faculty interaction and student outcomes is explained by major college impact models and theories. Then, we discuss how sociological and psychological theories have been used in higher education research on this topic.

Models of College Impact

In American higher education research, college experiences are believed to shape student learning and development. Major works in the college impact literature suggest that interaction with the college environment, such as a student's contact with faculty, is central in shaping his or her college engagement and outcomes (Astin, 1977, 1984, 1993; Kuh et al., 2005; Mayhew et al., 2016; Pascarella, 1980, 1985; Pascarella & Terenzini, 1991, 2005; Tinto, 1975, 1987, 1993; Weidman, 1989). In this review, we discuss four specific college impact models that have been widely used by researchers to explain how student-faculty interaction might impact college student outcomes: (1) Astin's theory of student involvement (1984) and Input-Environment-Outcome (I-E-O) model (Astin, 1991); (2) Weidman's (1989) undergraduate socialization model; (3) Pascarella's (1985) general model for assessing change; and (4) Tinto's (1975, 1987, 1993) theory of student departure.

Astin's Involvement Theory and I-E-O Framework

Astin's involvement theory (1984) and I-E-O (Inputs-Environments-Outcomes) model (1991) have been used widely to explain the effects of student-faculty interaction on college student outcomes. Astin's involvement theory suggests that a student's level of involvement and engagement in college experiences is directly related to his or her learning and development in college (Astin, 1999). Specifically, Astin (1993) asserts that frequent student-faculty interaction is one of the most influential types of student involvement; and it is positively associated with a wide range of student outcomes, including academic achievement, intellectual and personal growth, college satisfaction, and career outcomes. In addition to his involvement theory, Astin's (1991) I-E-O model proposes a methodological framework that allows researchers to assess a less biased estimate of a specific college experience, student-faculty interaction in this case, on student outcomes, taking into account not only student entering characteristics but also institutional environments and other college experiences.

Numerous empirical studies have employed Astin's involvement theory and/or I-E-O (Inputs-Environments-Outcomes) model when they examined the impact of student faculty interaction (e.g., Bowman & Seifert, 2011; Bryant & Astin, 2008; Cole, 2007, 2011; Cole & Espinoza, 2008; Cotton & Wilson, 2006; Einarson & Clarkberg, 2010; Flowers, 2004; Kim, 2010; Kim & Sax, 2009, 2011, 2014, 2015; Kim, Armstrong, et al., 2015; Kim, Chang, & Park, 2009; Lundberg, 2003, 2010, 2014b; Lundberg & Schreiner, 2004; Outcalt & Skewes-Cox, 2002; Pike & Kuh, 2005; Reason, Cox, Quaye, & Terenzini, 2010; Sax, 2001; Strauss & Terenzini, 2007; Umbach & Wawrzynski, 2005; Webber, Krylow, & Zhang, 2013). For example, a series of studies conducted by Kim and Sax (2009, 2011, 2014, 2015) utilized Astin's involvement theory as a conceptual framework and his I-E-O model as a methodological framework to examine the role played by student-faculty interaction on student outcomes. Informed by Astin's involvement theory, their studies assumed that the more students were involved in the interaction with faculty, the more students were likely to learn and develop. Furthermore, based on Astin's I-E-O model, Kim and Sax organized their independent variables in temporal order—i.e., first student inputs, and then college environments and experiences (which include student-faculty interaction)—when predicting student outcomes.

Weidman's Model of Undergraduate Socialization

Weidman's (1989) model of undergraduate socialization suggests that social processes in college, including student-faculty interaction, impact students' affective outcomes (Carter, Locks, & Winkle-Wagner, 2013). That is, students enter college with certain aspirations, values, and aptitudes and then engage in both formal and informal socialization processes with faculty and peers through various academic and social normative contexts (Carter et al., 2013). Subsequently, the socializing influences of faculty and peers allow students to assess the aspirations, values, and

aptitudes that they had when they entered college and either modify or maintain them. Weidman's model also acknowledges that other forces, both inside and outside of the institution, such as student background characteristics, pre-college experience, normative context of the institution, and peer/parental socialization affect the college socialization process and the affective outcomes of college students.

Higher education researchers have used Weidman's model to identify the type and extent of student-faculty interaction that positively influences students' psychosocial outcomes (Cruce, Wolniak, Seifert, & Pascarella, 2006; Dey, 1996; Eagan et al., 2013; Ethington, 2000; Fuentes, Alvarado, Berdan, & DeAngelo, 2014; Kim & Sax, 2014, 2015; Padgett et al., 2010). For example, Fuentes et al. (2014) employed Weidman's model to examine how students' faculty contact in their freshman year influenced their faculty mentorship in the senior year. Guided by Weidman's model, they assumed that student-faculty interaction during the first year of college was the crucial factor of undergraduate socialization process, that this early faculty contact influenced students' experience of faculty mentorship in their senior year, and that pre-college socialization, academic normative contexts, and peer/parental socialization uniquely shaped both the college socialization process (early faculty contact in this case) and the student outcome (faculty mentorship in the senior year). Similarly, Padgett et al. (2010) used Weidman's model to investigate the impact of student socialization on their need for cognition (i.e., desire for purposeful engagement in cognitive activities) and how the impact may differ by students' socioeconomic status and race. The socialization scales used by Padgett et al. included quality of non-classroom faculty interaction, cooperative learning, and meaningful discussions with diverse peers. Informed by Weidman's model, they also accounted for the effects of students' background characteristics (e.g., gender, race, income, first-generation status), pre-college experience (e.g., ACT score), and normative context of institution (e.g., institutional type) when examining the relationship between the quality of non-classroom faculty interaction and need for cognition, the outcome measure of the study.

Pascarella's General Model for Assessing Change

Pascarella (1985) developed a general causal model that included both within- and between-institution characteristics, both of which may affect student learning and cognitive development. Pascarella suggests that student learning and cognitive development are a function of the direct and indirect effects of five major sets of variables (Pascarella & Terenzini, 1991, 2005). When focusing on student-faculty interaction within college, Pascarella's model deals with student-faculty interaction and its relationship to other factors, such as student background and pre-college traits, institutional characteristics, quality of student effort, and learning outcomes (Pascarella & Terenzini, 1991, 2005). His model postulates that student background and pre-college characteristics (e.g., family background, aptitude, personality, achievement, and ethnicity) influence the selection of an institution for which a student applies. Once students attend college, these student input traits, and

institutional characteristics, shape the institutional environment. Finally, all the three clusters influence student-faculty interaction, which in turn affects student learning and development—directly or indirectly—through quality of student effort.

Higher education researchers have widely used Pascarella's model to address the role of student-faculty interaction on students' learning and development (Cruce et al., 2006; Flowers & Pascarella, 2003; Franklin, 1995; Kim & Lundberg, 2016; Kim & Sax, 2011; Kuh & Hu, 2001; Laird & Cruce, 2009; Lundberg, 2003; Pike, Kuh, & Gonyea, 2003; Seifert, Gillig, Hanson, Pascarella, & Blaich, 2014; Strauss & Volkwein, 2002; Whitt, Pascarella, Nesheim, Marth, & Pierson, 2003). For example, Laird and Cruce employed Pascarella's model to guide their study based on the model's applicability to a wide range of student outcomes and its inclusion of student-faculty interaction in relationship to college environments and student outcomes. Using a nationwide undergraduate student sample, Laird and Cruce examined the effect of faculty interaction on students' general education gains and its conditional effects across full-time and part-time students. Guided by Pascarella's model, they incorporated students' demographics, pre-college experiences, and college experiences into their multi-level model that tested the effect of student-faculty interaction on students' general education gains.

Given that Pascarella's model postulates both the direct and indirect relationship between student-faculty interaction and students' learning/development, it is particularly useful for studies on indirect effects of faculty interaction. For instance, Kim and Lundberg (2016) utilized Pascarella's model to develop a hypothesized structural model for the relationship between student-faculty interaction and cognitive skills development among college students. Informed by Pascarella's model, they assumed that faculty interaction is both directly and indirectly (mediated by classroom engagement) related to students' cognitive skills at their senior year. Furthermore, as Pascarella's model suggested, they postulated that not only student input characteristics but also other college experiences are either directly or indirectly associated with student-faculty interaction.

Tinto's Model of Student Departure

Tinto's (1975, 1987, 1993) conceptual model of student departure is the most widely used model for understanding factors that influence college student persistence. In general, his theory suggests that students' degree of integration or community membership determines their voluntary departure. Specifically, Tinto's theory argues that the institutional experiences of students are largely shaped by the academic and social system, and that persistence in college is a function of this academic and social integration. Student-faculty interaction is critical in this academic system and is related to students' academic performance. Accordingly, Tinto's model of student departure asserts that student-faculty interaction helps determine academic integration and can encourage or discourage a student's departure decision. Although Tinto

focuses on the college attrition process, his model has been frequently adopted by studies examining other student outcomes because its fundamental principle is comparable to other student engagement theories (Pascarella & Terenzini, 1991, 2005).

Numerous empirical studies have employed Tinto's (1975, 1987, 1993) conceptual model of student departure to examine the impact of student faculty interaction on college student persistence and other college outcomes (Barnett, 2011; Berger & Milem, 1999; Cole, 2007; Cotten & Wilson, 2006; Crisp & Nora, 2009; D'Amico, Dika, Elling, Algozzine, & Ginn, 2013; Fischer, 2007; Flynn, 2014; Hausmann, Schofield, & Woods, 2007; Jones, Barlow, & Villarejo, 2010; Lundberg, 2003; Mamiseishvili, 2012; Nagda, Gregerman, Jonides, von Hippel, & Lerner, 1998; Phillips, 2001; Strayhorn, 2010; Umbach & Wawrzynski, 2005; Wilson, Smith, Lee, & Stevenson, 2013). For example, guided by Tinto's model, Fischer (2007) incorporated diverse variables that represent student's academic and social integration on campus—one of which was formal academic ties to professors—and investigated the effects of these variables on students' college GPA, college satisfaction, and college departure. She also added, as suggested by Tinto's model, a set of student input (e.g., minority, socioeconomic, and first-generation status) and pre-college experience (e.g., high school GPA, quality of high school infrastructure) variables to her analytic models to address the influence of students' pre-entry attributes on their college experience and outcomes. In another study, Hausmann et al. (2007) examined the role played by students' sense of belonging on their intentions to persist, using Tinto's model as a fundamental research framework for their study. They presumed that students' sense of belonging is significantly determined by their academic and social integration including student-faculty interaction, all of which influence students' institutional commitment and eventually their intentions to persist. Similar to Fischer's study, they included some student background characteristics (e.g., gender, race, financial difficulty, SAT comprehensive score) in their statistical model to explain the possible impact of students' pre-entry attributes on student persistence as well as social/academic integration, sense of belonging, and institutional commitment.

Theories from Sociology or Psychology

In addition to the college impact models and theories discussed above, studies in higher education have also employed some theoretical frameworks from the field of sociology or psychology to understand the meaningful link between student-faculty interaction and student outcomes. Among others, four sociological or psychological theories are particularly useful in explaining the role of faculty in college students' learning and development: (1) socialization theory, (2) social capital theory, (3) social exchange theory, and (4) theory of student validation. We discuss below these theoretical approaches, highlighting their applications to college impact research.

Socialization Theory

Socialization is understood as the process by which individuals acquire the norms, values, knowledge, and skills that allow them to participate and perform successfully in an organized society (Bragg, 1976; Brim, 1966; Dunn, Rouse, & Seff, 1994; Merton, Reader, & Kendall, 1957). College students learn the normative contexts of their institutions through both formal and informal interactions with faculty members; this socialization process improves students' ability to fit into their institution, which in turn leads to positive student outcomes (Tinto, 1975; Weidman, 1989). Socialization theory situates faculty as an important socializing influence in higher education institutions that not only transmits the institutional norms to students but also reinforces the norms via rewards and affirmations during their interactions with students. Most of the college impact models discussed earlier were heavily grounded in socialization theory in their explanation of the hypothesized favorable connection between faculty interaction and student outcomes.

Some studies in higher education have applied socialization theory to the college context to investigate the impact of student-faculty interaction on students' outcomes (Bean & Kuh, 1984; Caboni, Mundy, & Duesterhaus, 2002; Chang, Cerna, Han, & Sàenz, 2008; DeAngelo, 2010; Dey, 1996; Eagan, Herrera, Garibay, Hurtado, & Chang, 2011; Museus & Quaye, 2009; Strayhorn & Saddler, 2009). For example, using socialization theory as a guiding framework of their study, Strayhorn and Saddler (2009) assumed that faculty mentoring is a major component of the socialization process among college students, which eventually promotes students' satisfaction with their institutions. They further postulated that the impact of faculty mentoring is different depending on the nature of the mentoring; hence, they operationalized faculty mentoring in two different measures: formal research-focused mentoring and informal interpersonal mentoring. A few other studies have also highlighted particular aspects of the socialization process that occur through student-faculty interaction, using the concepts of anticipatory socialization (whereby individuals accept and learn norms and values of a future role; Chang et al., 2008; DeAngelo, 2010) and bicultural socialization (whereby members of minority groups adopt both the majority culture and their own culture; Museus & Quaye, 2009).

Social Capital Theory

Social capital refers to social networks among people and the actual or potential resources that result from such networks (Bourdieu, 1985, 1986; Coleman, 1988; Putnam, 2000). In the higher education context, social capital refers to instrumental, productive relationships or networks (Stanton-Salazar, 1997, 2001) that provide access to opportunity or lead to successful student outcomes (Coleman, 1988). That is, social capital theory focuses on instrumental relationships between students and institutional agents, such as faculty, who are able to provide students with various forms of academic and social support (Stanton-Salazar, 2011). The theory posits that the faculty's role as a form of social capital manifests when they actively equip

students with academic and social support, resources, opportunities, and privileges (Stanton-Salazar, 2011).

Several studies have employed social capital theory to examine the impact of student-faculty interaction on college student adjustment, learning, and development (Dika, 2012; Hu & Wolniak, 2010; Nuñez, 2009; Palmer & Gasman, 2008; Soria & Stebleton, 2012; Stanton-Salazar, 1997, 2001, 2011; Strayhorn, 2010; Tovar, 2015; Walpole, 2003; Yosso, 2005). For example, Dika used social capital theory to examine the effects of faculty interaction on students' academic performance. Informed by social capital theory, she considered students' interactions with faculty a form of social capital that potentially contributes to their educational outcomes. Accordingly, she utilized multiple survey items measuring both the quantity and quality of student-faculty interaction to better address the social capital transmitted to students by faculty members.

Social Exchange Theory

Social exchange theory is another lens through which we can understand the underlying mechanisms of student-faculty interaction. Social exchange theory asserts that individuals are more likely to build relationships with those who they believe can offer benefits as they exchange resources and support, and that this involvement in exchange ultimately produces positive personal outcomes (Blau, 1964; Emerson, 1981; Gouldner, 1960; Lawler & Thye, 1999). In the context of student-faculty interaction, social exchange theory suggests that faculty may decide whether or to what degree they form relationships with students based on their perceived balance between the costs and benefits of such a commitment.

While it is not common in college impact literature, a few studies have utilized social exchange theory as a guiding framework for topics on student-faculty interaction (Eagan, Sharkness, Hurtado, Mosqueda, & Chang, 2011; Griffin, 2008; Umbach, 2007). For example, informed by social exchange theory, Eagan et al. (2011) hypothesized that, in the research-focused faculty mentoring context, faculty and students exchange valued resources such as time, knowledge, and labor among each other. They also postulated that faculty members' decisions on such involvement depend on their estimates of potential benefits (e.g., research labor, friendship) in relation to possible costs (e.g., time, energy).

Theory of Student Validation

Rendón's (1994, 1996, 2002) theory of validation has been used to understand college students' affirming and supportive experiences, which mostly occur via interactions with socializing agents within institutions (e.g., faculty members) and how these experiences possibly contribute to student success. Rendón defines validation as interactions with students, faculty, and other institutional agents on campus that enable and confirm students' perceptions of their own capability of learning and

achieving success. While the impact of validation can hold for all students, Rendón argues that validation may be particularly important for the success and persistence of underrepresented, underserved, and/or disadvantaged college students who need additional assistance and support to be involved and integrated into college campus.

Several studies have employed Rendón's (1994, 1996, 2002) conceptual model of student validation to examine the impact of student-faculty interaction on college student learning and development (Acevedo-Gil, Santos, Alonso, & Solorzano, 2015; Barnett, 2011; Lundberg, 2010; Maramba & Palmer, 2014; Terenzini et al., 1994). For example, Acevedo-Gil et al. (2015) used the theory of validation in conjunction with critical race theory as a guiding framework to examine how institutional agents, including faculty members, support the success of Latino/as in the community college setting. Informed by Rendón's construct of student validation, they suggested that faculty's pedagogical practices create learning environments that either validate or invalidate students' perceptions about their cognitive proficiency and ability to learn. In this case, their findings led them to conceptualize a critical race validating pedagogy.

Empirical Research on the Impact of Student-Faculty Interaction

Through the aforementioned review on the theoretical perspectives on the impact of student-faculty interaction, we have learned how various theories and models have uniquely framed the role of faculty in the context of college students' learning and development. Now we turn to a review of the empirical literature examining the impact of student-faculty interaction. We begin by reviewing the methodological approaches used in the research on this topic and then we discuss empirical findings derived from the literature.

There are three criteria for literature selection for this review. First, while there is a broader scope of the literature related to the topic of student-faculty interaction, our review exclusively focused on research that examined the impact of faculty interaction on college student outcomes. Therefore, we only included studies for our review which reported findings on the relationship between at least one student-faculty interaction measure *and* at least one student outcome measure. Also, because the nature and outcomes of faculty interaction for graduate students is different from the interaction for undergraduate students, any studies on student-faculty interaction among graduate students were excluded from our review. Lastly, while we collected 363 studies on student-faculty interaction from the 1960s to 2016, our review predominantly relied on 284 studies published since 2000, with a few exceptions, for a better reflection of interactions between current students and faculty members.

Our literature research procedures included an electronic search using the following five internet databases: Academic Search Premier, EBSCO, PsycINFO, JSTOR, and Project Muse. Key search terms included “student-faculty interaction”, “faculty interaction”, “student-faculty relationship”, “faculty relationship”, and “college students.” Furthermore, we conducted a manual search of each volume of several major higher education journals—e.g., *Research in Higher Education*, *Journal of Higher Education*, *Review of Higher Education*, *Journal of College Student Development*, and *NASPA Journal*—to ensure the inclusion of all possible empirical studies on this topic. Consequently, our review included 220 quantitative studies, 54 qualitative studies, and 10 mixed-method studies published in 2000 and later.

Quantitative Research

This section provides a review of the quantitative literature relevant to the effects of student-faculty interaction among undergraduate students across the following areas: (1) populations studied, (2) measures of student-faculty interaction, (3) student outcome measures, (4) types of effects, and (5) methodological approaches.

Populations Studied

While sample size varied widely depending on the type of dataset used by studies, research on the impact of student-faculty interaction has predominantly drawn samples from traditional-aged, undergraduate students attending four-year colleges and universities. The majority of the quantitative studies we reviewed have relied on either longitudinal or cross-sectional student samples from multiple institutions with sample sizes ranging from approximately 1,000 to 70,000 students. Some examples of student-faculty interaction studies focusing on traditionally-aged aggregate student samples from multi-institution data include those by Carini, Kuh, and Klein (2006); Cole (2007, 2011); Cruce et al. (2006); Flynn (2014); Fuentes et al. (2014); Kim (2010); Kim and Lundberg (2016); Kim and Sax (2009, 2011, 2014); Kim, Armstrong, et al. (2015); Kuh and Hu (2001); LaNasa, Olson, and Alleman (2007); Lundberg and Schreiner (2004); Pike, Kuh, McCormick, Ethington, and Smart (2011); Sax et al. (2005); and Seifert et al. (2014). Other studies utilized student samples from single institution data with sample sizes of approximately 150 to 1500 (Campbell & Campbell, 1997; Cole & Zhou, 2014; Eimers & Pike, 1997; Johnson, 2014; Nagda et al., 1998; Terenzini, Springer, Pascarella, & Nora, 1995; Theophilides & Terenzini, 1981; Twale & Sanders, 1999).

Some research on this topic has drawn samples from particular student sub-groups; those sample sizes tended to be relatively smaller, generally ranging from 100 to 11,000. Many of these studies examined the relationship between student-faculty interaction and select college outcome/s for one or more racial/ethnic

minority groups (Anaya & Cole, 2001; Cole, 2008, 2010, 2011; Cuellar, 2014; DeFreitas & Bravo, 2012; Flowers, 2004; Hausmann et al., 2007; Hausmann, Ye, Schofield, & Woods, 2009; Kim & Conrad, 2006; Kim et al., 2009; Kim, Rennick, & Franco, 2014; Lundberg, 2007, 2010; Lundberg & Lowe, 2016; Mayo, Murguía, & Padilla, 1995; Palmer & Maramba, 2015; Strayhorn & Saddler, 2009; Walpole, 2008). Another significant volume of studies addressed the topic of student-faculty interaction among students in STEM majors, investigating the effect of faculty interaction on student outcomes or other college experiences (Cole & Espinoza, 2008; Egan et al., 2013; Gasiewski, Egan, Garcia, Hurtado, & Chang, 2012; Gayles & Ampaw, 2014; Griffin, Pérez, Holmes, & Mayo, 2010; Hurtado et al., 2007; Kim & Sax, 2015; Litzler, Samuelson, & Lorah, 2014; Strauss & Terenzini, 2007; Szelényi, Denson, & Inkelas, 2013) or the patterns/predictors of student engagement with faculty (Egan, Herrera, et al., 2011; Egan, Sharkness, et al., 2011; Hurtado et al., 2011; Zhao, Kuh, & Carini, 2005). Studies have also investigated the effect of student-faculty interaction on student athletes (Comeaux, 2008; Gayles & Hu, 2009), low income students (Hu, 2010), first-generation students (Inkelas, Daver, Vogt, & Leonard, 2007; McKay & Estrella, 2008; Pike & Kuh, 2005), international students (Kim, Collins, Rennick, & Edens, *in press*; Mamiseishvili, 2012; Zhao et al., 2005), adult students (Lundberg, 2003), community college students (Chang, 2005; D'Amico et al., 2013; Lundberg, 2014b; Thompson, 2001; Tovar, 2015), and online students (Lundberg & Sheridan, 2015).

Measures of Student-Faculty Interaction

Over the last half decade, student-faculty interaction has been operationalized in a variety of ways in the quantitative literature, mostly utilizing measures from large-scale, multi-institutional surveys of college students. The following section discusses some of these surveys along with specific measurements relevant to student-faculty interaction and their application to empirical studies. Most of these surveys have evolved over time, so our description refers to the most recent version of each survey that we were able to obtain.

The College Senior Survey

The 2016 College Senior Survey (CSS) of the Cooperative Institutional Research Program (CIRP) includes over 20 questions on student-faculty interaction (to view the 2016 and other versions of the CSS instrument, refer to the website: http://heri.ucla.edu/researchersToolsCodebooks_041216.php). Ten of these questions assess the extent to which students received various forms of positive support from faculty, including feedback on academic work, help in achieving professional goals, advice about educational program, and emotional support and encouragement. Survey questions also gauge the frequency of faculty contact, both in and outside of the classroom, such as challenging a professor's ideas in class and communicating

regularly with professors. Other sets of questions address the quality of student-faculty interaction, measuring students' perceptions of their interactions with faculty (e.g., feeling that faculty encouraged to ask questions, agreeing that faculty empowered to learn) or satisfaction with the amount of faculty contact and with their ability to find a faculty/staff mentor. Recent studies that used measures of student-faculty interaction from the CSS include Cole (2007, 2011); Cole and Espinoza (2008); Egan, Herrera, et al. (2011); Kim and Conrad (2006); Kim and Sax (2014, 2015); Kim et al. (2009); and Sax et al. (2005). The CIRP also measures students' interactions with faculty on the Your First College Year (YFCY) survey, with emphasis on the nature of those interactions in the first year of college (to view the 2016 and other versions of the YFCY instrument, refer to the website provided above for the CSS).

The National Survey of Student Engagement

The 2016 National Survey of Student Engagement (NSSE) instrument contains six questions on student-faculty interaction (to view the 2016 and other versions of the NSSE instrument, refer to the website: http://nsse.indiana.edu/html/survey_instruments.cfm). Four of the questions assess the frequency of faculty contact on the following items: talking about career plans with a faculty member, working with faculty on activities other than coursework, discussing topics or ideas with faculty outside of class, and discussing academic performance with faculty. Another NSSE question gathers the information on students' research engagement with faculty (i.e., working with faculty on a research project), though notably it gauges both actual and *anticipated* interactions. A set of the NSSE questions also asks students to indicate the quality of their interaction with different types of socializing agents on campus, including faculty members. Some examples of studies that employed student-faculty interaction measures from the NSSE instrument are: Carini et al. (2006); Dika (2012); Kuh, Cruce, Shoup, Kinzie, and Gonyea (2008); LaNasa et al. (2007); Lundberg (2012); Lundberg and Lowe (2016); Pike et al. (2011); Umbach and Wawrzynski (2005); and Webber et al. (2013).

The College Student Experiences Questionnaire

The College Student Experiences Questionnaire (CSEQ) includes an intensive set of questions related to student-faculty interaction (to view the CSEQ instrument, refer to the website: http://cseq.indiana.edu/cseq_generalinfo.cfm). Though annual administration of the CSEQ ended in 2014, for several decades the instrument collected information on students' interactions (or experiences) with their faculty. The most recent CSEQ included questions on: academic interaction (e.g., talking with instructor about course, discussing academic program with faculty, asking instructor for comments about academic performance, discussing ideas for a term

paper with faculty), personal interaction (e.g., talking with faculty about personal concerns), outside of class interaction (e.g., socializing with faculty outside of class, discussion with faculty outside of class), research engagement with faculty (e.g., working with faculty on research), and elevated academic effort due to faculty contact (e.g., working harder as a result of instructor feedback, working harder to meet instructor's expectations). Some empirical studies that used measures of student-faculty interaction from the CSEQ include Anaya and Cole (2001); Cole (2010); Flowers (2004); Kuh and Hu (2001); Lundberg (2003, 2007, 2010); Lundberg and Schreiner (2004); Rocconi (2010); Strayhorn (2010); and Strayhorn and Saddler (2009).

The University of California Undergraduate Experience Survey

The 2014 University of California Undergraduate Experience Survey (UCUES)—also known as the Student Experience in the Research University (SERU)—is another multi-institutional survey of college students, and it includes almost 20 questions relevant to student-faculty interaction (to view the 2014 and other versions of the UCUES/SERU instrument, refer to the website: <http://studentsurvey.universityofcalifornia.edu/admin/survey.html>). The survey gathers information on student background characteristics, academic and personal development, college experiences, satisfaction, and evaluation of the major (Brint, Douglass, Flacks, Thomson, & Chatman, 2007) from a consortium of large, research universities including nine University of California (UC) campuses and 15 other institutions nationwide. The UCUES/SERU instrument contains a wide range of questions about students' faculty contact, including frequency of contact, degree and nature of research engagement with faculty, degree of faculty supportiveness, and satisfaction with faculty. Specifically, the instrument solicits information about the frequency of various forms of faculty interaction: academic interaction (e.g., taking a small research-oriented seminar with faculty, interacting with faculty during class sessions), out of class interaction (e.g., talking with instructor outside of class, working with faculty on an activity other than course work), and elevated academic effort due to faculty contact (e.g., raising standard for acceptable effort to meet the high standards of faculty). The UCUES/SERU instrument includes three items about the degree and nature of research engagement, including whether students assisted faculty with research as a volunteer, for course credit, or for pay, as well as three additional items concerning whether students worked on creative projects with faculty for the same reasons. The survey also acknowledges the students' perceptions of their interactions with faculty by including not only questions about the degree of faculty supportiveness but also their satisfaction with academic advising and accessibility to faculty. Although relatively few, some quantitative studies employed measures of student-faculty interaction from the UCUES/SERU: Kim and Lundberg (2016), Kim and Sax (2009, 2011), Kim, Franco, and Rennick (2015), Kim et al. (2014, 2015).

The National Longitudinal Survey of Freshmen

It is also noteworthy that the National Longitudinal Survey of Freshmen (NLSF) contains some questions about student-faculty interaction (for more information on the NLSF, refer to the website: <http://nlsf.princeton.edu/>). The NLSF, housed at Princeton University, is a multi-wave longitudinal survey of approximately 4000 students from 28 selective institutions. The survey was administered to students in waves at five different time points (i.e., at the beginning of the first year, and end of the first through fourth year of college) and gathered an extensive amount of information on students' backgrounds, high school experiences, college experiences, and their college outcomes. Waves 2 and 3 of the survey include the same five questions about student's academic engagement with faculty (e.g., asking professors questions in class, approaching professors after class to ask questions) and also includes questions about *negative* form of faculty contact, such as students' perceptions of faculty prejudice (e.g., professor made me uncomfortable because of my race or ethnicity; I felt that I was discouraged by professor from speaking out in class because of my race or ethnicity). While wave 4 of the survey includes a question about students' time devoted to meeting with faculty, wave 5 of the survey includes an item on satisfaction with faculty and some items concerning students' perceived importance of faculty interaction. Using student-faculty interaction measures from wave 2 of the NLSF, Fischer (2007) found that students' academic interaction with faculty was associated with higher college GPA and that this positive association held for all four racial groups included in the study (i.e., White, Asian, Hispanic, and Black).

The Wabash National Study of Liberal Arts Education

The Wabash National Study of Liberal Arts Education (WNSLAE) is another multi-institutional research initiative in the field of higher education (to view the WNSLAE survey instruments, refer to the website: <http://www.liberalarts.wabash.edu/study-instruments/>). As part of a broader study to assess liberal arts education that is sponsored by the Center of Inquiry in the Liberal Arts at Wabash College, the WNSLAE utilized a large-scale, longitudinal research design to investigate college experiences and environments that contributed to cognitive and psychosocial outcomes of liberal arts education. The WNSLAE precollege survey was administered in fall 2006 to collect information on students' demographic and background characteristics, their pre-college experiences, and pre-test measures of outcomes of liberal arts education; the follow-up surveys were administered in both 2007 and 2010, using the NSSE instrument and the WNSLAE Student Experiences Survey. The WNSLAE follow-up surveys included over 30 questions about faculty interaction and gathered the following information: frequency of faculty contact (e.g., discussing ideas with faculty members outside of class, working with faculty on activities other than coursework), academic challenge provided by faculty (e.g., faculty asked

challenging questions in class, faculty asked to argue for or against a particular point of view), prompt feedback (e.g., faculty provided prompt written or oral feedback on academic performance), faculty attitudes toward students and teaching (e.g., faculty are genuinely interested in students, faculty are genuinely interested in teaching), and student perceptions of the quality of faculty interaction outside of classroom (e.g., non-classroom faculty interaction have had a positive impact on personal growth, non-classroom faculty interaction have had a positive impact on intellectual growth). Some studies that used measures of student-faculty interaction from the WNSLAE surveys include Bowman (2010); Bowman and Seifert (2011); Mayhew, Seifert, and Pascarella (2010); Padgett, Johnson, and Pascarella (2012); and Seifert et al. (2014).

The National Study of Living-Learning Programs

The National Study of Living-Learning Programs (NSLLP) also includes some measures of student-faculty interaction (for more information on the NSLLP, refer to the website: <http://drum.lib.umd.edu/handle/1903/8392>). Funded by the National Science Foundation (NSF), Association of College and University Housing Officers International (ACUHO-I), College Student Educators International (ACPA), and Student Affairs Administrators in Higher Education (NASPA), the NSLLP examined the impact of living-learning (L/L) programs on student outcomes. The NSLLP administered an initial survey in 2004 when students entered college and a follow-up survey in 2007 when students were in their fourth year of college. The 2007 NSLLP survey included four questions about course-related faculty interaction (e.g., asking instructor for information related to course, working with instructor involving research) and three question about faculty mentorship (e.g., discussing personal concerns with instructor, discussing career plans with instructor). Some empirical studies that used measures of student-faculty interaction from the NSLLP survey include: Inkelas et al. (2007); Johnson et al. (2007); Soldner, Rowan-Kenyon, Inkelas, Garvey, and Robbins (2012); Szelényi and Inkelas (2011); and Szelényi et al. (2013).

Student Outcome Measures

In college impact research, student-faculty interaction is typically conceptualized as a factor that contributes to students' learning and development during college; hence, the majority of quantitative studies have used the measures of faculty interaction described above as independent variables in relationship to various types of student outcome measures (i.e., dependent variables). Consequently, at this point it is important to analyze the nature of outcome variables that have been studied in research on the impact of student-faculty interaction. Our review identified the following seven types of student outcome measures prevalent in this area of research: (1) academic achievement, (2) college persistence, (3) cognitive

outcomes, (4) affective outcomes, (5) civic outcomes, (6) spiritual outcomes, and (7) vocational outcomes. A review of these outcomes and specific measures that have been used to assess them is discussed below.

Academic Achievement

A significant body of literature has focused on students' academic achievement as an outcome of student-faculty interaction. The majority of these studies have examined the impact of faculty interaction on college GPA (e.g., Anaya & Cole, 2001; Clifton, Perry, Roberts, & Peter, 2008; Comeaux, 2008; Cole, 2008, 2010, 2011; Dika, 2012; Gordon, Ludlum, & Hoey, 2008; Kim, 2010; Kim & Sax, 2009; Kim, Armstrong, et al., 2015; Kim et al., 2009, 2014; Komarraju et al., 2010; LaNasa et al., 2007; Micari & Pazos, 2012; Sax et al., 2005; Tovar, 2015; Vogt, Hocevar, & Hagedorn, 2007; Webber et al., 2013). Some studies also examined the impact of faculty interaction on degree attainment (Flynn, 2014; Gayles & Ampaw, 2014; Kim & Conrad, 2006; Sax et al., 2005) or study progress as measured by number of credits earned (Meeuwisse, Severiens, & Born, 2010).

College Persistence

Also noteworthy is the favorable relationship between student-faculty interaction and college persistence. Mostly informed by Tinto's (1987, 1993) model of student departure, studies have suggested that frequent student-faculty interaction might strengthen the tie between students and their institution, consequently increasing the likelihood of student persistence (Barnett, 2011; Chang, Eagan, Lin, & Hurtado, 2011; Chang et al., 2008; Crisp, 2010; DeAngelo, 2014; Fischer, 2007; Flynn, 2014; Gordon et al., 2008; Hausmann et al., 2007; Jones et al., 2010; Mamiseishvili, 2012; Tovar, 2015).

Cognitive Outcomes

Cognitive or intellectual abilities and skills are among the most desired college student outcomes given their "applicability and utility across a wide range of different content areas" (Pascarella & Terenzini, 2005, p. 155); these abilities and skills have been considered some of the key byproducts of student-faculty interaction. Studies have examined the impact of faculty interaction on general cognitive/intellectual skills or development (Einarson & Clarkberg, 2010; Flowers, 2004; Good & Adams, 2008; Kim & Lundberg, 2016; Kim & Sax, 2011; Kim et al., 2009, 2014, *in press*; Kuh & Hu, 2001; Laird & Cruce, 2009; Lundberg, 2007, 2010, 2012, 2014a, 2014b; Lundberg & Lowe, 2016; Lundberg & Sheridan, 2015; Pike et al., 2011; Strauss & Volkwein, 2002; Umbach & Wawrzynski, 2005), thinking, writing, or reading skills

(Cabrera, Colbeck, & Terenzini, 2001; Cruce et al., 2006; Flowers, 2004; Kim & Sax, 2009; Kim, Armstrong, et al., 2015; Padgett et al., 2012; Seifert et al., 2014), and design or analytical skills (Lambert, Terenzini, & Lattuca, 2007; Strauss & Terenzini, 2007). Other studies have utilized self-reported learning (Gayles & Hu, 2009; Lundberg, 2003, 2007; Lundberg & Schreiner, 2004) or subject-specific skills or gains in areas such as science and math (Cruce et al., 2006; Flowers, 2004; Kuh & Hu, 2001; Lundberg, 2010, 2014b; Thompson, 2001) as outcomes of student-faculty interaction.

Affective Outcomes

Not only is student-faculty interaction examined in relationship with academic or cognitive outcomes, this interaction has also been considered a predictor of positive affective outcomes among college students. Examples of affective outcomes predicted by faculty interaction include college satisfaction (Einarson & Clarkberg, 2010; Kim & Sax, 2009; Kim, Armstrong, et al., 2015; Kim et al., 2009; LaNasa et al., 2007; Martin, 2012; Outcalt & Skewes-Cox, 2002; Sax et al., 2005; Strayhorn, 2010), academic/personal self-concept (Cole, 2007, 2011; Cuellar, 2014; Gayles & Hu, 2009; Kim & Sax, 2014, 2015; Komarraju et al., 2010; Litzler et al., 2014; Sax et al., 2005), social/personal skills or development (Cabrera et al., 2001; Flowers, 2004; Kim et al., 2009, 2014, *in press*; Lambert et al., 2007; Lundberg, 2012, 2014a, 2014b; Lundberg & Lowe, 2016; Lundberg & Sheridan, 2015; Strauss & Terenzini, 2007), and educational aspiration (Kim, 2010; Kim & Sax, 2009; Kim, Franco, et al., 2015; Sax et al., 2005). Some research has also focused on psychosocial traits as an affective outcome of student-faculty interaction, including psychological well-being (Bowman, 2010; Padgett et al., 2012; Sax et al., 2005), sense of belonging (Hausmann et al., 2007; Johnson et al., 2007; Meeuwisse et al., 2010), motivation (Komarraju et al., 2010), coping strategies (Clifton et al., 2008), and academic control (Clifton et al., 2008).

Civic Outcomes

Research on student-faculty interaction has also examined its impact on civic outcomes among college students. These studies investigated how student-faculty interaction was associated with students' political orientation and engagement (Dey, 1996; Kim et al., 2009; Sax et al., 2005), civic abilities or attitudes (Cole & Zhou, 2014; Dugan & Komives, 2010; Kim et al., 2009, 2014, *in press*), cultural/social awareness (Gayles & Hu, 2009; Kim & Sax, 2009; Kim, Armstrong, et al., 2015; Reason et al., 2010), and racial tolerance (Kim, 2010).

Spiritual Outcomes

Recent studies have also tapped into various measures of spiritual outcomes of college students to examine the association between faculty interaction and these outcomes. In a national, longitudinal study, Astin, Astin, and Lindholm (2011) assessed how different aspects of faculty interaction—i.e., faculty focus on spirituality, faculty encouragement of search for meaning and purpose, faculty encouragement of religious/spiritual discussion, talking with faculty outside class—were associated with a wide range of spiritual outcomes, including spiritual quest, equanimity, charitable involvement, ethic of caring, ecumenical worldview, religious commitment, religious engagement, and religious/social conservatism. Similarly, some other studies have investigated the effect of student-faculty interaction on college students' spiritual identification and spiritual quest (Bowman & Small, 2010, 2013), religious tolerance and spiritual/religious growth (Bryant & Astin, 2008), and development of an ethic of care (Fleming, Purnell, & Wang, 2013).

Vocational outcomes

Some studies have also examined how students' vocational outcomes are predicted by their interactions with faculty. Examples include studies that assessed the impact of faculty interaction on vocational or career preparation (Flowers, 2004; Kuh & Hu, 2001; Lundberg, 2014b), occupational awareness (Cabrera et al., 2001), job placement (Gordon et al., 2008), and career choice (Sax et al., 2005).

Types of Effects

We learned from the aforementioned review on student outcome measures that research on this topic has examined the *impact* or *effect* of student-faculty interaction on various aspects of college students' learning and development. We now turn to examine how the effect of student-faculty interaction has been framed in the quantitative literature. Our review suggests that these can be categorized as general effects, conditional effects, direct/indirect effects, and reciprocal effects, acknowledging that there may be some overlap in these categories. These effects are discussed below in terms of the nature of the effect and its application to empirical studies.

General Effects

College impact research has well-established the *general* positive effects of student-faculty interaction on student outcomes utilizing aggregate student samples that do not distinguish among student subgroups as defined by gender, race/ethnicity, or

other characteristics. Using undergraduate aggregate samples of four-year institutions, studies have examined the link between student-faculty interaction and a wide range of student outcomes, as discussed in the prior section.

Research has also investigated the general effect of student-faculty interaction using aggregate samples of particular student groups. The majority of these studies have drawn samples from a specific racial group of students, such as African American students (Cole, 2011; Flowers, 2004; Kim & Conrad, 2006), Asian American students (Kim et al., 2009), Latino students (Anaya & Cole, 2001; Kim et al., 2014; Tovar, 2015), Native American students (Lundberg, 2007; Lundberg & Lowe, 2016), and White students (Strayhorn, 2010). Other studies have examined the general effect of faculty interaction, focusing on aggregate samples of community college students (Barnett, 2011; Lundberg, 2014b; Thompson, 2001), student athletes (Comeaux, 2008; Gayles & Hu, 2009), online learners (Lundberg & Sheridan, 2015), international students (Kim et al., *in press*; Mamiseishvili, 2012), and STEM students (Cabrera et al., 2001; Chang et al., 2008, 2011; Eagan, Sharkness, et al., 2011; Gayles & Ampaw, 2014; Lambert et al., 2007; Litzler et al., 2014; Litzler & Young, 2012; Strauss & Terenzini, 2007).

Conditional Effects

Although higher education research in this area has historically focused on *general* effects of faculty interaction, studies in the past a few decades have begun paying attention to *conditional* effects of students' contact with faculty using disaggregated student subsamples to better understand how the relationship between student-faculty interaction and student outcomes varies across different student subgroups. Studies have tested the differential effects of student-faculty interaction depending on various student characteristics such as gender (Clifton et al., 2008; Colbeck et al., 2001; Cruce et al., 2006; Dika, 2012; Kim & Sax, 2009, 2015; Mayhew, Grunwald, & Dey, 2005; Salisbury, Paulsen, & Pascarella, 2010; Sax, 2001; Sax et al., 2005; Seifert et al., 2014), race/ethnicity (Cole, 2010; Cruce et al., 2006; Einarson & Clarkberg, 2010; Johnson et al., 2007; Kim, 2010; Kim & Sax, 2009; Lundberg, 2012; Lundberg & Schreiner, 2004; Mayhew et al., 2005; Meeuwisse et al., 2010; Salisbury, Paulsen, & Pascarella, 2011), and first-generation status (Dika, 2012; Kim & Sax, 2009; Padgett et al., 2010, 2012). Research has also investigated the conditional effect of student-faculty interaction by other types of student characteristics such as age (Lundberg, 2003), social class (Kim & Sax, 2009), class standing (Dika, 2012; Pike et al., 2011; Umbach & Wawrzynski, 2005; Webber et al., 2013), enrollment status (i.e., full time versus part time; Laird & Cruce, 2009), and profile of sports (within student athletes sample; Gayles & Hu, 2009).

Another category of studies has examined the conditional effect of student-faculty interaction with disaggregated student samples by academic environments. For example, Cuellar (2014) and Cruce et al. (2006) investigated how the effect of

student-faculty interaction differed by the type of institution students attended. Other studies also tested the differential effect of student-faculty interaction, depending on academic majors (Kim & Sax, 2011, 2014; Kim, Armstrong, et al., 2015) and living arrangement (Inkelas et al., 2007; LaNasa et al., 2007).

Direct and Indirect Effects

Studies on this topic have also examined both the direct and indirect effects of student-faculty interaction to identify variables that may mediate the relationship between student-faculty interaction and student outcomes (e.g., Crisp, 2010; Fuentes et al., 2014; Good & Adams, 2008; Kim & Lundberg, 2016; Meeuwisse et al., 2010; Vogt et al., 2007). For example, Kim and Lundberg (2016) tested both direct and indirect effects of student-faculty interaction to examine whether psychosocial factors (i.e., academic self-challenge, sense of belonging) and/or classroom engagement mediate the favorable link between such interaction and students' cognitive skills development. Similarly, Crisp (2010) investigated how academic/social integration and/or institutional commitment possibly intervene the relationship between faculty mentorship and students' intention to persist by testing the direct and indirect effect of the mentorship.

Reciprocal Effects

While traditional college impact models—such as Astin's involvement theory (Astin, 1984) and I-E-O model (Astin, 1991), Tinto' (1987, 1993) model of college departure, or Pascarella's (1985) general causal model—have generally shared an assumption that the college experience in general, and student-faculty interaction in particular, influence student outcomes rather than vice versa, a few studies have addressed the reciprocal effects of faculty interaction assuming the possible bidirectional influences between the interaction and student outcomes (Bean & Kuh, 1984; Iverson, Pascarella, & Terenzini, 1984; Kim, 2006, 2010). In other words, they consider whether certain student experiences or outcomes both *lead to* and *result from* interactions with faculty.

Methodological Approaches

The quantitative literature has used a wide range of descriptive and inferential statistics to address the relationship between student-faculty interaction and student outcomes, and our review suggests that there are four major categories of methodological approaches used by this area of research: (1) regression analysis including ordinary least squares (OLS) regression, logistic regression, and two-stage least

squares (2SLS) regression; (2) hierarchical linear modeling; (3) structural equation modeling; and (4) ANOVA statistics. A review of these major categories is discussed below.

Ordinary Least Squares (OLS) Regression

The majority of quantitative studies regarding student-faculty interaction has utilized ordinary least squares (OLS) regression to examine the net effect of faculty interaction on desired student outcomes, controlling for a set of relevant confounding variables such as students' demographic and background characteristics, college environment, academic major, and other types of college experiences. Some studies used longitudinal data to conduct OLS regression, which allowed researchers to estimate the effect of student-faculty interaction on the *change* or *growth* in select student outcomes (e.g., Bowman, 2010; Cole, 2008, 2011; Comeaux, 2008; Dey, 1996; Kim et al., 2009; Sax, 2001; Sax et al., 2005; Seifert et al., 2014). Other studies were more cross-sectional in nature and investigated the relationship between student-faculty interaction and student outcomes at a certain time point (e.g., Anaya & Cole, 2001; Cruce et al., 2006; Dika, 2012; Flowers, 2004; Einarson & Clarkberg, 2010; Inkelas et al., 2007; Johnson et al., 2007; Kim & Sax, 2009; Kim, Armstrong, et al., 2015; Kim et al., 2014; Komarraju et al., 2010; Kuh & Hu, 2001; LaNasa et al., 2007; Lundberg, 2007, 2010, 2012, 2014a; Lundberg & Lowe, 2016; Lundberg & Schreiner, 2004; Lundberg & Sheridan, 2015; Strauss & Terenzini, 2007; Strayhorn, 2010; Tovar, 2015). Research has also employed OLS regression to examine the predictors of student-faculty interaction—i.e., student characteristics and college environments that facilitate or hinder student-faculty interaction (e.g., Chang, 2005; Cole, 2007; Gayles & Hu, 2009; Kim et al., 2009; Kuh & Hu, 2001; Wawrzynski & Jessup-Anger, 2010; Wenglinisky, 1996).

Logistic Regression

Where researchers have utilized binary or multinomial measures of student outcomes as they relate to student-faculty interaction, they have often employed logistic regression for their data analysis. For example, studies have examined how the frequency of or satisfaction with faculty interaction contributed to students' persistence or degree attainment (Chang et al., 2008; DeAngelo, 2014; Gayles & Ampaw, 2014; Jones et al., 2010), college dropout (Fischer, 2007), intent to study abroad (Salisbury et al., 2010, 2011), overall college satisfaction (Outcalt & Skewes-Cox, 2002), and degrees of commitment to degree completion (Litzler & Young, 2012). In some studies, student-faculty interaction measures were embedded in academic integration/engagement factor scales; the relationship between the factor scales and persistence/degree attainment was estimated using logistic regression (Flynn, 2014; Mamiseishvili, 2012).

Two-Stage Least Squares (2SLS) Regression

While most studies in this area of research have generally hypothesized the unidirectional effect of student-faculty interaction on student outcomes, a few studies have examined the reciprocal nature of student-faculty interaction and college outcomes using two-stage least squares (2SLS) regression (Bean & Kuh, 1984; Iverson et al., 1984; Kim, 2006, 2010). Unlike OLS regression, 2SLS regression tests non-recursive causal models, which allows researchers to estimate the causal directions between variables (Asher, 1983; Berry, 1984; Duncan, 1975). For instance, using a nonrecursive causal model and 2SLS regression, Kim (2010) found that the relationship between student-faculty interaction and college GPA tends to be bidirectional (reciprocal) rather than unidirectional, suggesting that higher levels of interaction with faculty improve student's college GPA, and the enhanced college GPAs facilitate more frequent interactions with faculty.

Hierarchical Linear Modeling

For more than a decade, higher education literature has grown to include the multi-level, hierarchical structure of college student data and has employed hierarchical linear modeling (HLM) in order to better estimate individual- and cross-level effects of college experiences. The following studies have utilized a range of HLM techniques to examine the relationship between student-faculty interaction and college outcomes: two-level HLM where students are nested within either academic majors or institutions (Bowman & Small, 2010; Cole, 2007; Jessup-Anger, 2012; Kim & Sax, 2011; Laird & Cruce, 2009; Pike et al., 2011; Strauss & Volkwein, 2002; Umbach & Wawrzynski, 2005), cross-classified multilevel modeling where students are cross-nested by academic majors and institutions (Kim & Sax, 2014, 2015), and individual growth modeling (Hausmann et al., 2007). Researchers have also used hierarchical generalized linear modeling (HGGLM) or hierarchical non-linear models (HNLM) to test the effect of student-faculty interaction on binary or multinomial measures of student outcomes (Chang et al., 2011; Eagan et al., 2013; Eagan, Sharkness, et al., 2011; Hurtado, Cabrera, Lin, Arellano, & Espinosa, 2008; Kim & Conrad, 2006). Furthermore, in some studies, HLM was employed to identify those student- and institution-level variables which predict the frequency of student-faculty interaction (Eagan, Herrera, et al., 2011; Laird & Cruce, 2009; Pike et al., 2011).

Structural Equation Modeling

A few studies have added to the literature on student-faculty interaction by utilizing structural equation modeling (SEM) to examine both direct and indirect effects of faculty interaction on student outcomes (Crisp, 2010; Fuentes et al., 2014; Good & Adams, 2008; Kim & Lundberg, 2016; Meeuwisse et al., 2010; Vogt et al., 2007).

As an extension of the general linear model, SEM allows researchers to test more than one regression equation simultaneously, which helps uncover the complex dynamics among student-faculty interaction, student outcomes, and other related variables. For example, Kim and Lundberg (2016) used SEM to examine how students' academic self-challenge, sense of belonging, and classroom engagement mediated the positive link between faculty interaction and their cognitive skills development. Similarly, Crisp (2010) used SEM to investigate the direct and indirect relationships of faculty mentorship, academic integration, institutional commitment, and intent to persist.

ANOVA Statistics

Quantitative studies regarding student-faculty interaction have often used a range of analysis of variance techniques such as ANOVA, ANCOVA, and MANCOVA. While other statistics discussed earlier are mainly interested in examining the relationship between student-faculty interaction and desirable college outcomes, taking into account the confounding effects of other relevant variables, ANOVA statistics were mostly used to compare the patterns of student-faculty interaction across different student subgroups. For example, studies have employed ANOVA to compare the frequency of student-faculty interaction by student gender (Twale & Sanders, 1999), race (Einarson & Clarkberg, 2010; Kim, 2010; Kim et al., 2014), age (Lundberg, 2003), class standing (Caboni et al., 2002; Twale & Sanders, 1999), academic major (Twale & Sanders, 1999), Greek membership (Caboni et al., 2002), and residential environment (Szelényi et al., 2013). Lundberg and Schreiner (2004) also employed MANCOVA to compare the combined level of satisfaction with faculty relationships and frequency of faculty interaction by students' ethnicity while controlling for their gender, age, institutional selectivity, and also utilized ANCOVA to compare the mean score of each of the measures related to faculty interaction.

Qualitative Research

Although the majority of student-faculty interaction studies have used quantitative approaches, there are studies that have examined the student-faculty relationship and its impact on college student learning and development using qualitative methodologies. Most of the qualitative studies that examined the nature and outcomes of student-faculty interaction have focused on the experiences of students of color (Ceja & Rivas, 2010; Chhuon & Hudley, 2008; Nuñez, 2011; Palmer & Gasman, 2008; Perna et al., 2009; Sandoval, Lucero, Maes, & Kingsmith, Sandoval-Lucero, Maes, & Klingsmith, 2014; Wood & Turner, 2010). Several studies have also investigated the unique differences in student-faculty interaction based on students'

gender (Ceja & Rivas, 2010; Palmer & Gasman, 2008; Perna et al., 2009; Sullivan, 1999) and institutional type (Palmer & Gasman, 2008; Sandoval-Lucero et al., 2014; Wood & Turner, 2010). Furthermore, there are a few studies that garner additional insight about student-faculty interaction among first-generation college students (Collier & Morgan, 2008; Nuñez, 2011; Wang, 2014) and students with physical and cognitive disabilities (Patrick & Wessel, 2013). While most studies have focused on students' experiences and their reported benefits of interacting with faculty, several studies have also captured the expectations and experiences of faculty in their interactions with students (Anderson & Carta-Falsa, 2002; Collier & Morgan, 2008; DeAngelo, 2010; Lewis & Abdul-Hamid, 2006; Menchaca & Bekele, 2008; Perna et al., 2009; Ryser, Halseth, & Thien, 2009).

Topics addressed by these qualitative student-faculty interaction studies include student persistence (Schreiner, Noel, Anderson, & Cantwell, 2011); college transition (Chhuon & Hudley, 2008; Nuñez, 2011); effects of student engagement (Mara & Mara, 2011); role mastery (Collier & Morgan, 2008); perceptions of campus climate (Palmer & Maramba, 2015); the role of social capital in promoting academic success (Palmer & Gasman, 2008); cultivating students' aspirations to pursue advanced degrees (Ceja & Rivas, 2010; DeAngelo, 2010); and careers in science, technology, engineering, and math (STEM; Perna et al., 2009).

Various methodologies have been used by qualitative studies to examine the conditions and outcomes related to student-faculty interaction, yet most studies have employed grounded theory (Ceja & Rivas, 2010; Cox & Orehovec, 2007; Guiffrida, 2005; Nuñez, 2011; Palmer & Maramba, 2015; Schreiner et al., 2011). The most commonly used data collection techniques in qualitative student-faculty interaction studies include in-depth focus groups (Collier & Morgan, 2008; Palmer & Gasman, 2008; Palmer & Maramba, 2015) and one-on-one semi-structured interviews (Ceja & Rivas, 2010; Chhuon & Hudley, 2008; DeAngelo, 2010; Nuñez, 2011; Schreiner et al., 2011). In some instances, participant observation and case study analysis have been used as a qualitative technique to narrow the focus of a student-faculty interaction study to a specific place, group, or program (Cox & Orehovec, 2007; Mara & Mara, 2011; Perna et al., 2009; Ryser et al., 2009; Tsui, 2001, 2002). Overall sample sizes in the qualitative studies ranged from 10 to 122 participants. Those studies that included faculty as part of the participant group had faculty sample sizes ranging from 3 to 98.

In conclusion, while the number of qualitative studies on student-faculty interaction and its impact on college student development is relatively small compared to that of quantitative studies, the depth of understanding collected by qualitative research has added to the literature by providing a more nuanced understanding of the nature and outcomes of student-faculty interaction. The rich contributions of qualitative studies on student-faculty interaction research warrant continued use of this methodological approach to garner individual points of view on the benefits of this relationship to college student outcomes (Denzin & Lincoln, 2005).

Findings on the Impact of Student-Faculty Interaction

This section discusses the empirical findings derived from the literature, classifying the findings across the four major types of effects of student-faculty interaction that were identified in the previous section: (1) general effects, (2) conditional effects, (3) direct and indirect effects, and (4) reciprocal effects.

General Effects

Most of the empirical studies we reviewed were designed to examine the general effects of student-faculty interaction on student outcomes utilizing aggregate college student samples. We organized the major findings from these studies based on the seven types of student outcome measures prevalent in student-faculty interaction research, which were identified and discussed in an earlier section: (1) academic achievement, (2) college persistence, (3) cognitive outcomes, (4) affective outcomes, (5) civic outcomes, (6) spiritual outcomes, and (7) vocational outcomes.

Academic Achievement

One major focus of the research on student-faculty interaction has been the effect of student-faculty interaction on students' academic achievement during college. A number of studies have found that frequent interaction with faculty is associated with higher college GPA (e.g., Anaya & Cole, 2001; Cole, 2011; Comeaux, 2008; Gordon et al., 2008; Kim et al., 2009, 2014; Komarraju et al., 2010; Tovar, 2015; Vogt et al., 2007). For example, Cole (2011) found that faculty support and encouragement was positively related to college GPA among African American students. Similarly, using a national college student sample of Asian Americans, Kim et al. (2009) suggested that students who had higher quality student-faculty relationships and those who frequently challenged professors' ideas in class tended to also report higher college GPAs in their senior year compared to those who did not or did so less frequently. This positive effect of student-faculty interaction on college GPA also held for community college students, particularly for the Latino population (Tovar, 2015). While most studies indicated the general positive link between student-faculty interaction and college GPA, Anaya and Cole revealed that the nature of the interaction may shape its effect on college GPA. Specifically, they found that having high quality relationships with faculty and talking frequently with faculty were positively related to college GPA, whereas visiting professors informally after class was negatively associated with college GPA. Some studies also have found a positive impact of student-faculty interaction on other types of

academic achievement measures, such as degree attainment (Flynn, 2014; Gayles & Ampaw, 2014; Kim & Conrad, 2006) and number of credits earned (Meeuwisse et al., 2010).

College Persistence

Student-faculty interaction has been positively connected to college students' persistence (Barnett, 2011; Crisp, 2010; DeAngelo, 2014; Jones et al., 2010; Mamiseishvili, 2012). For example, DeAngelo (2014) found that students' frequent interactions with faculty outside of class had a positive impact on their first-year retention at four-year institutions. Similarly, using a community college student sample, Barnett (2011) also identified the positive link between faculty validation and students' intent to persist in their institutions. However, our review also revealed some mixed findings on the relationship between faculty interaction and college persistence. Research has found that certain types of faculty interaction—such as receiving negative feedback from faculty about academic work, receiving advice from faculty about an educational program, or talking about career plans with faculty—seemed to have a negative effect on students' persistence in their institutions or majors (Chang et al., 2008, 2011; Gordon et al., 2008). Tovar (2015) also demonstrated that meeting with faculty outside of class had no significant effect on intention to persist among Latino community college students.

Cognitive Outcomes

College impact literature has well documented the positive relationship between student-faculty interaction and cognitive outcomes among undergraduate students. Studies have suggested that frequent interaction with faculty is linked to larger growth in general cognitive/intellectual skills (Flowers, 2004; Kim & Lundberg, 2016; Kim & Sax, 2011; Kim et al., 2009, 2014; Kuh & Hu, 2001; Lundberg, 2014b) and that this link held for community college (Lundberg, 2014b) and international students (Kim et al., *in press*). Some studies measured quality, rather than frequency, of relationships with faculty to examine its contribution to student development in general cognitive/intellectual skills and reported similar findings (Lundberg, 2007, 2010; Lundberg & Lowe, 2016). Some other research also found the positive effect of faculty interaction on domain-specific cognitive skills, such as thinking, writing, problem-solving, and analytical skills (Cabrera et al., 2001; Flowers, 2004; Lambert et al., 2007; Strauss & Terenzini, 2007). For example, Cabrera et al. (2001) found that instructor interaction and feedback had a positive effect on gains in problem-solving skills among engineering students. In terms of the ability to understand science and technology, discussing career plans with faculty and working with faculty on research projects were positive predictors (Flowers, 2004), while out-of-class faculty interaction was a negative predictor (Kuh & Hu, 2001).

Affective Outcomes

Student-faculty interaction has been positively related to various affective outcomes among college students. Studies have found that frequent interaction with faculty can assist students in developing different forms of positive self-concept during college, including academic/intellectual self-concept (Cole, 2007, 2011; Kim & Sax, 2014; Komarraju et al., 2010), mathematical self-concept (Kim & Sax, 2015), and STEM confidence (Litzler et al., 2014). While most research suggested the general positive contribution of interaction with faculty to college students' self-concept development, Cole (2007) revealed that the effect of such interaction on self-concept may be conditioned by the *type* of interaction. He found that faculty advice and critique was negatively related to students' intellectual self-concept, whereas other types of faculty interaction, such as course-related faculty contact and established faculty mentorship, was positively linked to the self-concept.

A significant portion of the research has found a positive relationship between student-faculty interaction and students' social/personal skills or development (Cabrera et al., 2001; Flowers, 2004; Kim et al., 2009, 2014, *in press*; Lambert et al., 2007; Lundberg, 2012, 2014b; Lundberg & Lowe, 2016; Lundberg & Sheridan, 2015; Strauss & Terenzini, 2007); and this finding was particularly true for students of color (Flowers, 2004; Kim et al., 2009, 2014; Lundberg & Lowe, 2016).

Studies also have revealed that student-faculty interaction is associated with greater college satisfaction (Kim et al., 2009; Martin, 2012; Outcalt & Skewes-Cox, 2002; Strayhorn, 2010) and higher educational aspiration (Kim, 2010; Kim & Sax, 2009; Kim, Franco, et al., 2015). Some other studies have identified the positive influence of student-faculty interaction on the psychosocial aspects of college students, such as psychological well-being (Bowman, 2010; Padgett et al., 2012), sense of belonging (Hausmann et al., 2007; Johnson et al., 2007; Meeuwisse et al., 2010), motivation (Komarraju et al., 2010), coping strategies (Clifton et al., 2008), and academic control (Clifton et al., 2008).

Civic Outcomes

College impact literature has indicated that college attendance can play a meaningful role on students' civic outcomes development during the college years (Antonio, 2001; Colby, Ehrlich, Beamont, & Stephens, 2003; Ehrlich, 2000; Hurtado, 2007; Hurtado & DeAngelo, 2012; Jacoby, 2009; Pascarella & Terenzini, 2005). While researchers still have a relatively limited understanding of civic outcomes as it relates to student-faculty interaction, some studies have investigated the potential effect of such interaction on civic outcomes among college students. One major focus of these studies has been the contribution of student-faculty interaction to students' civic abilities and attitudes, and the findings suggest that frequent faculty contact and quality mentoring relationships are positively related to students' gains in civic abilities and attitudes during college (Cole & Zhou, 2014; Dugan & Komives, 2010; Kim et al., 2009, 2014, 2015). Some other research also found the

positive effect of student-faculty interaction on other aspects of civic development such as political engagement (Kim et al., 2009), cultural/social awareness (Kim, Armstrong, et al., 2015; Reason et al., 2010), and racial tolerance (Kim, 2010). For example, using a nationwide sample of Asian American undergraduates, Kim et al. (2009) found that students who had higher quality faculty relationships and frequently challenged professors' ideas in class tended to also report higher level of political engagement and that this positive impact was particularly strong when it came to the college experience of challenging professors' ideas.

Spiritual Outcomes

Recent research on the topic of college students' spirituality sheds some lights on the possible contribution of faculty interaction to students' spiritual or religious development (Astin et al., 2011; Bowman & Small, 2010, 2013; Bryant & Astin, 2008; Fleming et al., 2013). Using a nationwide, longitudinal college student sample, Astin et al. found that various forms of student-faculty interaction positively affect students' spiritual or religious outcomes. For example, they found that both faculty encouragement of students to search for meaning and purpose and faculty encouragement of religious/spiritual discussion were related to greater development in spiritual quest, equanimity, an ethic of caring, and an ecumenical worldview among college students. They also indicated that talking with faculty outside of class tended to have a positive effect on students' charitable involvement, while faculty's focus on spirituality was positively linked to their equanimity and religious commitment. Research has also investigated the impact of student-faculty interaction on other forms of spiritual outcomes, such as spiritual identification, religious tolerance, and spiritual/religious growth (Bowman & Small, 2010, 2013; Bryant & Astin, 2008), and the findings of these studies were consistent with those of Astin et al.'s study. A recent study by Fleming et al. (2013) also found that faculty mentoring—not only ethical/spiritual but also academic/career—and faculty's use of a student-centered pedagogy contributed to greater development of an ethic of care for college students.

Vocational Outcomes

Research has also shown that students' interactions with faculty could positively affect their vocational outcomes. For instance, Flowers (2004) found that various forms of student-faculty interaction—e.g., talking with faculty, asking faculty for information related to a course, discussing career plans and ambitions with faculty—are all associated with better vocational preparation among African American students. Similarly, Lundberg (2014b) examined the relationship between frequency of student-faculty interaction and career preparation among community college students, and the findings were consistent with Flowers' (2004) study. A study by Cabrera et al. (2001) also found that student-faculty interaction and faculty

feedback contributed to larger gains in occupational awareness among college students, while a study by Sax et al. (2005) found that students who had talked frequently with faculty outside of class tended to also report greater interest in careers as research scientists.

Conditional Effects

While research has well established the general, positive effects of student-faculty interaction (either for all students or for a specific subgroup of students), a significant volume of recent studies has also examined the conditional (or differential) effects of student-faculty interaction utilizing disaggregated student subsamples. We organize the major empirical findings on the conditional effects of student-faculty interaction into the following two categories: (1) conditional effects by student characteristics (individual- or student-level conditional effects) and (2) conditional effects by academic environments (group-level conditional effects).

Conditional Effects by Student Characteristics

Gender

A majority of the literature on the conditional effects of student-faculty interaction has focused on answering how the magnitude of the relationship between student-faculty interaction and college outcomes differs by students' gender (Clifton et al., 2008; Colbeck et al., 2001; Cruce et al., 2006; Dika, 2012; Kim & Sax, 2009, 2015; Mayhew et al., 2005; Salisbury et al., 2010; Sax, 2001; Sax et al., 2005; Seifert et al., 2014). Using a longitudinal, nationwide college student dataset, Sax et al. examined the differential effects of student-faculty interaction on an intensive set of college outcomes across male and female students. For example, they found that while faculty support was positively related to course satisfaction, critical thinking ability, college GPA, and political engagement for both male and female students, the strength of the positive relationship was stronger for male students. In contrast, when it comes to challenging a professor's ideas in class, they found that the positive effect of this type of interaction on students' critical thinking ability and self-rated competitiveness was more pronounced among female students.

In another study that focused on the conditional effects of best practices in higher education on first-year college outcomes, Cruce et al. (2006) found that interaction with faculty was positively linked to reading comprehension and positive attitude toward literacy among female students, whereas the interaction had no effect on these outcomes for their male counterparts. They also found that student-faculty interaction was positively related to female students' mathematics knowledge, but the relationship was negative for male students. Similarly, Kim and Sax (2009) tested the gender-based conditional effect of student-faculty interaction on a select

set of student outcomes; and they found that while course-related faculty interaction had a positive relationship with degree aspiration for both male and female students, the magnitude of the positive relationship was stronger for male students compared to their female peers. Their study also documented that, when it comes to the patterns of faculty interaction, female students were more likely than male students to interact with faculty in individualized settings (e.g., communicating with faculty by email or in person) while male students were more likely than female students to interact with faculty in public or group settings (e.g., interacting with faculty during lecture class session).

Race/Ethnicity

There is another significant body of research on the conditional effects of student-faculty interaction based on students' race/ethnicity (Cole, 2008, 2010; Cruce et al., 2006; Einarson & Clarkberg, 2010; Fischer, 2007; Johnson et al., 2007; Kim, 2010; Kim & Sax, 2009; Lundberg, 2012; Lundberg & Schreiner, 2004; Mayhew et al., 2005; Meeuwisse et al., 2010; Salisbury et al., 2011). For example, Fischer (2007) found that having higher levels of formal academic ties to faculty (e.g., asking faculty questions in class, seeing faculty in office to ask questions) was associated with higher college GPA for all four racial/ethnic groups in the study (i.e., White, Asian American, Hispanic, and Black), while the *magnitude* of the positive association was relatively smaller for Black students compared to their peers in other racial groups. She also found that the formal academic ties to faculty positively affected college satisfaction among Hispanic and Black students, but this was not the case for White and Asian American students.

A study by Einarson and Clarkberg (2010) investigated not only the race-based conditional effects of a student-faculty interaction factor scale but also the conditional effects of six indicators of the factor scale. They found that the faculty contact factor scale was positively related to students' self-estimated intellectual gains and this relationship held for all four racial/ethnic groups of the study (i.e., White, Asian American, African American, and Latino students). However, when they individually examined the six survey items that constituted the faculty contact factor scale, their study demonstrated some conditional effects across these groups. For instance, working on research with faculty and discussing course selection with faculty were linked to greater intellectual gains among White, Asian American, and African American students, but not for Latino students. They also found that while having intellectual discussions with faculty outside of class contributed to larger intellectual gains among White, Asian American, and Latino students, this effect did not hold for African American students.

While most research on the conditional effects of student-faculty interaction has examined race-based conditional effects either between White students and students of color (Cruce et al., 2006; Mayhew et al., 2005) or across four major racial/ethnic groups including White, African American, Asian American, and Latino students (Einarson & Clarkberg, 2010; Fischer, 2007; Kim, 2010; Kim & Sax, 2009), a few

studies have tested the conditional effects across five or more racial subgroups of students (Johnson et al., 2007; Lundberg, 2012; Lundberg & Schreiner, 2004). For example, Lundberg (2012) found that frequent faculty interaction predicted greater personal development among African American, Asian/Pacific Islander, and Hispanic students but not among Native American and White students.

First-Generation Status

There are some studies that have addressed the differential effects of student-faculty interaction depending on parents' education level, usually framed by students' first-generation college student status (Dika, 2012; Kim & Sax, 2009; Padgett et al., 2010, 2012). For example, Padgett et al. (2012) found that high quality interaction with faculty (e.g., faculty's prompt feedback, quality of classroom interaction with faculty, faculty interest in student development) was positively related to psychological well-being for non-first-generation students (whose parents had some college experiences or had Bachelor's or higher degree), but it was not for their first-generation counterparts. Using a student sample from a single institution in Puerto Rico, Dika also indicated that talking frequently with faculty about career plans was associated with higher college GPA for non-first-generation students, whereas this type of faculty contact did not significantly affect college GPA for their first-generation peers. In contrast, their findings showed that higher quality faculty relationships predicted higher college GPA for both first-generation and non-first-generation students.

Class Standing

There has also been investigation of how the effects of student-faculty interaction may be conditioned by students' class standing (Dika, 2012; Pike et al., 2011; Umbach & Wawrzynski, 2005; Webber et al., 2013). Webber et al. (2013) found that interaction with faculty positively affected cumulative college GPA for first-year students, but it did not for senior students. Similarly, Dika found that while frequent discussion with faculty about grades or assignments was related to higher college GPA among first-year students, this form of faculty contact had no effect on college GPA for senior students.

Other Student Characteristics

A few other studies have also investigated the conditional effect of student-faculty interaction by other types of student characteristics such as age (Lundberg, 2003), social class (Kim & Sax, 2009), enrollment status (Laird & Cruce, 2009), and profile of sports (within a sample of student athletes; Gayles & Hu, 2009). For example,

Lundberg found that while both the frequency of the interaction and the quality of student-faculty relationships positively contributed to students' learning for all three ages groups in the study (students of ages 20–23, 24–29, and 30 and older), the positive impact on student learning was more pronounced among students 30 and older. When it comes to the conditional effects of student-faculty interaction by students' social class, Kim and Sax indicated that while frequent course-related faculty interaction was related to higher college satisfaction for students from all social class categories, the magnitude of the positive relationship was significantly greater for upper-class students compared to their middle-class peers.

Conditional Effects by Academic Environments

Institutional Type

Some studies have examined the conditional effect of student-faculty interaction across different academic environments. One focus of this research has been the differential effect of student-faculty interaction, depending on the type of institutions students attended (Cruce et al., 2006; Cuellar, 2014). Using multi-institutional data, Cruce et al. found that student-faculty interaction combined with faculty's effective teaching was significantly related to higher educational aspirations among students who attended research universities, but that this relationship was not significant for those students who attended other types of institutions, such as community colleges, historically Black colleges, Liberal Arts colleges, and regional institutions. In another study that addressed the conditional effects of student-faculty interaction by the type of institution, Cuellar (2014) found that while frequent interaction predicted higher academic self-concept among Latina/o students at both Hispanic-serving institutions (HSIs) and non-HSIs, this was not true for their peers at emerging HSIs. In contrast, she found a negative relationship between having felt intimidated by their professors and academic self-concept among Latina/o students at non-HSIs, whereas it was not the case for their counterparts at HSIs and emerging HSIs.

Academic Major

As the attendance rate at higher education institutions has increased and the categories of academic disciplines within institutions has become more diverse, researchers have also investigated how the effect of student-faculty interaction differs by institutional academic sub-environments, such as academic major (Kim & Sax, 2011, 2014; Kim, Armstrong, et al., 2015). For instance, using Holland's (1973, 1985, 1997) theory of careers, Kim and Sax (2014) found that the positive effect of having been a guest in a professor's home on students' academic self-concept significantly varied across different academic majors. More specifically, they indicated

that the positive effect of this type of interaction was relatively stronger among students who were in Artistic (e.g., Arts, Language/Literature) or Social (e.g., Philosophy, Sociology) majors compared to their peers in Investigative (e.g., Chemistry, Mathematics, Biology) or Enterprising (e.g., Journalism, Business Administration, Finance) academic major fields. Furthermore, the findings of their study revealed that students who were in academic majors with a larger proportion of students of color and in majors where students were more satisfied with accessibility to faculty also tended to benefit more from the experience of having been a guest in a professor's home in terms of academic self-concept development. In another study, Kim, Armstrong, et al. tested the disciplinary conditional effects of faculty interaction guided by Biglan's (1973) Model of Academic Disciplines. They found that while frequent student-faculty interaction was significantly related to higher college GPA for all student groups in four different academic disciplines (i.e., Hard/Pure, Hard/Applied, Soft/Pure, and Soft/Applied), this positive effect of faculty interaction was more pronounced among students who were in Soft/Pure and Soft/Applied (e.g., Education, Social Work, Public Health) disciplines. They also documented that the positive effect of faculty interaction on academic satisfaction was much stronger among students in Hard/Pure (e.g., Biology, Physical Science, Chemistry) disciplines compared to their peers in other academic disciplines.

Living Arrangement

There are some studies that have examined how the effects of student-faculty interaction differ depending on students' living arrangement (Inkelas et al., 2007; LaNasa et al., 2007). For instance, LaNasa et al. found that while frequent academic interactions with faculty (e.g., discussing grades or assignments with faculty, asking questions to faculty in class, receiving prompt feedback from faculty) significantly predicted higher cumulative GPA for on-campus, first-time freshman students, this was not the case for their off-campus peers. Using a first-generation student sample, Inkelas et al. also investigated the differential effects of student-faculty interaction based on living-learning program participation. They found that course-related faculty interaction (e.g., making appointment to meet faculty in his/her office, asking faculty for information related to course) was positively related to a perceived ease of *academic* transition to college for both students who participated in a living-learning program and those who lived in a traditional residence hall setting. In contrast, their findings indicated that faculty mentorship was negatively associated with a perceived ease of *social* transition to college among students in a living-learning program while faculty mentorship had no significant effect on such transition for students in a traditional residence hall setting.

Direct and Indirect Effects

Studies on the topic of student-faculty interaction have also examined both the direct and indirect effects of student-faculty interaction on student outcomes to untangle the underlying mechanisms of the impact of such interaction (e.g., Crisp, 2010; Fuentes et al., 2014; Good & Adams, 2008; Kim & Lundberg, 2016; Meeuwisse et al., 2010; Vogt et al., 2007). Testing both sociological and psychological variables in their structural model, Kim and Lundberg found that frequent student-faculty interaction was both directly and indirectly associated with greater cognitive skills development. Regarding the indirect effects, they found that interaction with faculty was positively related to students' classroom engagement—which in turn predicted larger growth in their cognitive skills—and that the positive relationship between faculty interaction and classroom engagement was mediated by students' academic self-challenge and sense of belonging. Similarly, Meeuwisse et al. found that frequent formal interactions with faculty had an indirect positive effect on students' study progress (operationalized by the number of credits earned), mediated by their greater sense of belonging. These findings generally validate the basic premise of Pascarella's (1985) model (refer to Theoretical Approaches section of this chapter) and its applicability to college student data, uncovering both the direct and indirect pathways from student-faculty interaction to a desired college outcome.

Reciprocal Effects

As discussed earlier, while most studies on student-faculty interaction have assumed a unidirectional influence of faculty interaction on student outcomes, some research has also addressed the reciprocal nature of the relationship between student-faculty interaction and student outcomes (Bean & Kuh, 1984; Iverson et al., 1984; Kim, 2006, 2010). Using a national, longitudinal sample of undergraduate students, Kim (2006) found that both academic and personal student-faculty interaction had positive reciprocal relationships with students' college GPA and racial tolerance, suggesting not only that frequent interaction with faculty improves college GPA and racial tolerance, but also that higher college GPA and greater racial tolerance facilitate more frequent student-faculty interaction. In contrast, when it comes to the relationship between student-faculty interaction and educational aspirations, she found a unidirectional effect of educational aspirations on both types of student-faculty interactions rather than the other way around. This finding is consistent with Iverson et al.'s general finding that students' educational aspirations influenced the level of student-faculty interaction rather than the other way around, thereby rejecting the hypothesis that faculty interaction affects educational aspirations.

Recommendations for Future Research

In our review of the literature, we recognized several conceptual and methodological gaps related to student-faculty interaction. In this section, we address these literature gaps in terms of their implications for future research. In particular, we probed the literature asking ourselves two guiding questions: *What* major questions still remain unanswered about student-faculty interaction (conceptual recommendations), and *how* should those questions be addressed (methodological recommendations)?

Conceptual Recommendations

Our review identified a number of conceptual or theoretical gaps in the student-faculty interaction literature. Below we discuss some conceptual lenses that future researchers might consider to gain more accurate and nuanced knowledge about the impact of student-faculty interaction.

Impact of Student-Faculty Interaction on a Broader Range of Outcomes

While significant evidence of the impact of student-faculty interaction on student outcomes was found in the literature, the research has tended to focus more on traditional, short-term college outcomes, such as academic achievement, persistence, and cognitive or affective outcomes (refer to the Findings on the Impact of Student-Faculty Interaction section of this chapter). Among these empirical studies on the general effects of student-faculty interaction, of the 89 quantitative studies we reviewed, 72 studies (81 %) examined these types of traditional outcomes in relation to student-faculty interaction.

However, the growing body of literature suggests that student-faculty interaction might possibly affect an even broader range of college outcomes, including post-graduate outcomes. For example, studies by Bowman and Small (2010) and Bryant and Astin (2008) found a positive relationship between faculty interaction and spiritual development among college students. Some researchers have also found a relationship between faculty interaction and development of civic attitudes (Cole & Zhou, 2014; Dugan & Komives, 2010; Kim et al., 2009, 2014), post-college outcomes (such as early career earnings; Hu & Wolniak, 2010, 2013), and inclination to lifelong learning (Seifert et al., 2014). While we are encouraged by this broadening lens, the existing student-faculty interaction literature has not yet sufficiently addressed these and other types of non-traditional outcomes. Therefore, future research on this topic should help improve our understanding of the impact of student-faculty interaction by expanding the realm of possible outcomes connected to student-faculty interaction.

Conditional Effects of Student-Faculty Interaction

Whether and *how* faculty interaction might differently impact various student subpopulations is another important question future studies should continue to address. Research has shown that student background characteristics and college environments may, for various reasons, moderate the effects of high impact practices, such as student-faculty interaction (Seifert et al., 2014). Given the substantial increase in the diversity of the college student population in recent years, researchers should give more attention to how certain student background characteristics might condition the impact of student-faculty interaction (Kim & Sax, 2011). While studies have increasingly examined the conditional effects of student-faculty interaction, much of the literature on this topic has centered around gender and race. Future research might aim to fill this research gap through the disaggregation of student samples by more diverse types of student characteristics (e.g., socioeconomics, language heritage, transfer status) and investigating how these traits moderate the relationship between student-faculty interaction and student outcomes. Particularly, future research should pay greater attention to examining how student-faculty interaction affects outcomes for historically underrepresented or understudied student subpopulations—such as disabled students, student veterans, student athletes, and religious minority students—and how the effects are different from those of their majority counterparts.

The recommendation for research also extends to the need of more studies on *group*-level conditioned effects of student-faculty interaction. The examination of conditional effects of faculty interaction has become more popular in the past decade. Still, these studies are mostly interested in examining individual- (or student-) level conditional effects by disaggregating student samples by race, gender, or other student characteristics; they are less interested in investigating group-level conditional effects (e.g., disaggregated by different academic environments such as institutions, academic majors or departments, residence settings, student organizations). Some recent studies did identify the group-level conditional effects of student-faculty interaction (refer to the Conditional Effects by Academic Environments section of this chapter), which warrants further investigations on this topic.

The consideration of the *nature* or *type* of student-faculty interaction would add another layer to the conditional effects of faculty interaction. While student-faculty interaction is generally heralded to be associated with positive student outcomes, it has not always been the case; in fact, there is evidence that the effects of student-faculty interaction may be conditioned by the nature or type of interaction (Cole, 2007; Kim & Sax, 2014; Komarraju et al., 2010), with some interactions associated with negative outcomes. Thus, there is much more to be learned about how the effects of student-faculty interaction depend on the unique qualities of the interaction.

Origins of the Conditional Effects

It is also important to acknowledge that we have limited understanding of the *origins* (or *whys*) of the conditional effects of student-faculty interaction. While studies have documented the existence of differential effects of student-faculty interaction across disparate student subgroups (refer to Findings on the Impact of Student-Faculty Interaction section of this chapter), very little is known about the factors that explain the stronger or weaker effects of these interactions for certain student subgroups (Einarson & Clarkberg, 2010; Kim & Sax, 2009, 2014, 2015). Specifically, one of the shortcomings of research on this topic is a lack of knowledge about the individual faculty with whom students are interacting; we believe that the faculty's own characteristics may be critical to explaining why some students benefit more or less from their interactions with faculty. Thus, future research on student-faculty interactions would ideally capture information not just on the students' characteristics, but also the faculty member's characteristics, including race/ethnicity, gender, and academic department. Collecting data on the race/ethnicity and gender pairings inherent in these interactions would be particularly useful to understanding whether any conditional effects we observe for non-White or female students are due to the fact that they are typically interacting with White or male faculty (to the extent that White and male faculty are generally more dominant on college campuses).

Faculty Perspectives

A dearth of research on the perspectives of faculty on student-faculty interaction leaves several open areas for future inquiry (Eagan, Herrera, et al., 2011; Fuentes et al., 2014; Hoffman, 2014; Kim, Armstrong, et al., 2015). While the well-established literature on the positive effects of student-faculty interaction may place an additional burden on faculty who feel pressured to adopt mentoring or out-of-class interactions with their students, a qualitative study by Adedokun, Dyehouse, Bessenbacher, and Burgess (2010) revealed that faculty who involved undergraduate students in their research, although an additional time burden, found their interactions with students deeply satisfying and beneficial to their work. Future studies should investigate more about how faculty perceive their interactions with students in terms of the benefits from such interactions and motivations that might encourage or discourage such interactions, as well as how these faculty perspective might differ depending on faculty characteristics, such as gender, race, rank, or tenure status.

Pedagogical Contexts

Several studies recognize the importance of faculty accessibility cues to more frequent and better student-faculty interactions (Cole, 2007; Cotten & Wilson, 2006; Eagan, Figueroa, Hurtado, & Gasiewski, 2012; Eagan, Herrera, et al., 2011; Hurtado et al., 2011; Kim & Sax, 2014; Wilson, Woods, & Gaff, 1974); still, few studies have

addressed the pedagogical contexts that not only improve the level of interactions between students and faculty but also magnify the beneficial effects from such interactions. A recent study by Cejda and Hoover (2010) examined the strategies that community college faculty use to engage Latino students and found that, among other strategies, understanding cultural values was important to improve their engagement. Another study by Lindholm and Astin (2008) examined the relationship between faculty spirituality and its influence on pedagogical approaches to their college teaching and found that more spiritual faculty members tended to more frequently use student-centered pedagogical approaches to their teaching. While studies on this topic would be indirectly related to the student-faculty interaction literature given their main focus on pedagogical styles and the strategies faculty utilize related to their impact on student learning and development, these studies could potentially contribute to student-faculty interaction literature by uncovering another tier of context that possibly shapes the dynamics between faculty and students.

Methodological Recommendations

Our review also identified some methodological gaps in the research on student-faculty interaction. Below we propose some methodological approaches that can be considered by future student-faculty interaction studies in order to advance both theoretical and practical knowledge on this topic.

Test of Causal Inferences

Perhaps one of the greatest limitations in the existing quantitative studies on student-faculty interaction is its reliance on correlational research design. While a large body of student-faculty interaction studies were designed to examine the *effects* or *impact* of faculty interaction on student outcomes, the findings from most of these studies should be interpreted as correlational connections between the variables rather than causal connections. Specifically, since the majority of surveys in higher education measures students' college experiences—student-faculty interaction in this case—and their outcomes simultaneously, they do not inform researchers of any time ordering between the variables, which leaves the undesirable ambiguity of causal directions. Although researchers generally accept the shared assumption of traditional college impact models that college experiences such as student-faculty interaction affect student outcomes, research has demonstrated the reverse that student-faculty interaction is affected by variables typically thought of as outcomes (Iverson et al., 1984; Kim, 2006, 2010). Therefore, in order to assess more thoroughly the potential causal linkage between faculty interactions and student outcomes, future research should consider using experimental or multi-wave data where experiences (treatments) and outcomes are measured in a sequence at multiple time points.

Use of Multilevel Models

College student data mostly have a hierarchical, multilevel structure where individual students are nested within academic sub-environments (such as academic majors/departments, residence settings, or student organizations), which are in turn nested within institutions. However, the majority of quantitative research on the impact of student-faculty interaction has historically employed OLS techniques—which assume no hierarchy in data—for their data analysis; findings of these studies provide a limited understanding of the impact of faculty interaction due to their analytical shortcomings such as aggregation bias, misestimated precision, and the unit of analysis problem (Raudenbush & Bryk, 2002). Fortunately, a growing number of studies in higher education have addressed the hierarchical nature of college student data by using multilevel models (Cheslock & Rios-Aguilar 2008, 2011; Niehaus, Campbell, & Inkelas, 2014; Pascarella & Terenzini, 2005). Some scholars have employed multilevel models specifically to examine the impact of student-faculty interaction (refer to the Methodological Approaches section of this chapter), and the findings from these studies do justify the use of multilevel models not only for improving the accuracy of estimation but also for uncovering the cross-level effects—e.g., how the effects of student-faculty interaction occurring at the student level are affected by variables measured at other levels such as the department-level (e.g., typology of academic disciplines, departmental peer culture) or institution-level (e.g., institutional selectivity, student-faculty ratio).

While it is promising to see the growing number of student-faculty interaction studies using multilevel models, the existing multilevel modeling studies on the topic of student-faculty interaction predominantly tend to use two-level HLM, mostly assuming students are nested only within institutions. However, some studies suggest that the patterns or impact of student-faculty interaction may be moderated by their socialization context within distinctive academic sub-environments, for example, majors/departments, academic disciplines, student organizations, and residence settings (Inkelas et al., 2007; Kim & Sax, 2011, 2014; Kim, Armstrong, et al., 2015; LaNasa et al., 2007). These findings warrant the use of three-level HLM that addresses variance in both within-institution sub-environments and between-institution environments, which can provide a more comprehensive perspective on the nature and impact of faculty interaction.

Test of Indirect Effects

While the college impact literature has well established the positive link between student-faculty interaction and student outcomes, researchers still have a limited understanding of the pathways from the interaction to a desired college outcome. Particularly, given that traditional college impact models or theories are heavily rooted in sociological perspectives, little is known about psychological or

motivational factors that potentially mediate the association between faculty interaction and student outcomes. A few recent studies utilized SEM to examine the indirect effects of student-faculty interaction on student outcomes and found some mediators of these effects, including sense of belonging and academic self-challenge (Crisp, 2010; Fuentes et al., 2014; Good & Adams, 2008; Kim & Lundberg, 2016; Meeuwisse et al., 2010; Vogt et al., 2007). Future research may add to the literature by examining the additional factors—both sociological and psychological—that are hidden in the relationship between student-faculty interaction and student outcomes. Future research may also employ multiple-group analysis, an advanced technique of SEM, to test how the role played by such factors on the pathways of student-faculty interaction to student outcomes vary across different student subgroups (e.g., gender, race, socioeconomic subgroups).

Development of Improved Measures

Many student-faculty interaction studies have underscored the significance of the *nature* or *type* of interaction as it related to desirable college outcomes and have emphasized the need for the development of improved measures of student-faculty interaction (Cole, 2007; Cox & Orehovec, 2007; Dika, 2012; Gayles & Ampaw, 2014; Griffin et al., 2010; Kim & Sax, 2014, 2015; Kim, Armstrong, et al., 2015; Komaraju et al., 2010). Findings of these studies documented that the effects of student-faculty interaction on student outcomes may differ based on the type of interaction. As we seek to adequately address the multiple dimensions of such interactions and how they uniquely shape the educational efficacy of each type of the interaction, it is imperative to develop more specific measures that differentiate a variety of forms of encounters between students and faculty (e.g., formal vs. informal, positive vs. negative, academic vs. social). It is also important to update measures by adding newer communication channels (e.g., texting, emailing, video-calling, using social media) that today's college students may utilize to interact with their professors. Furthermore, because the *quality* of student-faculty interaction is also important to determining the effects of the interaction, particularly for students of color (Astin, 1993; Kim & Sax, 2009, 2014; Kim et al., 2009; Lundberg & Lowe, 2016; Lundberg & Schreiner, 2004), measures should assess both the quantity and quality of students' interactions with faculty.

When it comes to the use of these measures in data analysis, future studies ought to use multiple individual items, or at least use multiple subscales, rather than aggregating various types or forms of faculty interaction into a single, value-free factor scale or merging faculty interaction measures into a macro concept of academic/social engagement or integration. This approach would allow researchers to better identify which types of student-faculty interaction are more or less effective in facilitating student learning and development.

Use of Qualitative and Mixed-Methods Methodologies

Student-faculty interaction research would also benefit from a qualitative or mixed-methods approach to the topic. While the quantitative literature has well documented both the general positive effects of student-faculty interaction (*whether* and *how* the interaction affects college outcomes) and the conditional effects of it (*whether* and *how* the effects differ across various student subgroups), it is important to uncover the *whys* of these effects in more depth to understand the meaning and context of the associated educational benefit and any differences related to student characteristics and academic environments. While quantitative studies may continue to investigate the complex nuances of student-faculty interaction using more detailed measures of such interaction and more advanced analytic approaches, many questions about the quality or dynamics of the interaction still require the contributions of qualitative studies. Ideally, the use of diverse types of qualitative studies such as case studies, phenomenological studies, grounded theory studies, and mixed-methods studies could fill the gaps in knowledge that quantitative studies cannot.

Conclusion

As our review of the literature has shown, student-faculty interaction is one of the most frequently cited institutional practices thought to be linked to a wide range of positive outcomes among college students. This chapter reviewed the current empirical understanding of the effects of student-faculty interaction, with particular attention given to both general and conditional effects. We also highlighted the theoretical and methodological approaches that have been used to study this topic. We have concluded that, despite the myriad studies on the impact of student-faculty interaction, there still exist some major questions—both conceptual and methodological—to be more fully answered by future research in this area. Among other questions, given the rapidly diversifying college student population, *how* and *why* student-faculty interaction might differently influence student outcomes across various student subgroups—particularly historically underrepresented, underserved, or disadvantaged groups—would be a key question for future research. We believe that the findings from such research would substantially advance our knowledge of the impact of student-faculty interaction, not only by filling gaps in the literature but also by providing higher education institutions and their members with practical implications on how to maximize the educational benefits of student-faculty interaction for *all* students.

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Chapter 4

Finding Conceptual Coherence: Trends and Alignment in the Scholarship on Noncognitive Skills and Their Role in College Success and Career Readiness

Heather T. Rowan-Kenyon, Mandy Savitz-Romer, Maya Weilundemo Ott, Amy K. Swan, and Pei Pei Liu

A growing body of research demonstrates that noncognitive skills, a diverse set of social emotional and self-management capacities and behaviors, are important predictors of postsecondary and career success (ACT, 2015; Shechtman, DeBarger, Dornsife, Rosier, & Yarnall, 2013). These bodies of scholarship have contributed to a more “holistic picture” of college and career readiness that recognizes the

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importance of both academic and noncognitive skills (ACT, 2015, p. 4). Indeed, many employers, policymakers, and researchers argue that educators should view the development of noncognitive skills as an integral part of preparing students for future success (Hart Research Associates, 2013; Maguire Associates, Inc., 2012; Moore, Lippman, & Ryberg, 2015; National Research Council [NRC], 2012). Echoing efforts in K-12 education to develop “the ‘whole’ child” (Beesley, Clark, Barker, Germeroth, & Apthorp, 2010, p. 38), colleges have been encouraged to adopt “an integrated approach” that “addresses the social, emotional, and academic needs of students” (Lotkowski, Robbins, & Noeth, 2004, p. 22).

Yet, while many colleges and universities have long claimed to foster noncognitive skills (Scott, 2006), there is nonetheless concern among employers that students are graduating from college with an underdeveloped set of the noncognitive skills they need to succeed in the workforce (Kyllonen, 2013). For example, an examination of mission statements and stated educational objectives from 23 institutions (Schmitt, 2012) derived a list of 12 commonly used dimensions including leadership, interpersonal skills, adaptability, and perseverance, which are considered by many to be noncognitive. However, despite research on the degree to which these skills are developed among students and growing attention from institutional officials (Pascarella & Terenzini, 2005), some observers contend that college graduates lack workplace readiness skills, thus suggesting they are not leaving higher education “career ready” (Hart Research Associates, 2013). Skills often cited as missing among college graduates include problem solving, adaptability, critical thinking, and communication (Miller & Malandra, 2006; The Conference Board, 2006). Employers’ perception of a lack of career readiness among college graduates suggests a misalignment in the college-to-career pipeline—a misalignment that may be due, in part, to confusion about which skills contribute to college and career success.

There are also challenges in navigating the discourse surrounding these skills, or “personal qualities other than cognitive ability that determine success” (Duckworth & Yeager, 2015, p. 237), because of the: (1) dizzying array of umbrella terms used to refer to this set of skills, including soft skills, metacognitive skills, 21st century skills, socioemotional competencies, and new basic skills, just to name a few; and (2) lack of clarity about which specific skills are included under these umbrella terms (Conley, 2005; Heckman & Kautz, 2012; Moore et al., 2015; NRC, 2012; Partnership for 21st Century Skills, 2009). This lack of conceptual clarity has been described as “one of the biggest challenges encountered by anyone seeking to make progress in this field” (Shechtman et al., 2013, p. 87). In the discourse of many constituencies, including policymakers, educators, employers, nonprofit foundations, and researchers representing a diverse set of disciplines and fields, the same skill may be described using a variety of different terms and, conversely, a single term may be used to describe skills that are conceptually distinct (Farrington et al., 2012; NRC, 2012; Robbins et al., 2004; Snipes, Fancsali, & Stoker, 2012; Shechtman et al., 2013). This confusion is partly rooted in disagreement about the nature of the skills in question. Although these skills are often described as noncognitive, many object to this term because these skills do, in fact, rely on cognitive processes

(Moore et al., 2015). On the other hand, the differences in terms reflect nuances that differentiate them and thus, should be conveyed appropriately.

Some scholars have undertaken efforts to analyze the diverse, disconnected bodies of literature about noncognitive skills, with the goal of developing unifying frameworks or taxonomies that provide a common vocabulary for describing and defining these skills (NRC, 2012; Shechtman et al., 2013). However, existing taxonomies have primarily focused on articulating skills that support academic success in K-12 education (Farrington et al., 2012; Atkins-Burnett, Fernández, Akers, Jacobson, & Smither-Wulsin, 2012; Moore et al., 2015; Snipes et al., 2012). Existing frameworks neither apply to higher education, nor do they achieve the important task of bridging the interrelated contexts of higher education and employment. As a result, there is a need for greater clarity and organization with respect to noncognitive skills as they relate to college and career success, and how such skills can most effectively be developed (NRC, 2012; Shechtman et al., 2013; Snipes et al., 2012).

In this chapter, we describe the ways in which higher education and employment literatures portray the noncognitive skills believed to support success in college and career. Synthesizing research findings from multiple disciplinary traditions is a first step toward providing a common vocabulary for the diverse constituencies engaged in this discourse, and may support more intentional programming and teaching by those interested in improving the educational and career transitions and outcomes of emerging adults (Snipes et al., 2012). Analytically, we sought to identify the commonalities that otherwise are lost in a sea of terms and differing contexts. With full awareness that any attempt to categorize or align terms across two sectors runs the risk of reducing the meaning and nuance of terms, this chapter includes the development of an organizing taxonomy that was primarily used for analytical purposes, but which we see as a promising a cross-sector framework. Drawing on two decades of multi-disciplinary research, this chapter uses the term noncognitive skills to refer to the range of behaviors, mindsets, and developmental skills prior research argues is conducive to college and career success. Aware of the ongoing debate about the best term to describe skills that we believe are, indeed, cognitive, we made a deliberate choice to use a term that is widely understood today despite its shortcomings. The primary aim of this chapter is to propose an aligned framework to guide future research and applied practice that moves away from conceptually vague or composite terms and towards clarified terms and meanings behind important college success and career readiness skills.

The Importance of Noncognitive Skills for College Success

Academic success in college requires that students regularly draw on a range of skills, behaviors and mindsets that lead to learning and engagement. Studies show that, after accounting for academic ability, noncognitive skills including academic self-confidence, motivational factors, and time management help predict college students' persistence and academic performance (Lotkowski et al., 2004;

Person, Baumgartner, Hallgren, & Santos, 2014; Robbins et al., 2004; Robbins, Allen, Casillas, Peterson, & Le, 2006). Indeed, the role of noncognitive variables in college readiness and success has been a focus of research since the 1970s, specifically as a predictor of college achievement. In one longitudinal study, for example, Willingham (1985) found that while the traditional academic predictors of high school rank and admissions test score best predicted scholastic types of college achievement, supplementary admissions information that captured students' noncognitive skills (e.g., the personal statement, letters of reference) better predicted success in other areas such as elected leadership and scientific or artistic achievement.

In related work, Sedlacek and Brooks (1976) drew upon available research to develop a list of seven noncognitive variables that they argued were related to academic success for all students and minority students in particular. Tracey and Sedlacek (1984) designed the Non-Cognitive Questionnaire (NCQ) to assess these variables, and the NCQ has since been expanded to assess a total of eight variables: "positive self-concept"; "realistic self-appraisal"; "understands and knows how to handle racism: navigating the system"; "long-range goals"; "strong support person"; "leadership"; "community"; and "nontraditional knowledge acquired" (Sedlacek, 2011, pp. 190–193). Over time, researchers have tested the predictive validity of the NCQ across a variety of student populations (Adebayo, 2008; Ancis & Sedlacek, 1997; Arbona & Novy, 1990; Boyer & Sedlacek, 1988; Sedlacek & Adams-Gaston, 1992; Tracey & Sedlacek, 1985, 1987, 1989; White & Sedlacek, 1986) and college settings (Nasim, Roberts, Harrell, & Young, 2005; Noonan, Sedlacek, & Veerasamy, 2005), with varying results. In many cases the NCQ was a positive predictor of persistence (Tracey & Sedlacek, 1985, 1987), and GPA (e.g., Adebayo, 2008, Sedlacek & Adams-Gaston, 1992; Tracey & Sedlacek, 1985), particularly for underrepresented populations on campus. There is widespread use of the NCQ in research settings, the college admissions process (Sedlacek, 2004), and the selection of Gates Millennium Scholars (Ramsey, 2008; Sedlacek, 2011).

While the NCQ is widely used, the instrument's psychometric properties have been criticized. Thomas, Kuncel and Credé (2007) conducted a meta-analytic review of studies using the NCQ to examine the predictive validity of NCQ scores and examine the extent to which race and gender had a moderating effect on the validity of NCQ scores. Based on their analyses, the researchers concluded that NCQ scores "are largely unrelated to college performance as measured by GPA, college persistence, and credits earned" (Thomas et al., 2007, p. 648) and advised against using the NCQ for admissions decisions. Thomas et al. do note that it is the way the constructs are operationalized, without strong internal consistency, rather than the unimportance of these noncognitive constructs. King and Bowman (2006) also highlight psychometric flaws in the NCQ such as misalignment of questionnaire items and constructs that call into question some of the positive findings of research using this instrument.

Other researchers also found mixed results when examining the relationship between noncognitive skills and college student success. In a 2004 meta-analysis of 109 studies, some of which utilized the NCQ, Robbins et al. (2004) examined the

relationship between noncognitive factors and college performance and persistence and found that while most of the noncognitive factors they tested correlated positively with retention, the relationships between these skills and performance were not as strong. In spite of this finding, Robbins et al. (2006) later explored the role that noncognitive factors play in predicting academic performance and retention among first-year students at two- and four-year institutions and found, consistent with prior studies (Busato, Prins, Elshout, & Hamaker, 2000; Chamorro-Premuzic & Furnham, 2003), that academic discipline, which they defined as effort and conscientiousness with respect to schoolwork, was the top predictor of academic performance and one of two top predictors of retention, followed by general determination, which was predictive of performance and positively related to retention. A meta-analysis of the relationship between noncognitive factors and academic performance (Poropat, 2009) reported similar findings. The analysis used the five-factor model of personality, commonly used by psychologists to assess personalities, as a framework for analyzing 80 studies. Among the five factors of agreeableness, conscientiousness, emotional stability, extraversion, and openness, Poropat (2009) showed that only conscientiousness was strongly associated with college academic performance when analyses controlled for high school academic performance.

Scholars have also examined the particular impact of specific noncognitive factors related to college success. Richardson, Abraham, and Bond (2012), for example, reviewed 13 years of research into predictors of students' grade point averages (GPAs). Their findings were consistent with those of Robbins et al. (2004), Poropat (2009) and others (Conard, 2006; O'Connor & Paunonen, 2007; Trapmann, Hell, Hirn, & Schuler, 2007) with regard to conscientiousness, but also highlighted the influence of additional noncognitive skills such as performance self-efficacy and emotional intelligence. Similarly, Schmitt et al. (2009) found that noncognitive measures in the form of biodata and situational judgment (e.g., interpersonal skills, adaptability and life skills, perseverance) added incrementally to the prediction of college GPA, and in a study of students' academic performance during the first two years of college, Shivpuri, Schmitt, Oswald, and Kim (2006) found that noncognitive factors predicted initial academic success as well as the extent to which students' academic performance changed over time.

The Importance of Noncognitive Skills for Career Success

Just as researchers have focused on the relationship between noncognitive skills and college success, they have also examined the role of noncognitive skills in career success (Cunha & Heckman, 2010; Heckman & Kautz, 2012; Kyllonen, 2013; Roberts, Kuncel, Shiner, Caspi, & Goldberg, 2007). Career success has been defined in both extrinsic (e.g., salary, promotions) and intrinsic (e.g., job satisfaction) terms (Seibert & Kraimer, 2001), and research from the past 25 years has supported early hypotheses (Bowles & Gintis, 1976) that noncognitive behaviors and traits, rather than cognitive skills, have a far greater effect on labor market success

(Bowles & Gintis, 2002; Farkas, 2003). Further, a summary of meta-analyses (Ones, Dilchert, Viswesvaran, & Judge, 2007) examined the relationships between the five-factor model and several variables related to career success including performance criteria, leadership criteria, team performance, and work motivation, and its authors concurred with Murphy and Shiarella (1997), who determined that “there is considerable evidence that both general cognitive ability and broad personality traits (e.g., conscientiousness) are relevant to predicting success in a wide variety of jobs” (p. 825).

According to Ng & Feldman (2010) there is a strong relationship between noncognitive skills, educational success, and career success. Their meta-analysis showed that work experience and investments in education enhance cognitive ability and conscientiousness, which affect professional performance. Stronger performance in the workplace, in turn, results in career success in the form of higher salary levels and more promotions (Ng & Feldman, 2010). Indeed, surveys show that employers across diverse industries value noncognitive skills, as they report seeking job candidates who can collaborate effectively with teams, approach work in a planful and organized way, and communicate skillfully (Hart Research Associates, 2013; National Association of Colleges and Employers, 2015). For example, in its annual national survey of employers, the National Association of Colleges and Employers (2015) found that over 80 % of respondents seek evidence of leadership skills when reviewing the credentials of new college graduates. Likewise, another study (Finch, Hamilton, Baldwin, & Zehner, 2013) found that when employers were asked to identify and rank the competencies they sought among new college graduates, all of the highest ranked skills were noncognitive.

However, according to Bowles, Gintis, & Osborne (2001) the link between noncognitive skills and career success may not be as straightforward as it appears. Earnings-enhancing behaviors may be learned from parents, fostered by “more or higher quality schooling,” (Bowles et al., p. 42) or signaled by additional years of education. In addition, other studies have shown that career success is, in part, a function of receiving supervisor support and opportunities for skill development (Eby, Butts, & Lockwood, 2003; Ng, Eby, Sorensen, & Feldman, 2005) as well as participation and performance in organizational workgroups (e.g., departments, working teams, professional networks) (Eby et al., 2003; Van der Heijde & Van der Heijden, 2006). Thus, education may provide some of the cognitive skills required for participation in the labor market, but less is understood about why noncognitive skills so strongly impact outcomes beyond college (Levin, 2012).

In a critique of the discourse on employer-desired skills, Urciuoli (2008) argued that noncognitive skills in particular.

...establish the type of person valued by the privileged system in ways that seem natural and logical...[and] represent a blurring of lines between self and work by making one rethink and transform one’s self to best fit one’s job, which is highly valued in an economy increasingly oriented toward information and service (p. 215).

Similarly, Grugulis and Vincent (2009) argue that due to the difficulties associated with evaluating noncognitive skills, the proxies that employers use for these skills “may support and legitimize discrimination” based on assumptions related to

behavioral norms associated with gender or race (p. 599). Further, they write, non-cognitive skills “exist largely in the eye of the beholder and can advantage employees only when noticed, authorized, or legitimized by their employers” (Grugulis & Vincent, 2009, p. 611). Research on executives, for example, shows that conscientiousness and agreeableness are negatively related to career success (Boudreau, Boswell, & Judge, 2001), suggesting that the noncognitive skills desired by employers of more junior employees may not be the same as those desired from senior-level employees. These critiques raise questions about the relatively subjective value employers place on noncognitive skills and further suggest that some workplace readiness skill development needs to take place prior to job placement.

Gap in Career Readiness of College Graduates

Concerns expressed in the current debate about career readiness are driven by research on the discrepancy between the skills acquired through education and the skills required for jobs (Evers & Rush, 1996). Robst (2007), for example, analyzed national data and found that 45 % of workers reported that their job was either partially related or unrelated, or “mismatched,” to their field of study (p. 397). Robst (2007) also found that mismatched workers earned less than “matched” workers with an equal amount of schooling. Indeed, employers report that recent college graduates lack important noncognitive skills including adaptability, leadership, time management, and communication (Harris Interactive, 2013; Maguire Associates, Inc., 2012; Miller & Malandra, 2006; The Conference Board, 2006; Stevens, 2005; Tanyel, Mitchell, & McAlum, 1999).

The overwhelming consensus among employers that graduates lack important career-ready skills sent a strong message to higher education to address this skills gap. Indeed, many institutions of higher education have implemented programs and curricula designed to cultivate noncognitive skills (Bembentuty, 2009; Fallows & Steven, 2000; Navarro, 2012; Savitz-Romer, Rowan-Kenyon, & Fancsali, 2015; Shechtman et al., 2013). Moreover, these concerns have inspired graduates to seek out additional post-graduation training in order to further develop skills needed in the workplace (Arthur, Bennett, Edens, & Bell, 2003; Sleaf & Reed, 2006) and spurred the creation of private “bridge” programs designed to fill the college-to-career transition gap (Grasgreen, 2014). This perceived lack of alignment foregrounds this study.

Methods

The gap in career readiness and the development of programs designed to bridge that gap inspired the larger project within which our study is situated. This study used a systematic review process to analyze relevant scholarly literature from the

fields of higher education and employment with the goal of exploring and describing mis/alignment in how these two bodies of literature represent noncognitive skills. We anticipated that doing so would serve as a first step towards creating better alignment and clarity. Specifically, the following questions guided our systematic review and analysis:

1. How does the literature from the fields of higher education and employment describe the noncognitive skills regarded as important for success in college and career?
2. Comparing these two bodies of literature, how are their representations of non-cognitive skills similar? How do they differ?

To answer these research questions, we utilized a systematic review, as this process allowed us to answer these research questions using a protocol or “systematic and explicit methods to identify, select, and critically appraise relevant research” (Moher, Liberati, Tetzlaff, Altman, The PRISMA Group 2009, ¶4). We elected to use this format rather than a meta-analysis due to the multiple types of publications addressing noncognitive skills and the limited number of empirical studies in the employment literature. Further, a systematic review served our primary research purpose, which was to identify themes in the literature that may promote greater understanding of the specific issue of concern, notably the lack of alignment between higher education and employers. Although there is not yet widespread consensus on the exact set of skills that constitute noncognitive skills, or agreement on the best term to be used to describe these types of skills, we believe that a systematic review of this nature will lead to greater clarity of understanding, increased usage, and assessment of these skills. Members of the research team, which included two faculty co-principal investigators, two postdoctoral research assistants, and two doctoral student research assistants, participated in the review of existing literature related to noncognitive skill development related to college success and career readiness. We utilized a three-step process to complete this scan and analysis: source identification, source review, and skill analysis.

Source Identification

During the source identification process, team members generated a list of keywords related to noncognitive skills (e.g., soft skills, academic mindset, twenty-first century skills/learning, social emotional factors), to search six academic databases (EBSCO, Business Source Complete, ABI Inform, Google Scholar, ProQuest, and Psych Info), the internet, and an academic library catalog. The search process yielded 2097 sources. In order to focus on the articles with the most relevance, we reduced the scope of literature to be reviewed by applying criteria including: research published between 2000 and 2013; manuscripts focused on noncognitive skill development in undergraduate education or during employment; U.S.-focused studies; and a preference for those manuscripts focused on implementing a specific intervention. Applying

these criteria, the team excluded 1854 sources based on abstract review and reviewed 243 at the full text level. An additional 55 sources were excluded during the full text review for not meeting the above criteria. The research team made the decision to include non-empirical sources in our review based on our focus on skills and terminology definitions, and the sources chosen provided insight into how constituents in each domain described and engaged with the skills.

In total, the source identification process yielded 188 usable sources, including 145 higher education sources and 43 employment sources (Table 4.1). Of the 145 higher education sources, 123 were empirical studies and 22 were non-empirical pieces that included conceptual reviews, case studies, and literature reviews. The employment literature was more evenly divided between empirical and non-empirical work with 27 empirical pieces that were primarily quantitatively focused and 16 pieces that were often reviews of the literature or conceptual reviews. Within the non-empirical category, the employment literature contained proportionately

Table 4.1 Code frequency and definitions for higher education literature and employment literature

Code	Higher education (n = 145)	Employment (n = 43)	Definition / description
<i>Empirical</i>			
Quantitative	91	12	Studies that used quantitative data collection and analysis methods, with noncognitive skills as the predictor(s) and/or outcome(s) of interest
Mixed methods	10	0	Studies that blended quantitative and qualitative methods in data collection and/or analysis, with noncognitive skills as the predictor(s) and/or outcome(s) of interest
Qualitative	9	0	Studies that used qualitative data collection and analysis methods, with noncognitive skills as the predictor(s) and/or outcome(s) of interest
Instrument validation	7	2	Studies that collected data primarily in service of developing an instrument or assessment, not using that instrument to predict other outcomes
Curriculum development / improvement	6	1	“Curriculum” is defined as a specific intervention with practical implications and/or applications. The data gathered and the outcomes analyzed in these studies were directly related to the development or revision of the intervention or program
Survey	0	12	Studies that used interviews and/or survey items to gather data about what employers and/or college graduates consider to be important skills, or assessments of current skill sets among employees; no data analysis beyond summarizing results

(continued)

Table 4.1 (continued)

Code	Higher education (n = 145)	Employment (n = 43)	Definition / description
<i>Nonempirical</i>			
Case study/Curriculum/Policy	11	4	Description of context, policies, program components, participants, challenges, innovations, observed effects (without an explicit data collection and analysis)
Literature review	4	9	A review and synthesis of literature to present a survey of issues or advance an argument; includes other taxonomies
Meta-analysis	4	0	Studies that compiled and analyzed findings from empirical sources but gathered no original empirical data
Essay	3	3	Sources that advance an argument using few or no specific references to literature; may rely on professional/personal experiences or observations; includes responses to critiques of empirical or nonempirical work

more literature reviews (nine sources) and essays or op-eds (three sources) than specific case studies or general strategies for how employers can cultivate the desired skills in their employees (four sources). By contrast, in the higher education literature, 11 out of the 22 non-empirical sources presented case studies, curricula, or policies for developing noncognitive skills in students. These differing emphases on concrete examples continued in the empirical sources, with the higher education literature featuring six studies on curricular interventions, while only one source in the employment literature assessed the effectiveness of a training program (Table 4.1).

Source Review

Systematic reviews utilize a disciplined approach to reviewing articles to guide the analytic process. Thus, the research team developed a rubric that provided a systematic structure for each source to be reviewed. Rubric categories included: noncognitive skill definitions; related noncognitive domains; specific study methods used; study outcomes; the context of the institution or employer type; and the population of focus. Due to the size of the rubric, it is not included in this chapter. The rubric allowed for an individual skill or term to be entered into an Excel database, thus allowing a skill to be considered as the unit of analysis. For example, as illustrated in Fig. 4.1, if a single source examined multiple noncognitive skills within the context of a single noncognitive domain, each skill was entered and analyzed separately into the rubric.

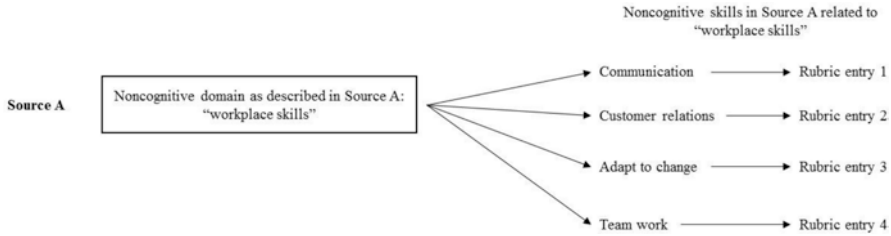


Fig. 4.1 Illustration of the rubric entry process

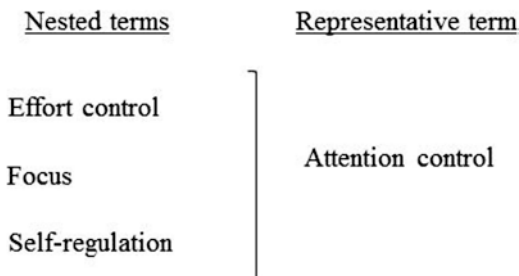
To test the efficacy of the rubric, all six team members reviewed the same three sources and compared their rubric entries. The four research assistants then reviewed over 50 sources each, and rubric entries were subsequently reviewed by one of the primary researchers. The source review process led to over 1140 rubric entries. While we were liberal in including skills in the rubric, we made the decision to exclude technology skills (e.g., *computer literacy*) and industry specific skills (e.g., *business acumen, numeracy*) as they were outside the scope of this project.

Skill Analysis Review

In the skill analysis stage, the research team members analyzed the data collected using the rubric, as well as field notes recorded during the source review process. To achieve our goal of identifying whether there is alignment between the noncognitive skills represented in higher education and employment literatures, the primary analytic process consisted of grouping the 1140 rubric entries along with definitions located in the literature. Using a skill and definition as our unit of analysis, members of the research team conducted a sorting exercise to move from those individually delineated skill/definition pairings to larger categorical groupings to develop a framework (Chinn & Kramer, 1999). All terms were also coded as either higher education or employer, to examine similarities and differences in the language and distribution of terms between the two bodies of literature. This framework took shape as a taxonomy that was used as a tool for our skill analysis. Although there are pre-existing taxonomies that focus on articulating skills that support academic success in K-12 education (Atkins-Burnett et al., 2012; Farrington et al., 2012; Snipes et al., 2012) and skills that support academic and early career success in young adulthood (Nagaoka, Farrington, Ehrlich & Heath, 2015), we did not find a taxonomy that allowed for a cross-sector review of alignment between higher education and employment, and thus, coded the terms in the literature to create a taxonomy.

The analytic method began with a process of qualitatively coding the data, using an inductive approach. With a focus on terms and definitions, we nested terms together to reduce our number of skills for analytic purposes. In this way, we refer to three types of terms that were located in the literature. First, we identified

Fig. 4.2 Relationship between representative and nested terms



verbatim terms, which described skills in a way that clearly represented their meaning (e.g., *communication skills*). Second, we nested terms, which included terms that were defined in a way that matched a verbatim skill and we recoded these terms as the verbatim skill they matched (e.g., *teamwork skills* were recoded as *collaboration*). Third, we used representative terms, which were the terms we used to represent a set of nested terms for which there was not an appropriate verbatim skill in the literature (e.g., *attention control* represented terms such as *effort control*, *focus*, and *concentration*). To illustrate the relationship between these terms, see Fig. 4.2. The nesting process relied on the use of definitions we extracted from the sources. Through multiple iterations, we identified patterns, groupings of terms or definitions that seemed to be described similarly.

Through this inductive process, we developed an organizing taxonomy of non-cognitive skills that is grounded in the literature from these two fields. Each skill in our taxonomy represents one of the groupings of terms/definitions that we identified through the coding process. We further developed a definition for each skill in our taxonomy, based on the definitions from the grouping, and noted alternative terms. Thus, our categories were derived from the data (Elo & Kyngas, 2008). Finally, the research team identified primary themes (Dey, 1993), noting consistency of terms and definitions and the types of terms used in the publications. As a result of this process, approximately 300 skills are not reflected in our taxonomy. Some terms were excluded from the taxonomy for the following reasons: a term was too broad to fit into one of our groupings (e.g., *learning styles*, *personal traits*), did not include a definition that allowed us to interpret the meaning of the named skill (e.g., *testing skills*), or was beyond the scope of our work (e.g., *critical thinking*, *spirituality*, *social desirability*, *technological competence*).

The process described above was specifically utilized to answer our first research question—regarding how the higher education and employment literatures describe the noncognitive skills viewed as important for college and career success—and included the inductive process of looking at trends in skill representation, noting high and low frequency terms and trends in the literature. Our research team also conducted a comparative analysis to examine similarities and differences in skills, definitions, and conceptualizations of noncognitive skills, in order to answer our second research question regarding mis/alignment between higher education and employment sectors.

Limitations, Delimitations and Trustworthiness

There are several limitations to our work. While we drew on literature from both education and employment sources, the majority of the articles we reviewed were empirical in nature and focused on higher education. This may have been due in part to the fact that, as academics within the field of higher education, we searched databases that likely privilege higher education articles. In addition, since we chose to include empirical and non-empirical work, there were some challenges related to comparisons; however, the team elected to prioritize the specific skill rather than the method of analysis. This choice seemed the most inclusive way to account for the multiple terminologies used in a range of sources focused on noncognitive skills and behaviors.

We did not intend to examine each of the individual skills, as this work has been done by others (Crede & Kuncel, 2008; McAbee & Oswald, 2013; O'Connor & Paunonen, 2007; Trapmann et al., 2007). Rather, the primary purpose of our study was to determine the range of noncognitive skills represented in publications and examine where these skills align and diverge between the higher education and employment literatures.

Finally, we ensured trustworthiness by utilizing several strategies. Our six-person research team brought multiple perspectives to our analyses (Creswell, 2014). With multiple team members, each person served as an auditor of our work to check interpretations of our taxonomy and additional findings. We have also shared our findings with educational researchers who were not a part of our study to solicit additional feedback about the meaning we attributed to the terms.

Findings

Our analysis revealed several trends in how noncognitive skills are described in relevant literature from the fields of higher education and employment, both collectively and respectively. In the following section, we describe four key findings: variation in terms and definitions used to describe noncognitive skills; commonalities among terms that we organized into a taxonomy of noncognitive skills that spans the higher education and employment literatures; differences in the noncognitive skills emphasized by the higher education and employment literatures; and differences in how these two bodies of literature describe noncognitive skills.

Variation in Terms and Definitions Used to Describe Noncognitive Skills

Our review of 188 sources from the higher education and employment literature yielded 1140 rubric entries that capture how sources' authors described the noncognitive skills that they framed as important for college and career success.

Further analysis of those rubric entries revealed a great deal of variability in the terms these sources used to describe noncognitive skills: we found 509 distinct terms. There was very little overlap in verbatim terms between the higher education and employment literatures, with only 17 of these verbatim terms appearing in both bodies of literature. Three-hundred and forty-nine terms were exclusive to the higher education literature while 143 terms were unique to the employment literature.

The most frequently used verbatim term across both sectors, with 15 occurrences, was *self-efficacy*, grounded in the work of Bandura (1977), and defined by Yang and Taylor (2013) as “the perception of one’s own ability or capability in performing a task” (p. 654). Beyond those occurrences of *self-efficacy* per se, we also found 12 different, but similar, nested terms that include the word “self-efficacy,” such as *academic self-efficacy* and *self-efficacy for writing*. These similar terms were used in 18 additional sources, bringing the total number of occurrences of *self-efficacy* up to 33. Other frequently occurring representative terms included *conscientiousness*—defined by Komarraju and Karau (2005) as “being organized, purposeful, and self-controlled” (p. 561)—which occurred in 11 sources, and *time management*—defined by Bembenuddy (2009) as “estimating and budgeting time” (p. 615)—which occurred in 10 sources; three additional sources also used terms similar to *time management*, such as *time and study environment management*.

The relatively high frequency of these terms stands in contrast to the vast majority of the terms used to represent noncognitive skills in the literature we analyzed, as more than 80 % of the terms we found occurred in only one source. For example, the vast majority—300 of 366—of the higher education terms occurred in only one source. Among these unique terms were *action control*, defined by Ganguly, Kulkarni, and Gupta (2013) as the “intuitive ability to regulate one’s feelings and thoughts” (p. 256); *self-consequating*, defined by Wolters and Benzon (2013) as students’ “use of self-provided rewards for pushing themselves to complete their coursework” (p. 209); and *general determination*, defined by Le, Casillas, Robbins, and Langley (2005) as “the extent to which students are dutiful, careful, and dependable” (p. 494).

In addition to this variability in the terms used to describe noncognitive skills, we also found that the sources we analyzed defined noncognitive skills using three different approaches. While some sources provided explicit conceptual definitions for skills, such as those we cite above, other sources provided operational definitions for skills, most often by citing items from instruments designed to measure those skills. For example, Strage et al. (2002) operationally defined *time management* using items from a scale they designed to measure this skill in college students; items included frequency of needing an extension, frequency of completing readings before class, and the number of hours per week spent studying. These different approaches to defining noncognitive skills meant that we found a great deal of idiosyncrasy—and very little overlap—in how our sources defined these skills. In addition to sources that provided conceptual or operational definitions of noncognitive skills, we also found that many of our sources—particularly those from the employment literature—did not provide any type of definition for the skills they described.

Table 4.2 Taxonomy of noncognitive skill development

Approach to learning	Intrapersonal skills	Social skills
Attention control	Adaptability	Active listening
Commitment to achieving goals	Conscientiousness	Belonging
Goal orientation	Developing strong personal values	Collaborative Skills
Growth mindset	Ethical behavior and decision making	Communication
Identification and utilization of social support and institutional resources	Future time perspective	Cultural awareness
Identification of obstacles and strategies to overcome them	Managing emotions	Empathy
Managing time	Openness	Managing interpersonal conflicts
Meta-cognition	Personal responsibility/Internal locus of control	Organizing thoughts and ideas
Monitoring progress towards goals	Self awareness and evaluation	Respect for others
Organization skills	Self-concept	Social awareness
Setting goals	Self-direction	Social responsibility
Study skills	Self-efficacy	Understanding the needs of others
Task analysis and strategy development	Stress management	
Task/Goal value and relevance	Taking initiative	
	Taking risks	
	Understanding expectations	

For instance, Macarthur and Phillippakos (2013) did not define *time management*, so it was unclear if they were using the concept of time management in the same way as other researchers who provided conceptual definitions for time management.

A Taxonomy of Noncognitive Skills Spanning Higher Education and Employment Literature

Although we found a great deal of variation, we also found underlying patterns in terms and definitions that enabled us to develop an organizing taxonomy of the noncognitive skills that our sources framed as important for college and career success. Through our process of coding and nesting rubric entries, we condensed 757 of the original 1140 entries into 509 unique terms that we then grouped into 42 categories, each representing a noncognitive skill that spans the higher education and employment literature. These 42 skills, listed in Table 4.2, formed the content of our taxonomy, which we created as a tool to explore alignment across the two

bodies of literature. The Appendix provides sample definition(s) and synonyms for terms that had multiple definitions, or in cases when the term itself lacked clear meaning, as a way to both illustrate our process and highlight the diversity of terms and definitions that are used in these bodies of literature to describe skills that we view as conceptually coherent.

After we organized the rubric entries into the 44 skills that constitute our taxonomy, we noticed commonalities across skills that suggested they could be further grouped into domains of related skills. Specifically, we identified three domains, each with a different “locus” or target point of the skills: were the skills directed at a particular task, inwardly toward the self, or toward other people? This schema formed the basis for our three domains: Approach to Learning/Work, Intrapersonal Skills, and Social Skills.

Approach to Learning/Work The Approach to Learning/Work domain comprises 15 representative skills that individuals use to engage in tasks required to be successful in school or work. Examples of representative skills from our taxonomy that we included in this domain are *attention control*, *metacognition*, *growth mindset*, *goal orientation* and *goal commitment*. This domain was ultimately defined by its focus on behaviors, skills, and dispositions that individuals use to engage in work or study. The terms categorized in this domain ranged from beliefs and values that help individuals approach and complete a task, to the control/management of internal and external processes and resources in the service of accomplishing a task. Being able to define a task, set long- and short-term goals related to that task, and organize oneself appropriately to produce quality work in completing the task were the salient themes underlying this domain. Studies that were part of our rubric demonstrated, for example, that in order to learn effectively, individuals must devote sustained attention to learning tasks (Zimmerman, 2001). Such attention control requires self-regulation, the process through which learners “transform their mental abilities” into skills related to specific tasks (Zimmerman, 2001, p. 1).

Intrapersonal Skills The Intrapersonal Skills domain includes 17 representative skills residing within the individual that influence behaviors and judgments about oneself. Examples of representative skills in this domain include *self-efficacy*, *openness*, *adaptability*, *conscientiousness*, and *self-awareness*. Although a clear conceptual pathway exists between many of these Intrapersonal Skills and the ultimate outcome of a task (e.g. the type of work ethic and attention to detail reflected in the skill of conscientiousness obviously might impact the quality of work produced), this domain differs from Approach to Learning/Work in that the skills in this domain are first and foremost directed at the individual self rather than an appointed task. In other words, any impact of these skills on an external task is mediated by the internal impact on oneself. The distinction may seem minor but holds important implications for any attempt at intervention or development of these skills compared to those in Approach to Learning/Work; thus, it was important to us to distinguish these skills as a separate domain.

Table 4.3 Frequency of domain representations in higher education and employment literature

	Representation in higher education literature		Representation in employment literature	
	# of total skills	% of total skills	# of total skills	% of total skills
Approach to learning/work	221	41	34	15
Intrapersonal skills	192	36	81	36
Social skills	121	23	108	48
Total	534	100	223	100

Social Skills Social Skills, the final domain in our taxonomy, consists of 12 representative skills that reflect an individual's ability to successfully engage with others around them. Examples of skills in this category include *empathy*, *belonging*, and *cultural awareness*. As previously observed, conceptual pathways exist between Social Skills and the other two domains, Approaches to Learning/Work and Intrapersonal Skills. Many intrapersonal skills also impact one's ability to interact with others, and many social skills impact the quality of work produced in a collaborative environment. However, the Social Skills domain is distinct from the others in that the presence of other people and an expectation of social interaction are prerequisites for the manifestation of any of the skills categorized in this domain. And, as previously noted, we assigned terms to a particular domain based on the primary locus or first point of contact for the skills in question.

Higher Education and Employment Literature Focus on Different Noncognitive Skills

Developing a taxonomy of noncognitive skills that is grounded in relevant literature from both the higher education and employment literatures provided us with a framework for comparing the relative emphases, across two bodies of literature, on specific noncognitive skills and on domains of related skills. Our comparative analysis revealed striking differences in saturation of research on noncognitive skills in the higher education and employment literatures, respectively.

To begin, the skills in Approach to Learning/Work were largely derived from the higher education literature as opposed to the employment literature. Table 4.3 illustrates that 41 % of all rubric entries from higher education literature were placed in this domain. In comparison, only 15 % of the noncognitive skills from the employment literature were nested in this domain. Ultimately, the higher education literature contributed 165 unique terms nested into 15 skills, while the employment literature contributed just 19 unique terms into eight of the 15 total skills in this domain. Furthermore, there were few similarities among high frequency skills between the higher education literature and the employment literature in this particular domain. For example, in the higher education literature *goal orientation* (17 %)

was the most frequently mentioned skill within this domain, followed by *study skills* (10 %), *attention control* (9 %), and *commitment to achieving goals* (9 %). In contrast, the employment literature revealed a different concentration of skills within the domain, such as *identification of obstacles and strategies* (29 %), *managing time* (21 %) and *organization skills* (15 %).

We discovered slightly more balance of skill representation by sector in the Intrapersonal domain. Approximately 36 % of all rubric entries in both the higher education and employment literatures were nested in the Intrapersonal domain (Table 4.3), and our rubric showed greater overlap in high frequency skills between the two bodies of literature in this domain compared to Approach to Learning/Work. However, the types of skills emphasized by each sector were still different. As previously mentioned, the most frequent term found in the higher education literature, across all three domains, was *self-efficacy*, which accounted for 26 % of the nested terms within the Intrapersonal domain, with *conscientiousness* representing 11 % of the nested terms in this domain. When examining the employment literature, terms were more dispersed across the domain, with *taking initiative* (12 %), *conscientiousness* (11 %), *self-efficacy* (11 %), and *adaptability* (10 %) the most frequently cited skills. Three skills appeared in the higher education literature that were not represented in the employment literature: *developing strong personal values*, *self-concept*, and *understanding institutional/academic expectations*.

Representation by sector in the Social Skills domain is nearly the inverse of that in the Approach to Learning/Work domain. Only 23 % of rubric entries in the higher education literature were ultimately nested in this domain, compared to 48 % of rubric entries in the employment literature (Table 4.2). However, due to the fact that we have many more rubric entries for the higher education literature, the number of unique terms within each body of literature was relatively similar, with higher education literature contributing 75 unique terms and employment literature contributing 81 unique terms.

The Social Skills domain reflected the most alignment in high-frequency skills in our rubric across the two sectors. *Social skills* (the skill set that ultimately lent its name to the overall domain) was the highest frequency skill in this domain in both bodies of literature. Other examples of alignment of high-frequency skills in this domain include *communication* (35 % of rubric entries from higher education and 30 % of rubric entries from employment) and *collaborative skills* (32 % from higher education and 29 % from employment).

Variations in Defining Skills Across Sectors

When the research team compared the two bodies of literature, notable patterns emerged. Specifically, we noticed differences in the kinds of terms used by each body of literature to describe noncognitive skills. Perhaps because of its stronger

empirical base and roots in human development and psychology, the higher education literature was more likely to describe specific verbatim skills such as *self-efficacy* (e.g., Navarro, 2012; Putwain, Sander, & Larkin, 2013) and *mastery orientation* (e.g., Corker & Oswald, 2012; Strage et al., 2002; Yang & Taylor, 2013). In contrast, we noticed that the employment literature often used more general or vague verbatim terms, such as *soft skills* (e.g. Blaszczynski & Green, 2012; Davis & Woodward, 2006; Grugulis & Vincent, 2009; Hoffman, 2007; Kavas, 2013; Kyllonen, 2013; Ramakrishnan & Yasin, 2010; Venkatesh, 2013; White, 2013; Yadav, 2013), *social skills* (e.g., Bacolod, Bernardo, & Strange, 2009; Borghans, Duckworth, Heckman, & Weel, 2008), and *communication skills* (Capretz & Ahmed, 2010; Di Meglio, 2008; Edwards, 2010; Mitchell, Skinner, & White, 2010; Pinsky, 2013). In addition, we found that terms used by sources in the employment literature to describe noncognitive skills often seemed to be industry-specific. For example, sources that focused on employment in the health services and nursing industries mentioned skills like *empathy*, whereas sources focused on the business or finance industries mentioned skills like *project management* (Ramakrishnan & Yasin, 2010; Shuayto, 2013; Stevenson & Starkweather, 2010).

Developing a taxonomy of noncognitive skills that spans higher education and employment literatures also enabled us to compare how each body of literature describes these skills, to consider whether skills that we view as conceptually coherent are represented differently in these two bodies of literature. By analyzing the rubric entries that were nested in each noncognitive skill in our taxonomy, we noticed some striking differences in how these skills were represented in the higher education and employment literatures, respectively. For example, *collaborative skills* were well covered in both the higher education and employment literatures, but when we took a close look at the rubric entries, we found that each body of literature described these skills differently. In the employment literature, the desired result is group productivity, whereas in the higher education literature the desired result is usually individual learning/development through the act of interacting with others. In other words, *collaborative skills* in the work place is often a desired result of, and integral to, the work itself, whereas in higher education, *collaborative skills* is treated as a means to the work of personal development, or even as something that must be endured along the way (hence the idea of “followership”).

Another example is *motivation* (nested under *goal orientation* in the taxonomy), defined in one workplace study by Barrick & Zimmerman (2009) as “desire for job” or “intent to stay”. This is quite different from other definitions of motivation in higher education articles, which tend to focus on conceptual definitions of motivation rooted in cognitive psychology, such as situated motivation toward a particular task or subject (Hodges & Kim, 2013; Lizzio & Wilson, 2013), intrinsic motivation or valuing of a task (Torenbeek, Jansen, & Suhre, 2013; Trainin & Swanson, 2005), as well as potentially detrimental sources of motivation such as failure avoidance (Boese, Stewart, Perry, & Hamm, 2013). These examples illustrate how many of the skills are uniquely defined by the context that they are in.

Discussion: Trends in the Scholarship

Our foray into this research was driven by a question about how noncognitive skills are represented in higher education and employment publications relative to college and career success, and the extent to which each sector was describing the same concepts. It was encouraging to find such a robust body of literature on a topic that has garnered much recent attention. However, review and subsequent analysis of the literature confirms the confusion and misalignment regarding the specific noncognitive terms being used to discuss college and career success, potentially explaining why field leaders are questioning students' readiness. The confusion appears most clearly around which exact skills are being described and implied when referencing noncognitive terms. The related misalignment seems most significant in the relatively uneven representation of skills within each sector across our three domain areas. In addition, we identified differences between these two bodies of literature in approaches to conceptualizing and defining skills, with implications for the evaluation of noncognitive skills. Although the field lacks a unifying framework, our analytic process revealed sufficient patterns that contributed to a taxonomy that allowed for the comparison of the two bodies of literature. These patterns suggest to us that alignment may be within reach given further articulation. In the following section, we describe our interpretation of these findings in consideration of an aligned system that would support both education and employment contexts.

Alignment of Noncognitive Skill Domains for Education and Employment

Our categorization of the wide array of noncognitive skills was influenced by identified commonalities across skills that suggested they could be further grouped into domains of related skills, thereby allowing us to distill 42 skills into an organizing framework. Using a unique "locus" or target point of the skills, we categorized the skills as follows: were the skills directed at a particular task, inwardly toward the self, or toward other people? This schema formed the basis for our three domains: Approach to Learning/Work, Intrapersonal Skills, and Social Skills.

The skills placed in the Approach to Learning/Work domain appear to build upon earlier research by Ausubel, Novak, and Hanesian (1978) and Marton (1976), who made a distinction between meaningful learning and rote learning. Marton's (1976) work was particularly influential, as he introduced the theoretical concepts of "deep" and "surface" learning to describe the processes that students used when reading a text (Richardson, 2015). As Marton explained (1976), students with a deep approach to learning focused on what the text was about, using logical thinking to connect their prior knowledge to the material they were reading. Students who used a surface approach, by contrast, were more focused on memorizing the text. Students who used a deep approach "appear to experience an active role – learning is

something they do” (Marton, 1976, p. 35). For surface learners, learning was more passive in nature -- “something that happens to them” (Marton, 1976, p. 35). Entwistle and Ramsden (1983) later introduced a “strategic” approach to studying and learning that referred to students’ organization, study skills, and orientation toward achievement.

Previous studies not analyzed during our review also support the relationship between approach to learning and metacognitive development (Case & Gunstone, 2002). Flavell (1976) described metacognition as “one’s knowledge concerning one’s own cognitive processes and products or anything related to them,” and explained that it includes monitoring, regulating, and orchestrating information processing activities (p. 232). Likewise, earlier research by, Blåka and Filstad (2007), explored newcomers’ learning processes in two workplace communities. They found that in order to construct identities as workplace “insiders,” the newcomers had to learn appropriate language and cultural norms from more established colleagues. Eraut’s (2004) research on learning at work similarly reflects the range of skills in this domain, indicating that learning at work occurs as a result of not only undertaking activities and seeking out learning opportunities, but also successfully meeting challenges. Individuals’ confidence to take on challenges in the workplace depends upon how supported they feel; if workers are not provided with challenges, or they lack sufficient support to take on challenges, their confidence and motivation to learn will decline (Eraut, 2004). Our categorization of skills in the Approach to Work/Learning domain builds on these studies, further emphasizing a range of skills and behaviors necessary to approach work and learning tasks.

The skills categorized in the Intrapersonal Skill domain builds on past research such as Bar-On’s (2006) model of emotional-social intelligence (ESI), which is defined by Bar-On, Brown, Kirkcaldy, and Thomé (2000) as “the ability to be aware and understand oneself, one’s emotions and to express one’s feelings and ideas” (p. 1108). Studies using the ESI model suggest that intrapersonal skills including self-awareness and managing emotions strongly contribute to occupational performance (Bar-On, 2006). This categorization also builds on research showing a strong association between intrapersonal skills such as stress management abilities and academic performance (Parker, Summerfeldt, Hogan, & Majeski, 2004).

Previous research also suggests that the skills studies confirm that many of the individual skills grouped within the Intrapersonal domain are interrelated. For example, facets of conscientiousness include self-control (e.g., managing emotions) and responsibility – both of which have been shown to affect risk-taking (Charness & Jackson, 2009 ; Magar, Phillips, & Hosie, 2008) – as well as qualities related to personal values and ethical behavior and decision making such as traditionalism and virtue (Crossan, Mazutis, & Seijts, 2013; O’Fallon & Butterfield, 2005; Roberts, Chernyshenko, Stark, & Goldberg, 2005; Tangney, Baumeister, & Boone, 2004). Similarly, Le Pine, Colquitt, and Erez (2000) suggest that adaptability, one’s capacity to perform in a changing task context, may be a function of conscientiousness and openness. These other studies argue that conscientious individuals are more likely to persevere toward goals and make decisions in an orderly, deliberate way (Le Pine et al., 2000). However, this orderly, deliberate tendency on the part of

conscientious workers can make it more difficult for them to make accurate decisions within changing task contexts (Le Pine et al., 2000) that require adaptability such as unpredictable, stressful, or crisis situations (Pulakos, Arad, Donovan, & Plamondon, 2000).

Previous research not reviewed in our study further provides important contextualization for the skills categorized in the Social Skills domain. Social intelligence, or more commonly termed social skills in our rubric, has been described as the “ability to effectively read, understand, and control social interactions,” is of particular importance in the contemporary workplace, with its heavy reliance on social interactions, and has been shown to affect work quality as well as task performance (Ferris, Witt, & Hochwarter, 2001, p. 1076). Grounded in earlier research by Marlowe (1986), social intelligence is multidimensional and includes concern for others as well as observable social behaviors. Research shows that social skills, the array of abilities and qualities encompassed by social intelligence, are predictive of contextual performance in a team setting (Morgeson, Reider, & Campion, 2005). These skills are also found in higher education contexts, positively influencing grade point average (GPA) over the first 2 years of college (Strahan, 2003). Importantly, these findings provide important explanation for the fact that the skills in this domain reflected the most alignment in high-frequency skills in our rubric across the two sectors.

Importantly, the three domains of noncognitive skills that emerged in our analysis—Approach to Learning/Work, Intrapersonal Skills, and Social Skills—are closely aligned with the three domains of “21st century competencies” for career readiness that were described by the National Research Council’s Committee on Defining Deeper Learning and twenty-first Century Skills (NRC, 2012). Based on its review of research from diverse academic disciplines and fields, the Committee delineated three domains of competence—cognitive, intrapersonal, and interpersonal—and defined them this way:

The cognitive domain involves reasoning and memory; the intrapersonal domain involves the capacity to manage one’s behavior and emotions to achieve one’s goals (including learning goals); and the interpersonal domain involves expressing ideas, and interpreting and responding to messages from others. (NRC, 2012, p. 3)

The Committee wrote that these domains “represent distinct facets of human thinking and build on previous efforts to identify and organize dimensions of human behavior” but also emphasized that these domains are “intertwined in human development” (NRC, 2012, pp. 21–22). The Committee characterized these three domains as representing “a preliminary classification” of twenty-first century competencies, not yet a definitive taxonomy (NRC, 2012, p. 21). The domains that emerged from our analysis provide validation of the NRC’s findings and illustrate their relevance for college success as well as career readiness.

Some members of that Committee expressed concern about separating skills into different “clusters,” arguing that “it is misleading to imply the clusters of skills are independent and mutually exclusive” or that “the clusters are discrete and unrelated” (NRC, 2011, p. 109). Members argued that these skills—and clusters, or

domains, of skills—should instead be portrayed as interdependent and related. Like our predecessors, we recognize these challenges and add two additional considerations associated with grouping skills. First, there are multiple avenues for grouping; parent headings and categories may work in some settings and not in others. Our intention behind grouping was to create a taxonomy that can be used to examine mis/alignment across the literature. Second, we recognize that categorical boundaries have limited value; the fact that these skills are interconnected and developmentally cascading means that they can be grouped into more than one domain. Moreover, the categorical classification fails to illustrate the exact relationship, hierarchical or otherwise, between terms or domains.

We also conclude that differences in desired outcomes between higher education and employer contexts may explain the wide variety of terms and differing emphases on particular skills by sector. This may be related to the ways the contexts of each sector influence which outcomes are determined. In higher education, for example, outcomes are distinct and assessed objectively, whereas employers utilize less precise outcomes associated with non-cognitive skills such as “a good hire” or a “successful manager” and assess these outcomes subjectively. The lack of consensus regarding term conceptualization and definition and differing emphasis on particular skills by sector illustrate this concern. Higher education literature was relatively more focused on Approach to Learning/Work skills such as *self-efficacy* and *attention control*, while employment literature was comparatively more focused on Social Skills such as *communication* and *collaboration*. The finding may be partially attributed to the unique contexts of each setting, which affect not only the developmental trajectory of skills, but also which skills are fundamentally valued. For instance, while success in higher education is largely contingent on individual achievement, success in the workplace is often contingent on interactions with others. This may partially explain the emphasis on Social Skills valued by employers more than higher education officials.

An Unacknowledged Distinction Between Skills and Behaviors

A primary purpose of this study was to examine how the literature portrays the range of noncognitive skills believed to be necessary for success in higher education and the workplace. Our findings reveal variability in skills across the different domains in each context. Yet a careful analysis of the skills revealed a notable distinction between internal skills and capacities. For example, internal skills such as *self-efficacy* and *self-direction* are categorically different than behaviors that enact those skills, such as *goal setting* and *taking initiative*. We interpret this distinction by differentiating skills as core skills and enacted skills. Specifically, individuals rely on core skills to be able to enact a specific skill or behavior in any given context. For example, an enacted skill such as *taking initiative* is fostered by a set of core skills such as *reflection*, *self-efficacy*, *internal locus of control*, or *openness*. However, enacted skills may look different depending on their context—for

example, in a college versus an employment setting—which may explain why the skills listed in our taxonomy sometimes manifested differently in the higher education and employment literatures; one body of literature might be describing the enacted skill, whereas the other literature base might be describing the core skill. What could unify these bodies of literature is the realization that, without attention to the core skills, individuals are unable to produce the behaviors that higher education officials and employers desire. While this distinction may appear minimal, differentiating the skills gives clear direction towards how to foster the development of skills as a strategy to promote desired behaviors in both higher education and employment contexts. Thus, whether the outcomes are course completion, GPA, degree attainment, job placement, or job promotion, we can distinguish between the behaviors that are specific to each sector and the internal, core skills that enable them.

As previously noted, many of the skills reviewed in this analysis appear to be context specific. To illustrate this point, let us use the same example above, *taking initiative*. In higher education, that behavior might take the form of taking a proactive approach to learning. However, in an employment setting, this behavior might manifest itself as producing results with minimal supervision or soliciting new clients. In both cases, the “core skills” required to take initiative might be the same (i.e., reflection, self efficacy); however, the “enacted skills” will appear quite differently dependent on context. The fact that skills seem to manifest uniquely in distinct contexts raises questions about the transferability of these skills. However, given that higher education and employment both comprise multiple contexts (e.g., residential setting, classroom, extracurricular, office, interaction with clients), it seems reasonable to assume that it would be difficult to develop “enacted skills” specific to multiple contexts.

Our distinction between core skills and enacted skills speaks to the work of Farrington et al. (2012), which teases apart different “categories” of noncognitive skills in order to better understand the nature of these skills and their relationships to academic achievement (p. 6). Among the categories they identify are academic behaviors, defined as “the visible, outward signs that a student is engaged and putting forth effort to learn,” and academic mindsets, defined as “the psycho-social attitudes or beliefs one has about oneself in relation to academic work” (Farrington et al., 2012, pp. 8–9). The authors argue that “much of the research conflates constructs that are conceptually very distinct” (Farrington et al., 2012, p. 74).

Farrington et al. (2012) argue that this lack of conceptual clarity around different categories of noncognitive skills is also evident in education practice, where “observable behaviors” are often used “to infer and measure unobservable noncognitive factors such as motivation or effort,” which “conflates what could be very distinct factors (feeling motivated versus doing homework)” and “makes it difficult to pinpoint the leverage points whereby teachers, parents, or others might intervene to help improve student performance” (Farrington et al., 2012, p. 17). An in-depth study of one set of closely related noncognitive skills provides additional context for why contemporary researchers tend to conflate skills that are conceptually distinct. The study, by Dinsmore, Alexander, and Loughlin (2008), explores the “conceptual

boundaries” between three related terms: metacognition, self-regulation, and self-regulated learning (p. 392). The authors argue that confusion about the nature of noncognitive skills can be traced back to the “distinct histories” of the various academic disciplines and fields that have engaged in research about these skills (Dinsmore et al., 2008, p. 404). They found that contemporary research often treats *meta-cognition* and *self-regulation* as “synonymous terms,” despite an important distinction in how these skills have historically been conceptualized and studied: research about meta-cognition has had “a clear cognitive orientation,” whereas research about self-regulation has been more “concerned with human action than the thinking that engendered it” (Dinsmore et al., 2008, pp. 404–405). In other words, the distinction that we see between core skills and enacted skills may speak to differences in the theoretical roots of noncognitive skills—some of which may have been originally conceptualized as mental processes and others as behaviors. However, as Dinsmore et al. (2008) note, terms like *meta-cognition* and *self-regulation* are often borrowed and used interchangeably by contemporary researchers in new fields who may not be sensitive their “varied theoretical roots” (p. 405), leading to confusion about what the terms mean and the loss of historical distinctions between mental processes and behaviors. Dinsmore et al. (2008) argue that the current confusion related to terms and definitions used to describe noncognitive skills is “not necessarily problematic”; instead, it reflects the fact that our conceptualizations of noncognitive skills are evolving as researchers from different disciplinary backgrounds contribute new theoretical and empirical understandings to a growing body of literature (p. 398).

These studies by Dinsmore et al. (2008) and Farrington et al. (2012) affirm our observation that there is an unacknowledged distinction between core skills and enacted behaviors in the scholarship, thus potentially leading to confusion among applied practices. Accordingly, we anticipate that a refined focus on “core skills,” along with a recognition that these skills will be enacted in different ways in different contexts, is a useful way forward. Re-conceptualizing alignment to focus on core skills highlighted in our taxonomy is a promising way to address questions of readiness and strategies for development.

Moving Towards an Alignment of Skills in Practice and Research

In light of these findings, we offer some thoughts on implications for practice and research in the fields of higher education and employment, respectively or collaboratively. Importantly, the lack of common language across sectors acts as an impediment both within and across higher education and employment. This incoherence may contribute to a narrative in which higher education and employers value different skills, when in fact the reality may be that preferred behaviors look different in respective contexts, but actually rely on the same core skills.

The taxonomy described in this paper was developed as a tool for research purposes; however, it also provides a starting point for greater coherence. Our study draws together the disconnected bodies of scholarship about noncognitive skills that support success in college and career in order to develop a unifying framework that can be used in both higher education and employment contexts. By helping organize and clarify the conversation about the role of noncognitive skills in college and career success, this framework may support more effective collaboration by the various constituencies interested in improving the educational and career transitions and outcomes of emerging adults (Snipes et al., 2012). In this case, the fact that our taxonomy depicts both core skills and enacted skills within domains can help people see the connections and recognize that instead of focusing on an enacted skill, they might survey the other skills in the domain and see if one of the core skills could actually be a more appropriate lever for change. Thus, we recommend that institutions review their current programming to assess whether they are appropriately targeting the core skills that promote behaviors necessary for college success and career readiness.

Finally, the fact that our taxonomy uses terminology from both the higher education and employment sectors also facilitates dialogue and partnership across the sectors. We recommend that employers partner with local institutions to foster conversation about skills where both fields can agree on their importance or meaning. For example, we imagine that employers from large industries might partner with state universities and community colleges, given the focus of many public institutions to build the state's workforce. Forging these conversations offers the potential for employers to learn about which skills are being developed in higher education so that they can build their own skills-gap training programs. By the same token, colleges can learn more about what employers are looking for, thereby providing direction for colleges to leverage their existing services to help students graduate career-ready.

Directions for Future Research

This study was not designed to evaluate whether noncognitive skills matter for college and career success, nor was it intended to ascertain which skills are most conducive to college and career success. For this reason, and others, there is much room for future research on this topic. To begin, there is a need for increased empirical research, especially in the employment literature, that examines the relationship between these skills and success. Further research in this area will benefit related investments in alignment by ensuring that employers clearly understand and can assess the specific skills they believe to be critical in the workplace. Further, we contend that the field would benefit from greater clarity of terms and specifically, an articulation of how a set of internal, core skills can be employed to enact context-specific behaviors that are linked to desired outcomes. With clearer definition of terms, taking into account the differences in social context and distinguishing

between skills/behaviors, there is an opportunity for much more common ground than is currently perceived. Moreover, explicit definitions for skills in empirical research are needed so that readers are not left to interpret the meaning behind a given skill.

The taxonomy we propose in this paper provides a common vocabulary for the diverse constituencies engaged in this discourse, as well as a framework for synthesizing empirical findings from many different disciplinary traditions. We recommend that future research use this, or a similar taxonomy, to examine different areas of alignment between higher education and employers.

The data from this study further suggest that there is a need for clearer links between research and practice. Research-oriented scales and scientific language bear little relevance to educators and professionals whose background is not in developmental psychology. Therefore, we suggest that scholars attend to the development of transferable and usable knowledge on the topic of noncognitive skills through the creation of applied or behavioral terms and definitions. In light of increasing institutional interest in developing these skills, future research must take into account how scales and other assessments can be used as a diagnostic tool for targeted interventions. Such tools provide important information to institutional agents, and students themselves, assuming they are accompanied by strategies for skill development and improvement.

In addition to shifts in the nature of future research, we believe there is a need to engage employers and higher education institutions to assess whether there is alignment of practice. Such research would assess which skills are being targeted and by whom, in each sector. Such a line of inquiry raises questions about whether there is shared responsibility in developing these skills. If so, then to what extent do employers screen for these skills in the hiring process rather than seeing their role as developing these skills in employees after they have been hired? A distinct, but related line of research might examine what types of strategies have been effective in developing these skills, as there is a gap in the literature regarding interventions that effectively develop noncognitive skills in higher education and employer settings.

Conclusion

While the scholarly literature focused on noncognitive skills is growing, it nonetheless remains scattered and fragmented. Our review of the literature across higher education and employment suggests that misalignment in the research may partially explain the perceived lack of career readiness as evidenced by employers' claims that graduates enter the workforce lacking these critical skills. Drawing on lessons from K-12 and higher education, we see opportunities for higher education administrators and employers to collaborate, based on shared interest in these skills. In many ways, the debate between higher education and employers regarding graduates' readiness for career success mirrors the decades-old disagreement over secondary education's ability to prepare students for the academic rigors of college,

which ultimately took shape through clarifying college readiness skills and knowledge – today, known as Common Core Standards. Inherent in that debate was a lack of understanding of what knowledge and skills were needed for success in higher education. Reaching an aligned PreK-16 system required, in part, agreement about which skills are necessary in what contexts. It is therefore striking that the emphasis on similar skills and the unacknowledged distinction between core and enacted skills noted in this study might provide an important clue into the establishment of a shared focus for employers and higher education institutions. We contend that the lack of coherence and clarity resulting from the current body of research may be partially to blame for current disagreements about whether college graduates possess the career-ready skills that employers seek. If that is the case, the path forward will require greater clarity, agreement on skills across sectors, and a commitment between higher education and employers to see beyond the context-specific behaviors to a focus on core skills that are critical to a range of behaviors associated with college and career success.

Appendix

Definitions of Skills¹

- These definitions are based on:
- Terms used in higher education and employer rubrics
- Definitions used in higher education and employer rubrics
- Survey data from both higher education and employers including open-ended responses regarding other important NEA skills

Approach to Learning/Work

Attention Control:

- **General definitions.** Ability to maintain focus on a task or goal, despite distractions or challenges; ability to monitor and reduce distractions in one's physical or social environment to facilitate task completion or goal attainment
- **Alternative language.** Concentration; Self-control; Self-discipline

Goal Commitment:

- **General definitions.** Level of motivation or determination to achieve a stated goal; ability to persist toward a goal despite challenges or obstacles
- **Alternative language.** Determination; Tenacity; Drive

¹ Definitions included here are provided for terms that had multiple definitions or in cases when the term itself lacked clear meaning.

Goal Orientation:

- **General definitions.** Values or sense of purpose that inform one's approach to and engagement with a task, as well as evaluation of performance (e.g., mastery or curiosity versus demonstrating competence to others)

Growth Mindset:

- **General definitions.** Belief that intelligence is not fixed but can be developed through effort

Identification of obstacles:

- **General definitions.** Ability to perceive obstacles and to develop strategies for overcoming them, in order to sustain progress toward goals

Identification and utilization of social support:

- **General definitions.** Awareness of available resources and ability to recognize opportunities to engage those resources
- *Alternative language.* Resourcefulness

Managing time

- **General definitions.** Ability to structure tasks and manage time in order to achieve goals and meet deadlines

Meta-cognition:

- **General definitions.** Ability to think about thinking; ability to monitor and regulate cognition; ability to select a strategy for completing a task, monitor implementation of the strategy, and evaluate its effectiveness; ability to use cognitive strategies (e.g., forming categories or hierarchies) to integrate new and existing knowledge

Task Value and Relevance:

- **General definitions.** Perceived usefulness, relevance, importance, or appeal of a task

Task Analysis

- **General definitions.** Ability to adopt a systematic approach to complex tasks

Intrapersonal Skills**Adaptability:**

- **General definitions.** Ability to understand and respond effectively to unexpected changes or challenges
- *Alternative language.* Flexibility

Conscientiousness:

- **General definitions.** Industrious or hardworking; responsible, dependable, or dutiful; organized or orderly; diligent or persistent; attentive to details; willing to comply with norms and expectations
- **Alternative language.** Diligence

Future Time Perspective:

- **General definitions.** Ability to perceive connections between present behaviors and future goals; ability to formulate, pursue, and prioritize long-term goals
- **Alternative language.** Future orientation

Internal Locus of Control:

- **General definitions.** Belief that personal effort influences outcomes; belief that behaviors and outcomes are controllable; feeling effective or in control; feeling personally accountable or responsible for behaviors or outcomes
- **Alternative language.** Personal responsibility; Personal accountability

Managing Emotions

- **General definitions.** Ability to maintain emotional stability under pressure
- **Alternative language.** Emotional maturity; Impulse control; Emotional stability

Openness:

- **General definitions.** Curiosity; interest in new experiences or unconventional ideas; preference for variety or novelty;
- **Alternative language.** Curiosity; Open-mindedness

Self-Awareness:

- **General definitions.** Awareness of personal interests, strengths, and weaknesses; ability to realistically appraise personal strengths and weaknesses
- **Alternative language.** Introspection

Self-Efficacy:

- **General definitions.** Belief in personal ability to master a specific task and to overcome obstacles
- **Alternative language.** Self-confidence

Taking initiative**Ability to independently perceive and pursue opportunities**

- **Alternative language.** Self direction; Autonomy; Independence

Social Skills

Belonging:

- **General definitions.** Perceived connectedness to others in a specific social context; sense of being included, respected, and supported in a social context
- **Alternative language.** Relatedness; Sense of community

Cultural Awareness:

- **General definitions.** Awareness of and appreciation for the similarities and differences of people with diverse identities, backgrounds, and perspectives; Fluency in multiple cultural contexts

Empathy:

- **General definitions.** Ability to perceive and understand others' feelings, perspectives, or experiences

Respect for Others:

- **General definitions.** Respecting the thoughts and ideas of another person

Social Awareness:

- **General definitions.** Ability to develop mature relationships with others; Sensitivity to social norms, expectations, and dynamics

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Chapter 5

Philanthropic Foundations' Social Agendas and the Field of Higher Education

Cassie L. Barnhardt

Introduction

Private philanthropic foundations have been a formidable force in the way the processes and practices of scholarship, teaching, and research are conducted since 1867 (Hollis, 1938). Private foundations have contributed to the field of higher education by donating their resources to campuses, academic programs, research centers, students and faculty, along with professional disciplinary organizations, postsecondary advocacy groups (Bachetti, 2007; Bachetti & Ehrlich, 2007), and increasingly non-university educational programs or think tanks (Reckhow & Snyder, 2014).

While the precise share of philanthropic foundations funds contributed to higher education has varied historically, Havighurst's (1981) analysis provides evidence that education has been "the principal field of foundation activity because it is viewed as an instrument for directly promoting human well-being" (p.193). According to the Foundation Center's¹ analysis of higher education and graduate institutions, foundations provided \$7.27 billion annually in grants to higher education (Lawrence & Marino, 2003). Bachetti and Ehrlich's (2007) summary (which also draws on Foundation Center data) reports a similar figure with \$7.1 billion in foundation grants made to U.S. higher, graduate, professional education and post-secondary institutions combined. Katz (2012) shares that the 50 top private foundation donors (of more than 76,000 foundations overall) gave more than \$1 billion to higher education in 2010. Among all areas (health, environment, public affairs, etc.)

¹The Foundation Center, the most prominent clearinghouse for foundation data in the United States, periodically releases reports focusing on foundation funds directed toward the field of higher education.

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that foundations support (totaling \$32.5 billion in 2010 (Foundation Center, 2011)) higher education claims nearly a quarter of it, with Lawrence and Marino (2003) estimating 25.6 % and Bachetti and Ehrlich 22.4 %. Foundations' grants are directed to a variety of areas within the higher education sphere including: research programs (where health related disciplines received the largest share in the most recent analysis), capital support for college and university endowments, student aid, research, general/operating costs, educational testing organizations such as the College Board, and research and public policy institutes (Lawrence & Marino, 2003). Private foundation giving to higher education, while stunning in scale, represents 2–3 % of the total annual revenues that the field of higher education takes in (Bachetti & Ehrlich, 2007; Clotfelter, 2007;).

The presence of private foundations in higher education has led Cheit and Lobman (1979) to claim that “among the important patrons of higher education, none has had more influence per dollar spent than the private philanthropic foundations” (p.1). They assert that the activities and behaviors of philanthropic foundations' have had a pivotal role in shaping American higher education; noting private philanthropic foundations as being largely responsible for liberal and progressive changes in higher education. Others argue that the work of private philanthropic foundations has been responsible for enacting rigid ideological, philosophical, or political social agendas (Fiore, 1997; Lenkowsky & Piereson, 2007; McMillen, 1992; Miller, 1994; People For the American Way, 1996; Selden, 2005; Thümler, 2014a), with some arguing the unwavering and multifaceted pursuit of particular social agendas through philanthropic means may result in exacerbating the inequalities that many funders are seeking to remedy by extending their financial support (Anderson, 1980).

Private foundations have been a focus of scholarly discussion because of the scale of their resources, and particularly for the social agendas they pursue through their funding. Their agendas range from being advocates of radical social reform to “protectors of conservative powers and beliefs” (Karl & Katz, 1981, p. 239). Aside from the accompanying political claims, the essential argument is that power follows money, and private philanthropic foundations have had a prominent role in both funding and facilitating particular social agendas across the field higher education. Foundations have long viewed education as a means to achieving social ends of their choosing (Bachetti & Ehrlich, 2007; Rogers, 2011). Therefore, important questions emerge: Since private foundations seek to financially amplify their social agendas through higher education, what are their agendas? Have these agendas shaped the field of higher education? If so, how? And what does the existing evidence tell us about the influence of their agendas?

The questions are timely on account of the fact that, as Katz (2012) notes, we are in a period of megafoundation giving, similar to that which occurred a century before with the likes of Carnegie, Rockefeller, and Ford. Rogers (2015a) comments on the scale and strategy of today's foundations noting, “There has not been a generation of hands-on, self-made donors of this magnitude in over 100 years and there has never been one with quite the same focus on leveraging public tax dollars to ultimately finance their projects” (p.747). Like the big funders of yesteryear,

contemporary private foundation patrons are nearly household names including Bill and Melinda Gates, Warren Buffet, the Walton Family (of Wal-Mart), and the Koch brothers, among others. Clotfelter (2007) summarizes that foundations old and new, especially the largest ones display “an unmistakable reformist orientation, if not missionary zeal” (p.221) when pursuing their social agendas in hopes of making an impact in education. This enthusiasm must be understood since foundations seek to create their vision of education, by changing education (for better or worse), and then withdrawing their funding (Bachetti & Ehrlich, 2007). The field of higher education is then left to live with the foundations' reforms, or recover from them.

Scholarship on Foundations' Social Agendas

The scholarship on foundations' social agendas and higher education is limited at best. Bachetti (2007) characterizes it as ‘small but illuminating’ and notes:

Data are not readily available at the level where one could reliably assess foundation giving according to reasonably well-defined objectives. It is plausible to conclude that much of what foundations have done is written with disappearing ink on the ledgers of higher education” (p.255).

In 2013, when *The Chronicle of Higher Education* did a trend piece about the new era of mega-foundation giving lead by the Bill and Melinda Gates Foundation (Parry, Field, & Supiano, 2013), the authors noted that research on foundations and their aims is sparse and verified this position by invoking the editor of the *Journal of Higher Education's* perspective, commenting “he [the editor] has yet to receive a well-developed manuscript on the role of philanthropy in academe.” Rogers (2015b) suggests that a lack of a robust and critical literature on foundations' aims may be that “it seems rude to investigate giving, especially in areas where there is clear need” (p.539).

Within the scholarship that does exist, much of it is historical at this point, and the Carnegie, Rockefeller, Ford, and Rosenwald foundations have been most thoroughly examined in the literature (Hammack, 2006). Also, typically foundations with assets over \$100 million have received a disproportionate amount of attention (Culleton Colwell, 1980; Frumkin, 2002). The big foundations that have been studied are more likely to fall into the progressive camp, and as such, there is substantively less empirical literature that coincides with conservative oriented foundations, and scant literature regarding contemporary foundations. Further, scholarly discourse is mixed in form, ranging from empirical studies to scholarly essays, to thought pieces, and some general essays and a few relevant journalistic accounts.² With these variations, any summary of it inevitably reflects something akin to a sampling bias in the sense that the scholarly literature does not examine all possible foundations whose agendas' have been related to some activity in the higher

² Journalistic accounts were considered judiciously before including them in the literature reviewed.

education field. Despite these limitations, understanding private foundations' social change and reform ambitions for higher education is of critical importance in an era of declining public resources, and a push for extramural private funding.

Scholarly analyses aimed at assessing the impact of social agendas on the field of higher education have tended to focus on campus-based activism (Altbach, 1970; Lipset, 1967, 1968; Lipset & Altbach, 1969; Rhoads, 1997, 1998, 2003; Rhoads & Mina, 2001; Rhoads, Lee, & Yamada, 2002). Much less attention has been paid to the bureaucratic organizational and field-level aspects of social agenda mobilization (Zald & Berger, 1978) in higher education, especially the critical role of resource mobilization for advancing social change aims - which is precisely the task of private foundations. Moreover, this chapter provides a summative review of what has been written about the social agendas of U.S. philanthropic private foundations, and the corresponding influence these aims have had on American institutions of higher education.

Plan for the Chapter

Examining the social agendas of private philanthropic foundations in shaping the field of higher education is a quest to explore the role of institutionalized social agendas upon a field that is primarily concerned with advancing the public good – a concept that is inevitably laden with multiple meanings in a pluralistic democracy. This analysis is a story of mobilization; mobilizing ideas and mobilizing resources in an effort to achieve an often contested but idealized vision of higher education, or an idealized vision of society through higher education. I invoke scholarship from a variety of disciplines in addition to the higher education literature, with substantial contributions from sociology and organizational studies, supplemented by supporting work from law and political science, geography, history, and nonprofit management to synthesize the theories, arguments, and evidence that cover my topic. The focus of this synthesis is fundamentally concerned with organizational and institutional phenomena. I aim to gather what is known about the field-level, systemic, consequences of private, independent foundation activity, as opposed to considering how foundation influence has helped individual campuses or individuals (students, scholars, or administrators) without really changing the larger structure and realities of postsecondary education in America.

This chapter begins by sorting through the theoretical positions that inform the analysis, including an overview of the primary tenets of organizational analyses, institutionalism, and the appropriateness for a field-level consideration of my topic. I then turn to the theoretical literature that speaks directly to the ways in which the mobilization of sentiments occurs within a field, and the likely consequences of mobilization. After the theoretical positioning of the chapter, I provide information about the historical context of foundations in higher education. I follow the historical situating with an overview of foundations' social agendas. I then use the literature on the philanthropic foundations in higher education to provide a synthesis of

the ways in which the creation and/or modification of institutional practices and behaviors has coincided with the foundations' pursuits of social agendas. Lastly I offer summative comments about the dynamics between higher education and philanthropic foundations with regard to enacting social agendas.

Private Philanthropic Foundations Described and Defined

At the most fundamental level, a foundation is a grant-making institution (Parrish, 1973). Grant-making foundations can emerge from communities or established institutions such as churches, universities, or corporations, and individuals or families (Harrison & Andrews, 1946). The Foundation Center, the foremost organization which collects data on foundations in the United States, divides foundations into four distinct categories: community, corporate, operating, or independent. These classifications function to specify the relationship of the foundation to the source of funds. A community foundation is publicly sponsored and makes grants within a community; a corporate foundation receives its funds from corporate profits and usually grants money for corporation-related activities or fields; an operating foundation is part of an established institution that conducts research or provides a direct service and uses its money for foundation programs; and an independent foundation is usually derived from a single source and has broad discretion to make grant in fields it deems worthy (Lawrence & Atienza, 2006).

Since the start of the twentieth century the American legal system, as a window into the cultural norms of a society, has recognized that (1) foundations have social agendas, (2) that these agendas prompt different types of grant-making behavior, and (3) that there are multiple interpretations about whether the agenda and accompanying funded activity is actually providing some "good" to the public (Andrews, 1950, 1956; Linton, 1937; Schnabel, 2005). The classic legal definition of a charity that allows foundations the freedom to act according to their ideal vision of society comes from the Massachusetts 1867 *Jackson v. Phillips* case (Andrews, 1950, 1956), which ruled:

A charity, in the legal sense, may be more fully defined as a gift, to be applied consistently with existing laws, for the benefit of an indefinite number of persons, either by bringing their minds or hearts under the influence of education or religion, by relieving their bodies from disease, suffering or constraint, by assisting them to establish themselves in life, or by erecting of maintaining public buildings or the works of otherwise lessening the burdens of government. (cited in Andrews, 1956, p.11)

Legal scholars, Linton and Schnabel concur that the critical piece of this ruling was its creation of a legal basis to justify a variety of foundation activities that were deemed to have politically different goals, as long as the goals were pursued with tactics that conformed to existing law.

With the establishment of the income tax in 1913, and the estate tax in 1917, determining whether a foundation's social agenda and grant-making activities met the legal specification as charitable or uncharitable took on an increased importance

(Karl & Karl, 2001). Philosophically, the tax exemptions have been offered for charitable giving on the premise that there is intrinsic value in a non-governmental sector where citizens are engaged in trying to make society better. According to contemporary tax code, this principle translates to a logistical definition where private philanthropic foundations file a 990-PF form with the Internal Revenue Service. However, relying on the tax classification to define private philanthropic foundations is overly broad, especially in light of a more complete operational definition. The 1969 Tax Reform Act (TRA) delineated the unique characteristics of a ‘private foundation’ compared to the host of other charitable entities in America (Lawrence & Atienza, 2006); specifying that a private foundation receives funding from few sources and the money is used to make grants and operate programs (Cuninggim, 1972; Heydemann & Toepler, 2006; Parrish, 1973). Heydemann and Toepler note that according to the 1969 TRA the defining characteristic of a private foundation is “the *source of income* rather than the donor intent or the act of dedicating private assets to public purposes” (italics added for emphasis p. 10). The 1970 congressional Commission on Foundations and Private Philanthropy (Peterson Commission) pushed the 1969 definition a bit further specifying that the private foundations typically have a single (or a few) donors, and their primary function is giving money as opposed to “doing” (Parrish, 1973).

Presently, the Foundation Center defines a private philanthropic foundation as:

A nongovernmental, nonprofit organization with its own funds (usually from a single source, either an individual or a family, or a corporation) and program managed by its trustees and directors, established to maintain or aide educational, social, charitable, religious, or other activities serving the common welfare, primarily by making grants to other nonprofit organizations. (Lawrence & Atienza, 2006, p. X)

Andrews (1950, 1956, 1958, 1961; Harrison & Andrews, 1946) has repeatedly defined a foundation in a nearly identical fashion: “a nongovernmental, nonprofit organization having a principal fund of its own, managed by its own trustees or directors, and established to maintain or aid social, educational, charitable, religious or other activities serving the common welfare.”

Definition For my purposes here, I have chosen to draw upon the Foundation Center’s definition that was informed from Andrews’ scholarship and work in the foundation field. Like many others, I have chosen to separate corporate foundations from my review, and concentrate on those private foundations that are labeled independent.³ Moreover, when I refer to private foundations, I am referencing independent private philanthropic foundations that are typically endowed by a single source (e.g. a family or group of individuals), have a board of directors or trustees which often includes a tie to the family or donor, and have the flexibility and legal authority to exercise broad discretion in executing its funding decisions.

³ Despite corporate foundations’ also holding the status of being private, it is outside the purview of this analysis to synthesize the literature on corporate foundations given that their relationships to higher education are influenced by different dynamics, motivations, and regulations compared to independent private philanthropic foundations.

The funding strategies of the private foundations referred to throughout are typically structured in one of four ways:

An accumulating foundation where none of the principal and not all the income is spent, at least for a stated period; a perpetuity, which may spend income but not principal; a discretionary perpetuity, which is permitted to spend part or all of its principal, but is not enjoined to do so; or a liquidating fund, whose complete liquidation is compulsory, usually within a stated term. (Andrews, 1950, pp. 98-99)

Depending on the philosophy of the donor or professional staff, the funds are distributed in ways that are designed to provide relief or palliative aid to the recipient or to transform a social problem by directing aid towards understanding the underlying cause or source of the problem (Weaver, 1967). These two concepts of philanthropic giving stand in opposition to one another, where the palliative perspective is designed to alleviate suffering for those that stand outside of the dominant political and economic system, and the transformative approach views the palliative approach as an endless cycle of giving and thus “seeks the new knowledge and the new understanding which can permanently improve the condition of men” (Weaver, 1967, p. 25). Both the financial structure of the fund and the donor’s philosophy toward giving provide a number of options for foundations to achieve their philanthropic objectives.

Theoretical Perspectives Informing Field-Level Phenomena

A proper situating of the topic of private foundations’ influence on the field of higher education requires an analytical perspective that accounts for social conditions, prevailing cultural and economic ideas, and organizational structures that have contributed to the promotion and dissemination of the social agendas of private philanthropic foundations across the field of higher education. Broadly speaking, an organizational analysis fits these requirements since this approach is used to evaluate phenomena within and across organizations, including their structures, functions, and resources (McAdam & Scott, 2005). In discussing theory, I begin with an introduction on the study of organizations, as a precursor to discussing social institutions, institutionalism, and neoinstitutionalism, followed by a discussion of fields. I then turn to theory that addresses mobilization in an organizational field, and philanthropic foundation activity in social institutions.

Organizational Analysis

Historically, organizational analyses have relied on three broad perspectives, the rational, natural, and open systems views (Scott, 2003). Rational perspectives emphasized technical functions, formal roles, and organization goals used to

maximize organizational efficiency; natural systems perspectives focused less on formal hierarchy and structure and more on the actual activity of the organization, even if it diverges from formal processes; and open systems built on the rational and natural systems perspectives and invited analysis that valued the influence of environmental factors on organizational and field-level activities (Scott, 2003). Scott describes open systems perspectives as those theoretical positions that view “organizations [as] congeries of interdependent flows and activities linking shifting coalitions of participants embedded in wider material-resource and institutional environments” (Scott, 2003, p. 29).

Emerging from the open systems perspective, institutional theory gained considerable attention as an inclusive perspective that provided tremendous flexibility in understanding organizational phenomenon. One of the hallmarks of institutional theory was the extent to which it accounts for the influence of the environment on an organization or field (Scott, 1991, 2003). The institutionalism of the 1960s stressed how competing information in the organization’s environment influenced its technical functions such as acquiring knowledge of operations or materials and helping to explain competing information that influenced organizational action, and resource acquisition, reliance, or use (Scott, 1975, 1991). The institutional perspective reified a view of organizations as having formal structures that were concomitant with rationalized bureaucratic processes (Meyer & Rowan, 1977; Scott, 1975).

Meyer and Rowan (1977) were influential in expanding institutional theory and thus framing neoinstitutional theory. Their scholarship built upon former interpretations of institutionalism and placed greater emphasis on the role of culture and shared cognitive systems in determining organization behavior and activity. Meyer and Rowan stressed how taken-for-granted “rules, understandings, and meanings attached to institutionalized social structures” (Meyer & Rowan, 1977, p. 343) contributed to the norms of rationality used to dictate organizational structure and legitimacy. They note that organizations’ positions, policies, and programs produce rationalized myths, and that these myths emerged from diverse sources such as public opinion, elites, the educational process, social prestige, legal and legislative processes, professions, ideology, accreditation and certification, regulatory policies, and government among others (Meyer & Rowan, 1977; Scott, 1991). These authors, along with DiMaggio and Powell (1983) argued that in order to fully make sense of organizational action, it required looking at the complex relational networks in which organizations exist, along with the manner in which organizations gain legitimacy by responding to the environmental cues they receive. Further, the neoinstitutionalist theorists insisted on expanding the boundaries of organizational analysis to include not only formal structures but cultural meanings that assert environmental pressure on organizations (DiMaggio & Powell, 1983; Meyer & Rowan, 1977). Collectively, these theorists concretized a position that the process of legitimate organizational action and behavior did not simply correspond to rational theories of efficiency or alignment with the formally stated goals and structures in organizations and fields, but legitimacy was born from a more complex dynamic of environmentally embedded meanings.

Delimiting Boundaries By virtue of the express attention on organizational environments, neoinstitutional theory requires that one situate the boundaries of one's analysis. As Scott (1991) points out, neoinstitutional analyses address various dimensions of organizations and their environments, and thus bounds them as organizational sets, populations, or fields depending on the question at hand. Each of these boundaries is more or less well-suited for understanding certain types of relationships between organizations and their environments. The organizational field (DiMaggio & Powell, 1983) – which Scott's synthesis points out has also been termed: functional organizational field, industry system, societal sector – has become *the* unit to examine the critical exchange with partners, funding and/ or regulatory groups, professional associations, and “other sources of normative cognitive influence” (Scott, 1991, p. 173). The organizations engaged in a common service or product must contend (in this case higher education) with the exchange partners that constitute the field. Moreover:

The functional field serves as a useful basis for both bounding the environment of an organization whose structure or performance is to be examined from an institutionalist perspective as well as defining a significant intermediate unit – a critical system in its own right – to be employed in macrosociological analyses. (Scott, 1991, p. 174)

Outcome Focus

Field-Level Emphasis For added precision, it is necessary to precisely indicate what constitutes a field. Therefore, a field is a “broad organizational infrastructure that contains horizontal interactions having to do with networks and competition and vertical authority relationships that involve actors such as governmental agencies and trade associations” (Lounsbury & Pollack, 2001). A field-level organizational approach to a topic indicates organizations are being considered in their aggregate, and thus “constitute a recognized area of institutional life” (DiMaggio & Powell, 1983). Field-level institutional analyses perceive “organizational fields as arenas of power relations” (Brint & Karabel, 1991, p. 355) and are concerned with structures of power and opportunity that constrain or promote change and transformation throughout the field.

Specifications When applying a neoinstitutionalist field perspective to the question of social agendas shaping the practices and behaviors of higher education, the field consists of the degree granting institutions, along with agencies that work alongside these institutions and concern themselves with higher education. Curtis and Zurcher (1973) would thus describe higher education as a multi-organization field, meaning that the field is comprised of both the total number of focal organizations in the field (higher education institutions) and the entities to which the focal organization either has the opportunity to or chooses to establish specific linkages. Fig. 5.1 showcases the structure of the field of higher education, with the state in a vertical position because of its authority to higher education, and the other sectors

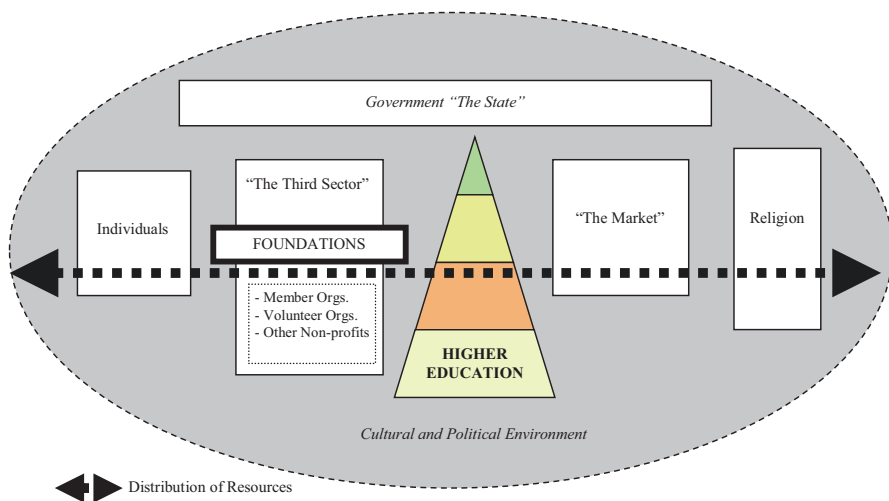


Fig. 5.1 The field of higher education

horizontally aligned with higher education. The multi-organizational field of higher education is nested in the political and cultural environment of society, and the distribution of resources, depicted by the dark dotted line, runs throughout all segments of society. Higher education institutions are represented by a stacked triangle because of the hierarchy of institutional prestige that exists.

The focus on private foundations directs focus to an intermediate unit in the environment, to consider how their patronage has shaped higher education in the aggregate. The precise relevance of the neoinstitutional perspective in this field-level analysis of higher education is that it is centered on contemplating the evidence that speaks to the cultural or cognitive meanings that emerge from the social agendas of the private philanthropic foundations acting in the higher education arena. Further, the benefit of a field-level analytical lens is that it more fully embraces the distinguishing characteristics of a neoinstitutional perspective to illuminate the “direct or indirect pressures emanating from the broader cultural and political environment” (Frickel & Gross, 2007, p. 209).

Practices and Behaviors When considering the question of how foundations have ‘shaped’ higher education, their influence can be examined through institutional structures, legal shifts (statute or policy), and/or cultural modifications (Giugni, McAdam, & Tilly, 1999) that have been tied to philanthropic foundation activity. I’ve chosen these aspects of higher education - structure, statute or policy, and culture - because they reflect the primary tenets of neoinstitutional theory and stress the presence of field-level dynamics. From a structural perspective, institutions’ practices and behaviors consist of the formal functions or standard processes used to carry out the service of higher education to their varied constituencies, be they students, faculty, government officials, professional associations, alumni, etc. These

structural practices and behaviors may be constituted in written guidelines, patterns of organizing, or emerge as taken-for-granted and legitimated forms of acceptable conduct in the field. Cultural modifications of higher education have less to do with foundations' desire to see the adoption of particular management approach or organizational structure, and more to do with basic assumptions and beliefs that have become taken-for-granted tools in conveying meaning or a particular interpretive frame (Schein, 1992; Swidler, 1986). Structural and cultural practices and behaviors are not mutually exclusive; that is, neoinstitutional theory emphasizes the iterative relationship between these two concepts. Further, legal or statutory regulations are an excellent example of structure and culture not being independent of one another because theoretically, law is essentially a structural means of reflecting culturally constituted ideas about collective norms of appropriate conduct. For example, when foundations' fund work to shape the laws that govern how higher education operates, such patronage provides a lens into their social agenda, and their vision of what constitutes a public good.

Summary To understand how higher education has been shaped by the social agendas of horizontally positioned agencies (e.g. private philanthropic foundations), I adopt an institutional perspective that acknowledges that organizations are situated and affected by their external environments, (b) a neoinstitutional perspective because I am interested in considering social agendas which are cultural and cognitive modes of social pressure (Orru, Woolsey Biggart, & Hamilton, 1991) that have emerged from the environment and exert some force onto higher education institutions, and (c) a field-level perspective because the formal structural relationships between higher education institutions and private philanthropic foundations are horizontal in nature (there are no instances where a private foundation has formal authority over the field of higher education, such as chartering or exercising statutory regulative authority).

Field-Level Explanations for Social Agenda Mobilization

Generally speaking, scholars have interpreted the socially motivated agendas of philanthropic foundations' activities as a process of formally institutionalizing social movement ambitions into the existing social structures (Cress & Snow, 1996; Jenkins, 1983). This line of inquiry has emerged from the resource mobilization view (McCarthy & Zald, 1977, 1987a, 1987b) of social movement analysis. Before exploring this theoretical thread, it is worth mentioning that foundations are not social movements per se; and they are not necessarily social movement organizations (SMOs). However, since the theory used to describe foundation behavior in organizational fields has been inspired and built from the work on social movements, there is utility in delineating the relationship between social movements, SMOs, and resource mobilization.

Social Movements and SMOs Social movements are “the mobilization of sentiments in which people take actions to achieve change in the social structure and the allocation of value” (Zald & Useem, 1987, p. 249). Typically the classical view of social movements, that grew out of the 1960s, focused on grassroots participation of an aggrieved group (McCarthy & Zald, 1987a). Often, these aggrieved groups would form SMOs, or “a complex, or formal organization that identifies its goals with the preferences of a social movement or countermovement and attempts to implement those goals” (McCarthy & Zald, 1987b) as a means of facilitating their social movement objectives. Over time, as social movement aims and the forms of SMOs evolved, the classical view of social movements and SMOs has been gradually replaced by a professionalized view (McCarthy & Zald, 1987a), where movements are enacted by “full-time employees whose professional careers are defined in terms of social movement participation, by philanthropic foundations” (p.340). McCarthy and Zald (1987a) describe social movement professionalization as the bureaucratization of social discontent. It is these professional organizations, which are exemplified by private philanthropic foundations (Jenkins, 1983), that have reoriented social movement activity from a position where the aggrieved group involved itself with the social change initiatives directly, to one where the professional group/foundation ‘spoke for’ those that would be benefiting primarily from the achievement of the social movement aims (Jenkins, 1983, 1987). Professionalized private philanthropic organizations are thus structurally positioned as intermediaries in the process of mobilizing social movement aims.

Resource Mobilization Mobilization generally is defined as, “the process by which a group secures collective control over the resources needed for collective action” (Jenkins, 1983). Theoretically resource mobilization moves beyond an original conception of social movement activity as erratic and emotional, and focuses squarely on the rational and purposive aspects of collective organizing, and the role that external groups have in advancing social change objectives (Pichardo, 1988). Although resource mobilization theory initially emerged with two distinct and somewhat opposing threads, the professional operational model (McCarthy & Zald, 1977) and the political process model (McAdam, 1983); these two views have been resolved to affirm their most basic tenets, that resource mobilization inevitably involves political behavior, and elite groups derive their power from within institutions (Pichardo, 1988). Klandermans (1997) notes that for multi-organizational fields, mobilization is essentially a political exercise in determining whose definition of the situation will prevail when intermediary organizations establish links to focal organizations.

Initiatives, Actions, Tactics, Strategies With regard to the strategy involved with a specific agenda and its resource mobilization, the choice of tactics are constrained by the available repertoire (Williams, 1995) and “the relative success of previous encounters, and ideology” (McCarthy & Zald, 1977, p. 19) in the organizational field. The tactics that an organization uses to advance its social agenda is dependent on a “readily interpretable template” that is deemed socially and politically salient and legitimate in the historically socially situated context (Williams, 1995).

Resources mobilization tactics may include a combination of efforts to recruit supporters or persuade bystanders, transform mass and elite publics into sympathizers, or neutralize opponents (McCarthy & Zald, 1977; Williams, 1995). The choice of tools to use for mobilizing a specific aim consists of both structural resources such as money, member networks and ties to elites, or cooperating organizations; and cultural resources which are self-conscious interpretive meaning frames that an organization uses to maximize social and political opportunities to embody the substantive content of the organization's ultimate agenda (Williams, 1995).

Ylvisaker's (1987) analysis of the role that foundations have on nonprofits, indicated that although legally they are barred from lobbying, "they can stimulate governmental action through the research, education, experimentation, conferencing, and publications they finance" (p.373). Roelofs (2003) describes the normal modes of influence as using "ideology, grants, litigation, policy networks, and think tanks" (p.70). These tactics ultimately lead foundations toward involvement in higher education, given that colleges and universities comprise the social institution that is responsible for knowledge production, idea generation, research, and often policy analysis as well. Further, Ylvisaker notes that foundations assert their agenda by being selective, choosing ideas and approaches that have salience and evoke change; being collaborative with other funding sources; using their power and initiative to command public attention and set standards for social spending; and extending their influence through commissioned studies, leadership statements, conferences, and grant announcements. Prewitt (2006) conceives of these multiple tactics foundations use as dependent on a foundation's ultimate social objectives; noting that when foundations want changes in ideas they pursue research and intellectual efforts, if they desire governmental intervention they pursue policy analysis or advocacy; and if they seek to change opinions, they pursue public education or media communications. In each of these scenarios, higher education is a natural agent to look toward to advance a social agenda as higher education is the institution that engages in each of the tasks described.

Private foundations' approach to philanthropy has consisted of being a facilitator of social and public causes; serving as a grant-making instrument to (1) provide the government with a path for intervention on an issue, (2) foster and stimulate public interest in an issue, or (3) fund initiatives for which the government has discontinued funding (Bjork, 1962; Frumkin, 1999). For example, Bjork notes how in the 1920s and 1930s foundation funding contributed substantially to the fields of medicine and public health when the government was not able to address these issues fully. Fleishman (2007) typifies the facilitative strategies of foundations into three classifications: driver, partner, or catalyst (for a thorough description see Table 5.1). The driver foundation seeks to maximize its power to direct the solution to the problem or initiative by specifying the process, outcomes, and coordinating the details along the way. The partner foundation seeks to possess some degree of control over the process, but looks to other non-profit organizations that already have the expertise and the motivation to work on the problem. The catalyst foundation extends seed money to a variety of grantees that are generally interested in the problem and then it allows these groups to devise all the details of the initiative to attempt to fulfill the desired goal

Table 5.1 Typology of roles for implementing foundation objectives (Fleishman, 2007)

Role	Description	Requirements	Risks
Driver	When a foundation has a particular social, economic, or cultural goal in mind and can clearly visualize a practical strategy to develop and attain the goal, the foundation will map out and direct the change effort by making grants to organizations that will simply carry out the strategy devised by the foundation	Requires foundation staff possess entrepreneurial and operational skills to make these initiatives succeed	This approach is costly, but foundation gets to exercise maximum control. Outcomes are predetermined by foundation
Partner	When a foundation shares the power to shape a strategy and makes crucial decisions together with other partner organizations, the foundation will make grants to support those organizations as well as others that simply implement the strategy	Requires that foundation is skillful in identifying a non-profit partner that possesses both the goal and the strategy for achieving the foundation's objective	This approach is often cost-effective and foundation retains some control. Outcomes are mutually determined by foundation and partnering nonprofit
Catalyst	When a foundation wishes to address a problem for which a strategy is either inconceivable, inappropriate, or premature, a foundation will make grants to organizations that generally deal with the problem without specifying particular outcomes	Requires that foundation be willing to experiment, in the hope that complex or unwieldy problems can be solved	This approach require a multifaceted approach including money for research, education, and awareness, and a long-term commitment is often necessary to see any results. Outcomes are ambiguous

Note : From pp. 3–9 in J.L. Fleishman (2007). *The Foundation*. New York: Public Affairs

(Fleishman, 2007). Fleishman notes that the three approaches do not have clear boundaries, and that depending on the “character, specificity, and ripeness of the problems in which foundations are interested, and the nature of those institutions whose behavior they are seeking to change” (p. 4) one role or a combination of roles may emerge as the ultimate means of coordinating its grant process and social aims.

Consequences of Mobilization From the broad array of scholarly work on the resource mobilization perspective of philanthropic foundation social movement activity, a conceptual tension has developed. Essentially, the debate consists of whether private philanthropic foundations exert a social control or channeling (Jenkins, 1998) influence across a field by means of philanthropic foundation groups aligning their financial resources with their social goals and views (Cress & Snow, 1996; Pichardo, 1988; Proietto, 1999).

Channeling is the act of one group working to advance its interest by directing resources through another entity (Jenkins, 1998; Jenkins & Eckert, 1986). Social control describes the limits that that foundation funding places on the funded organization's actions. These differing conceptions of funding are prefaced upon competing assumptions about what motivates elite foundation actors. Kriesi (1996) has observed that mobilization is generally motivated by advancing some collective good and/or avoiding some collective ill. In the case of foundations and the elites that endow them or populate their staffs, mobilization is often conceived of as being motivated by a desire to: control the overall impact of a movement, exploit the movement for the funders' gains, contain undesirable or incompatible views, or achieve gains relative to other elite groups (Corrigall-Brown, 2016; Pichardo, 1988). Each of these conceptions of foundation motivation extends the social control and channeling theses. Of the two ideas, the social control thesis has earned a more prominent place theoretically based on the empirical work of Jenkins (Jenkins, 1989, 1998; Jenkins & Eckert, 1986; Jenkins & Halcli, 1999) emphasizing that foundations have the effect of moderating or softening radical agendas. However, DiMaggio's (1991) research demonstrates that in the absence of applying a social control lens to the study of foundations, the more general consequence of channeling foundation monies through organization is that philanthropic foundations have served to foster the "institutionalization and structuring of organizational fields" (p. 267).

Methodologically, scholars have acknowledged that attributing the consequences or outcomes solely to the mobilization of resources can be problematic (Giugni, 1998; Giugni et al., 1999). Suggesting that one single act is *the* causal factor in achieving a social goal would undermine the open-systems (Scott, 2003) view of organizations that is associated with a resource mobilization perspective. Further, as Prewitt (2006) points out, "there is no metric of foundation impact; there is not even a theory of social change that might point to a measurement strategy" (p. 36). Similarly, there is a slight tendency to overemphasize the explicit or purposive intentions of a foundation's agenda, which might have the subsequent effect of overlooking the unintended, indirect, or secondary consequences that stem from a foundation advancing or mobilizing a given social agenda (Giugni, 1999). Unintended or indirect consequences can be short or long-term, and they can consist of things such as modifying features of social life, changing demographic patterns in society, broadening the sphere of what is considered legitimate action, or transforming public discourse (Giugni, 1999).

Elite Mobilization Theoretically, both the social control and channeling perspectives on philanthropic foundations' resource mobilization focus exclusively on "support from elite external organizations" (Cress & Snow, 1996, p. 1001), which is an inherent consequence of studying private philanthropic foundations given the source of their founding being a substantive source of wealth. Vogus & Davis (2005) note the particular value of organizational analyses that seek to understand elite mobilization stating, "studying elite mobilization extends social movement theory beyond its focus on disenfranchised groups and grassroots mobilization ... and to

unpack a dynamic that remains underexplored in the social movements literature” (p.98). Clemens (2005) highlights the value of using both organizational and social movement theories as a theoretical method of understanding the varied dimensions and “many ways of creating and exerting power” (p.365) as represented through people (elites), resources, or politics – three prominent dynamics in the study of foundations operating within fields.

Theoretically, the study of foundation patronage and resource mobilization has been connected to social movements, but again, foundations are not necessarily social movements or social movement organizations in a rigorous sense. As McCarthy and Zald (1977) point out, organizations like foundations, that are engaged in resource mobilization, may possess only a loose commitment or no commitment to the values of that underlie a social movement. The application of a theory that is complementary to a topic but not fully attentive to its key actors highlights one of the weak spots in the study of foundations and their influence in an organizational field. Nevertheless, foundation involvement within higher education certainly contains characteristics that are reminiscent of classical social movement phenomenon. For instance, Fleishman (2007) remarks on the position of foundations in society by stating that “any institution charged with an obligation to reform the status quo and redistribute opportunity and power in society are bound to be caught in controversy from time to time” (Fleishman, p. 251). His statement is a testament to the social reality that foundations, through their mere involvement in the process of distributing and mobilizing massive resources for the “public good” are bound to be embroiled in contestations that involved the distribution of power and resources in society – very much a central concept to social movement theory.

When the idea of resource mobilization is applied to foundation activity in higher education, collective action and mobilization are essential. Whether institutions or scholars are in a position to acquire available resources (foundation funds and grants), or grantors are seeking willing recipients (institutions or individuals) to fulfill the aims of a particular pet project or program, collective organizing, political salience, and the use of institutionalized or professionalized programs are necessary. Katz (1985) notes that the decision of foundations to fund initiatives in higher education is often equivalent to constituting intellectual policy; when resources tend to dictate the path of intellectual pursuits or disciplines, foundations exert an incredible authority allocating value and legitimacy to academic endeavors.

Summary This synthesis employs a combined analytical approach, coupling facets of organizational theory with social movement theory. Specifically, a field-level neoinstitutional frame is coupled with resource mobilization theory to provide a basis for understanding how private foundations’ agendas and grant-making functions’ explain or predict field-level changes in higher education. Pichardo (1988), DiMaggio (1991), and McAdam, McCarthy, and Zald (1996) concur that integrating the organizational and social movement theoretical perspectives can serve as an especially fruitful means for exploring field-level dynamics when foundations are the intermediary actors. Condliffe Lagemann (1999) regards the increasing theoretical awareness of foundations acting in fields as one of the key insights for invigorating

foundation scholarship. Combined analyses are essential to understanding organizations' priorities, resources, survival, and growth (Zald & Berger, 1978). Zald, Morrill, and Rao (2005) argue that the way organizations respond to internal and external demands for change are best understood by considering the social movement forces that are interacting with organizational conditions. Integrating these perspectives provides the flexibility to synthesize the emergent and established forces of power that shape society-wide opinions and beliefs with the structural procedures and practices that predict and support organizational legitimacy. McAdam and Scott (2005) refer to this type of change as the 'organizationally mediated social change' process.

Private Philanthropic Foundations and Social Agendas

Historical Roots

Historically, the idea of philanthropic giving has been tied to prevailing social customs regarding social structures, social and economic obligations to one's community, religious and moral concerns about preserving and creating a particular social order, and ideas about the order of power and control of wealth by the state (Andrews, 1950; Harrison & Andrews, 1946; Hollis, 1938; Parrish, 1973). Throughout history, giving to education has held a strong position as a worthy charitable cause.

Hollis (1938) states "funding wealth for the general welfare as directed by donors ... can clearly be tracked back to Plato, who bequeathed to his successors, for the increase and diffusion of knowledge, his Academy and endowment of productive land" (p. 15). There were also other instances where the foundation was used "as a legal devise for perpetuating private will in public purposes" (Hollis, p. 15), such as Ptolemies assisting with a library and research agency, Pilney the Younger funding a school, Cimon the Athenian improving the Academy grounds to provide an ideal teaching environment for Socrates and Plato (Andrews, 1950; Harrison & Andrews, 1946; Hollis, 1938). These Greek examples of elite patronage displayed the earliest evidence of philanthropy and its long-standing relationship to higher education.

Charitable foundation giving attained formal legitimacy by securing legal status through the 1601 English Statute of Charitable Uses (Andrews, 1950; Harrison & Andrews, 1946; Linton, 1937; Ylvisaker, 1987). The Statute was an act passed by Queen Elizabeth that established a legislative precedent (Linton, 1937) for what constituted something as charitable, including: "relief of the aged, impotent and poor people.... maintenance of the sick and maimed soldiers and mariners, schools of learning, free schools, and scholars in universities" (Statute cited in Andrews, 1950, p. 37; Harrison & Andrews, p. 16). Typically, at the time of the Statute of Charitable Uses, the aid took on the form of community relief societies, funds to provide immediate respite, rather than foundations. Nevertheless, the Statute functioned to: (1) secure a permanent position for making philanthropic gifts to educa-

tion and scholars; and (2) classify giving to education as something that should be construed as a public good.

The Formal Establishment of Foundations as U.S. Institutions with Social Purpose Aims

Early American philanthropy and early American higher education evolved in a nearly parallel fashion. Yeakey (2015) describes how donors who accrued great wealth from business were instrumental in establishing many US universities - Johns Hopkins, Stanford, Harvard, Vanderbilt, Yale, University of Chicago, Columbia, Spelman, Howard, Purdue, UC-Berkeley – several of which bear the name of the donor. The historical motivations for directing financial support to higher education has nearly always been accompanied by a vision for society (Curti & Nash, 1965).

American Ideals and Philanthropy Fleishman (2007) regards the desire to promote the public welfare through philanthropy as having its deepest roots in uniquely American democratic ideals; the belief in an individual's sense of freedom and independence combined with the notion of possessing a responsibility to provide for the greater good. The essential American ethos of freedom and duty, set against the altruistic tradition of religious life that was present in Colonial times, was a determining factor in firmly establishing charitable giving as an activity to promote both individual and associational (or religious) beliefs for the betterment of society (Fleishman, 2007). Overtime, these American ideas have proliferated and allowed for the expansion of a growing number of specialized associations, foundations, and organizations (Fleishman).

Philanthropic foundations in the United States began to slowly emerge in the later part of the nineteenth century (Andrews, 1956). Between 1790 and 1890 very few foundations formed in the U.S.; the earliest among them focused on palliative and relief strategies to social problems: the first being the Franklin Funds, est. 1790, and the Magdalen Society of Philadelphia, est. 1800 (Harrison & Andrews, 1946; Hollis, 1938). Following these foundation pioneers, the 1846 Act of Congress confirmed James Smithson's \$508,000 bequest to the U.S. government to start Smithsonian Institute (and its subsequent affiliated programs) which was "established for the increase and diffusion of knowledge" (Andrews, 1961, p. 158). The establishment of the Smithsonian was crafted to be a ward of the government rather than a private entity, but it served as a model for merging philanthropic giving with the creation and dissemination of knowledge.

The somewhat slow development of private foundations throughout the nineteenth century has been attributed to economic conditions of the Colonial period (Harrison & Andrews, 1946; Hollis, 1938). Private wealth was somewhat uncommon in the largely agricultural U.S. economy (Harrison & Andrews, p. 18). Further, the prevailing cultural view of American life from Colonial times through much of

the nineteenth century was an egalitarian one where democratic society was idealized as allowing for anyone to become rich or 'self-made' (Pessen, 1971). This widely shared perception contributed to a generalized belief that there were also "relatively few cases of severe want" (Harrison & Andrews, p.18). It is notable however, that Pessen's (1971) analysis has demonstrated that antebellum era wealth transfer was typically intergenerational, with upward mobility extremely rare among the working and lower classes moving up.

Private independent foundation philanthropy in U.S. education gained firm standing in 1867 when George Peabody established the Peabody Education Fund "to aid the stricken South" (Hollis, 1938, p. 21). Peabody's first gift of \$1,000,000 was aimed to promote education for Southern Blacks and the poorer classes (Curti & Nash, 1965; Hammack, 2006; Harrison & Andrews, 1946; Smith, 2001) as well as poor classes in the South. Other foundations that emerged during the later-half of the nineteenth century consisted of: the Smith Charities (est.1845) to support indigent women and children; the Havens Relief Fund (est. 1870) to relieve poverty; the John F. Slater (est. 1882) to support the education of Negroes; the Baron de Hirsch fund (est. 1890) to assist Jewish immigrants; and the John Edgar Thompson Foundation (est. 1882) to support the orphaned children of railway workers (Hollis, 1938). Each of these early foundations bore a few things in common, they were established through individual wealth or private funds, and each of them had a specific social goal. Harrison and Andrews suggest that among the early foundations, the Peabody Education Fund most resembles the modern private independent philanthropic foundation.

The very early years (1867–1900) of private independent foundations activities were documented primarily in historical phenomenon rather than focusing on higher education and foundations as the primary subject matter (see Anderson, 1988; Bulmer, 1995). Prior to foundation patronage, individual philanthropy routinely manifested in the field of higher education with individual wealthy benefactors making substantial gifts to institutions for their founding, revival, or expansion; this early philanthropic process was critical to the formation of American universities (Curti & Nash, 1965) but it was different functionally from foundations. The unique institutional form of a private independent foundation involves not only formal distinctive tax status, but a bureaucratized organizational structure with distinctive aims and ambitions focused on achieving a social impact through funding a sustained program over time.

Twentieth Century It was during the early twentieth century that the giants of modern private philanthropy established foundations. The early mega-foundations were built on the fortunes of industrialists or 'robber barons' (depending on one's world view, (Cascione, 2003; Clotfelter, 2007)), with John D. Rockefeller having made his fortune through Standard Oil and Andrew Carnegie from the steel industry, along with the fortunes of two other giants of industry the Russell Sage Foundation with funds derived from banking, and the Ford Foundation's funds from Ford's dominance in transportation (Curti & Nash, 1965; Hart, 1972; Slaughter & Silva, 1980). These individuals accrued their fortunes and social status as the elite

of American society by extracting the maximum monetary value from the United States' version of capitalism. Prewitt (2006) and others note that the wealth accumulated from their captains of industry was so vast that it was too grand to be dispensed in one's lifetime and too much a burden to put on one's family. Therefore, perpetual trusts for public purposes became a neat solution to resolve a prevailing social problem of that time, that public goods were "underproduced by free market transactions," creating, "a social demand for public goods [e.g. social programs], and for their corollary, a public sector, thus arises" (Prewitt, 2006, p. 40).

With the major foundations formed, the stage was set for others to take hold. Hollis (1938) summarizes that there were about 22 foundations established in the U.S. prior to 1900. The Foundation Center reports that the establishment of independent foundations remained rather stable throughout the post-war era of the twentieth century, dropped off slightly in the 1970s, and then began to rise steadily through the close of the century, with an especially large spike in the late 1990s (Austin, 2007). Frumkin (2002) tracks Foundation Center data noting groups with \$1 million in assets or capacity to award \$100,000 or more, and observed 1,447 foundations before 1950, 6,906 before 1970, and more than 16,000 by the close of the 1990s. McGoey (2015) reports a contemporary surge in the formation of new private independent foundations in the U.S., with half of the existing groups emerging in the last 15 years, yielding about 85,000 groups. Upwards of 68,000 are private independent foundations, and the remainder are community, corporate or operating foundations (Foundation Center, 2011).

Legitimacy The legitimacy of private foundations is built on their adherence to the promotion of the public good (Fleishman, 2007). Given the pluralistic context of U.S. society stemming from diverse values, preferences, beliefs, economic circumstances, religion, race or ethnicity, there is tremendous variation in what is deemed beneficial to the public. Effectively, in a pluralistic society, any public good argument is inherently contested (Calhoun, 1998; Chaves, 1998; Mainsbridge, 1998; Prewitt, 2006). Mainsbridge uses a historical philosophical analysis to showcase the manner in which the public good has had competing interpretations reaching back as far as Adam Smith, John Locke, and Plato. She underscores that there is little value in establishing a precise shared meaning for what is meant by the "public good," but rather to acknowledge any use of the term public good invites both a "contest over what is public and good" (p. 17). She adds that the public tends to direct praise for actions that are taken on behalf of the public good as opposed to the promotion of private interest. Mainsbridge notes that the battle for the meaning of what constitutes the public good becomes exacerbated when "individuals and groups whose privileged social positions allow them to use ... unequal deliberative resources to promote their opinions or interests" (p.17).

F. Emerson Andrews, one of the foremost scholars and practitioners in the field of American foundation philanthropy (Arnove, 1980a), has repeatedly described the essential characteristic of private foundations as their "wide freedom of action" (Andrews, 1950, 1956, 1958, 1961; Harrison & Andrews, 1946). Simon (1995)

refers to this freedom as a function of having “no voters or customers, no alumni, students, parishioners, patients” (p. 245). The unique freedom that foundations possess makes them conceptually distinct from the state or the market, and as such, they are often referred to as the “third sector” of American democratic society (Horowitz & Horowitz, 1970; Roelofs, 2003).

Summary The ways in which private foundation philanthropy has manifested in America is a unique reflection of the ways in which the nation’s collective conceptions of democracy and capitalism have come to intersect and shape U.S. society over the last 150 years. Private philanthropic foundations are born from individual wealthy donors. For a variety of reasons, individuals have decided to set their wealth aside for philanthropic purposes, often with grand visions for putting it to good use in society. With the American spirit of individualism and a desire to do something for others, prosperous individuals translated their wealth into a formal entity that was designed to serve as an extension of one’s beliefs, values, and preferences.

Foundations' Agendas for Higher Education

While philanthropic foundations’ interests in education have been both a dominant theme and constant across time, Havighurst (1981) notes that foundations’ activities, while continually focused on the broad field of education, have been “related to changing social conditions and changing needs” (p.193). In his assessment, Hollis (1938) asserts that foundations have come to recognize “the university as the agency best suited to transmute funded wealth into cultural influence” (p. 25). Likewise, Bernstein (2003) contends that foundations view “higher education as the catalyst for new ideas and critical knowledge building, and for challenging societal structures in every aspect of human life” (p.34).

1900–1920s Havighurst’s (1981) analysis demonstrates that in the early part of the twentieth century the largest foundations had social ambitions in education that coincided with the broadly agreed upon needs in society. For instance, from 1900–1920, their focus was turned towards creating an educational infrastructure for what was perceived as largely inadequate in many regions of the country. These efforts are what Kohler (1985) and Karl (1985) describe as foundations putting their institution building skills to work. The first two decades of the twentieth century often looked at education in a comprehensive manner so that efforts to improve primary and secondary education in the South especially were coordinated with initiatives to provide college level training for teachers or education professionals. This way an overall infrastructure was developed that included everything from school buildings and libraries, to colleges or normal schools, to scholarships and graduate training.

1930s–1950s Roelofs (2003) describes the 1930s, 1940s, and 1950s as a period where the social agenda of foundations was typically the “destruction of the apartheid system” (p.144) and to assist individuals that were generally disadvantaged in

society. Bjork's (1962) analysis of annual foundation reports indicated that education took on an increasingly important role in the minds of private foundations between 1930 and 1959; meaning that their grants awarded to educational institutions steadily increased. He goes on to note that the evidence was particularly poignant among the largest foundations (Ford, Rockefeller, Carnegie, and Sage) in the 1950s.

1960s–1990s Into the 1960s there was a proliferation of social change oriented foundations, those that pursued activities that supported broad goals as civil rights, peace, and environmental change (Roelofs, 2003). Since this time, there has been less summation as to the nature of the social agendas of philanthropic foundations; with some exceptions being Havighurst's (1981) observation that foundations' agendas in the 1970s and 1980s supported life-long and professional educational initiatives. Fleishman (2007) remarks that a ground swell of foundations advocating conservative policies in education, welfare, immigration, and the environment began to emerge.

2000s–Present Similar to the start of last century, an era of mega-foundations has emerged (Katz, 2012; McGoey, 2015). Notably, the Bill and Melinda Gates Foundation is among the largest of the new private foundations because of not only the tremendous fortune of its namesake, but also due to the support of other mega-philanthropists like Warren Buffet who donated \$30 billion to advance the Gates' agenda (Katz, 2012; Osei-Kofi, 2010; Parry et al., 2013). Another newcomer to the mega-foundation arena is the Lumina Foundation (Katz, 2012; Lumina Foundation for Education, n.d.). It was not formed by an individual wealthy donor so its origins are a bit different from the other foundations discussed in this review; even so, it is among the largest actors in the realm of private independent foundation philanthropy directed towards higher education. Today's foundations are distinctive from their historical predecessors in that they have shown a tendency to pursue parallel funding strategies, and are overt about enshrining their social aims and corresponding educational reform preferences into public policy and public opinion (Rogers, 2011; Saltman, 2009). While their higher education patronage is dispersed in conventional ways via supporting university initiatives or research directly, contemporary foundations characteristically fund a range of entities (think tanks, advocacy groups) and 504c organizations that engage in higher education-related work (college readiness programming, online or instructional technology initiatives) (Katz, 2012; Lubienski, Brewer, & La Laonde, 2016; Quinn, Tompkins-Stange, & Meyerson, 2014). Reckhow and Snyder (2014) document contemporary foundation funding patterns from 2000–2010; they observed an overall decrease in the amount of financial support donated to universities directly (as well as decreases in financial support to other traditional recipients such as public schools and state department of educations), and corresponding increases in foundation support directed to other types of the educational entities and advocacy groups. Mega-foundations funding strategies are pursued to build support for the policy and structural changes that the funders see as desirable for the field of higher education, and the ways that postsec-

ondary education functions in society and universities operate. Specifically, these social aims are succinctly characterized by Katz (2012) noting that they seek to reform the curriculum to encourage a 'school-to-work' vision that emphasizes the instrumental utility of college in readying degree holders to support business-identified needs and functions. The school-to-work aim leads funders to encourage college completion for individual students, and as a matter of political accountability. Through the funders' views, degree completion fosters job-placement, which contributes to economic stability and mobility.

Foundation-Types

Roelofs' (2003) analysis succinctly labels what foundation scholars have reiterated in their work, indicating that foundations may be "roughly classified as liberal, conservative, or "alternative;" (p. 20) noting however, that typically foundations labeled as liberal are following a progressive agenda. The liberal foundations are regarded as: MacArthur, Ford, Rockefeller, Carnegie, and Twentieth Century; and the conservative foundations are: Olin, Smith Richardson, Scaife, Murdock, and Bradley (Fleishman, 2007).

Appendix A provides a summary of foundations involved in higher education and their corresponding social agenda orientation. These classifications are based on the reviewed literature and suffice as a snapshot of the scholarly consensus about particular foundations and their approach and aims for higher education. Building on Roelofs (2003) categories, the foundations' social agendas are labeled as: progressive, referring to foundations with liberal, Left, or reformist agendas; conservative, referring to foundations possessing values that are politically Right leaning or are inclined to advocate for the status quo; and radical, referring to foundations which possess extreme Leftist views on the social and political spectrum and tend to advocate for radical social change. In Table 5.2, there is a scarcity of radical Left foundations; Roelofs proposes that this is because "the very format conflicts with radical concepts of democracy" (p. 20). The fourth classification is labeled as a neoliberal strategic agenda, which is not part of Roelofs' typology. This set of foundations (and their corresponding activities) seek to apply economic and market-oriented principles to reform the field of higher education, and these aims are pursued through a multifaceted organizational strategy involving educational programs, policy-action and advocacy, and the cultivation of public support for their aims (Boyce, 2013; Quinn et al., 2014; Rogers, 2014).

Progressive Foundations The vast majority of progressive foundations formed during the Progressive era (1890s–1920s), and possessed the communitarian and service ideals that were fairly typical of that time (Kohler, 1985). The dominant thinking of the Progressive era, had direct ties to the practice of higher education in the sense that there were commonly held ideas about the relationship between science and social ills. The progressive vision pursued by foundations worked to offer

“concrete solutions to visible ills” (McCarthy, 1985, p. 4) and “a bias toward science and social action” (p. 5). Their work has come to be known as scientific philanthropy (Saltman, 2009). Fisher (1983) described progressive foundation sentiments as “an almost religious faith in the capacity of sound knowledge to solve the social and material problems that the world faced” (p.223). These overall values regarding the role of science in society translated into a foundation imperative to involve itself directly in the research endeavor, from institution building, individual grant-making, and solidifying the research as a precursor to governmental policy making (Karl, 1985; Kohler, 1985; McCarthy, 1985). Kohler remarks that foundations’ had interests in “investing in the careers of young persons who would create future elites of science, imbued with a sense of the cultural and economic roles of science in society” (p. 10). McCarthy summarized that the prevailing view of the progressive era philanthropists was:

To base their programs on research, flexibility, a working partnership with professionals, and a commitment to fundamental social change. In effect the Progressive dictum argued that philanthropy should strike at the root cause of social ills, test programs, turn the most successful over to government, and move on to fresh fields. (p.3)

Progressive ideals and social agendas had a vision of society that strove for both efficiency and for fairness. Jenkins (1987) argues that their preference for efficiency and practical solutions pushed some progressive organizations toward solutions that emphasized accountability measures, stressing “open access rules, freedom of information, clarity of legal standards, and judicial review” (p.310).

Conservative Foundations Wolpert’s (2006) analysis indicates that conservative foundations formed after the 1960s, largely as a reaction to liberal agendas of the large powerful progressive foundations. The conservative foundations are associated with neoconservative social views, also called Right or the New Right. The social agenda that conservative foundations espouse includes a preference for laissez-faire economics, decreased social spending, limited government, individual liberty, personal responsibility, strict moral standards (which emphasize religious morality), and a view that individual self-help and market solutions are essential for alleviating social problems (Jenkins, 1987; Moses, 2004; Wolpert, 2006). Additionally, the conservative social agenda views charities and foundations as better positioned to provide for social welfare since poverty and other social problems are essentially the primary responsibility of the individual, not society’s and by extension also not that state’s (Faber & McCarthy, 2005; Moses, 2004). There is also a view that anything remotely resembling collectivism is detrimental to the preferred conservative vision for society. Further, one of the major tenets of conservatism is motivated by stifling or eliminating progressive or liberal social views. A conservative agenda holds that government and intellectuals are the primary sources of liberal social change in society, thus it is necessary to construct a ‘counterintellectual network’ as a compensatory strategy for asserting the conservative vision of society (Himmelstein & Zald, 1984). Fleishman (2007) observed this phenomenon in practice, noting that liberal and progressive foundation activities were a “major factor in energizing activism by donors to conservative foundations” (p. 43).

Radical Reform Foundations Radical foundations are squarely focused on changing social institutions so that they don't continue to reproduce the problems that the foundations seek to alleviate (Bothwell, 2003; Faber & McCarthy, 2005; Rabinowitz, 1990). The radical reform agenda presumes that mass civic participation, grassroots organizing, and democratic base-building are the keys to realizing their social vision of a more just and equitable society, where environmental, racial, and social justice exists, and communities and neighborhoods work collaboratively to ensure that wealth doesn't dominate or dictate the opportunity and circumstances of various classes of people (Faber & McCarthy, 2005). Radical change oriented foundations aspire to create a society that is fair regardless of health, minority status, or class; and by extension civil liberties are a top concern (Rabinowitz, 1990). Radical foundations generally do not engage in deciding or defining the problems of a community, but rather they ask the community to determine the issues, and the foundation responds with funding and advocacy for these needs (Faber & McCarthy, 2005).

Often times radical and social change philanthropy emerges from community based funds rather than foundations, since community funds are more likely to engender local grassroots involvement of direct beneficiaries (Faber & McCarthy, 2005). Nevertheless, a handful of foundations have been evaluated as having possessed radical social agendas (Beilke, 1997; Jenkins & Halcli, 1999; Ostrander, 1999, 2005; Rabinowitz, 1990). It is important to note that radical social agendas must be considered relative to the historical context in which the funds were making grants; as radical conceptions of social justice are dependent on the relative dominant cultural interpretations of social issues prevalent at any given moment in time.

Neoliberal Strategic Foundations The past decade of scholarly writing on private foundations' activities has emphasized the current scale of philanthropic resources being infused throughout the field of higher education to activate and unify an agenda supported by several foundations (Bosworth, 2011; Rogers, 2011). The basis of the neoliberal strategic social agenda is to apply venture capital principles to overcome social problems (Bishop & Green, 2015; Edwards, 2011). The funders have faith that their approach is suitable for educational reform, in part because it has yielded business success, and was a large factor in creating tremendous wealth during the 1990's technology boom (Saltman, 2009). Quinn et al. (2014) synthesize this form of philanthropy in education as consisting of both an aim and an approach – both of which reinforce one another, where the funder treats the gift as an investment “utilizing corporate management practices, holding grantees accountable to specific outcomes, and pursuing rapid growth and scale in order to produce higher return on investment” (p.963). The aim is to reform education in a manner that more closely resembles a market that caters to the funders' preferences and the corresponding organizational performance metrics they deem appropriate, legitimate, or worthy (Rogers, 2011). This problem-based funding approach, with its tightly coupled performance metrics, has been observed to produce an outcome where “funders' values were directly instantiated into the organizational structures” (Quinn et al., 2014, p. 963).

While variations exists in the philosophical social values of the neoliberal strategic foundations, with funders' dispositions differentially aligning with conservative

or liberal perspectives on matters of religion, social justice, sexual health, or social identity, their views are somewhat secondary to the corporate, venture, investment capital grant-making approach where funders: (a) specify the terms of performance and increasingly the means of production (how organizational performance will be pursued via particular curricula or lines of research), (b) exercise influence over policy makers that regulate higher education organizations, and (c) build public support (or market share) for the funders' approach to higher education to eliminate the public's preferences for alternate reform initiatives (Gose, 2013). Often the terms 'philanthro-capitalism' (Bishop & Green, 2015) or 'philanthro-policy making' (Rogers, 2011) are used to describe this sort of foundation work. The undergirding neoliberal economic principle is that philanthropic investment can be used to redirect how other sources of funding are spent on education (Rogers, 2015a). Under the neoliberal strategic agenda, the logic is that private philanthropic investment can incentivize how other monies, particularly public tax dollars, are spent (Reckhow & Snyder, 2014; Saltman, 2009). As such the neoliberal strategic philanthropic approach aims to use gift matching or conditional giving to steer its objectives, such that the public (state and federal) appropriations dedicated to colleges and universities and the internal budgets of universities and colleges are distributed in ways that meet funders' preferred academic degree programs, faculty, research foci, curricular content (including topics and texts) and pedagogical style (often online).

Summary The label of 'foundation,' often inspires public confidence in the organization. For much of the lay public, the idea that foundations are a social institution that have secured tax-exempt status based on the premise that they are engaged in good works that benefit the public or society is enough of a reason to believe they are neutral benevolent organizations. There are benefits to perpetuate a perception of benevolence, the chief among them being that the appearance of neutrality masks the often contested nature of the agenda, cause, or approach that a foundation is promoting. Neutrality can be a good defense for scrutiny in a contested political environment. There is a clear line of scholarly critique arguing that foundations are incapable of being neutral since they are, fundamentally, a protective layer for capitalism (Arnove, 1980a, b; Fisher, 1980, 1983, 1984; Fleishman, 2007; McGoey, 2015; Osei-Kofi, 2010; Roelofs, 2003). Despite this criticism, the fortunes of foundations align with social visions that inspire and motivate grant-making.

Evidence of Social Agendas and Field-Level Effects in Higher Education

The interventions foundations utilized to assert their social agendas in the field of higher education are described as being implemented via direct or indirect means; these pathways are represented in Fig. 5.2. The dashed lines from the foundation box depict an indirect path, with higher education being shaped on account of foundations funding another sector positioned in the field. An example of indirect

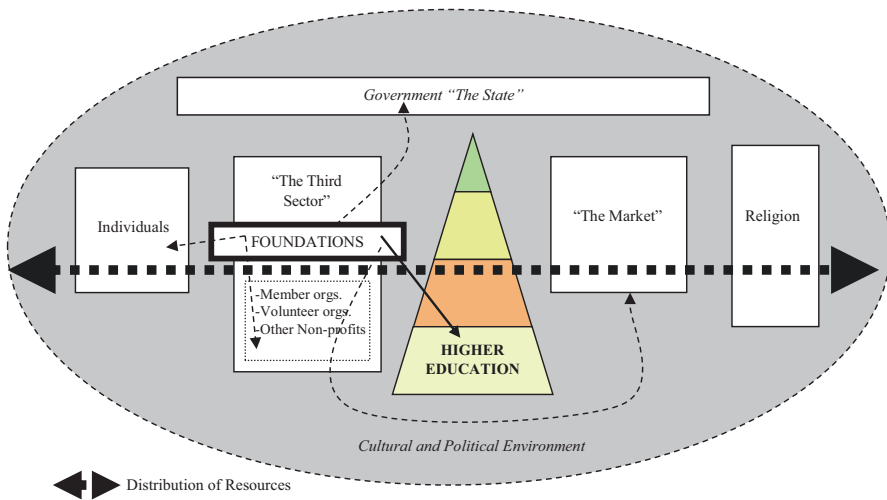


Fig. 5.2 The field of higher education with direct and indirect paths

funding might include a foundation funding another non-profit research organization or educational advocacy group outside the academy as a means of influencing the field of higher education. The solid line from the foundation box to the higher education sector depicts a direct funding strategy where foundation money is provided directly to institutions, or to individuals such as students or faculty.

Based on the notable lack of comprehensive research about private foundations' (Bachetti, 2007; Parry et al., 2013; Rogers, 2015b) efforts in higher education, the discourse and scholarly analysis is a bit skewed, emphasizing the role of the largest and progressive foundations perhaps at the expense of smaller, conservative, or less well-investigated foundations. It is also important to note that while the references associated with a particular foundation (see Appendix A) specify a foundation's particular social view, only a portion of the references provide sufficient evidence to explicate the relationship between said agenda and the field of higher education. Further, foundation self-published reports were excluded from the review.

Foundations with Progressive Social Agendas Acting in Higher Education

Agenda: Creating a System of Higher Education Free from External Controls

Progressive foundations sought to use their funds to build and institutionalize more efficient and carefully planned structures across the field of higher education. These manifested in the form of supporting the establishment of university endowments,

faculty pension programs, working to refine student admissions and accrediting criteria, and formalizing university business practices. These particular approaches were aimed to create a system of higher education free from external controls, or as Clotfelter (2007) describes “strengthening institutions as they are” (p.224).

Endowments Foundations desired that higher education acquire resources to meet the challenge of inevitable expansion (Hollis, 1938). As a result, Rockefeller’s General Education Board, the Carnegie Corporation, and other likeminded foundations made conditioned endowment gifts to universities. These gifts were a direct effort to transform the structure of universities towards a more stable financial model that could support growth. Typically, foundations required that institutions match the foundation’s endowment gifts (Hollis, 1938), an approach that helped to stretch foundation dollars and influence across a larger array of institutions and provide for system-wide stability. From 1902–1925, the General Education Board provided 291 colleges with over \$60 million in endowment funds (Andrews, 1950; Flexner, 1952; Hollis, 1938). Other foundations experimented with large gifts to single institutions but these were seen as costly and not well suited for creating the type of influence in higher education that the foundations hoped to achieve (Hollis, 1938). Moreover, the strategy of granting funds widely (partial funds to many institutions) versus deeply (complete funding to single institutions) became a prominent tactic in spreading a foundation’s influence across the broadest scope of higher education institutions. These early endowment gifts functioned to instill a cultural norm and precedent that universities adopt a position of deference to foundations and follow their directives when large gifts are involved (Hollis, 1938).

Pensions Similarly, the Carnegie Foundation desired to create “a system of superior colleges which owed no measure of allegiance to any other external control” (Hollis, 1938, p. 38). Carnegie and other progressive foundations felt that higher education was disorganized and chaotic due to the influence of religion and state governments, which had functioned as the primary sponsors of higher education up until the start of the twentieth century (Hollis, 1938). As a result, Carnegie used its direct influence to structure the administrative practices and behaviors of higher education by creating a faculty pension program with institutional requirements for participation; such that: (1) colleges require 4 years of courses dispersed across six different departments and later increased to eight departments, (2) department professors possess earned doctorates, (3) college admission be granted only to secondary students with fourteen units of school work, which was later increased to sixteen units, (4) private colleges possess an endowment of \$200,000 (which was raised to \$500,000 after 1921), and (5) colleges disavow themselves from sectarian or denominational affiliation (Andrews, 1950; Condliffe Lagemann, 1983; Hechinger, 1967; Hollis, 1938). The program had the effect of institutionalizing the practice of colleges possessing endowments, restricting the role of denominational influence in U.S. higher education, and elevating the professionalized status of college teachers and faculty. Culturally, the pension program built on the idea of conditional giving that was popularized through endowment gifts, and reinforced the idea of complying with foundations’ directives.

Admissions and Accrediting The Carnegie Foundation longed for a U.S. college preparatory experience that generated more similarity in the academic qualifications of entering students (Condliffe Lagemann, 1983; Hechinger, 1967; Hollis, 1938). Therefore, in 1908 Carnegie set up the College Entrance Examination Board, and established the 'Carnegie unit' as the measure for evaluating high school work (Condliffe Lagemann, 1983; Hechinger, 1967; Hollis, 1938; Roelofs, 2003). These efforts unified the criteria that various accrediting bodies used to classify secondary, college, and university work (Anderson, 1980), and unintentionally became a de facto criteria for high school accrediting associations (Hollis, 1938; Roelofs, 2003). Weischadle (1980) notes that "the acceptance of the Carnegie Unit represented the initial test of power of a philanthropic trust to employ its financial resources and prominent personnel to bring about educational change" (p. 365). Weischadle argues that Carnegie's approach introduced the model of foundations using interlocking networks of people and organizations to achieve something more extensive than any one group could achieve alone.

Business Practices In 1910, the Carnegie Foundation published a report outlining the inadequacies of college accounting practices, as a response to its concerns over the practice of borrowing from permanent endowment funds to pay for pressing debts (Hollis, 1938). Responding to the Carnegie report, the General Education Board published *College and University Finance* and distributed it to 5,000 higher education administrators. Subsequently, the General Education Board convened a conference of college business officers and provided funds to establish, the National Committee on Standard Reports for Institutions of Higher Education. This association created standardized practices which were adopted by 200 institutions and served as the basis for state and federal reporting. The efforts to shape business practices helped to stabilize higher education financially from the inside out.

Agenda: Believing in Education and Research to Solve Major Social Issues

Progressive foundations viewed scientific analysis and systematic research as instruments for solving social problems (Douglas, 1987; Fisher, 1980; Flexner, 1952). Initially, foundations used these views to address noncontroversial areas such as medicine (Nielsen, 1972) and farming education (Nally & Taylor, 2015), but turned toward social science problems as well (Hollis, 1938). These efforts focused on internal support of existing university structures as well as the creation of entities that supported research and scientific analysis by surpassing conventional university departments or structures to create both new entities and independent research-oriented bodies (Clotfelter, 2007).

Medical Education Reform to Improve Health The Rockefeller foundation established a partner foundation, the General Education Board, in 1902 in response to its concerns about the state of the U.S. economy and the strong presence of

poverty and unemployment (Douglas, 1987). The Board viewed education as a tool in society to promote human progress by embracing objectivity so that the underlying causes of social problems could be identified, isolated, and addressed (Flexner, 1952); an approach very much akin to the prevailing ideas about germ theory that were developed in medicine at the close of the nineteenth century (Hinsey, 1967).

The General Education Board's top priority was addressing deficiencies in medical training, and thus became the catalyst responsible for transforming American medical education into the present-day model that exists (Havighurst, 1981; Katz, 1985; Laprade, 1952/1953). The reforms initiated by the Board were a direct "challenge to the established system of proprietary or 'free-enterprise' medical schools" (Havighurst, p. 202). The impetus for the changes were derived from a report, generated from a comprehensive survey of medical education in the U.S. and Canada, commissioned by the Carnegie Foundation for the Advancement of Teaching's (Condliffe Lagemann, 2000; Flexner, 1910; Hinsey, 1967). This report (Flexner, 1910) scrutinized American medical schools and demonstrated that they were in fact operating as diploma mills unaffiliated with established universities and without academic responsibility; and advised that nearly 80 % of them be discontinued (Hechinger, 1967; Hinsey). The Board provided grants for facilities, endowments, money for clinical faculty, formalized tight partnerships between universities and teaching hospitals, and insisted upon a standard curriculum and training protocol for educating physicians. These efforts were implemented at flagship universities and other prestigious institutions in geographically dispersed areas to achieve maximum influence (Hinsey, 1967; Hollis, 1938).

The direct strategy to influence the structure and practice of medical preparation on the part of Carnegie and the General Education Board institutionalized the contemporary model of medical training used in higher education. These structural changes transformed healthcare in fundamental ways, relying on the belief that when physician preparation, research, and practice are integrated into a seamless system, it can improve the quality of both medical delivery and knowledge. By using a strategy where prestigious institutions were the primary beneficiaries of the grant monies, the General Education Board set the stage for emulation by other institutions that hoped to acquire the same status as the top tier medical schools.

The relative success of the Carnegie report, along with the General Education Board's translation of it into action, "provided demonstrable support for an argument for standards in other professions" (Condliffe Lagemann, 1983, p. 74). This approach paved the way for the practice of foundations surveying professions to increase professionalization, and to foster the standardization of university curricula in fields such as law, engineering, forestry, architecture, dentistry, foreign languages, music, and teaching (Condliffe Lagemann, 1983, 2000; Hollis, 1938). With these activities and the relative success of the changes, foundation assessment and intervention became culturally acceptable as a normal practice in reforming higher education.

Social Work Schooling to Foster Intervention on Domestic Problems The Russell Sage Foundation believed that poverty, crime, and disease were deficiencies of individual character that required intervention and treatment by experts

(Roelofs, 2005; Slaughter & Silva, 1980). Therefore, Sage instituted a direct structural strategy to craft an infrastructure that supported both the training and profession of social work by funding research, university programs, professional organizations, publications, and a national social work employment bureau (Karl & Karl, 2001; Roelofs, 2005; Slaughter & Silva, 1980). The foundation made grants to professional schools in Boston, Chicago, St. Louis, and New York to disseminate its plan widely. Sage also invested substantial resources into survey projects and statistical procedures to supply the content for its publications (Condliffe Lagemann, 2000; Slaughter & Silva, 1980).

Slaughter and Silva (1980) noted that Sage's grant making solidified the major trends in social work curriculum and training, specifically the case work theory and method, and the idea of mobilizing 'responsible' citizens in the community to mitigate urban problems. Further, Sage's very intentional efforts of using survey methodology for understanding social science research problems, stabilized the technique as the principal (and taken-for-granted) method for conducting social science research and reinforced an individualized view of problems to the exclusion of other cultural explanations (Slaughter & Silva, 1980).

International Education to Promote American Values and Peace Brooks' (2015) comprehensive synthesis describe the Ford and Carnegie foundations purposeful funding of international education in the period surrounding World War II, with similar precipitating efforts by Rockefeller money (Laprade, 1952/1953). Their social aim was to export American forms of scientific research, democracy and governing, values and philosophies, economic approaches as a counter to global fears about communism and systems of global governance and thought that brought about the atom bomb (Brooks, 2015; Nally & Taylor, 2015). The theory of action relative to international education and exchange was to 'properly' (e.g. American) educate and train individuals such that they would then be ready to occupy positions of leadership and influence in global politics and economics; their moral and scientific dispositions would therefore cultivate peace and potentially reorder the global political landscape. In the 1930s, Bu (1999) reports that Rockefeller provided scholarships and fellowships for one-third of all the foreign students and scholars that the relatively new International Institute of Education (IIE) sponsored. This approach resulted in dedicating \$270 million in direct funding in 1950 to international studies programs/curricula at 34 universities. Structurally it embedded and stabilized international educational exchange, and culturally situated universities as arenas to use curriculum to promote awareness of individual and societal differences.

Coordinating Bodies to Promote Research Use in Governing Progressive era foundations concentrated their funds in a network of quasi-public institutions to provide expertise, research, and advice for government agencies (Culleton Colwell, 1980; O'Connor, 1999). The focus of these external entities has been directly tied to foundations' prevailing views about the role of social science in society (Karl, 1985). In the early twentieth century progressive foundations strategically positioned themselves "as alternatives to government intervention" (Karl, p. 14), where

“social science research, adequately funded from private sources could meet the needs of government for an effective system of designing the social programs required by an industrial society” (p. 15), and thus created coordinating groups such as: the Social Science Research Council and the National Bureau of Economic Research; and think tanks like, the Brookings Institution, and the Odum Institute at Chapel Hill (Hammack, 2006; Laprade, 1952/1953; Roelofs, 2003).⁴ The establishment of these external knowledge coordinating bodies was an indirect route to influence the field of higher education to ultimately shape government. Foundations labeled these external organizations with neutral sounding names, and then channeled their funding toward research projects that “would ultimately provide government with basic research for policy programs” (Karl, 1985, p. 16). The foundations’ intentions appear to have had some influence based on evidence that the Pierce, Hoover, Roosevelt (F.D.R.), and Eisenhower administrations all relied heavily on these external research institutions for direction in social policy making (Karl).

Agenda: Supporting and Assisting Socially Disadvantaged Groups

Aid to the South The Peabody Education Fund was created to aid the poor in the stricken South following the civil war (West, 1966). Although the Fund’s work was mostly related to primary and secondary education, its financing provided for the creation of state departments of education for all of the southern states, which came to oversee higher education (Flexner, 1952). Regarding higher education more specifically, the Fund directly established a normal school in Tennessee and provided college scholarships for southern individuals (Flexner, 1952). This strategy generated a cadre of professionally trained teachers to support a system of lower-level compulsory education. Flexner regards the Peabody Fund as monumental because it advocated for “the education of Negroes by the whites” (p. 17), exemplified in its withholding of funds to schools in 1883 that exercised discriminatory funding practices (Flexner, 1952). The Fund’s efforts aided Blacks in the south structurally; and culturally it created a precedent for foundations involving themselves in issues of race and higher education.

Child Development The Laura Spelman Rockefeller Memorial fund (LSRM) was concerned about the social welfare of children, and held concerns that a tendency existed to provide only ameliorative relief rather than accumulate knowledge about children so that they could grow to be healthy well-adjusted adults. Grant (1999) argues that LSRM’s interest was inspired by the childward movement following

⁴Within the multi-organizational field of higher education, these external organizations would fall under the classification of ‘Other Non-profits’ as depicted in Figures 1 and 2. Or, in the case of government or state supported research or coordinating councils, they would be located in that sector of society.

World War I. By the 1930s, LSRM focused on basic research and provided funds and direction for all of the major centers of child research in Iowa, Minnesota, New York, Connecticut, and California (Grant). In an effort to structure and stabilize the child-development discipline, LSRM funded a professional society, scholarly journals and popular publications, and grants and fellowships to graduate students (Grant, 1999). LSRM intervened directly into the field of higher education, by driving the academic adoption of ideas of the child welfare movement that emerged from the broader political environment. The fund's actions not only structured and fostered the child development academic area, but it established a cultural precedent for foundations channeling movement aims to legitimate academic endeavors.

Women's Studies The Ford Foundation supported and directed the development of an infrastructure that institutionalized women's studies in the academy (McCarthy, 1985; Proietto, 1999; Rojas, 2003). From 1972–1975, Ford funded individual scholarships for faculty and graduate students which served two functions: (1) it allotted legitimacy to feminism as an acceptable area of academic inquiry; and (2) through the grant application process, it gave the Ford foundation a portrait of the emerging women's studies ideas (Proietto, 1999). By 1974, Ford directed its attention to the institutional dimension of the women's studies field by providing funding to establish the first Center for Research on Women at Stanford University, and subsequently funding fifteen more centers well into the 1990s. Ford also institutionalized the discipline by: funding the first journal in the field, *Signs*, which formally linked individual scholarship; providing money to establish the National Women's Studies Association, which linked academic programs; and funding the National Council for Research on Women, which linked research centers (Proietto, 1999; Roelofs, 2003). Ford also backed the creation of a curriculum integration effort that was designed to assist universities in bringing "feminist scholarship into university-wide curriculum" (Proietto, 1999, p. 271).

While Ford funded 16 centers, 621 women's studies programs were established between 1970–1990 with the help of other likeminded foundations (McCarthy, 1985; Proietto, 1999). Proietto argues that the prevalence and diffusion of women's studies in American universities was an educational extension of the feminist/ women's movement. Ford's direct intervention in the movement allowed the scholarly wing of it to acquire "the institutional accoutrements of paraphernalia of institutional success ... [and] to act more on behalf of its institutional constituency and less on behalf of its earlier version of a broad societal transformation" (Proietto, 1999, p. 279). Additionally, Ford's involvement emerged as an early exemplar of foundations interceding on contentious social movement issues by supporting an academic infrastructure with an external networked knowledge structure of professional associations, publications, and research centers to round out the intellectual apparatus.

Agenda: Remedying the Problems of Race Relations in the U.S.

Opportunity to Underrepresented Individuals In the 1950s, the Ford Foundation became increasingly focused on providing equal access to education as a means of alleviating poverty and advancing the well-being of African Americans (Raynor, 1999). Therefore, it established the Fund for the Advancement of Education (FAE) in 1952, a foundation endowed with \$50 million of Ford money (Raynor, 1999). FAE distributed scholarships to African American students based on their potential to engage in public service and community organizing (Hechinger, 1967; Raynor, 1999). Building on FAE's work, Rockefeller also funded summer programs for promising Black high school students at ivy league and other top tier institutions to prepare them for successful college admission (Hechinger, 1967). The legacy and continuance of this aim evolved such that in the years leading up to the passage of the 1964 Civil Rights Act Ford and Rockefeller foundations established 4-year scholarships to attract the most academically gifted African American students for the purpose of attending predominantly White institutions to foster opportunity and to better racially integrate higher education (Rogers, 2012).

FAE and Ford's involvement directly aided students that were socially disadvantaged. These efforts were construed as questionable as evidenced by a Congressional inquiry to formally critique both the appropriateness and potential legality of this type of foundation conduct (Raynor, 1999). Furthermore, the Congressional response stood as a prominent example of a legal test which questioned the legitimacy of organizational attempts to intervene directly into an unequal social structure.

Access and Equity In 1944, the Carnegie Corporation funded the Myrdal Study which prompted a "cottage industry of academic research on race relations ... to explore the social, psychological, and moral implications of race relations in America" (Raynor, 1999, p. 198). This research was ultimately used to overturn the legality of segregation in *Brown v. Board of Education* in 1954 (Raynor, 1999). Carnegie's involvement has been described as an "instance of a direct attempt by a large foundation to awaken Americans to the evils of discrimination" (Rhind & Bingham, 1967, p. 433). In addition to the direct funding on race relations research, foundations funded activist organizations such as the NAACP and Education Fund (a group which advocated for the plaintiffs in *Brown v. Board*), and the Southern Christian Leadership Conference, the Congress of Racial Equality, the Urban League in a larger effort to advance the cause of civil rights and access to higher education.

Black Studies Rojas' (2003) analysis of the Ford Foundation demonstrated that it wanted to become more political, pursue social activism, and work on race relations on a grand scale. Ford was willing to pursue controversial ideas if they were "academically legitimate and ... an extension of previous work" (Rojas, 2003, p. 72). Therefore, in 1966 Ford moved towards funding Black studies. Ford's involvement

in Black studies resembled its approach to women's studies with direct structural support for academic programs, conferences, research institutes, scholars/students, and academic journals (Rojas, 2003). Also, Ford sponsored programs at elite research universities and historically black colleges to aid with the diffusion and institutionalization of the discipline (Rogers, 2012). Despite the Black studies effort having ties to Ford's desire for social activism, its grants excluded scholars and programs that promoted Black nationalism, in lieu of promoting an interdisciplinary approach built from existing academic disciplines (Rojas, 2003).

Legal Education In 1957, the Ford Foundation began funding professional development opportunities for legal students in an effort to develop a cadre of lawyers well versed in advocating for the rights of disadvantaged groups like women, minorities, consumers, etc. (Roelofs, 2005). This strategy was based on the general progressive sentiment that the way to influencing what was perceived as a conservative judiciary was to influence law school training. Tangibly, Ford supported the direct creation of several "rights"-oriented campus-based law centers at Columbia Law School, Georgetown, and the University of Chicago, and corresponding law journals, including: *Law and Society*, *Race Relations Law Reporter*, *Columbia Journal of Environmental Law*, and *Harvard Civil Rights- Civil Liberties Law Review* (Roelofs, 2005). The overall tactic was that of a pipeline approach to progressive ideology. Funding an infrastructure that served to influence legal training, recruitment, publication, and research was intended to culminate in a meta-effect on the judiciary and public policy, to ensure a progressive stance on the rights of the disadvantaged (Roelofs, 2005). Structurally, Ford helped institute the academic apparatus to support legal expertise on rights based issues. Culturally, Ford's involvement helped solidify the appropriateness of foundations and the legal academic apparatus as partners for pursuing the public's interest. In combination these structural and cultural influences worked to shape the legal environment that informed legal judgments.

Foundations with Conservative Social Agendas Acting in Higher Education

Conservative private philanthropic foundations increased in number and activity following a number of years where foundations with progressive foundations operated largely alone (Lenkowsky & Piereson, 2007). Given that progressive foundations were largely responsible for facilitating the development of a great deal of the structural apparatus of higher education (endowments, pensions, business practices, structuring the disciplines, reforming academic programs), conservative foundations in the later-half of the century used their patronage to modify the existing structure and culture of the institutional terrain towards a vision that was more consistent with their ideas and visions for society and higher education.

Agenda: Believing in Ideas and Research to Solve the Problem of Liberal Bias

In order for conservative foundations to promote their social agendas and preferences, they have repeatedly relied on a structural approach to supplement the primary knowledge production apparatus. Building on the early efforts of the progressive foundations to construct an external knowledge apparatus with coordinating bodies of interlocked networks of likeminded people and organizations (research councils, think tanks, professional associations, etc.), conservative foundations expanded this idea in a manner that suited their aims.

External Think Tanks When authors describe the influence of the conservative movement on higher education, the overwhelmingly common example is the proliferation of think tanks since the 1960s that espouse conservative ideologies and policies (Alterman, 1999; Blackburn, 1995; Cole & Reid, 1986; Covington, 2005; Cross, 1999; Denvir, 2003; Lee, 1994; Lenkowsky & Piereson, 2007; Lincoln & Cannella, 2004; McClennen, 2006; Meranto, 2005; Messer-Davidow, 1993; People For the American Way, 1996; Reindl, 2006; Selden, 2005; Starobin, 1996; Stefancic & Delgado, 1996); see Table 5.2 for a listing of the conservative think tanks that are typically listed among these examples. Cole and Reid (1986) conclude that the conservative agenda is to develop an alternative system of research and idea generation

Table 5.2 Conservative think tanks and external knowledge production organizations

Name of think tank
American Enterprise Institute, 1943
Center for Individual Rights, 1988
Center for the Study of Popular Culture, 1988; David Horowitz Freedom Center, 2006
Clare Booth Luce Policy Institute, 1993
Ethics & Public Policy Center, 1976
Foundation for Individual Rights in Education, 1999
Fordham Foundation, 1959
Heritage Foundation, 1973
Hoover Institute, 1919
Hudson Institute, 1961
Institute for Educational Affairs, 1978
Intercollegiate Studies Institute, 1953
Madison Center, 1988 / Madison Center for Educational Affairs, 1990
Manhattan Institute for Public Policy, 1977
National Alumni Forum / American Council of Trustees and Alumni, 1995
National Association of Scholars, 1987
Pacific Legal Foundation, 1973
Pope Center for Higher Education Policy, 2003

that will replace and destroy the 'intellectual superstructure' of the academy with a new knowledge framework that is dedicated to conservative ideology and the promotion of free market capitalism. This agenda is based on the premise that ideas shape mass opinion and preferences, and to create broad scale adoption of conservative ideals for society, conservative ideas must achieve both legitimacy and dominance in the marketplace of ideas (Cole & Reid, 1986). This strategy of conservative idea cultivation is enacted by developing and sustaining think tanks that conduct research and policy analysis, support educational programs, retain scholars, and generate publishable material. Blackburn's (1995) observation suggests that conservative think tanks have become:

Home to nonteaching professors and shadow cabinet ministers hired to spread a patina of academeese and expertise over the views of their sponsors ... Rather than endow chairs at universities where teaching is done and peer review is practiced ... big-givers find it more cost-effective to endow 'fellows' and 'resident scholars' at places like Heritage. They churn out forests of papers, report and newsletters, cross-citing one another, and mail them to legislators, opinion molders and, for a small charge, amateur political junkies and the more literate members of the militia movement. (p. 18)

Essentially, conservative foundations possessing an agenda to overcome what they see as dominance of liberal expertise in academe have approached their goals by developing a structure of think tanks that stands in relative parallel to the role of knowledge production and dissemination in the academy, only without the accountability of peer review (Messer-Davidow, 1993). Culturally, think tanks have gained legitimacy as evidenced by the policy making community's willingness to treat their advice and advocacy as acceptable and valid, despite it emerging from a knowledge production process that is outside higher education (Messer-Davidow, 1993). Structurally, Messer-Davidow regards the conservative think tank apparatus as successfully creating "competition among 'scientific' knowledges ... likely to be readily consumed by policymakers and other publics without much critical analysis to differentiate them" (p.54). Moreover, conservative efforts to shape the external knowledge production process has had lasting implications for what constitutes legitimate knowledge currency, and has direct implications for the function and role of higher education in society (Lincoln & Cannella, 2004).

Internal Research Centers and Programs Aside from contributing to knowledge production activities that are external to the academy, conservative foundations provide grants to promote their views within the academy (Covington, 2005; People For the American Way, 1996). Building on the norm that progressive foundation established of targeting elite institutions to ensure maximum diffusion, conservative funding has been concentrated in places like Harvard, Yale, the University of Virginia, Johns Hopkins, New York University, Cornell, Princeton, Stanford, and MIT (Covington, 1997; People For the American Way, 1996). Typically, funding is directed to law, economics, history, political science, or public policy programs (Covington, 2005; Fiore, 1997; McMillen, 1992).

Of all the conservative foundation funded academic programs, the combined study of law and economics emerged in the early 1990s and has since achieved great

popularity among a host of conservative foundations (Covington, 1997). Foundation grants came with direct provisions for programs to focus their studies on the legal aspects of free-market capitalism (Covington, 1997). Foundations desired these programs because they generated scholarship, research, and publications that conveyed a favorable view of business in the legal system, and promoted foundations' accompanying market-views of the social world (Covington, 1997). The Olin Center at University of Chicago, and the Law and Economics Program Center at George Mason University, have stood out among conservative funders as models to emulate (Bernstein, 2005; Covington, 2005; Fiore, 1997; McMillen, 1992; University of Chicago, 2000). While foundations have regularly invested in university programs at conservative schools like Boston College, Hillsdale College, and Claremont McKenna College, Covington's analysis indicates that conservative foundation funding has diffused widely throughout higher education, noting that 145 academic institutions received over \$88.9 million dollars in funding between 1992–1994 to support conservative academic programs and research.

Underrepresented Scholars Stemming from the belief that there is profound liberal bias in academe, foundations perceive individual grant-making as a way of increasing ideological diversity, namely inserting and breeding conservative views (Covington, 2005). Conservative foundations apportion their money to graduate students and fellowship programs designed with the express purpose of fostering “the next generation of conservative scholars, journalists, government employees, legislators and activists” (Messer-Davidow, 1993; People For the American Way, 1996, p. 12). The combination of conservative oriented programs, research centers, and individual grants, have come to serve as a pipeline for conservative ideological diffusion in society (Messer-Davidow, 1993). This practice is very similar to the progressive approach that was instituted in rights-based legal education. The newly minted PhDs from the conservative programs acquire all the legitimate academic credentialing from established and often elite colleges and universities, and come well prepared to staff the external knowledge organizations and think tanks, or seek appointments within the academy to further the line of conservative scholarship (Starobin, 1996).

Conservative foundations have used their resources to imitate the existing higher education knowledge production structure by directly funding university research centers with missions and funding individual scholars/students that correspond to conservative views of the world. This approach combined with the external think tanks has seemingly produced a very extensive collection of well-funded sources for expertise that government and the market can draw from. By virtue of conservative programs and research centers being located within higher education, the conservative ideas generated there can piggy back on the underlying principle of academic objectivity that has traditionally been associated with university research. Imitating the long established tactic of foundations supporting university research and corresponding avenues for publication, lends these conservative programs a great deal of cultural legitimacy.

Agenda: Structuring Higher Education so that it Embodies Conservative Views

Other than think tanks serving as the dominant example of conservative foundations' attempts to overcome liberal bias in higher education, a litany of conservative books (see: Bloom, 1987; Cheney, 1992; D'Souza, 1991, 1995; Kimball, 1990) are regularly held up as the intellectual backbone of conservative thinking with regard to higher education (Alterman, 1999; Messer-Davidow, 1993). These books have functioned to make the case that the structure and norms of the higher education experience have been insufficiently diverse due to the hegemonic dominance of liberal ideas, practices, and policies (Alterman, 1999). For example, the book *Telling the Truth: A Report on the State of Humanities in Higher Education* (Cheney, 1992) outlined an argument which claimed that the liberal arts curriculum had been usurped by radical feminists and Marxist faculty who were using the classroom to promote their political messages and thus subversively threatening colleges and universities; and claimed that the only solution to remedying the problem of propagandizing in the classroom was for "conservative activists ... to bring external pressure on the university" (Selden, 2005, p. 37).

Curricula Emerging from the conservative books claiming liberal bias in higher education curricula, several think tanks and external groups focused on efforts to redefine the undergraduate liberal arts curriculum as one which consists of a Western canon that amounts to education that is derived wholly from content without consideration of the process (Lazere, 2005a; Messer-Davidow, 1993; Selden, 2005). Selden reports that the Intercollegiate Studies Institute, the Madison Center for Educational Affairs, and the American Council of Trustees and Alumni have received over \$18 million in conservative foundation funding to "produce and distribute campus guides and curriculum evaluations designed to influence the public's perception of university faculty and the undergraduate curriculum" (p.37). These reports are attempts to efforts to create a 'mono-intellectual discourse' that undermines the various methods and approaches to academic inquiry and knowledge creation that have emerged in the critical post-modern academy (Lincoln & Cannella, 2004). The reports argue for change to the undergraduate curricula by both, relying on the authority and influential role that foundations have typically been afforded when partnering with external coordinating organizations to foster educational reforms, and popularizing research that is familiar to a mass audience with only a general understanding of higher education. This conservative approach very much resembles the earlier progressive educational reforms in medical education and the disciplines; where foundations diagnosed the trouble spots. Moreover, by relying on familiar tactics the conservative foundations are afforded cultural legitimacy.

Efforts to influence curricula have been coupled with conservative foundation involvement in educational accreditation. For example, the Olin foundation provided

funding to the National Association of Scholars (NAS⁵) to establish an accrediting agency called the National Academy for the Advancement of the Liberal Arts (McMillen, 1992). This agency was designed to stand in sharp contrast to another more centrist accrediting body, the Middle States Association of Colleges and Schools, by insisting on the Western canon and a body of course work that was supportive of free market capitalism (McMillen, 1992). Again, using the cultural legitimacy that has traditionally accompanied the advice of experts from within the academy, conservative foundations used their grant-making activity to attempt to influence the structure of higher education curricula via altering the standards for accreditation.

In the past two decades, there have been concerted efforts to provide potential students, or what conservative types and much of the general public view as the consumers of higher education, with tools and guides that are presented as a kind of a 'consumer reports' function in selecting the best colleges. Olin money provided funding to prepare and publish, *The Common Sense Guide to American Law Schools* (McMillen, 1992). Similarly, Bradley, Earhart, and Olin monies all support the development of *Choosing the Right College*, *The Common Sense Guide to American Colleges*, *The Shakespeare File*, and *Defending Civilization* (Selden, 2005). These guides were developed in partnership with organizations such as the Institute for Educational Affairs, NAS, and the Hudson Institute (Stefancic & Delgado, 1996). Selden notes:

Unlike other college guidebooks, which are mostly descriptive, the rightwing guides mount an ideological assault on American higher education reflecting a broader conservative moral, social and political agenda. This agenda joins support for economic privatization and conservative values in the public sphere to the Western canon and resistance to affirmative action. It is designed specifically to achieve a conservative reconstruction of the public's understanding of social justice, market economics, and the role and responsibilities of the polity in a democracy (p.35)

In general, the field of higher education has responded to external organizations' college guidebooks and rankings of quality to ensure that both recruitment and institutional prestige remain stable (Litten & Hall, 1989; McDonough, Antonio, Walpole, & Perez, 1998; Meredith, 2004). The usual rankings and guidebooks are produced by the for-profit sector (magazines) and have focused on quantitative data, opinions, or faculty evaluations (McDonough et al., 1998). Conservative foundation patronage and their grantees have structurally introduced new standards of 'quality' that higher education has had to contend with, which now include measures of political or ideological bias. Culturally, foundations have helped to add salience to the idea that it is proper for higher education institutions to place attention on the political and ideological balance of their curricular offerings, in an effort to achieve diversity in the marketplace of ideas.

⁵A professional association of conservative minded faculty and administrators inside the academy.

Agenda: Reform Culture of Higher Education So Campuses Support Conservative Views

Conservative foundations have aspired to shift campus culture by funding groups of students, faculty, alumni, and administrators. On a macrosocial level, the Center for the Study of Popular Culture, a conservative external knowledge production organization founded by David Horowitz and Peter Collier, has received funding from Olin, Bradley, and other conservative foundations to support the research and publication of *Heterodoxy*, a journal designed to report on campus culture with “stories about speech codes, diversity training, multiculturalism, date rape, and AIDS” (Stefancic & Delgado, 1996, p. 132), or topics that conservatives typically view as evidence of liberal campus bias. Although this is a solitary example of foundations pursuing an indirect path to influencing higher education culture, there are several other tactics that are targeted more directly at individual members of the higher education community.

Student Press A common example of conservative foundations' attempts to influence campus culture is their funding of the student press (McMillen, 1992; People For the American Way, 1996; R. B. Smith, 1993; Stefancic & Delgado, 1996). In 1979, a University of Chicago student started the publication, *Counterpoint*, as an alternative to the mainstream campus paper; soon after the *Dartmouth Review* emerged, along with conservative papers at Michigan, Harvard, Brown, and Yale (Smith, 1993). With direct support from the Olin, Coors, Earhart, Sarah Scaife, and H. Smith Richardson foundations, conservative student papers have grown to populate campuses at both public and private institutions (Smith, 1993). Organizations such as the Madison Center for Educational Affairs and the Intercollegiate Studies Institute, using funding from conservative foundations, developed the Collegiate Network to help campus editors pursue conservative agendas in their papers (Messer-Davidow, 1993; Smith, 1993; Stefancic & Delgado, 1996). The Collegiate Network and other conservative think tanks provide guidance for undergraduate journalists by offering grants, a toll-free hotline, conferences, advice, a news service that is linked to national conservative magazines, internships, summer programs in Washington, awards programs, and a clearinghouse for likely advertisers (Smith, 1993; Stefancic & Delgado, 1996). According to Smith's summation the dominant theme of the conservative student press is “a common perception among students that their educations are being compromised. The culprits: forced multiculturalism and diversity, ‘pandering’ to feminists and homosexuals, and, more basically a pervasive climate of political correctness” (p. 26). Building on the training opportunities for student journalists, the Olin and Bradley foundations fund the National Journalism Center. This organization has functioned as a conservative employment agency and places graduating conservative journalists throughout mainstream media outlets (Stefancic & Delgado, 1996).

Foundations have supported the conservative campus press through direct and indirect means, supplying student papers with grants, and funneling their money through likeminded external organizations which subsequently provide support to student journalists. It is difficult to estimate the extent to which the diffusion of the conservative campus press has spread due to the influence of foundation mobilization versus some other influence like individual student relationships. Regardless of the exact reason, foundation money has helped to sustain the efforts on many campuses and allow students to tap into an established network of powerful elites that have become well versed in communicating a conservative message (Binder & Wood, 2012). Structurally, some institutions have had to adjust their policies and practices, reinterpreting speech codes or rules to address the confrontational brand of conservative student journalism, that tends to foster a culture of hostility on campus (Smith, 1993).

Leadership Training Conservative think tanks have created an extensive network of conferences and leadership development programs for students (Beckham, 2007; Binder & Wood, 2012; Hutchings, 2007; Lee, 1994; Stefancic & Delgado, 1996). Typically the content of the leadership training consists of learning “broadcast journalism, campaign leadership, public relations, rhetoric and campaign skills ... candidate development and Capital Hill staff training” (p.114), and training is often complemented by a conservative speakers bureau and placement service for internships and employment (Stefancic & Delgado, 1996). Notably, the Young America’s Foundation (YAF) has achieved prominence delivering training to young conservative college students since 1969 (Binder & Wood, 2012). With funding from the Wiengand, Stranahan, Salvatori, and Kirby foundations YAF has been able to produce publications such as *The Conservative Guide to Campus Activism*, and coordinate efforts at countering liberal arts colleges’ progressive cultures through student leadership training, speaker series, and advice on conservative campus activism (Houppert, 2002; Stefancic & Delgado, 1996). More recently, Binder and Woods’ (2012) in-depth study of college students revealed the manner in which YAF’s and other ideologically conservative foundations’ patronage has contributed to cultivating a conservative political consciousness among American youth on campuses. The efforts of YAF and similar programs (such as the Kirby Foundation’s National Training Center) operate under the logic that by nurturing conservative perspectives early in students’ intellectual careers, the students will subsequently promote these views in their professional posts in journalism, politics, academe, or the network of conservative think tanks and external organizations (Binder & Wood, 2012; Lazere, 2005a, b, July 20; Lee, 1994; Stefancic & Delgado, 1996).

Leadership training has been a structural formula employed by progressive foundations to support activism that was largely born of the 1960s (Altbach & Cohen, 1990). Typically, an external, often national organization, with expertise provides students with skills, ideas, and strategies. This approach to campus leadership and

activism has been implemented widely in the co-curriculum and can be found in campus organizations as varied as fraternities and sororities, to academic / pre-professional clubs, honor societies, sports and recreational organizations, and service or religious student groups (Whipple & O'Neill, 2011). The conservative foundations and think tanks in partnership have employed this familiar approach and developed the resources to help students carry out their leadership plans through the use of conservative speakers' bureaus and guidebooks for campus level programs and activism. The familiar model of leadership training that foundations and think tanks have used helps justify these activities. Despite a scarcity of empirical evidence evaluating their influence, conservative leadership-training pipelines create the potential for elevating the capacity of participating students to enact a conservative agenda on campus. Based on a pilot study of a conservative student organization, the Young Americans for Freedom at the University of Michigan (Barnhardt, 2006), the leadership and activist training and guidance that individual student members received with the support of foundation funding and think tanks, allowed the small organization to assert itself as an activist force in campaigning for the passage of the Michigan Civil Rights Initiative (which ended affirmative action in the state of Michigan). It is difficult to argue that the passage of this proposal and others that have preceded it elsewhere have not had a profound effect on the structure, culture, and legal environment of higher education. This study suggests that well trained conservative student activists are likely to effectively promote their ideological objectives.

Faculty Organizations The National Association of Scholars (NAS) and Campus Watch are two faculty focused organizations that attempt to convene a collective of conservative faculty, administrators, and graduate students (Lazere, 2005a, b; Lenkowsky & Piereson, 2007; People For the American Way, 1996; Stefancic & Delgado, 1996). The Olin, Smith Richardson, Sarah Scaife, Bradley, Coors, J.M., and Wiegand foundations have a history of funding their programs, administrative and operating expenses, publications, and conferences (People For the American Way, 1996; Stefancic & Delgado). Stefancic and Delgado report that NAS's position papers regularly critique multicultural, women's, area, and ethnic studies as biased, and institutional affirmative action policies in college admissions, employment, and financial aid as inappropriately compromising standards. To some extent it is unclear to whom these organizations are really primarily resources for - faculty, students, parents of students, college administrators, trustees, or the public at large - given that their approaches attempt to reach all of these constituencies depending on the political salience of mobilizing one or more of these groups for any given higher education issue. Conservative faculty groups exert a great deal of field-level cultural influence on campuses because their members are in position to provide first hand, authoritative accounts of campuses suppressing conservative views and scholarship.

Alumni Involvement and Governance The National Alumni Forum (NAF) was founded in 1994 with the financial support of the Bradley, Earhart, Olin, and the Smith Richardson foundations, along with the ideological and strategic support of the Intercollegiate Studies Institute and NAS (Selden, 2005; Stefancic & Delgado, 1996). NAF aims to elevate alumni awareness of campus political intolerance, the degradation of intellectual standards largely done through the erosion of a Western curricular canon, and sloppy or irresponsible governance (Breneman, 1996; DeRussy, 1996; Martin & Neal, 2002; Stefancic & Delgado, 1996). In recent years, NAF has been intentional in trying to link pedagogy to patriotism in the aftermath of September 11, 2001 (Denvir, 2003; McClennen, 2006; Selden, 2005). Stefancic and Delgado note that NAF pursues their aims by encouraging alumni to:

Use the power of their financial support – \$2.9 billion dollars annually – to influence the direction of colleges and universities ... by participating in governance, serving on committees and boards, and targeting or withholding gifts according to what they see going on on campus. (p. 127)

After generating a great deal of momentum in the area of conservative trustee activism, NAF changed its name to the American Council of Trustees and Alumni (ACTA). ACTA has supported its belief in what it terms ‘alumni rights’ and ‘board activism’ at an increasing number of institutions (Fain, 2006; Fuentes, 1998; Guess, 2007), as exemplified in media attention devoted to insurgent conservative trustee movements, such as that which occurred at Dartmouth College (Lewin, 2007a, b, c; Schemo, 2006). Additionally, ACTA’s brand of alumni governance and involvement has achieved status as a viable means for orienting and training trustees, and has given the Association of Governing Boards some competition (Healy, 1997).

Summary Conservative foundations’ channeling alumni, faculty, and students toward conservatism has served to promote (or at least project the appearance of promoting) a conservative campus culture. As evidenced above, these tactics have proved to alter the structure of the field of higher education so that it now has a greater number of campuses with well-financed conservative student papers and conservative student activists, organized conservative faculty and administrators, and a better mobilized collection of alumni prepared to take an activist stance for conservative ideals.

Agenda: Striving for Race-Blind Policies and Practices

Eugenics The Pioneer Fund has long been associated with the eugenics movement, a line of research focused on linking biology, intellect, and personality and claims that certain races, ethnicity, and classes of people are inherently ‘feebleminded’ or ‘uncouth’ based on their genetic composition (Miller, 1994; Stefancic & Delgado, 1996). Pioneer was outspoken in its opposition to the *Brown v. Board of Education* on the basis of its research in eugenics, and the fund’s future director Henry Garret,

a psychology professor from Columbia University, was a featured witness for the segregationists in the trial (Miller, 1994). Pioneer's continued strategy (even after eugenics lost much of its credibility) has been to fund individual scholars at dispersed prestigious institutions such as: Johns Hopkins University, University of Pennsylvania, University of California at Santa Barbara and Berkeley, University of Georgia, Stanford University, City College of New York, and the University of Southern Mississippi (Miller, 1994) to foster its line of research. *The Bell Curve* (Herrnstein & Murray, 1994), a book lauded among conservative individuals and think tanks for its anti-affirmative action agenda, relied heavily on the findings of scholars that were sponsored by Pioneer funding (Stefancic & Delgado, 1996). Culturally, the Pioneer fund directly attacked the educational policy of affirmative action by providing sustained support to eugenics research. Although Pioneer is the only fund highlighted in depth, generally speaking, conservative foundation patronage has helped think tanks propel anti-affirmative research, ideology, and campus based campaigns (Messer-Davidow, 1993; Stefancic & Delgado, 1996).

Legal Challenges Conservative foundations have played an instrumental role in advancing their social agendas with regard to affirmative action (Roelofs, 2003). Initially, the ground work was set with foundation funded think tanks and external knowledge organizations attacking diversity and multiculturalism in the name of preserving academic standards (Lincoln & Cannella, 2004). Then, emerging from the progressive strategy of promoting an educational pipeline to influence legal philosophy, conservative foundations funded a number of public interest law firms that were specifically interested in opposing affirmative action and equal rights legislation (Rhoads, Saenz, & Carducci, 2005; Roelofs, 2003; Southworth, 2005). Subsequently, the foundation funded Center for Individual Rights (CIR, founded in 1989), published handbooks for universities with advice for students, trustees, and institutions on how employ legal rationales to advocate for anti-affirmative action policies in higher education (Cross, 1999; Hebel, 1999; Messer-Davidow, 1993; People For the American Way, 1996; Stefancic & Delgado, 1996). CIR placed advertisements in campus newspapers encouraging students to sue their institutions for racial discrimination (Cross, 1999), and "threatened university trustees and administrators with dire legal penalties if they persisted in their current affirmative action" (p. 95). Foundation support has allowed CIR to take a lead role in contemporary high profile court cases regarding affirmative action, *Hopwood v. Texas*, *Regents of California v. Bakke*, and the Michigan cases *Grutter v. Bollinger* and *Gratz v. Bollinger* (Rhoads et al., 2005; Stefancic & Delgado, 1996).

Aside from the court cases, conservative foundations such as Bradley, Olin, and Scaife have contributed over \$5.7 million between 1997–2005 in funds to support the American Civil Rights Institute (ACRI) – an organization founded by the California Regent, Ward Connerly, that led the passage of the Proposition 209 ballot referendum which ended all affirmative action programs in California (Berkowitz, 2007). ACRI supported the passages of similar ballot referenda in

Michigan, Washington, Florida, Nebraska, Arizona, Oklahoma, and worked on passing similar proposals in Missouri and Colorado.

Conservative foundations funded an incremental and multifaceted approach in their attempts to craft a society and a field of higher education without racial affirmative action. The combined efforts of supporting student, faculty, and alumni mobilization provided a cultural climate that was more conducive to affirmative action challenges on campus. Then the subsequent support of external organizations and litigation functioned to promote the structural and legal changes conservative foundations hoped to achieve. This topic certainly remains unsettled as evidenced by the continuation of *Fisher v. University of Texas at Austin* case, that evolved into a second iteration with the U.S. Supreme Court, where that body rendered a decision regarding the legality of universities considering race in selective college admission in June of 2016. As long as an anti-affirmative action social agenda exist, and the funding remains intact, conservative foundations are likely to advance their positions on this matter to pursue their desired higher education policy reforms.

Foundations with Radical Social Agendas Acting in Higher Education

Agenda: Supporting Social Justice and Racial Uplift

Rosenwald Fund Inspired by Booker T. Washington's philosophy of racial uplift, Julius Rosenwald a northern Jewish industrial philanthropist, set up a private foundation in 1917 to advance the cause of Negroes in society (Beilke, 1997; Ostrander, 2005) through "four major areas: education, health, race relations and fellowships" (Ostrander, p. 6). Rosenwald was perceived as radical at the time because he believed that the economic success of Whites had a direct tie to the prosperity of Blacks (Beilke, 1997). The Rosenwald fund provided grants to southern Blacks for graduate education because it was largely unavailable for them at that time; and improving the quality of teachers and the training they received, would benefit Blacks at all educational levels (Beilke). The fund also facilitated the establishment of four university centers focused on graduate-level programs for southern Blacks. These centers were developed in partnership with the General Education Board (Beilke) in Washington, DC (Howard University); Atlanta (confederation of Spelman and Morehouse colleges and the Atlanta University and School of Social Work); Nashville (Fisk University & Meharry Medical College); and New Orleans (Dillard University and Flint-Goodridge Hospital). Rosenwald provided fellowships to scholars and thus opened previously closed doors to Blacks in higher education. With the assistance of the fellowships, Black scholars were able to establish a notable presence in academic disciplines such as mathematics, sociology, economics, anthropology, education, and biology (Beilke, 1997).

The Rosenwald efforts with regard to Black higher education signaled both structural and cultural transformation in higher education. A solid infrastructure for African American education, research, and scholarship was established; and the accompanying individual support launched many capable Black individuals to achieve levels of academic success that were unparalleled at the time. The display of intellectual talent development in the Black community provided both a road map to emulate institutionally, and evidence that Black academic achievement is attainable.

One of the key characteristics that points to Rosenwald's radical social agenda was its partnerships with collective organizing. Whether or not it was entirely intentional, the Rosenwald Fund was well-connected to strategic partners in the overall efforts to advance the status of African Americans in U.S. society. The fund coupled its direct grant-making to higher education programs and individuals with financial support for groups that were concerned with issues of race and African American well-being more generally. The fund provided money to emerging civil rights causes like the NAACP and the National Urban League, and to medical services for African Americans (Ostrander, 2005). Beilke's (1997) analysis indicates that the foundation Board had close ties to progressive organizations and prominent individuals such as the Rockefeller foundation, the Chicago race relations commission, the National Urban League, and Franklin D. Roosevelt's administration. The relational ties Rosenwald cultivated helped integrate the foundation's resources with mainstream social activism groups, symbolic leaders, and publications that seamed together radical visions of democratic principles and economic ideals (Beilke).

It is important to add that Julius Rosenwald opposed the creation of perpetual philanthropy because of the tendency for it to become overly bureaucratic and perfunctory at the downfall of achieving its primary social goals (Beilke, 1997; Ostrander, 2005). Therefore his will directed that all the principle and interest of the foundation be spent in the twenty-five years after his death in 1932 (Beilke, 1997; Ostrander, 2005). His funding philosophy was to reduce the scope of the organizational machine as a means to direct funds to where they were needed most (Beilke). Essentially, his investment in the capitalistic economic structure ceased to exist once his foundation was established because he wasn't tied to the revenue created through investments. Thus, the structure of the Rosenwald fund stands out as a radical facet in the sense that it divorced itself from the economy to achieve its vision of social justice (Bothwell, 2003).

Agenda: Believing in the Power of Democratic Civic Participation and Social Movement Ambitions to Transform Society

Democratic Base Building Foundations have relied on the principle of supporting local, collective action to promote the mobilization of their social agendas. This philosophy extended to direct support for campus-based student organizing.

Following her father Julius Rosenwald, Edith Stern established the Stern Fund in 1936 with an explicit focus to “concentrate funding on racial justice” (Ostrander, 2005, p. 41) by pursuing systemic and broad changes, an ambitious social agenda for the time. For Stern this agenda translated into grant-making that supported the anti-nuclear movement, alternative energy development, and women’s rights. With regard to higher education, Stern’s social agenda prompted it to finance democratic base-building organizations such as the Students for Democratic Society and CORE (Congress of Racial Equality) (Ostrander, 1999, 2005).

Other foundations have also asserted their resources for the purpose of promoting democratic base building and grassroots support for social justice issues. The Schwarzhaupt and Wieboldt Foundations provided funding, leadership training and tactical advice to the Student Nonviolent Coordinating Committee (SNCC) (Jenkins & Halcli, 1999). Jenkins and Halcli view these grant-making efforts as one of the few attempts in the 1950s where foundations funded social movement organizations directly as a means of pursuing their social agendas. Although the Ford foundation is typically perceived as a progressive foundation rather than a radical one, it provided grant money to support the National Student Association (NSA), a group that was viewed in the mainstream as possessing a radical view of participatory campus activism (Hart, 1972). Ford funded NSA’s student leadership training program, which was designed to help students become more effective advocates for pursuing campus-based curricular reforms and dealings with faculty and administrators (Hart, 1972). Jenkins and Halcli (1999) also regarded Ford as acting radically, through its grant-making that “almost single-handedly launched a set of new advocacy organizations” (p.232), including the National Council of LaRaza, the Mexican-American Legal Defense Fund. All of these democratic base building examples reinforce the idea that radical social reform foundations tend to receive the ‘radical’ label based on the historical context and cultural climate in which the grants were made. Consequently, in some time periods, scholars’ assessments of Ford’s general progressive tendencies were interpreted as being more extreme, and thus radical.

Neoliberal Strategic Foundations

Today’s neoliberal strategic foundations’ social agendas are focused on activating structural reforms across the field of higher education including: increasing higher education access and degree completion (especially for underserved students), instituting educational policies and public funding schemas that stress organizational outcomes and metrics that are tightly coupled to foundations’ preferences (Thümler, 2014b), and internally restructuring postsecondary education so that curricula and credentials emphasize individual competencies and skills that are instrumentally useful to employers (Katz, 2012; Wells & Ramdeholl, 2015). The Gates, Lilly, Broad, Walton, and other mega-foundations’ neoliberal strategic aims and impact have received attention, but most of it has been in the K-12 literature (Hess, 2005;

Mehta, Schwartz, & Hess, 2012; Quinn et al., 2014; Ravitch, 2010; Reckhow, 2013). While scholarly analysis surrounding the neoliberal strategic foundations' higher education aims are fewer in number, and empirical evaluations are rare (Bachetti, 2007), some writing focuses on their social agendas and corresponding field-level impact. Most of what has been written stresses the aim of today's foundations to aggressively fund initiatives that encourage degree completion and curriculum that closely parallels workforce needs.

Agenda: Create a System of Higher Education that Prioritizes and Incentivizes Degree Completion and Supports Workforce Preparation

Degree Completion The Lumina foundation declared that it desired to increase postsecondary degree completion to 60 % by 2025. Katz (2012) notes that Lumina and its likeminded peer foundations' see the completion aim as a way to align the entire educational system. Their complementary work in K-12 has been pursued under the aim of better preparing students to enroll in college, as such college becomes an instrumental means for a career. Lumina's agenda has become part of the mega-foundation agenda for higher education, that is using their patronage to achieve instrumental degree attainment goals (Katz, 2012). This is typically framed as good for the individuals, and good for economy – which also results in being good for the funders who have functionally accrued the greatest material benefits from the existing economic system. Yeakey (2015) argues that the social impact of advancing major donors' preferences that favor an instrumental view of higher education, works to foster a culture that stresses the extrinsic value and utility of college and correspondingly overshadows “intrinsic values of social responsibility and critical citizenship” (p.121) that are needed for the maintenance of democracy in American life. Her concerns are a frequent point of emphasis among analysts of the neoliberal strategic approach that is characteristics of many of today's megafoundations (Ealy, 2011; Edwards, 2011; Ramdas, 2011; Rogers, 2011).

The degree completion agenda is also prefaced in social aims for teaching and instruction in higher education (Boyce, 2013). The neoliberal foundations tend to view instruction and credit-bearing classes based on in-seat class time as a potential hindrance to students progressing towards and completing their degree (Parry et al., 2013). They have a high regard for technology as a pedagogical instrument that can be applied to course delivery to make college more accessible to students who may be restricted by time or location from participating, and educational technology is viewed as an efficient and scalable approach that can diffuse to campuses easily - thus encouraging widespread reform in instruction (Boyce, 2013; Selingo, 2013).

Curriculum and the Content of the Academy Among the neoliberal strategic foundations, those pursuing curricular reforms most robustly tend to be those foundations that have been more traditionally associated with conservative foundation

patronage (Kumashiro, 2012). The Koch foundation is perhaps the leader in this domain, and has drawn much discussion (Flaherty, 2015; Levinthal, 2014a, b, 2015a, b, c; Markay, 2015; Tankersley, 2016). Students' concerns on some campuses over the Koch curricular agenda for higher education inspired their grassroots action with the formation of a group called *UnKoch My Campus* (www.unkochmy-campus.org). Tangibly, the Charles Koch foundation has spent \$200 million in higher education to date, with a stated desire to elevate this giving as part of its overall social ambition to advance the founders' beliefs in free and open markets, they see expanding the intellectual impact of these ideas as important to building support for their cause (Levinthal, 2015b; Tankersley, 2016). The report issued by UnKoch My Campus (2015), notes that about one-third of Koch's giving has been distributed since 2005 to 300 campuses. The Koch approach includes traditional grant-making approaches such as funding individual faculty members' research and university academic programs, but what characterizes the patronage as neoliberal strategic is intervening into the democratic processes of the university, namely academic freedom traditions. Koch funding has placed conditions on their patronage which included campuses or programs adopting particular course readings, class offerings, and criteria for faculty hires (Flaherty, 2015).

Another wave of neoliberal strategic curricular reforms in higher education is based in advancing a neoliberal philosophy of education that views the problems of education as best remedied through a business-oriented style of management. In pursuing this aim, the Broad and Fisher foundations have been funding efforts that work to alter graduate training in education. These foundations seek to shift the professional preparation of K-12 school leaders from the grasp of universities' schools of education to non-university-based professional preparation entities such as charter school management organizations, and partnership entities that provide leadership and executive management training (Saltman, 2009). Hess and Kelly (2005) describe the aim as elevating 'non-traditional' providers of educational leader preparation as superior to university-based degree programs for K-12 educational administrators because they are more equipped to innovate and work quickly. Foundations' patronage in this area is providing both structural change in credentialing educational leaders, and culturally it is cultivating greater legitimacy for non-university based forms of educational preparation.

Since we are currently in the midst of neoliberal strategic foundations' efforts, the field-level effects and corresponding impact of their patronage on higher education is, in large measure, yet to be determined. Gauging today's neoliberal strategic foundations' social impact will ultimately be judged in time, and by history – arguably it is too soon to tell if their agendas will amass to observable structural reforms across the field of higher education, and sustainable cultural shifts in how the public and policy makers conceive of the role of postsecondary education in society. The openness of gauging foundations' social impact is ironic given that today's foundations are notorious for their absolute commitment to identifying accountability metrics and specifying time intervals in which their proscribed outcomes shall be achieved in their funded initiatives (Bachetti, 2007). Thümler's (2014a) summation in his edited volume

(Thümmler, Bögelein, Beller, & Anheir, 2014) evaluating the contemporary impact of educational philanthropy states that the cases analyzed present “no evidence that they [foundations] can achieve anything like a ‘turnaround’ of the system and there are at least three good reasons to assume that they are not well advised to try” (p.238). He then discusses the reasons for this conclusion. He notes foundations’ “lack of democratic legitimacy” (p.238), a matter which other scholars raise (Edwards, 2011; Rogers, 2011, 2015b) on account of foundations being accountable to only their board members while working aggressively to shape public systems that are enacted through an electoral system of representative governance for and by the people. Thümmler also notes that there is “no robust evidence that widespread change” of the sort foundations are pursuing “will actually lead to quick, lasting and substantial improvement of academic results or any other of major objectives” (p.239) since problems of poverty, racism, and geographic migration acting upon the educational systems are beyond the reach of foundation funded interventions. And third, Thümmler notes that a foundation-mediated turnaround of an educational system is unlikely because rather than drawing empirical evidence, foundations “take refuge in approaches based either on ideology or prevalent rational myths” which he describes as “putting undue emphasis on allegedly rational organizational structures, due procedures and proper evaluation techniques” (p.239). Thümmler’s analysis stands out as one of the few empirical works, but other scholars have drawn similar conclusions through careful scholarly critique noting the potential influence of foundations’ agendas and their reform aims. In fact, an entire issue of *Society* was dedicated to this matter in 2011.

The tricky thing about understanding the impact of the social agendas of the neoliberal strategic foundations is trying to anticipate what the impact of their efforts will be while things are happening in real time. Much of what is understood about foundations’ social agendas has been based on retrospective analyses. Rogers (2015a) draws on Merton’s conception of *manifest* and *latent* functions of social institutions to contemplate the social impact of the current wave of mega-foundation philanthropy. She points to the declared or manifest agenda that the Gates foundation is leading as an example. Gates has stated aims to boost test scores in K-12, facilitate college readiness, increase graduation rates and college degree completion, and to use educational technology to achieve scale and improvement to instruction (Katz, 2012). Rogers describes the latent functions as those “outcomes that are either unanticipated or unintended, and thus not publicly announced” (p.768). Here she notes how Gates’ patronage in pursuing the aforementioned agenda has contributed to the dismantling of some large, urban public high schools. This dismantling was not an overt aim of Gates, but the funding strategy utilized to realize the Gates’ vision was associated with the unanticipated change. Moreover, through this example, Rogers highlights how the manifest and latent functions of patronage often have substantial and often irreversible consequences, especially once foundation support ends. In many respects the current writing about the neoliberal strategic foundations’ agenda for higher education resembles Rogers’ (2015a, b) sentiments; it raises questions about what the intended and unintended cumulative impact of neoliberal strategic foundation patronage will ultimately have on the field as time passes.

Evaluations of Foundations' Social Agendas in the Field of Higher Education

Despite the challenge in tightly or causally linking foundations' agendas to subsequent specific outcomes, it is appropriate to conclude that foundations' social agendas have indeed shaped the field of higher education in dramatic ways. Due to foundation social agendas and their accompanying patronage, this synthesis reveals that higher education has accrued a wealth of benefits from securing financial stability through the pensions and endowments; to systemic coordination of admissions, accreditation, and research; to the structuring of disciplines; to innovative ways of translating social contention into academic endeavors, among others. Higher education has also suffered losses because of social agenda foundation patronage, limits on its autonomy of action (especially on matter of race-based affirmative action), restrictions on academic freedom, and a drifting away from being *the* social institution responsible for research and knowledge creation.

In my assessment the most profound consequence of foundations' social agenda inspired grant-making has been the full scale institutionalization of the external knowledge organizations that were first developed by progressive foundations, and cultivated by conservative foundations. True to neo-institutional theory and field-level theories of resource mobilization (DiMaggio, 1991; DiMaggio & Powell, 1983; Jenkins, 1983; Meyer & Rowan, 1977), conservative foundations mimicked the strategies of their predecessors, the progressives, and then expanded these strategies to develop additional external organizations made up of students and alumni. As Lincoln and Cannella (2004) and Messer-Davidow (1993) have argued, these external knowledge organizations have tested the limits of what constitutes expert knowledge, and have created direct competition for the field of higher education. I would take their argument one step further, and suggest that the full institutionalization of the external knowledge apparatus (Karl, 1985) that now exists, has culminated in the establishment of an entirely new sector with which colleges and universities must now contend in the contemporary field of American higher education.

Figure 5.3 depicts a revised version of the field of higher education, after taking into consideration the institutionalization of the external knowledge sector. It depicts the external knowledge production sector in a horizontally equivalent position to higher education institutions. There is a box drawn around the higher education institutions and the external knowledge sector to symbolize the tendencies of the state, the market, religion, and the public to treat the two entities as if they were one and the same.

Today neoliberal strategic foundations appear to be strengthening the structural shifts in the knowledge creation apparatus, exemplified by their concerted effort to fund research inside their organizations and through partnering think tanks and advocacy organizations (Lubienski et al., 2016; Reckhow & Snyder, 2014). Rogers (2011) argues that the patterns of neoliberal strategic patronage are contributing, in part, to a blurring of the lines of existing social structure. Specifically, she argues

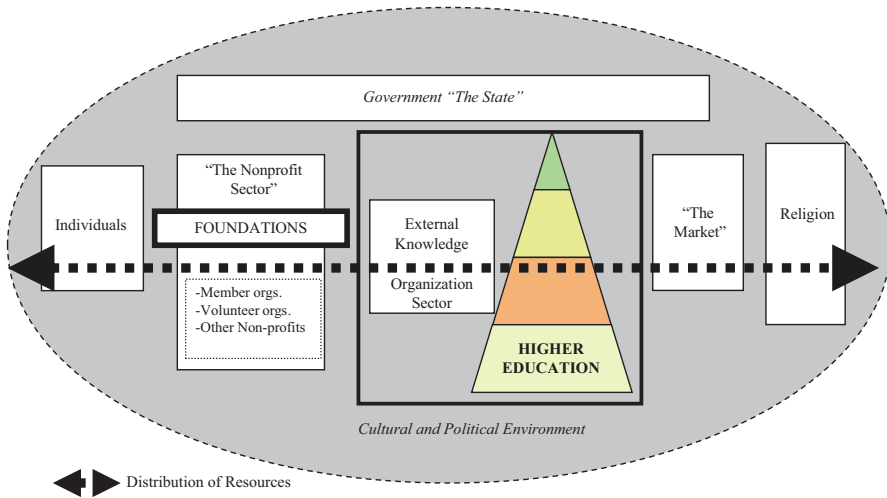


Fig. 5.3 The field of higher education modified

that today's funding norms are muddying the distinctions between non-profit, public, private, investment, and beneficence. Multiple terms have been used to describe the current cleavages that foundation support is placing on the current social structure. Quinn et al. (2014) regard the neoliberal strategic foundation approach as a type of 'institutional entrepreneurship,' where foundations have become skillful in 'sector-bending,' exporting their corporate and managerial stance to their social investment strategy (Rogers, 2011). Reckhow and Snyder's (2014) analysis of foundation patronage in education documents contemporary foundations' increasing preferences for funding 'jurisdictional challengers,' or organizations that work on education in some way but are not conventional educational organizations (school districts, colleges, universities). These shifts will have long term consequences and require greater empirical scrutiny.

While this synthesis suggests that the social agendas of foundations have had a profound influence on higher education, it also suggests that the scholarship on this topic is virtually devoid of helpful guidance on how to respond or react to an agenda. The field of higher education and the foundation community desperately need to know – what happens when institutions choose not to accept grant money from a foundation because of their social agenda and views? Is there an agentic theory of action for how campuses might legitimately pass on socially motivated foundation patronage? Faculty, university community members, and students are increasingly commenting on the viability of turning foundation money down (see Flaherty, 2015; Jaschik, 2007; UnKoch My Campus, 2015) for practical, philosophical, or socially responsible reasons. Higher education deserves a critical assessment of the ways in which it enacts its responsibility to provide for the public good by exercising some intention in accepting or denying foundation funding that is motivated by social agendas. Future research should respond to this need.

Osei-Kofi (2010) emphasizes another point that is of critical importance to contemplating the future of research on the private foundation patronage in higher education. She notes that systematic analyses of the federal tax-exempt status that benefit foundations are rarely pursued, and much of the current foundation research is led and supported by foundation insiders. The first issue she raises suggests that the tax-exempt privilege is philosophically conditioned on foundations taking action that are in the public's collective interest; and her second issue suggests that the research that does exist may advance a sympathetic view of foundation intervention, or presuppose foundation benevolence without deeply interrogating a contrarian view. Other matters ripe for future research are the gaps that analyses tend to gloss over regarding how contemporary funders obtained their fortunes. What if any implications do the origins of a funder's fortune have on how students learn about organizational ethics and leadership? Rogers (2011) argues that there is some evidence that private philanthropists have given "to charity in part to atone for whatever were conceived of as the sins of business" (p.377). Her comments signal the numerous historical and contemporary examples of the contradictions between the process of wealth accumulation and the work of the private foundation philanthropists. Giving, sharing, and helping others are nearly uncontested virtues, but if or when the capacity for doing these things is a function of having taken more than one's share, benefitting while contributing to the suffering of others, or exploiting people or public resources, the relative 'goodness' of the deeds are quickly tainted. Students learn through modeling; will these realities that tie power, wealth, beneficence, and collective good shape the next generation of leaders? Osei-Kofi (2010) remarks:

We must ask ourselves how the ways in which Gates' investment in polluting oil companies while claiming to help those worst afflicted by this pollution are similar to the ways in which Gates' educational initiatives function to temper our outrage over issues of limited access to higher education for minoritized populations and shift our focus away from responsibilities of the State (p.24).

Closing Thoughts

With all of the higher education practices and behaviors that have links to foundations' social agenda grant-making, questions remain about whether the modifications and developments in the higher education field have served the public well. Generally speaking, throughout the literature reviewed, except for Arnove and colleagues (1980b), scholars tend to speak appreciatively of the institution building that progressive foundations engaged in, and decry the conservative foundations' 'attacks' on higher education. These interpretations provide few theoretical implications for whether the public good has been served, even though the analyses present information that there is a relationship between foundations social agendas and the structure, culture, and legal dimensions of the field of higher education. Often, authors

conclude with the proposition that the key to responding to foundations' social agendas is increasing the higher education community's knowledge of them. Simply stated, this proposal is theoretically short-sighted. The field of higher education needs a conceptualization of how it should deal with the very intentional social agendas of foundations and their accompanying grant-making behaviors, in order to ensure that the outcomes of socially motivated patronage fulfill the spirit of philanthropy, to serve the public.

Appendices

Appendix A

Social Agenda Tendencies of Philanthropic Foundations Acting in the Field of Higher Education

Foundation	Evidence of agenda, cited in:
<i>Progressive Foundations</i>	
Peabody Education Fund	Cuninggim (1972), Curti and Nash (1965), Flexner (1952), Hammack (2006), Hechinger (1967), Hollis (1938), Roelofs (2003), and Smith (2001)
John F. Slater Fund	Conley (1990), Cuninggim (1972), Curti and Nash (1965, Hollis (1938), Rhind and Bingham (1967), Roelofs (2003), and Smith (2001)
Rockefeller Foundation (Rockefeller Institute for Medical Research, General Education Board, Laura Spelman Memorial Fund) ^a	Curti and Nash (1965), Douglas (1987), Fisher (1980), Fleishman (2007), Flexner (1952), Grant (1999), Hammack (2006), Havighurst (1981), Hechinger (1967), Hollis (1938), Kohler (1985), Kumashiro (2012), Lazere (2005a, b), Lenkowsky and Piereson (2007), McCarthy (1985), Nielsen (1996), Proietto (1999), Rabinowitz (1990), Rhind and Bingham (1967), Roelofs (2003, 2005), Williams (2001), Kumashiro (2012), and Osei-Kofi (2010)
Anna Jeanes Fund	Conley (1990), Cuninggim (1972), Curti and Nash (1965), Nielsen (1996), Rhind and Bingham (1967)
Carnegie Foundation (Carnegie Corporation, Carnegie Foundation for the Advancement of Teaching) ^a	Brooks (2015), Condliffe Lagemann (1983), Fleishman (2007), Hammack (2006), Havighurst (1981), Hechinger (1967), Hollis (1938), Kumashiro (2012), Lazere (2005a, b), Lenkowsky and Piereson (2007), McCarthy (1985), Proietto (1999), Rhind and Bingham (1967), Roelofs (2003, 2005), Williams (2001), Kumashiro (2012), Osei-Kofi (2010)
Russell Sage Foundation	Fleishman (2007), Flexner (1952), Hammack (2006), Havighurst (1981), Hechinger (1967), Hollis (1938), Lazere (2005a, b), McCarthy (1985), Proietto (1999), Rhind and Bingham (1967), and Roelofs (2003, 2005)

(continued)

Foundation	Evidence of agenda, cited in:
Ford Foundation (Fund for the Advancement of Education (FAE)) ^a	Brooks (2015), Conley (1990), Fleishman (2007), Havighurst (1981), Hechinger (1967), Kumashiro (2012), Lazere (2005a, b), Lenkowsky and Piereson (2007), McCarthy (1985), Proietto (1999), Raynor (1999), Roelofs (2003, 2005), Rojas (2003), Rhind and Bingham (1967), Williams (2001), and Kumashiro (2012)
Twentieth Century Fund	Flexner (1952), Hechinger (1967), Hollis (1938), and Roelofs (2003)
John D. and Catherine T. MacArthur Foundation	Lazere (2005a, b), McMillen (1992), and Roelofs (2003)
<i>Conservative Foundations</i>	
John M. Olin Foundation	Binder and Wood (2012), Cole and Reid (1986), Fiore (1997), Houppert (2002), Kumashiro (2012), Lazere (2005a, b), Lenkowsky and Piereson (2007), Lincoln and Cannella (2004), McMillen (1992), Messer-Davidow (1993), People for the American Way (1996), Roelofs (2003), Selden (2005)), Smith (1993), Stefancic and Delgado (1996)
Richard Mellon Scaife (Sarah Scaife Foundation, Cart hage Foundation) ^a	Covington (1997), Fiore (1997), Houppert (2002), Kumashiro (2012), Lazere (2005a, b), Lenkowsky and Piereson (2007), Lincoln and Cannella (2004), McMillen (1992), Messer-Davidow (1993), People for the American Way (1996), Smith (1993), and Stefancic and Delgado (1996)
Salvatori Foundation ^a	Stefancic and Delgado (1996)
H. Smith Richardson	Covington (1997), Fiore (1997), Kumashiro (2012), Lenkowsky and Piereson (2007), McMillen (1992), Messer-Davidow (1993), Roelofs (2003), Smith (1993), Stefancic and Delgado (1996)
Lynde and Harry Bradley Foundation	Binder and Wood (2012), Covington (1997), Fiore (1997), Kumashiro (2012), Lazere (2005a, b), Lenkowsky and Piereson (2007), Lincoln and Cannella (2004), Messer-Davidow (1993), McMillen (1992), People for the American Way (1996), Roelofs (2003), Selden (2005), and Stefancic and Delgado (1996)
Coord Foundation (Castle Rock Foundation) ^a	Binder and Wood (2012), Lazere (2005a, b), Messer-Davidow (1993), People for the American Way (1996), Smith (1993), Selden (2005)and Stefancic and Delgado (1996)
F.M. Kirby Foundation	Messer-Davidow (1993), Stefancic and Delgado (1996), and Binder and Wood (2012)
The Earhart Foundation	Covington (1997), Fiore (1997), Lenkowsky and Piereson (2007), Smith (1993), Selden (2005)Stefancic and Delgado (1996)
Charles G Koch Foundation	Binder and Wood (2012), Covington (1997), Fiore (1997), People for the American Way (1996), and Starobin (1996)
David H. Koch Foundation	Covington (1997), and Fiore (1997)
Claude R. Lambe Foundation	Covington (1997), and Fiore (1997)
Phillip M. McKenna Foundation	Covington (1997), Fiore (1997), Messer-Davidow (1993), and Stefancic and Delgado (1996)

(continued)

Foundation	Evidence of agenda, cited in:
J.M. Foundation	Covington (1997), Fiore (1997), Messer-Davidow (1993), People for the American Way (1996), and Stefancic and Delgado (1996)
Henry Salvatori Foundation	Covington (1997), Fiore (1997), People for the American Way (1996), and Starobin (1996)
Pioneer Fund	Miller (1994), Stefancic and Delgado (1996)
M.J. Murdock Charitable Trust	Messer-Davidow (1993) and Stefancic and Delgado (1996)
Richard and Helen DeVos Foundation	Binder and Wood (2012) and Kumashiro (2012)
Lilly Endowment of Indianapolis	Lenkowsky and Piereson (2007)
<i>Radical Social Reform</i>	
Rosenwald Fund	Beilke (1997), Conley (1990), Curti and Nash (1965), Flexner (1952), Hechinger (1967), Nielsen (1996), Ostrander (1999, 2005), Rabinowitz (1990), and Rhind and Bingham (1967)
Stern Fund	Hechinger (1967), Ostrander (2005), Roelofs (2003), and Rabinowitz (1990)
Schwartzhaupt Foundation	Andrews (1958), Jenkins and Halcli (1999), and Rabinowitz (1990)
Wieboldt Foundation	Cuninggim (1972), Jenkins and Halcli (1999) and Rabinowitz (1990)
<i>Neoliberal Strategic Foundations</i>	
Eli & Edythe Broad Foundation	Katz (2012), Kumashiro (2012), Lubienski et al. (2016); Quinn et al. (2014), Rogers (2015b), and Saltman (2009)
Bill & Melinda Gates Foundation, 'Gates'	Broad (2014) Edwards (2011), Hall and Thomas (2012), Husock (2011), Katz (2012), Lorenzi and Hilton (2011), Lubienski et al. (2016), McGoey (2015), Osei-Kofi (2010), Quinn et al. (2014), Ramdas (2011), Rogers (2011, 2015b, 2016), Saltman (2009), and Wells and Ramdeholl (2015)
Fisher Foundation	Lubienski et al. (2016) and Saltman (2009)
Kresge Foundation	Wells and Ramdeholl (2015)
Koch Charitable Foundation	Boyce (2013), Flaherty (2015), Miller and Bellamy (2012), and Rogers (2015b)
Lumina Foundation	Katz (2012) and Wells and Ramdeholl (2015)
Walton Family Charitable Support Foundation	Katz (2012), Kumashiro (2012), Lubienski et al. (2016), Osei-Kofi (2010), Quinn et al. (2014), and Saltman (2009)

^a*Donor funded multiple foundations under different names*

Note: Foundations are listed only if multiple references note the existence of a social agenda, and a general tendency to make grants in the field of higher education. This was intended to serve as a very cursory representation of consensus regarding the foundation's agenda

Appendix B

Comprehensive Analysis of the Role of Private Philanthropic Foundations' Social Agendas in Shaping the Field of Higher Education

Area of activity	Fndt. approach	Field-level intervention	Primary effects	Secondary effects
<i>Progressive Social Agendas</i>				
<i>Agenda: Creating a System of Higher Education Free from External Controls</i>				
Endowments	Driver	Direct, to institutions willing to comply with the criteria for eligibility	Structural: Provided a financial basis for institutions, to support growth and stability over time	Cultural: Established foundations as possessing the power to expect institutions to comply with their directives and conditions when gifts are made
Pensions	Driver	Direct, to institutions willing to comply with the criteria for eligibility	Structural: Established pensions for professors and served to stabilize and professionalize the role of faculty	Cultural: Reinforced the appropriateness of conditional giving, and the acceptability of foundations getting what they want when large sums of money are involved
Admissions & Accrediting Criteria	Partner	Indirect	Structural: Established College Entrance Exam Board process, and institutionalized a standard system of counting academic units	Cultural: The Carnegie units and entrance exams became the default criteria for high school accreditation: The process of forming interlocking networks of likeminded elites gained prominence as a useful strategy for inciting educational change
Business Practices	Partner	Direct	Structural: Instituted stable practices in accounting that worked to sustain institutions financially over time; Formalized college business officers into a profession	Cultural: Displayed foundations as able to synthesize expertise that can be used broadly to help higher education
<i>Agenda: Believing in Education and Research to Solve Major Social Issues</i>				
Medical Education Reform	Driver	Direct: to prestigious select institutions	Structural: Established contemporary medical education model used in U.S.; Formalized partnerships between institutions and teaching hospitals	Cultural: Foundations set precedent of using surveys to diagnose problems in higher education

(continued)

Area of activity	Fndt. approach	Field-level intervention	Primary effects	Secondary effects
Social Work Reform	Driver	Direct: to geographically dispersed institutions	Structural: Established dominant trend on social work curriculum and external knowledge production apparatus; Formalized community mobilization as a part of the work of social work training	Cultural: Stabilized survey methodology as the leading way of conducting social science research; Reified an individualized view of social problems; Professionalized the social work field
International education	Partner	Direct: to geographically dispersed institutions	Structural: Established area students programs. Formalized International Institute of Education	Cultural: Legitimated the idea that curriculum and education promotes peace through awareness of individual and societal differences
Development of External Knowledge Organizations	Driver	Indirect	Structural: Established the national coordinating organizations to promote a unified approach to research and knowledge production (Social Science Research Council, etc.)	Cultural: Formalized and legitimated a path for higher education research to have direct ties to government social policy making

Agenda: Supporting and Assisting Socially Disadvantaged Groups

Aid to south	Driver and Partner	Direct and Indirect simultaneously	Structural: Helped to institutionalize quality higher education for Blacks despite segregationist policies; Established state level departments of education with a focus on coordination	Cultural: Established precedent for foundations intervening on issues of race in higher education
Child development studies	Driver	Direct	Structural: Structured the discipline of child development	Cultural: Created a precedent for foundations to translate broad social movement aims into legitimate academic endeavors

(continued)

Area of activity	Fndt. approach	Field-level intervention	Primary effects	Secondary effects
Women's studies	Driver	Direct, to prestigious select institutions and promising scholars and students	Structural: Structured the discipline of women's studies	Cultural: Created a precedent for foundations to translate contentious social movement aims into legitimate academic endeavors; Affirmed the strategy of focusing on elite institutions to diffuse into the rest of the field of higher education
<i>Agenda: Remedying the Problems of Race Relations in the U.S.</i>				
Opportunity to underrepresented individuals	Partner	Direct and indirect	Structural: Directed scholarships to underrepresented individuals based on their racial status; Supported summer programs for pre-college preparation for underrepresented and disadvantaged students	Legal: FAE's support of Black in higher education was one of many factors that prompted Congressional consideration of the appropriateness of this type of foundation activity; Ford's collaboration with external funding bodies fueled the perception of the academy being part of a communist plot. Cultural: Congressional response reified the legitimacy of questioning whether foundations should/can be involved in activities that have the potential to alter the present social structure for Blacks
Black studies	Partner	Direct, to prestigious select institutions and promising scholars and students	Structural: Structured the discipline of Black studies	Cultural: Ford's giant making tended to dampen the intellectual fervor around Black nationalism; Ford's involvement stressed the role of foundations in tying academic program promotion to social movement and activist causes; Affirmed the strategy of focusing on elite institutions to diffuse into the rest of the field of higher education

(continued)

Area of activity	Fndt. approach	Field-level intervention	Primary effects	Secondary effects
Legal education	Partner	Direct, to prestigious select institutions and promising scholars and students	Structural: Expanded the ties between law education, legal scholarship, and legal practice	<p>Legal: The expertise of the legal academic apparatus helped allott legal legitimacy to the idea of arguing for rights based advocacy based on individual status, characteristics.</p> <p>Legal & Cultural: Affirmed that foundations work as key instruments in crafting a pipeline strategy to influence the education, training, practice, and interpretation of legal policy in the broader goal of shaping public policy.</p>
				<p>Cultural: The academic expertise in the area of rights based advocacy helped to give credence to the idea that it serves the public well to have foundations and the academy (both institutions that serve the public good) advocate for rights for groups that are excluded in some way</p>
Access and Equity	Partner	Direct, to Myrdal study: Indirect, funding to activist organizations	Structural: Foundations helped produce the <i>Brown v. Board</i> verdict	Legal: Foundations' integrated approach to research and activist funding helped to produce the <i>Brawn v. Board</i> verdict
			<p>Cultural: Demonstrated the use of expert research as an important component to understanding race relations in America</p>	

(continued)

Area of activity	Fndt. approach	Field-level intervention	Primary effects	Secondary effects
<i>Conservative Social Agendas</i>				
<i>Agenda: Believing in Ideas and Research to Solve the Problem of Liberal Bias</i>				
External think tanks	Driver	Indirect	Structural: Conservative foundations advanced the external knowledge production and dissemination apparatus, positioning think tanks and other external groups that conduct research as parallel entities to higher education	Cultural: Firmly established the acceptability of employing a system of advice and policy advocacy that was based on expert knowledge produced outside the academy
Internal research centers	Driver	Direct, to prestigious select institutions and promising scholars and students	Structural: Foundations created research programs in the academy that directly foster scholarship and publication of conservative agendas	Cultural: Foundations created a body of expertise within higher education, that by virtue of its placement their, the conservative research centers can piggy back on the legitimacy of the principle of academic objectivity.
Underrepresented scholars	Driver	Direct, to scholars and students at prestigious institutions	Structural: Foundations provided scholarships to underrepresented individuals based on their conservative views or research interests	Structural: Foundations helped to increase representation of conservative scholars in the academy and helped to support a training pipeline for fostering conservative views in disciplines and departments in higher education; Cultural: Foundations helped to assert a larger role for conservative ideology in the academy

Agenda: Changing the Structure of Higher Education so that it Embodies Conservative Views

(continued)

Area of activity	Fndt. approach	Field-level intervention	Primary effects	Secondary effects
Curricula	Driver	Indirect	Structural: Foundations have helped introduce new standards of 'quality' that higher education has had to contend with, which include a measure of political or ideological bias	Cultural: Foundations have helped to add salience to the idea that it is proper for higher education institutions to place attention on the political and ideological balance of curricular content in an effort to achieve diversity in the marketplace of ideas
<i>Agenda: Changing the Culture of Higher Education so Campuses Support Conservative Views</i>				
Student press	Driver/ Partner	Direct, to papers at prestigious institutions: Indirect, to support advisory organizations	Cultural: Presence of papers fuels conservative idea dissemination on campus and within student communities	Structural: The field of higher education experienced a proliferation of new conservative campus newspapers; Institutions were forced to deal with the presence of these papers in student organization or speech policies; Legal: Created a welcoming climate to future anti-affirmative action legal and legislative action
Leadership training	Driver	Direct, funding for on campus events; Indirect, to external organizations	Cultural: Foundation sponsored training helped to produce a well trained groups of mobilized conservative campus activists	Structural: Increased ability of students ready to enact a conservative agenda on campus; Legal: Created a welcoming climate to future anti-affirmative action legal and legislative action
Faculty organizations	Partner	Indirect, funding to external organizations	Cultural: Foundaton sponsorship helped to mobilize faculty throughout higher education to collectively focus on advancing conservative views and causes	Structural: NAS and Campus Watch organizations began to pop up on campuses with mobilized faculty; Legal: Created a welcoming climate to future anti-affirmative action legal and legislative action

(continued)

Area of activity	Fndt. approach	Field-level intervention	Primary effects	Secondary effects
Alumni organizations	Partner	Indirect, to external organizations	Cultural: Foundation sponsorship helped to create an environment where alumni felt a greater obligation to look deeply into the operations and curriculum of campuses	Structural: Foundation sponsorship of alumni groups helped to increase the salience and acceptability of activist trustee behavior; ACTA provided training in the field of higher education that gave AGB competition; Legal: Created a welcoming climate to future anti-affirmative action legal and legislative action
<i>Agenda: Striving for Race-Blind Policies and Practices</i>				
Eugenics	Partner	Direct	Cultural: Foundation involvement helped to translate contentious ideas into 'so-called' objective academic research endeavors	Legal: The foundation supported research served as evidence for the segregationists in <i>Brown v. Board</i> , a case with profound implications for education
				Cultural: Foundation supported research helped foster a binary contentious dynamic in the research on race and merit, where the eugenics showcased the 'other' side of objectivity compared to the stream of research that grew from the Myrdal report

(continued)

Area of activity	Fndt. approach	Field-level intervention	Primary effects	Secondary effects
Legal Challenges	Driver	Indirect, to external organization	Legal & Structural: Foundation supported anti-affirmative action referenda and case law has forced individual institutions and the field of higher education to rethink its practices and policies for recruiting and retaining underrepresented students	Cultural: Foundation support of anti-affirmative action policies affirmed the individual rights based approach to equality at the expense of other arguments. Foundation involvement helped to promote the idea that any individual rights based approach to equality is essentially a tactic to look out for the 'public good'

Radical Social Reform Social Agendas

Agenda: Supporting Social Justice and Racial Uplift

Advance Racial Equity for Blacks (Rosenwald Fund)	Driver	Direct	Structural: Established research centers and fostered graduate training for southern Blacks	Cultural: Foundation funding facilitated the breaking down of cultural barriers to African American academic achievement; Foundation tactic of partnering with activist organizations and other progressive individuals helped create a climate to advance the cause of promoting African American education
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Agenda: Believing in the power of democratic civic participation and social movement ambitions to transform society

Democratic base building	Catalyst	Indirect	Cultural: Foundations' promotion of grassroots organizations in the field of higher education affirmed that campus involvement is a piece of the process in fulfilling wide scale social transformation agendas	Structural: Foundations provided assistance for grassroots campus organizations to become more active and advance their progressive ideas
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Area of activity	Fndt. approach	Field-level intervention	Primary effects	Secondary effects
<i>Neoliberal Strategic Foundations</i>				
<i>Agenda: Create a system of higher education that prioritizes and incentivizes degree completion and supports workforce preparation.</i>				
Degree completion	Driver	Indirect	Cultural: Legitimizes the ideas that higher education is <i>the</i> instrumental training ground for economic participation define by the needs of elite capital, and that degree attainment can mend systemic inequities. De-emphasizes other social purposes that education can serve in society, as well as other factors that contribute to systemic economic inequities	Structural: Infuse money across the system of higher education to students, to student support and transition programs within universities, and external intermediary organizations that offer guidance to assist students in persisting towards their degrees. Interact and support external organizations and advocacy groups to emphasize degree completion as a policy framework and metric upon which colleges are evaluated
Curricular Change	Driver	Direct	Structural: Increase the financial resources of academic departments and programs, and faculty that teach neoliberal economic principles and theories, and adopt corresponding course materials. Build a parallal academic training structure outside of the academy for graduate training adn credentialing for educational administrators	Cultural: Extending legitimacy to external parties exercising influence or control over curriculum and credentialing. Diminishes the autonomy of faculty in shaping content of courses, degree programs, and curricula generally

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Chapter 6

Toward a Holistic Theoretical Model of Momentum for Community College Student Success

Xueli Wang

Introduction

Over the past decade, the college completion agenda has been one of the key themes permeating the field of higher education research (Bowen, Chingos, & McPherson, 2009; Braxton, 2000; Kelly & Schneider, 2012). Scholars and policymakers wrestle with how to remove barriers and challenges facing college completion, particularly among underrepresented populations, such as low-income, first-generation, and racial/ethnic minority students (e.g., Arbona & Nora, 2007; Jehangir, 2010; Kezar, 2011; Mow & Nettles, 1990; Museus & Quaye, 2009; Nora, Cabrera, Hagedorn, & Pascarella, 1996; Perna & Jones, 2015; Rendón, Jalomo, & Nora, 2000; Strayhorn, 2010; Titus, 2006).

Within this research and policy context, it is hard to imagine a more critical post-secondary sector than the community college, which serves a disproportionately larger share of traditionally underrepresented students (Bailey & Alfonso, 2005; Bryant, 2001; Cohen, Brawer, & Kisker, 2014; Horn & Nevill, 2006; Terenzini & Pascarella, 1998). Because of their purported mission to democratize postsecondary education, community colleges are both lauded and scrutinized: While they provide access to students who otherwise would not be able to attend college, once students enroll, completion and upward transfer rates remain low (Bailey & Alfonso, 2005; Bragg, 2001, 2011; Goldrick-Rab, 2010; Hagedorn, 2010). In particular, success rates in remedial and gatekeeper courses are abysmal, making it extremely challenging

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for students to persist through the first year (Attewell, Lavin, Domina, & Levey, 2006; Bailey, 2009; Bailey & Cho, 2010; Bailey, Jeong, & Cho, 2010; Calcagno, Crosta, Bailey, & Jenkins, 2007; Grubb, 2001; Hagedorn, 2010; Hagedorn & DuBray, 2010). In this sense, even when access to a community college is within reach, there are enduring challenges for students to establish and maintain enough initial impetus in charting a path to longer-term college success (Attewell, Heil, & Reisel, 2012; Wang, 2015b).

In light of these realities, research on what matters to community college student success abounds, especially in the recent decade (e.g., Better, 2013; Boroch et al., 2007; Bunch & Kibler, 2015; Calcagno et al., 2007; Cho & Karp, 2013; Cox, 2009a; Crisp, 2010; Crisp & Nora, 2010; Dean & Dagostino, 2007; Edgecombe, 2011; Goldrick-Rab, 2010; Hagedorn, 2010; Jenkins, Speroni, Belfield, Jaggars, & Edgecombe, 2010; O’Gara, Karp, & Hughes, 2009; Visher, Schneider, Wathington, & Collado, 2010; Welsh, 2015; Wood & Williams, 2013; Zell, 2010). At the same time, despite its value, this body of empirical work has been unsystematic and lacking a unifying framework. Part of the reason for this lies in the complexity and diversity within the characteristics, goals, and educational paths of the students attending community colleges (Cohen et al., 2014; Hoachlander, Sikora, & Horn, 2003). In addition, the wide range of disciplinary backgrounds of scholars with sustained or new interest in the community college sector inherently results in vastly different and often diverging theoretical, methodological, and analytical approaches to empirical efforts in this area. As a result, research on community college student success yields mixed, and sometimes even conflicted, results that are not particularly conducive to the sustained accumulation of evidence that informs policy and practice.

In this chapter, I seek to reconcile this messy state of research by advancing a holistic theoretical model of community college student success that is anchored in *momentum*, a concept from classical mechanics that education scholars have borrowed and touched upon, explicitly or implicitly, in some of their research on community college students (e.g., Doyle, 2010; Leinbach & Jenkins, 2008; Wang, 2015b). Defined as the product of mass and velocity of a moving object within the context of classical mechanics, momentum is often adopted in colloquial English to refer to forward impetus. While, in the practice of prior education research, momentum has been inconsistently defined and largely empirically driven, I argue that the metaphorical connotations of this term hold great theoretical promise for articulating a compelling and holistic framework for community college student success. To demonstrate, I anchor the momentum concept in community college students’ academic and enrollment behaviors, experiences within the classroom, and motivational attributes and beliefs. These facets intersect and intertwine as students navigate the curriculum, which reflects the unique nature of how community college students engage with their postsecondary educational experience, as compared with their four-year college counterparts whose engagement with college tends to span more evenly across the curricular and co-curricular domains. Thus, I use the community college classroom as the primary venue for discussing the interactive

fashion in which these facets collectively constitute and shape the momentum that influences students' later success.

Specifically, I aim to achieve two main objectives through this chapter. First, I offer a comprehensive review of the literature that explicitly or implicitly touches upon the momentum concept when studying community college students' educational outcomes, with this line of research often involving the specific notion of academic momentum and analysis of transcript data. Second, I advance a new holistic theoretical model of momentum for cultivating community college students' pathways to success. Ultimately, the new theoretical conceptualization of a momentum model will guide further empirical efforts and policy discussions around improving community college success.

Chapter Outline

This chapter will proceed as follows. First, I explicate the background and premises of momentum in the context of classical mechanics. This section both sets the theoretical foundation for momentum and highlights its relevance and appeal when adopted to inform research on community college students. Following this discussion, I delve into the more specific construct of academic momentum that has been used, sometimes interchangeably with momentum, in education research (e.g., Adelman, 1999, 2005, 2006; Attewell et al., 2012; Leinbach & Jenkins, 2008). I describe both conceptual perspectives and empirical studies in this vein, review their strengths and limitations, and assess their contributions to what we know about how to help community college students progress beyond the access point.

The chapter then advances a new holistic theoretical model of momentum for community college student success. This new model extends the existing momentum perspective by adding two new dimensions: the teaching and learning domain and the motivational domain. When articulating the teaching and learning domain of momentum, I review relevant literature on learning experiences and teaching practices within community college courses, and this part of the review and discussion centers on empirical evidence that illuminates promising learning experiences and teaching practices that help students gain knowledge and learning strategies in order to move forward academically. Similarly, when describing the motivational domain, this chapter provides a review of research on motivational attributes and beliefs among community college students that can serve as the psychological driver that helps build momentum.

Reconciling these areas of research, I argue that, by deeply situating students' momentum within their course-taking trajectories and their experiences within courses, and by framing the cultivation of positive academic attitudes and beliefs as a core part of building momentum, a fuller and richer meaning of momentum is accounted for and can be used to better inform policy and practice aimed at fostering community college student success. Accordingly, this chapter culminates in articulating a holistic new theoretical model of momentum for community college

student success, bringing together and unifying these aforementioned lines of work that are highly complementary to each other conceptually, but in practice have often been addressed in isolation. To delineate this new momentum model, I describe different domains of momentum along with their components, as well as factors and forces that act as counter-momentum friction that must be tackled in research and practice. In addition, I discuss in detail methodological approaches that researchers can adopt when using this new model to help extend our understanding of the topic within this broadened theoretical lens of momentum.

The Theoretical Appeal of Momentum

Before proceeding, it is necessary to further delineate the concept of momentum in the context of classical mechanics. In a perfectly frictionless space, a still object would remain still and a moving object would retain its speed and motion in the same direction until some external forces act upon it (i.e., inertia, Newton's first law of motion). According to Newton's second law of motion, when a force, either pushing or pulling, is applied to an object, the object will start accelerating and gaining momentum. As mass in motion (French, 1971), momentum includes magnitude and direction. In direct proportion to both mass and velocity of the object, momentum increases as either of these properties increases. Analogically, momentum can be applied to students' progress toward their education goals. A student's momentum is composed of and altered by a set of *individual* and *environmental* characteristics and factors, which can be considered as *internal* and *external* forces, respectively. As in classical mechanics, these forces collectively build the student's momentum toward a given educational outcome, or cause friction that reduces momentum. These characteristics and factors intersect to form a highly dynamic and interactive system of momentum that rests on the following premises: (1) momentum has multiple aspects (aligning with the mass, velocity, and direction of classical mechanics); (2) momentum is changeable and can be shaped by internal and external forces that exert mutual influence on each other; and (3) force is either positive parallel helping build momentum or negative/non-parallel deterring or redirecting momentum.

Often without an explicit conceptualization, several scholars have used the term "momentum" loosely to emphasize the importance of continuous, forward progress toward degree completion among community college students (Adelman, 1999, 2006; Goldrick-Rab, 2007; Tinto, 2013). When one thinks about a student's educational journey through the community college, the metaphorical appeal of "momentum" becomes obvious, as the notion captures the impetus the student needs to establish and maintain in order to progress toward a point of success—credential completion, transfer, workforce participation, or attaining other personal educational goals. Unlike many students starting at a four-year institution, a beginning community college student is more likely to arrive at college with some level of academic under-preparedness. Faced with a multitude of course options that can

take her/him in different directions, the community college student may lack metacognitive skills and academic motivation that help her/him stay on track with her/his educational intent (Bailey, Jagers, & Jenkins, 2015). In addition, this process takes place in the face of many barriers that function as counter-momentum friction. These barriers can be academic, motivational, or institutional, all of which are analogous to the negative or non-parallel forces described earlier. Given these realities, for community college students, establishing and maintaining momentum—staying on the right educational path toward their educational goals with solid progress in that direction—is of paramount importance. In the final analysis, it is whether the student has enough momentum to overcome the friction so as to continue the forward progress that matters to goal attainment.

As such, momentum building is a particularly useful perspective that can valuably inform research on community college student success. Considering linear momentum in classical mechanics as a product of mass and velocity, a community college student's momentum as she/he navigates the college experience should accurately represent both the "quantity" (mass) of their academic efforts, experiences, and achievements and the "quality" of their progression (velocity)—progressing at a good pace and in the right direction. In the existing academic momentum research, there has been an almost exclusive emphasis on the progression through coursework and program requirements based on analysis of transcripts, whereas other important aspects of momentum are neglected, such as learning experiences and motivational attributes that can be facilitated within community colleges to foster momentum. As Hagedorn and other colleagues (e.g., Hagedorn & DuBray, 2010; Hagedorn & Kress, 2008; Karp, Hughes, & O'Gara, 2010) have established, the community college classroom is the prime venue through which we gain a real sense of students' educational experiences. I expand this idea by arguing that the experiences not only exist in the transcripts but also are constructed through the actual learning activities and teaching practices within the classroom. In addition, extensive research across a range of fields of study has determined that the psychological development of community college students, especially cultivating important motivational beliefs that contribute to learning and educational attainment, has the potential to transform the community college education. Yet, both the classroom teaching and learning dimension and the motivational dimension are largely absent from the academic momentum literature. Thus, I intend to fill in these missing pieces of the puzzle by including both dimensions as key domains of the new theoretical model of momentum for community college student success.

Academic Momentum at a Glance

The word "momentum" has often been referenced in the context of college students' course-taking patterns and academic progress. The first explicit use of the term in this specific context was by Clifford Adelman (1999) in his pioneering report on baccalaureate degree completion of the 1980 High School & Beyond

(HS&B/Sophomore) cohort. Drawing upon high school and college transcripts, test scores, and survey data, Adelman investigated what contributes to baccalaureate degree completion. Without an intentional attempt to define momentum, Adelman adopted this term to imply the forward impetus with which students' progress toward completing a bachelor's degree. Results from this report pinpoint academic resources measured by a composite of high school curriculum, test scores, class rank, and continuous enrollment to be key to baccalaureate completion. Adelman thus concluded that academic variables, which are fixable by institutions, carry more weight than social ones (i.e., demographic constructs, including socioeconomic status, race, and gender) in shaping college completion. In a subsequent report also dealing with baccalaureate completion among four-year beginning students, Adelman (2006) replicated his 1999 study and further elaborated the notion of momentum by explicitly adopting the term "academic momentum," and by analyzing and articulating, with much more clarity and purposiveness, academic momentum as the types of choices and behaviors in a student's academic history. Using the National Education Longitudinal Study of 1988 (NELS:88/2000) data and adopting logistic regression as the main statistical approach, Adelman charted students' academic history as featuring a series of decision points regarding course taking and academic progress, such as entering college directly from high school, credit load, summer enrollment in coursework, etc., that warrant time and effort eventually yielding the returns in the form of degree attainment.

Alongside these two reports, Adelman also authored a study of similar nature but exclusively dealing with community college students. Focusing on a traditional-age high school cohort, Adelman (2005) pointed out that those entering community colleges have less momentum from high school, compared with their counterparts entering four-year institutions. This is an alarming finding in that nearly all factors associated with community college students' associate degree attainment and upward transfer as Adelman identified are momentum variables. A major takeaway from this finding is the pivotal nature of establishing momentum among entering community college students earlier during their college career, if community colleges are indeed held in true regard as not only the safety net, but also a gateway to more advanced education and careers for historically underserved students. For example, this would mean that the early academic experiences students have exposure to, such as remedial and gatekeeper courses, would ideally serve as a venue to cultivate momentum, since many students entering community colleges do not have enough momentum coming from high school to translate into further momentum for college success. Needless to say, if students are trapped in pre-collegiate remedial courses, or cannot succeed in gatekeeper courses, they will not attain enough momentum to participate in subsequent college-level coursework that is required for future educational success (Adelman, 2005). In this sense, one could argue that developmental education adds friction, thus slowing down students' progress.

Taken as a whole, Adelman's early work lays down the empirical foundation for viewing a set of academic performance and milestone indicators as academic momentum, and sets the tone for the cornerstone nature of these indicators in a college student's longitudinal educational success. Since their publication, these

reports have set the genesis for a burgeoning line of research on college completion (e.g., Attewell et al., 2012; Leinbach & Jenkins, 2008). Much of this work concerns four-year degree attainment, but these reports' influence on empirical research on community college student success has been steady and potentially far-reaching into the future. In particular, while Adelman's work articulates a similar thesis regarding momentum for progress through college in general, the stark contrast between community college and four-year college students in regard to how much academic momentum they bring to college further amplifies not only the academic disadvantage among many community college entrants, but also the critical importance of studying, developing, and increasing momentum among them.

A Review of the Academic Momentum Literature

Adelman's momentum notion that evolved through these reports, notably the 1999 and 2006 pieces, have since found their traces in voluminous empirical studies and policy literature on community college student outcomes. For example, researchers have built upon the momentum lens to examine how community college students' course and program enrollment patterns, milestones, and pathways are related to their graduation (e.g., Calcagno et al., 2007; Jenkins & Cho, 2012), and transfer to a four-year institution (e.g., Doyle, 2009, 2010; Hagedorn, Moon, Cypers, Maxwell, & Lester, 2006; Roksa & Calcagno, 2010). While some of the studies that build upon or are informed by this work do not explicitly reference the term "momentum," likely due to its loose definitions in Adelman's reports, they clearly approach community college student success by examining their academic choices and behaviors denoted as momentum in Adelman's work.

Given the inherent involvement of these academic and course-taking behaviors as the underlying momentum indicators, this area of research often entails analysis of student transcripts to a varying degree of depth and statistical sophistication (e.g., Calcagno et al., 2007; Hagedorn & DuBray, 2010; Hagedorn et al., 2006; Kolenovic, Linderman, & Karp, 2013). As Hagedorn (2005) established, in studies on community college students, transcript analysis is particularly useful given the complex academic behaviors of these students. While studies based on transcript analysis do not all distinctively follow the momentum concept necessarily, it is not unfounded to say that transcript analysis is inherently tied to the idea of momentum due to its capacity to trace student progress across the curriculum, essentially revealing academic momentum.¹ Hagedorn and Kress (2008) offered a compelling argument on why transcript-based analysis is best suited for studying community college students' pathways to success. The authors are also among the first, after Adelman, to

¹To be sure, the use of transcripts to test the relationship between enrollment behaviors and educational attainment for community college students can be traced back as early as Grubb (1989). Grubb pinpointed the importance of progress and the need to take sufficient numbers of credits to promote attainment, without explicitly articulating these as momentum.

explicitly tie transcript analysis to the examination of academic momentum among community college students. In essence, with or without a distinctive reference to “academic momentum,” this body of research is rooted in Adelman’s early work, and all focuses on students’ academic behaviors and choices (essentially academic momentum) as factors of primary interest that can influence later student success.

Within this line of empirical inquiry, academic momentum, or academic behaviors and decisions, is conceptualized and measured through myriad ways. To summarize, three main approaches have been adopted: intensity-based, milestone-based, and pattern-based. It should be noted that academic ability and preparation prior to college, such as high school performance and academic resources, while also regarded as momentum by Adelman (1999, 2005), more strictly represent pre-collegiate measures of students’ academic background. They obviously extend their influence on academic momentum during college, and can even be considered pre-college momentum, but technically are not part of the process of building college-level academic momentum. Therefore, these academic background variables do not fall under the main focus of this chapter’s discussion of how college academic momentum is operationalized.

Intensity-Based Approach

With this approach, researchers are primarily concerned with academic momentum as indicated by the credit load students carry during a given academic term, often the first term or first year of college attendance (e.g., Attewell & Monaghan, 2016; Doyle, 2009, 2010). Several expressions have been adopted, such as academic intensity (Adelman, 1999, 2006; Doyle, 2009, 2010), enrollment intensity (Bahr, 2009, 2013b; McCormick, 1999), or attendance patterns, i.e., full-time versus part-time enrollment which also speaks to credit load (Crosta, 2014; Ewell & Boeke, 2007; Maxwell et al., 2003). The motivating rationale behind viewing intensity in course taking as momentum is that a higher credit load leads to greater odds of college completion or upward transfer for community college students (Adelman, 2006). Studies by Doyle (2009, 2010) are exemplary of the intensity-based approach. Using administrative data of first-time community college students in Tennessee from 1996 to 2004, Doyle (2009) applied propensity score matching techniques and examined how increased academic intensity, measured by credit hours during the first term of enrollment, affects transfer to four-year institutions. The study revealed that taking 12 or more credit hours during the first term is associated with an increase in transfer rates of between 11 % and 15 %. In a study published a year later, Doyle (2010) explored similar questions, adopting similar analytical techniques but using a nationally representative sample of baccalaureate-aspiring students beginning at community colleges, followed by the Beginning Postsecondary Students (BPS:96) longitudinal study. In this research, Doyle examined credit hours completed during the first year (as opposed to the first term), and arrived at a similar conclusion that

increasing academic intensity—the number of earned credit hours earlier in college—is likely to boost transfer rates.

Other studies dealing with academic intensity as reflected in credit hours reached similar findings (e.g., Adelman, 1999, 2006; Attewell & Monaghan, 2016). As the overall positive relationship between intensity and community college student success is by and large confirmed, there emerge recent empirical efforts that adopt a more fine-grained approach tackling the same question but aligning the intensity measurement closely with enrollment policy. Using a more recent sample of the BPS (BPS:04/09), including both four-year entrants and community college students, Attewell and Monaghan (2016) compared outcomes of “full-time” students with 12 credits versus 15 credits in the first semester. The authors found that, among community college students, after accounting for background characteristics, the probability of completing either a bachelor’s or an associate degree for those taking 12 credits is 9 % less than their counterparts with 15 credits. While this finding may suggest that taking 15 credits during the first term indicates stronger academic momentum that yields better outcomes, Attewell and Monaghan cautioned that students who work more than 30 hours while attending college do not experience similar academic benefits by taking a higher credit load.

As a whole, research on academic momentum adopting an intensity-based approach has solidly concluded that there is a strong and positive relationship between the intensity of course taking and community college students’ longer-term educational outcomes. At the same time, there is notable variation of this overall positive link among community college students based on employment status, with students working long hours benefitting the least from a heavy course load. Consequently, when contemplating course enrollment policies, there needs to be a balance between an optimal credit load and students’ employment or financial burdens in order to help yield peak academic momentum through the intensity of course taking.

Milestone-Based Approach

Researchers focusing on academic momentum among community college students have also operationalized momentum using students’ milestone progress and achievement through the community college curricula (also referred to as intermediate outcomes; Calcagno et al., 2007; Roksa & Calcagno, 2010). Often, this means that academic momentum is measured by the completion of foundational and gateway courses or finishing a certain percentage of program courses. Although milestone measures can also involve measuring a certain number of credits (McCormick, 1999), milestone-based approaches differ from intensity-based ones in that the latter typically impose a stringent time window, such as the first term or first year, when viewing credit accumulation.

One such example is Calcagno et al. (2007) who followed a cohort of first-time students beginning in Florida's 28 community colleges in the fall of the 1998–1999 academic year for 17 academic terms. Using a discrete-time hazard model and with a focus on potential differences between older students and traditional-age students, the authors examined how degree completion by the 17th term is influenced by the academic milestones students reached. The study's findings suggest that milestones such as earning 20 credits or completing 50 % of a program are significantly associated with the probability of completing a community college credential, and this relationship is stronger among traditional-age community college students.

In a study examining program completion among students enrolled at a community college that is part of the Achieving the Dream initiative, Jenkins and Cho (2012) followed student course-taking patterns for 5 years. Based on their descriptive analyses, the authors found that students who failed to enter a program early are much less likely to eventually declare a program and achieve a credential. In this study, entering a program as early as possible indicates strong early momentum that likely yields stronger educational outcomes.

Roksa and Calcagno (2010) operationalized milestones as passing college-level math and writing courses, meeting specific credit thresholds, and earning an associate degree in their study on upward transfer among first-time degree-seeking students beginning at Florida community colleges in 1998. Following these students through 2003 and using event history analysis, Roksa and Calcagno found that the successful completion of the noted milestones increases the probability of transfer among the students.

Similarly, Leinbach and Jenkins (2008) articulated a series of momentum points using milestone measures of course completion at various levels of a student's community college career. Using data spanning 5 years of a cohort of over 87,000 first-time students who entered Washington state's community and technical colleges in the 2001–2002 academic year, the authors conducted logistic regression analysis to identify milestones, or momentum points, defined as “measurable educational achievements that include both conventional terminal completions, such as earning a credential or transferring to a baccalaureate program, and intermediate outcomes, such as completing developmental education or adult basic skills requirements” (p.7). The authors maintained that achieving these “milestones” can produce “momentum” that leads to educational attainment.

A few other studies on community college students' academic progress and outcomes also integrated the milestone-based approach, such as examining completion status of developmental and gatekeeper courses in math and English at various levels (e.g., Bahr, 2008; Hagedorn, Chi, Cepeda, & McLain, 2007; Hagedorn, Cypers, & Lester, 2008; Hagedorn & DuBray, 2010; Hagedorn et al., 2006), or the specific timing of completing college-level math (e.g., Calcagno et al., 2007; Xu & Jaggars, 2010). With little exception, all milestone-based studies have arrived at the conclusion that accomplishing academic milestones in the form of declaring programs, passing gatekeeper and intermediate courses, etc., in a timely fashion greatly solidifies the momentum undergirding a strong path to educational attainment.

Pattern-Based Approach

In this approach, academic momentum is viewed more expansively as a series of academic actions building upon each other, constantly evolving as students progress through coursework and programs. Different from the first two approaches, transcript-based analysis examining patterns of course or program progression does not always tie these patterns to student outcomes. This is a defensible approach, especially when the main goal of the research is to tease out the often chaotic and messy patterns in which community college students navigate their courses and programs.

There is a wide variety of ways in which course-taking or program enrollment patterns are examined, ranging from a straightforward approach of determining whether students follow a certain enrollment behavior, such as summer enrollment (Adelman, 2005; Attewell et al., 2012; Wang, 2015b) and enrollment in certain programs of study (Hagedorn et al., 2008; Jenkins & Cho, 2012), to a more complex, longitudinal treatment of sequences of actions as related to participation and performance in community college courses and programs (e.g., Bahr, 2010a, 2011; Crosta, 2014; Wang, 2015a).

In regard to enrollment patterns indicating academic momentum that are fairly straightforward to define, summer enrollment following the first year of college has gained notable empirical attention. For example, drawing upon transcript data from NELS:88/2000, Attewell et al. (2012) explored summer enrollment as one of the academic momentum indicators and found that enrolling in summer courses after the freshman year increases the probability of graduation. As another example, in Wang's (2015b) study on the effect of beginning at community colleges on baccalaureate attainment in science, technology, engineering, and mathematics (STEM) fields of study, summer enrollment in STEM courses was explored as a possible mediator between beginning at community colleges and STEM outcomes, and turned out to have no impact on STEM baccalaureate attainment. In Adelman's (2006) work, summer enrollment was also used as a measure of academic momentum. For instance, earning more than four credits during the summer term has a consistent positive effect on degree completion, especially for African American students.

Viewing course taking in an interlocking manner longitudinally, as early as Bach et al. (2000), researchers have attempted to trace complex attendance patterns followed by community college students over time. However, other than work by only a few scholars, this subarea of research does not enjoy as many sustained efforts, possibly due to the messy nature of coding transcript data longitudinally as well as the often difficult access to longitudinal and complete transcript data. Much of Peter Bahr's work concentrating on community college students' math remediation and progress into college-level math is exemplary for work that falls under this umbrella. Largely drawing upon administrative data from California's community college system, Bahr's work demonstrates how community college students transition into

and through college via course-taking and enrollment patterns, especially in terms of remedial education (e.g., Bahr, 2010a, 2011, 2012, 2013a).

For example, using data on first-time college students enrolled in the California community college system between fall 2001 and fall 2003 for at least five semesters (through the summer of 2009) longitudinally, Bahr (2012) examined the path between community college students' point of entry in remedial math and reading sequences, defined as the skill level of the first remedial course in either math or reading, and their eventual achievement of college-level competency. Bahr divided remedial sequences into specific steps that students must achieve in order to reach college-level competency, which were further broken down into "constituent behaviors" such as the attempt of a given step of the remedial sequence, the delay of this step if it was attempted, the pass/fail status of the course at this step, and the attempt of the next step in the remedial sequence. Each of these interim behaviors was included in a series of logistic regression models, as an outcome and then as a predictor of the next step. Through this series of detailed analyses, Bahr identified the junctures where student attrition occurs, that is, loss of momentum. Later, Bahr (2013b) described this study as an example for quantitative research that adopts a "deconstructive" approach to unpacking community college students' pathways.

Similar approaches were applied in a few other studies. For example, focusing on students placed into developmental education from eight community colleges, Fong, Melguizo, and Prather (2015) tracked student progression through developmental math sequences and investigated individual-, institutional-, and developmental math class-level factors associated with successful progression through the sequence (arithmetic, pre-algebra, elementary algebra, and intermediate algebra) using descriptive analysis and step-wise logistic regression models. Their findings reveal that most students exit the sequence not attempting or not passing their initial courses.

Drawing upon postsecondary transcript data through the BPS (BPS:04/09), Wang (2015a) examined how course-taking patterns are associated with upward transfer in STEM fields for beginning community college students. Using data mining techniques, Wang tied community college students' course-taking patterns to their different transfer outcomes. For example, the author found that the most salient course-taking pattern conducive to eventual transfer in STEM fields entails taking transferrable STEM courses during the first term, followed by taking math courses during the subsequent terms. Crosta (2014) investigated how enrollment patterns (measured as enrollment intensity and continuity) are related to community college students' credential completion and transfer to a four-year institution. Transcript data of a cohort of first-time, degree- or transfer-seeking students from five community colleges in a single state are used. Patterns of enrollment (reflected through intensity and continuity) are created for each student over 18 observed terms. A *k*-means clustering algorithm was used through an iterative process to group students based on enrollment patterns. As another example, drawing upon transcripts, demographic background characteristics, and credential award data of a cohort of first-time students enrolled in 105 California community colleges, Bahr (2010b) employed cluster analysis to develop a behavioral typology for first-time community

college students. Through this approach, six course-taking and enrollment patterns were identified. Extending this earlier work, Bahr (2011) focused on the same cohort of students, but tracked their behavior across all of the community colleges that students attended rather than concentrating solely on their first institution. The same analytical approach yielded similar research findings.

Due to the fairly small body of research adopting the pattern-based approach in contrast to the complexities in course-taking patterns as revealed by such analysis, it is hard to draw clear conclusions as to the most viable sequence and configuration of courses and programs that foster community college student success. Nonetheless, this set of studies have all demonstrated the potential utility of using pattern-based approaches to illuminate leaky spots in students' course pathways, as well as the optimal configuration and scaffolding of course and program offerings.

Up to this point, I have described three broad areas of empirical approaches dealing with academic momentum as indicated in course taking. I should note that these three approaches to operationalizing academic momentum are not necessarily adopted in isolation from one another in the reviewed studies. Indeed, in much of the empirical work in this vein, researchers have used a combination of these approaches to reflect the many ways in which academic momentum can be operationalized. For example, Bahr's (2012) work on remedial math and reading sequences places an emphasis on both the milestone nature of the remedial sequence as well as the patterns of course-taking along the sequence. Other examples include Hagedorn et al.'s (2008) study illustrating that both following a transfer-focused community college curriculum and passing transfer-level English and math are strong predictors for upward transfer. Similarly, focusing on degree completion, Calcagno et al. (2007) used longitudinal transcript data of first-time community college students in Florida and explored the influence of both enrollment pathways and milestone completion.

To sum up, the current literature on community college student success agrees on the importance of fostering academic momentum early in a student's educational trajectory (e.g., Attewell et al., 2012; Calcagno et al., 2007; Hagedorn & DuBray, 2010). Transcript analysis based on the three main approaches described earlier represents a particularly robust line of work contributing to this understanding, and helps reveal viable course-taking trajectories associated with student outcomes (e.g., Bahr, 2013b; Hagedorn & DuBray, 2010; Hagedorn & Kress, 2008; Wang, 2015a).

Conceptual Limitations of the Academic Momentum Literature

In their totality, the reviewed academic momentum studies and transcript analyses have illuminated the importance of examining the breadth and depth of course taking and program enrollment in better understanding community college students' academic pathways in connection with their later educational outcomes. Despite their collective value, there is a conspicuous lack of consistent conceptualization

and measurement of what counts as momentum and counter-momentum friction—the barriers and resistance that students encounter. Across various studies reviewed earlier, momentum measures are either not clearly defined or defined inconsistently. In Adelman's foundational work, momentum was loosely referred to as a wide range of high school and early college academic behaviors and achievements. Similar perspectives that adopt a very broadened view of momentum include Leinbach and Jenkins (2008) who defined what they referred to as "momentum points" (p. 2) as a series of educational achievement and attainment measures, such as completing adult basic skills requirement, a developmental education series, or a college-level math or English course, earning a certain amount of credits or a credential, and transferring into a baccalaureate program. Other researchers more narrowly defined momentum as earning credits quickly or attempting a high credit load (e.g., Attewell & Monaghan, 2016; Doyle, 2009, 2010; Kolenovic et al., 2013). For example, academic momentum was defined as credit load/enrollment intensity in students' first term/year (Attewell & Monaghan, 2016; Doyle, 2009, 2010).

These inconsistencies in the definitions and measurements of momentum are both attributed to, and indicative of, the absence of a clear and purposeful theorization of momentum. While the reviewed studies widely cited Adelman, often explicitly touching upon the notion of academic momentum, very infrequently did the authors attempt a theoretical treatment of momentum, such as a critical review, conceptualization or reconceptualization of this largely empirical concept. Generally, a systematic handling of theoretical arguments around academic momentum had been absent, and the loose reference of the concept was inherently driven by data. It was not until in recent years that a few scholars started to adopt a more systematic and critical view of academic momentum in an attempt to achieve stronger theorization of this notion that underlies voluminous studies on college student success over the past two decades. Notable examples of these new efforts to theoretically conceptualize academic momentum include work by Attewell and colleagues, Wang, and a few other scholars.

In their study "What Is Academic Momentum? And Does It Matter?" Attewell et al. (2012) adopted a critical view of Adelman's momentum framework. They raised concern around Adelman's momentum points, particularly their broad range, as well as causal circularity and endogeneity. Attewell et al. argued that it is crucial to distinguish between academic momentum, which they consider the cause of later student performance, and students' actual performance, which the authors contended is the effect resulting from momentum. Critiquing that Adelman's momentum proposition tends to conflate cause and effect, Attewell and colleagues adopted a much narrower definition of momentum that focuses on the following aspects that frame academic momentum as the cause for later achievement: whether there is delayed entry to college since high school graduation, part-time/full-time enrollment status during the first term, whether students attempted a high course load (18 credits or more) during the first term, and enrollment in summer courses at the end of the first year of college. Later, in a study on credit hours, Attewell and

Monaghan (2016) further reiterated this previously argued distinction between momentum as cause and academic achievement milestones resulting from momentum. In brief, the authors defined academic momentum as “the speed of progress towards a degree resulting from the rate of credit accumulation” (p. 3).

Also adopting the momentum framework but focusing on the STEM context, Wang’s (2015b) study on community colleges as a pathway to a STEM baccalaureate degree represents a more situated and focused approach to theorizing momentum. Using the term “STEM momentum” to refer to the forward push in the early stages of students’ academic trajectory within STEM fields of study, Wang reasoned that the definition of momentum needs to be domain specific to resolve the long-standing operational challenge in the definition and measurement of academic momentum. Situated within the STEM context, Wang’s work represents an initial attempt to reconcile the diverging ways in which momentum has been conceptualized. Specifically, Wang outlined three premises underlying a sound operational definition of momentum in empirical work: a focused and parsimonious approach to the measurement of academic momentum, a reflection of the carry-over nature of momentum being a continuum, which takes into consideration the temporal relationship among multiple measures, and the need to account for both the quantity of student efforts and the quality of student progression.

The major contributions of recent work by Attewell and his colleagues as well as Wang lie in their more intentional efforts to theorize academic momentum for sharper and more focused policy implications. For example, by zeroing in on course load that directly corresponds to enrollment policy, Attewell and Monaghan’s (2016) study reveals that, for students without excessive hours for paid work, full-time enrollment at 15 credits each academic term yields better long-term graduation rates than 12 credits. By the same token, Wang’s (2015b) more specific delineation of STEM momentum in examining the efficacy of community colleges as part of the STEM baccalaureate pathway clearly highlights a community college “disadvantage” for similar students starting at these institutions as opposed to public four-year institutions in their long-term baccalaureate STEM attainment. On the other hand, Wang’s study also illuminates the community college as a prime venue for cultivating STEM momentum.

Notwithstanding their value, these studies represent only preliminary progress toward a more systematic approach to theory building around momentum, a promising concept for promoting community college student success. Indeed, a pragmatic approach centering on how to empirically define academic momentum is still at the core of these recent attempts to conceptualize momentum. Most glaring is the absence of a fully developed theoretical model delineating momentum and the mechanisms through which it affects community college students’ eventual educational attainment and success. In other words, the conceptual basis underlying research examining or informed by academic momentum remains seriously underdeveloped.

Methodological Limitations of the Academic Momentum Literature

Shifting from the conceptual to the methodological, I now offer several critiques of the research design and approaches associated with inquiry into academic momentum. First of all, most studies take advantage of, but solely rely on, transcript data at the national, state, or institutional level. This tradition consistently follows Adelman's work and makes good use of the rich and reliable student transcript data as opposed to self-reported data. There are both strengths and weaknesses to using such data. On the one hand, transcripts capture students' enrollment behaviors and academic performance in a valid and reliable way. Albeit loose definitions of academic momentum, all three approaches to operationalizing momentum (i.e., intensity, milestone, and pattern), described previously, are best traced within students' transcripts as compared with other means such as self-reports. On the other hand, with the exception of a few studies drawing upon national longitudinal studies that contain both transcript and survey data (e.g., Adelman, 1999, 2005, 2006; Attewell et al., 2012; Wang, 2015a), transcript data at the state and institutional level, as part of the routine collection of administrative data, are only linked to a very limited number of student demographic variables. In this sense, in studies utilizing state-wide and institutional administrative data, the research design may inherently suffer from the omission of potentially important factors that are related to student outcomes above and beyond the relationship between momentum and outcomes.

In terms of analytical approaches, researchers have applied descriptive approaches to classify students (e.g., Bach et al., 2000; Hagedorn et al., 2008; Maxwell et al., 2003) or courses (e.g., Hagedorn & DuBray, 2010; Hagedorn & Lester, 2006) in an attempt to reflect the complexity of academic momentum as illustrated through student movement through coursework. Again, these approaches are appealing for their ease of use and interpretation. In addition, correlational and traditional regression types of analyses have dominated empirical work in this area. These approaches are well suited for exploring how academic momentum (and its various forms) is connected to later progression and attainment, and can often produce findings that are straightforward and easy to present and interpret for a practitioner audience. Their advantages aside, these analytical approaches, by nature, are weak in generating causal inferences. Thus, studies drawing on these approaches present less compelling policy implications compared with those adopting methods that are stronger in drawing causal conclusions (e.g., Attewell et al., 2012; Attewell & Monaghan, 2016; Doyle, 2009, 2010; Wang, 2015b). Acknowledging that randomized controlled trials, which are best at identifying causal relationships, are highly implausible in this research context, the use of quasi-experimental approaches to strengthening the causal inference will help better identify specific momentum measures' influence on student success for clearer policy implications. This is particularly important given that, by now, an empirical "saturation" is almost reached with the long line of correlational research on academic momentum. That is, we can almost expect a positive correlation between academic momentum measures and

student outcomes, given momentum's strong theoretical plausibility and the repeatedly confirmed patterns of relationships as revealed in the correlational studies. What we do not have yet is a detailed, nuanced, and situated understanding of *how* a specific measure of academic momentum may causally result in better student outcomes—the kinds of empirical findings that hold more compelling implications for policy interventions.

Another area of analytical approaches for further consideration is how to make the most of the wealth of transcript data. Much of this line of work adopts more conventional statistical techniques (i.e., descriptive and regression-based) to disentangle community college students' course and program pathways. While this may represent an intuitive and appropriate approach, often times, it can be clumsy and impose too many statistical assumptions that may not hold given their parametric and hypothesis-testing nature. In response to this limitation, in recent years, there has been an increase in the use of analytical approaches not conventionally applied in higher education research, especially for studies that fall under pattern-based approaches to transcript analysis (notably data mining techniques). For example, Wang (2015a) employed data mining methods such as frequent pattern/association rule, decision list algorithm, and decision tree algorithm to identify course-taking patterns among students following different transfer pathways. Crosta (2014) used the *k*-means clustering algorithm to make sense of enrollment patterns among community college students. Cluster analysis has also been adopted (e.g., Bahr, 2010b, 2011) to develop behavioral typologies based on enrollment patterns. These approaches, under the broad umbrella of data mining, add to the analytical repertoire for research designs that aim at teasing out highly complex and noisy course enrollment behaviors of community college students.

Looking forward, there are several other limitations that must be addressed in future research on academic momentum. One of these is that heterogeneities among the diverse body of community college students have not been examined with enough purposefulness and thoroughness in existing work. With a few exceptions (e.g. Calcagno et al., 2007; Hagedorn & Dubray, 2010; Hagedorn & Lester, 2006; Wang, 2015b), most studies did not explicitly build into their design to address potential subgroup differences when exploring the relationship between momentum and student success. For example, very few studies have explored in depth how students from different socio-demographic backgrounds or students of varying prior academic abilities may follow different academic trajectories, gain/retain momentum differently, and accordingly, experience disparate success rates. While these student characteristics are often introduced as control variables, assuming their connection to the outcome variable, by and large they have not been extensively examined as potential moderators that shape the relationship between momentum and success in potentially divergent ways. What is more problematic is that the demographic variables that do get included in these studies are often those demographics (e.g., gender, race, and family income) that are “standard” for conducting research on traditional four-year college students. While of great importance, these demographics alone do not mirror the vast diversity among community college students, many of them being a single parent, having dependent children, and/or being much

older than their four-year college counterparts. In addition, studies on counter-momentum friction are also needed, and the aforementioned analytical approaches and considerations can also be applied to the measures of friction with the purpose of reducing or removing them from students' education pathways.

Setting the Stage for a New Holistic Theoretical Model of Momentum

The literature review in the previous section shows that, although the notion of “momentum” is not always explicitly referenced in the body of literature on community college student success drawing upon Adelman's work, this stream of research unequivocally demonstrates the utility of adopting a momentum-building perspective in explaining community college student outcomes. While the analyses employed in prior scholarship primarily rely on transcripts, the academic momentum researchers rightfully underscore the importance of viewing momentum building as providing holistic support that centers on the whole range of students' academic experiences, as well as their roles and responsibilities (Attewell et al., 2012; Doyle, 2009; Wang, 2015b). On the other hand, narrowing the view of momentum to course-taking intensity, patterns, and milestones alone, as has been practiced in previous empirical research, misses other critically important elements of student experiences, pathways, and success that collectively underlie the true meaning of momentum for community college students. In other words, momentum as a concept holds unbridled potential for generating a more robust and unifying theoretical model for community college student success, but this potential is yet to be realized. In particular, two main dimensions have been absent from the discourse on cultivating momentum among community college students: classroom learning and teaching, as well as psychological development of students' motivational attributes and beliefs. In the following, I explain why these elements should also be considered key domains of momentum in the community college context, based on a succinct review of the existing small body of research within each of these two areas that focuses on community college student success.

Classroom Learning and Teaching

The existing research examining student progression through courses and programs, as reviewed previously, has clearly indicated that the course and program completion rates are low at community colleges (e.g., Bailey & Alfonso, 2005; Bragg, 2001, 2011; Cohen et al., 2014; Hagedorn, 2010), and failure to pass earlier courses significantly and negatively influences students' later progress, often resulting in dropping out (e.g., Attewell & Monaghan, 2016; Doyle, 2009, 2010; Kolenovic et al., 2013). Yet, beyond this knowledge, there have been only limited theoretical and

empirical efforts that delve deeply into the community college classroom setting. Given the large number of academically underprepared students arriving at community colleges and the staggeringly low rates of progress and completion in coursework (e.g., Bailey & Cho, 2010; Bailey et al., 2010; Hagedorn, 2010), teaching practices and learning experiences within the community college classroom warrant careful research, revisiting, and reform.

The scholarship on teaching and learning at community colleges is small, but at the same time informative and growing. Across existing studies, there has been a rather consistent finding indicating that the pedagogical approaches adopted within the community college classroom remain largely lecture-based and decontextualized, with students often being passive recipients of knowledge instead of active participants. As an example, drawing upon observation data collected from 257 classrooms and interviews with instructors and administrators at 32 colleges from 11 states, Grubb and Associates (1999) revealed that, in these community college classrooms, the transmission of knowledge is prioritized through the primary reliance on lecturing. Similarly, based on in-depth interviews and classroom observations of 14 instructors at a large suburban community college in the Midwest, Mesa, Celis, and Lande (2014) found that, among various teaching approaches in community college classrooms which the authors categorized as “traditional,” “meaning-making,” and “student-support,” the “traditional” approach emerged to be the most dominant one.

A further review of empirical research on teaching and learning at community colleges uncovers only a small body of work, and a considerable part of this line of inquiry concentrates on remedial classrooms, particularly in math. This is not surprising given both the gatekeeping role of math in students’ college career and outcomes, as well as the dire passing rates in developmental math courses and programs (Cox, 2015). A limited number of studies dealing with developmental math classrooms that employed classroom observations have arrived at a similar conclusion that commonly adopted practices revolve around “drill-and-skill” (e.g., Grubb, 2010; Grubb et al., 2011; Grubb & Gabriner, 2013). This typical decontextualized approach to teaching developmental math features an excessive amount of instructional time devoted to routine questions (Mesa, Celis, Suh, Lande, & Whittemore, 2011), an isolation of math subjects from others (Levin & Calcagno, 2008; Perin, 2011), and a heavy reliance on a review-and-lecture mode (Grubb, 2010)—instructional approaches that are all “remedial” in nature instead of cultivating learning opportunities that actively engage students to make meaning of what they learn (Cox, 2015). Focusing on teaching practices within developmental math courses across two urban community colleges in the northeast, Cox (2015) conducted classroom observations and instructor interviews to further unravel the interplay between instructional practices and opportunities for learning. She argued that the “default” model of developmental math education has to be disrupted from the organizational level, and that there is a great need for further understanding the relationship between the enacted curriculum and the resulting student math proficiencies.

The prevalence of this decontextualized approach to teaching developmental math and other courses at community colleges inhibits students from appreciating

the utility of the subject matter in real-world situations (Levin & Calcagno, 2008) and may well be part of the main cause for the high dropout and low completion rates in remedial courses (Grubb et al., 1999). This is also true for other courses at community colleges where teaching and learning around the subject matter are detached from students' real-life experiences (Grubb et al., 1999; Richardson, Fisk, & Okun, 1983).

Contextualization is viewed as a potentially powerful solution to this complicated problem (Ambrose, Davis, & Ziegler, 2013; Baker, Hope, & Karandjeff, 2009; Berns & Erickson, 2001; Borocho et al., 2007; Perin, 2011; Simpson, Hynd, Nist, & Burrell, 1997). Both Mesa et al. (2014) and Wang, Sun, and Wickersham (in press) suggested that the community college math classroom, remedial or other, should feature the interaction between and across students, instructors, and content within the subject matter. Both studies also pinpoint the challenge of balancing a rigorous facilitation of sophisticated math learning and a welcoming, supportive, accessible approach to assisting underrepresented students. This resonates with Grubb and Cox's (2005) forceful argument that student-centeredness and support within the classroom are key to the success of community college students, particularly among those who are academically underprepared. In light of these findings, it follows that rigorous instruction and meaningful learning experiences within the classroom may foster momentum so that community college students are not only comfortable in the learning context, but also experience true mastery of a complex subject matter.²

As a whole, we know enough to conclude that a main part of the reason why the majority of community college students are not achieving sufficient momentum to progress forward academically rests with what happens within the community college classroom. Limited exposure to teaching and learning approaches that allow students to engage in sense-making and constructing knowledge as active learners,

²I should note that, in addition to teaching and learning within the classroom, there has also been limited research on a range of curricular and co-curricular offerings intended to support student learning, such as supplemental instruction, learning communities, and student success courses (Butler & Christofili, 2014; Crisp & Taggart, 2013; Dawson, Meer, Skalicky, & Cowley, 2014; Goomas, 2014; Laanan, Jackson, & Stebleton, 2013; Lorch, 2014; Malnarich, 2005). In general, these studies show a positive relationship between participation in these support programs and student outcomes. For example, Dawson et al. (2014) and Goomas (2014) illustrated that participation in supplemental instruction and academic support programs is associated with lower failure and withdrawal rates, higher course completion, retention, and graduation rates, as well as stronger academic skills and relationships with peers. Similarly, participation in learning communities is positively related to learning gains (Laanan et al., 2013), attainment of goals (Lorch, 2014; Malnarich, 2005), and improved self-motivation (Bulter & Christofili, 2014). Overall, studies on these structured student success programs and offerings are rather scattered, especially considering the wide range of differences across each program, and how each is implemented and studied. As Crisp and Taggart (2013) maintained, much more systematic research better at drawing causal inferences is warranted to understand how and why these support programs potentially influence community college students' short-term and long-term outcomes. Also, as most of community college students are not able to participate in these support programs due to employment and family obligations, these programs' potential for building momentum is relatively limited, compared with what could result from innovations that occur within the classroom context.

coupled with academic underpreparedness and a general lack of academic motivation, often result in the loss of momentum, as students become disillusioned, bored, or feel they cannot progress forward academically. These types of classroom experiences only serve as friction and resistance to student momentum. A true process of building momentum, therefore, should allow community college students to not only pursue promising course and program pathways, but also have enriching and meaningful learning experiences within those courses and programs in order to succeed in them. Simply put, momentum does not exclusively imply going through the motion of taking the “right” sequence of courses; it also taps into the actual learning and teaching that occur inside of the classroom—a key venue where roadblocks to gaining momentum may be removed. Students placed into the appropriately structured sequence must have rigorous learning experiences that allow them to gain momentum to move toward their larger educational goals, by not only taking but also succeeding in the courses and programs. After all, more often than not, succeeding in the courses and programs is fundamental to fostering further momentum for students.

Motivational Attributes and Beliefs

In addition to what goes on within the classroom, another key element missing in the existing literature on momentum is what happens within students themselves: their previously held and evolving aspirations, attitudes, beliefs, habits of mind, and the resulting behaviors as they engage with their community college experience. The motivational perspective is critical as it is closely tied together with momentum through coursework as well as learning and teaching within the classroom. Grubb and Gabriner (2013) noted that community college students often report low academic motivation, which research has shown to be a major barrier to course completion (Aragon & Johnson, 2008). Similarly, Bailey et al. (2015), when emphasizing the importance of offering students guided pathways, equally highlighted the critical value of cultivating academic motivation. In terms of longer-term educational outcomes, Nippert’s (2000) study on community college students’ degree attainment confirmed that, in addition to academic experiences, motivational factors matter for degree attainment. Studies by Wang (e.g., 2009, 2012, 2013a, 2013b) also consistently highlighted the strong predictive value of motivational beliefs and attributes in understanding community college student success.

These and other studies convincingly support the need to add the motivational perspective to conceptualizing momentum for community college student success. In light of the fluidity of community college students’ educational aspirations, the various and diverging educational pathways that can be overwhelming at times, and the many barriers students face within and beyond the classroom, continued commitment to educational aspirations and sustained efforts are critical on the part of students as agentic individuals. Specifically, academic motivation related to one’s aspirations, agency, growth mindset, and perseverance (Farrington et al., 2012)

represents pivotal attributes that contribute to and build momentum. Advisors can help guide students toward the right sequence of courses, and instructors can facilitate meaningful learning experiences; yet without students' strong motivation that helps them focus and persevere in the face of barriers, it is next to impossible for them to maintain the initial surge of momentum given the environmental factors that cause counter-momentum friction.

Expanding the momentum-building framework to include motivational factors bears great implications for cultivating community college student success. Here, by emphasizing motivational factors, I do not imply that they are only intrinsic to the students. As alluded by Dean and Dagostino (2007) and argued by Wang et al. (*in press*), community college faculty and administrators must adopt a dynamic and interactive lens toward psychological factors underlying student motivation. Instead of viewing them as innate and unchangeable that only some students have while others do not, the community college environment can be transformed into a motivating and empowering setting that helps build and strengthen the kinds of motivational beliefs among students that allow them to achieve educational and life goals meaningful to them. Existing research has reinforced the importance of non-cognitive skills such as academic habits, cultural know-how, balancing multiple demands, and help-seeking in contributing to community college students' academic success (e.g., Karp & Bork, 2014). Further empirical endeavors are greatly warranted for a better understanding of what motivational factors matter the most. Building upon this knowledge, these beliefs can be tapped into and cultivated through advising and classroom practices.

Advancing a Holistic Model of Momentum for Community College Student Success

In this section, I present a new, holistic theoretical model—Momentum for Community College Student Success, hereafter referred to as the momentum model, based on my review and critiques of existing research on academic momentum as well as research on classroom teaching and learning and the psychological development of community college students. This theoretical model extends beyond Adelman's academic momentum notion and the often-disjointed literature dealing with the learning, development, and success of community college students. Going back to the classical definition of momentum, the momentum model mirrors both the "mass" and "quality of progression—progress in the right direction" (i.e., the motion and velocity resulting from applying a directional force). Metaphorically, just like motion and velocity in physics indicate both how fast and in which direction an object moves, this Newtonian momentum in the community college context means both how fast a student is progressing through the "right" course and program pathways as well as what is happening within the classroom and students themselves. Before I present the momentum model in full detail, it is necessary to

offer a brief discussion on the definition of community college student success that serves as the overarching end goal that the momentum model is intended to serve.

A Word on the Definition of Community College Student Success

College success is a multifaceted and complex construct. Granted, completion of credentials, often used to measure student success, is of vital importance and represents a key policy concern for federal and state governments, as well as institutions and many individual students. However, defining success for community college students is an even more complicated task (Mullin, 2012), where credential completion or transfer rates alone cannot be adopted as a single yardstick, given the wide range of community college offerings and student goals for attending. By articulating the momentum model, I do not intend to reduce a sophisticated task of defining community college student success to a measurable model. Rather, the momentum model represents a new way of thinking in terms of how to enable and empower community college students to achieve their educational goals, acknowledging that success for community college students is particularly fluid and there exist many ways of defining it, by institutions, programs, instructors, and students themselves.

For this precise reason, the momentum model, as delineated later, also entails an aspirational component that emphasizes clarification of students' educational goals and finding viable paths aligned with those goals. In summary, the end purpose of the momentum model inherently reflects the fluid and complex nature of community college student success, with the understanding that to arrive at one single definition of community college student success is not the primary task of the proposed theoretical model. Regardless of the definition of success, which should be situated within specific empirical studies dealing with community college students with their specific educational intent, momentum is an appropriately broad lens that applies across different ways of defining success. In other words, the central argument is that, in order for students to succeed in their educational pursuits through a community college education, a more holistic view of their educational experience must be taken through building momentum, as described in this new momentum model.

The new momentum model is developed in response to the following three unique realities of community colleges and their students that are different from their four-year counterparts. First, community colleges typically offer a wide, diverse, and sometimes overwhelming range of curricula (Cohen et al., 2014; Perin, 1998; Schuyler, 1999), which provide many choices but more often blur the "right" paths for students to navigate in order to move toward achieving success given their educational intent. Second, on average, beginning community college students are not as college ready as their four-year college counterparts; thus, the learning and

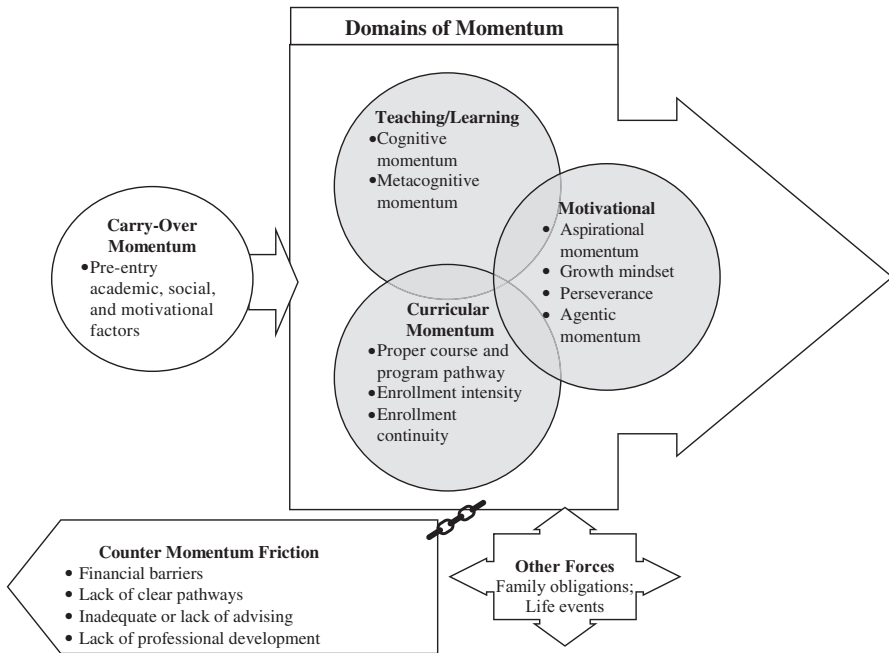


Fig. 6.1 A theoretical model of momentum for community college student success

teaching that happen within the classroom, especially in remedial and gatekeeper courses, are critically important for them to master basic skills and learning strategies that allow them to progress into and through college-level work successfully. Third, in light of the complex academic and life challenges facing community college students (Cohen et al., 2014), there needs to be a considerable amount of commitment that students put into their own academic work, which calls for the kinds of mindsets and beliefs that motivate students and keep them on track to success.

Given these realities, in whole, the new momentum model is predicated in the argument that, to assist students in pursuing fruitful educational experiences and outcomes, community colleges must cultivate an environment that fosters momentum. This entails well-sequenced and scaffolded courses across the curricula, teaching practices within these courses that promote active learning and metacognitive skills to master the subject matter, and motivational attitudes and beliefs of students that help them maintain direction. This new momentum model for community college student success differs from most of the existing theoretical frameworks in its dynamic nature and intentional focus on the classroom that is front and center of community college students’ engagement with their education.

Figure 6.1 is a visual representation of the momentum model. There are three main domains of momentum: curricular, teaching and learning, and motivational. Within each domain, there exist subareas indicating specific types of momentum. In what follows, I delineate the momentum model in greater detail.

Curricular Domain of Momentum

This domain of momentum refers to the forward motion students maintain through course-taking patterns and efforts along either a formal program of study (such as a certificate or an associate degree program), or a sequence and configuration of coursework leading to a tangible educational goal (such as getting on the transfer path, non-credit education, or taking a few courses for self-enhancement). Curricular momentum is largely rooted in Adelman's notion of academic momentum and the empirical work reviewed earlier in this chapter that falls under the umbrella of academic momentum. I chose to name this type of momentum curricular momentum, as opposed to academic momentum, to avoid the misassumption that other domains of momentum to be described below do not include or have implications for building momentum within academic contexts and for academic reasons. In this sense, I strive to achieve a narrowing of the original academic momentum notion to reflect its primary focus on students' progress and efforts pertaining to course taking across the curriculum, one key dimension of the "academic" side of a community college education, but not all of it. Given these considerations, the curricular momentum domain is only briefly described below, as it is conceptually aligned with the academic momentum literature, which has been extensively reviewed earlier in this chapter.

Following well-scaffolded and aligned course sequences is at the heart of the curricular domain of momentum. Historically, community colleges have primarily adopted a "cafeteria-style self-service" approach to education (Bailey et al., 2015, p. 3), where students are expected to navigate the often overwhelming choices with little direction, leading to potential confusion, loss of momentum, and dropping out. Therefore, a core element of curricular momentum is students' well-advised and informed forward progress on a well-structured path of courses that leads to successful fulfillment of educational goals (e.g., Bailey et al., 2015; Hagedorn et al., 2006; Wang, 2015a).

Enrollment intensity is another indicator of curricular momentum. Intensity can be indicated either numerically by the number of credits students carry, or more discretely by classifying credit number into enrollment intensity status such as full-time and part-time. In general, enrolling in a high number of credits, or with full-time status, has been suggested to be associated with better educational outcomes (Adelman, 2006; Attewell et al., 2012; Attewell & Monaghan, 2016; Calcagno et al., 2007; Crosta, 2014; Doyle, 2009, 2010; Ewell & Boeke, 2007). Thus, having curricular momentum also means being able to maintain the intensity of one's enrollment.

Enrollment continuity, as another curricular momentum indicator, refers to continuous enrollment until the intended educational goal is achieved. Community college students' enrollment behaviors often feature high rates of disruption and discontinuity (Bahr, 2011; Crosta, 2014), which all significantly add to the risk of non-completion (Bahr, 2013b). Research on summer enrollment revealing its general

positive relationship to student outcomes also speaks to the value of enrollment continuity. Accordingly, enrolling in an uninterrupted manner is a major component of, and mechanism sustaining, curricular momentum.

Teaching and Learning Domain of Momentum

As discussed earlier, the community college classroom represents a most immediate and relevant venue for cultivating momentum, especially in the domain of teaching and learning. This domain contains two key subareas: **cognitive momentum** and **metacognitive momentum**. I use the word “cognitive” to describe the aspect of a community college student’s education that involves the thinking, understanding, and learning of the subject matter. Hence, cognitive momentum is viewed as students’ cumulative progress toward the learning and mastery of the subject matter at hand. The word “metacognitive” refers to the processes of identifying, monitoring, and planning strategies that are optimal for learning (Flavell, 1979; Zimmerman, 2001). Metacognitive strategies are goal-oriented efforts such as planning, problem-solving, and self-regulation to influence students’ learning (Pintrich, 2000). Accordingly, metacognitive momentum means community college students’ ability to apply strategies to regulate, adjust, adapt, and assess one’s own learning processes.

Both cognitive and metacognitive momentum represent the types of momentum community college students critically need to establish and maintain academic progress. Many community college beginners do not necessarily possess carry-over momentum from high school in the form of adequate academic preparation (Adelman, 1999, 2005). Thus, their first exposure to teaching and learning at a community college may come through developmental or gatekeeper courses, which represent a major opportunity for the development of cognitive momentum through rigorous, student-centered approaches to teaching. In addition to fostering cognitive momentum, the community college classroom should shift from a knowledge transition approach to a space where students also learn how to learn (Bailey et al., 2015), thus strengthening students’ metacognitive momentum. While cognitive momentum speaks more directly to the accumulation of knowledge and metacognitive momentum more to strategies applied to learning processes, these two types of momentum are not completely distinct from each other and are mutually reinforcing. Viewed holistically, cognitive and metacognitive momentum is best embodied in an active learner and best cultivated through a set of instructional practices placing students at the front and center of classroom teaching and learning, under the broader umbrella term of active learning. Most community college classrooms are still dominated by the traditional, lecture-based model of teaching. Active learning strategies, when adopted appropriately, can foster student engagement with the college academic environment (Perrotta & Bohan, 2013), thus adding to students’ cognitive and metacognitive momentum.

Motivational Domain of Momentum

Finally, the new momentum model includes a key motivational domain. This domain speaks to the development of aspirations, mindsets, perseverance, and agency that allow community college students to stay on track of their educational journey despite setbacks and counter-momentum friction. The following specific types of momentum constitute the motivational domain of the momentum model.

Aspirational Momentum Aspirational momentum refers to students' clear definition of and sustained commitment to their educational goals. In light of the positive relationship between educational expectations and student effort (Domina, Conley, & Farkas, 2011; Wang, 2013a), maintaining early momentum in the form of aspirational persistence has a far-reaching influence on community college students' longer-term success (Bers & Smith, 1991; Driscoll, 2007; Hawley & Harris, 2005). At the same time, aspirational momentum also entails a purposeful reexamination and refinement of previously held goals. Community college students' educational intents do shift and evolve over time, especially considering that many students arrive at community colleges without a clear intent, or with a vague intent that makes it challenging to select and participate in appropriate course-taking pathways (Bahr, 2011; Voorhees & Zhou, 2000). Therefore, as students experience college over a more extended period of time and are exposed to the college environment, their aspirations and associated choices may become clearer. Thus, efforts assisting with aspirational momentum should be part of the ongoing process of developing momentum.

Growth Mindset Growth mindset as a form of momentum means students' belief that their academic performance is malleable through hard work, repeated practice, and application of useful strategies, and is thus changeable. Growth mindset is among a family of academic mindsets—"beliefs, attitudes, or ways of perceiving oneself in relation to learning and intellectual work that support academic performance" (Farrington et al., 2012, p. 28)—that have been studied in relation to college student success. Of these mindsets, sometimes loosely referred to as "noncognitive" skills³ (Borghans, Duckworth, Heckman, & Weel, 2008), the growth mindset

³In recent years, the term "noncognitive skills" has been liberally applied to refer to students' personal qualities and attributes beyond cognitive ability that are beneficial to student learning and success. However, it has received valid critiques for its inaccurate implication that there are aspects of individuals' psychological functioning devoid of cognition (e.g., Duckworth & Yeager, 2015). Also, in recent work conceptualizing "noncognitive" skills, sometimes metacognitive skills are labeled as a subcategory of "noncognitive" skills (e.g., Farrington et al., 2012). This is also problematic as metacognition, by definition, is cognition of cognition (Hacker, 1998, p. 3). In addition, metacognitive strategies and skills, going by their classic definitions in the literature, distinctively pertain to students' cognitive and learning processes (Veenman, Hout-Wolters, & Afflerbach, 2006) instead of personal attributes and beliefs that are often described as "noncognitive" in the recent literature. For these reasons, in this chapter, I do not formally adopt the term "noncognitive" skills when describing various forms of motivational momentum. Furthermore, I intentionally keep metacognition distinct from the motivational domain.

(Paunesku et al., 2015; Yeager & Dweck, 2012; Yeager & Walton, 2011) is particularly relevant as a form of motivational momentum for community college students. Academic success is not only determined by existing knowledge and prior abilities, but also attitudes, habits of mind, and values (Astin et al., 1992), which should portray learning as a growing process. Often in the discussion on the characteristics associated with incoming community college students, the discourse is solely around their academic deficiencies. While it is undeniable that academic underpreparedness is widespread among community college students, focusing exclusively on underpreparedness only adds to the deficit view of these students (Laanan & Jain, 2017) and perpetuates a sense of hopelessness and defeat among students. In this sense, cultivating a growth mindset among community college students helps avoid the deficit approach and illuminates the development and growth as prominent features underlying students' educational experiences at community colleges.

Perseverance Another highly relevant element of this domain of momentum is academic perseverance,⁴ also referred to as “grit” (e.g., Duckworth, Peterson, Matthews, & Kelly, 2007; Duckworth & Quinn, 2009), which is a student's ability to remain focused and engaged despite barriers and constraints (Farrington et al., 2012). Perseverance or grit is especially relevant for community college students who often face a multitude of divergent pathways as well as academic and other challenges (Napoli & Wortman, 1998; Zell, 2010). For students balancing work, family, and college, gaining and maintaining momentum is a particular challenge (Kolenovic et al., 2013) and perseverance will prove a critical type of momentum to help student stay on track.

Agentic Momentum Agentic momentum refers to community college students' drive to seek information, knowledge, help, and resources by their own action. Considering the fact that many community college students are older adults who already arrive at college with a strong sense of autonomy (Bailey, Leinbach, & Jenkins, 2006; Hawley & Harris, 2005; Levin & Kater, 2012), it is important to tap into this particular quality to build momentum. The community college student body consists of more adult learners who adopt an agentic approach to learning by co-creating learning in the classroom, constructing their own knowledge, and monitoring their own progress (Montero-Hernandez & Cerven, 2012). Research has shown that self-advocacy and proactivity can be cultivated into the community college student's role and identity that help develop a sense of competence and accomplishment (Schuetz, 2008) and prompt them to succeed (Karp & Bork, 2014).

⁴Perseverance is not to be confused with resilience. Perseverance and resilience have some overlapping in concept and meaning. Perseverance covers a broader meaning than resilience. Perseverance puts more emphasis in a strong will to hang on (Colquitt & Simmering, 1998; Kanfer & Ackerman, 1989). Resilience describes the ability to recover/restore its normal state (Howard & Johnson, 2000; Luthar, Cicchetti, & Becker, 2000; Masten & Powell, 2003; Smith et al., 2008). Given these distinctions, perseverance aligns well with the momentum framework.

It is important to reiterate that the motivational domain and its various types of momentum are not something that is entirely and inherently innate, and further, they form a highly interactive system feeding into one another. To illustrate, Mesa (2012) shows that community college instructors have yet to appeal to the strong motivational beliefs students bring into the classroom, which should be considered momentum that can be further built upon. Also, Karp and Bork's (2014) research further emphasizes the importance of the motivational dimension of momentum that eases community college students' transition into and through community colleges, especially highlighting the value of defining and clarifying students' agentic role in the process. Thus, the community college classroom presents prime conditions to cultivate motivational momentum by strengthening the connections among students and instructors and fostering students' individual agency and autonomy (Bailey et al., 2015).

Counter-Momentum Friction

Just as with linear momentum as defined in classical mechanics, motion and velocity involve the direction in which an object moves, and in this process, there can exist forces that counter motion and velocity to deter or redirect momentum. Accordingly, it is critical to be mindful of the many individual, structural, and institutional barriers facing community college students. Hence, momentum building also implies reducing "friction" that counteracts momentum, by paying purposeful attention to removing the academic and financial challenges community college students often negotiate that prevent them from engaging in activities that help build momentum, such as taking a high course load. Thus, in addition to articulating what constitutes momentum, the model also includes the kinds of factors and barriers to community college student success that serve as counter-momentum friction. To be precise, these friction factors are not what constitute momentum, but external forces that would reduce momentum, thus not being at the core of the momentum model.

Financial Barriers Financial barriers are one of the major counteracting forces that cause counter-momentum friction. The vast majority of community college students face substantial financial burden (Cohen et al., 2014; Geckeler, Beach, Pih, & Yan, 2008). Concerns about financing their current and future education, as well as the lack of financial resources, deter high-achieving community college students from finishing a credential or transferring to a four-year institution (Geckeler et al., 2008). This student population is also sensitive to both the type and timing of financial aid (DesJardins, Ahlburg, & McCall, 2002). To combat counter-momentum financial friction, financial aid in the form of scholarships provided earlier during college has shown to have a more positive effect than other types of aid in order to promote momentum (Mundel, 2008). The recent policy discussion and efforts associated with free tuition at community colleges represent a big stride toward reducing the financial friction that gets in the way of the forward momentum of community

college students. Also associated with financial barriers are the many obligations that community college students face, such as the need for transportation and child-care, which may prevent students from gaining momentum (Doyle, 2010), particularly in the curricular domain.

Lack of Clear Pathways Aligned with Student Intent A key barrier to the academic progress of community college students is a lack of clearly integrated and articulated course or program pathways. Many academically underprepared students are trapped in remedial sequences. In addition, college-ready students are often faced with an overwhelming set of choices, often leading them to pick the courses that may not contribute to a cohesive whole toward their intended outcomes (Bailey et al., 2015). The idea of guided pathways offers a promising approach, but a significant and persistent challenge is how to accurately measure the highly diverse and fluid educational goals among community college students in order to chart a viable trajectory for students to make forward progress toward those goals. The alignment between student goals and clear pathways still remains a critical piece of the puzzle needing resolution to pave the way for building momentum. In light of the momentum model, bridging students' aspirational momentum with other types of momentum, such as curricular and metacognitive, helps remove this potential misalignment problem and translate aspirations into actionable and viable educational plans.

Inadequate or Lack of Advising Closely coupled with the lack of clear pathways is the issue of insufficient, or absence of, advising, particularly in the area of course and program selection (Packard & Jeffers, 2013). Many community colleges are severely under-resourced, with an untenable student-to-advisor ratio as high as in the hundreds or even thousands (Cohen et al., 2014; Packard & Jeffers, 2013). Inadequate academic advising negatively affects community college students' outcomes (Hagedorn et al., 2006; Packard, Gagnon, & Senas, 2012), and poor or no advising may lead to students taking the "wrong" courses or courses that they do not need or will not transfer (Packard & Jeffers, 2013). Given these realities and factors, inadequate or lack of advising is a major counter-momentum friction.

Lack of Professional Development for Community College Educators Much of the momentum model centers on classroom practices that can be facilitated by community college instructors. Also important to the momentum-building process are advisors and counselors serving community college students. In particular, fostering cognitive and metacognitive momentum is largely contingent on adopting active learning and teaching approaches that require rigorous professional development among community college faculty to disrupt commonly practiced yet inadequate approaches to teaching. However, as Bailey et al. (2015) suggested, much as community college students often struggle with self-direction, time management, and academic motivation, faculty are not often able to view the development of these skills and attributes within the scope of their instruction. As a result, the decontextualization of course instruction isolated from students' motivational

beliefs and future aspirations often leads to a “demotivating” (p. 14) environment for learning. To make things more complicated, community colleges are often under-resourced, thus not featuring a strong culture for professional development opportunities among faculty and advisors in order to adopt evidence-based teaching and advising approaches that may represent the best venue to foster student momentum. The lack of robust professional development, coupled with the need to maintain low cost and open access with a heavy reliance on part-time faculty, represents a major barrier that may counteract momentum, especially in the teaching and learning domain.

Carry-Over Momentum Prior to Community College Entry

Viewing momentum as a continuum, I also include in the model carry-over momentum prior to community college entry. While this is not one of the main domains of momentum at the community college level, pre-entry momentum contributes in large to later momentum of students while attending community colleges. For example, pre-entry momentum can be obtained through dual enrollment⁵ experiences that may motivate two-year college attendees to achieve greater academic momentum (Wang, Chan, Phelps, & Washbon, 2015). Students may bring carry-over momentum from high school, life, and work experiences. Carry-over momentum reflects students’ prior experiences and backgrounds in the academic, social, and motivational contexts, and provides a foundation that can be further developed. In a sense, these background factors, as well as beliefs and attitudes students hold, including aspirations and mindsets, are also assets (Laanan & Jain, 2017) that instructors, advisors, and institutions can tap into in the momentum-building process.

Other Forces

Many community college attendees have significant responsibilities in life. Compared with their four-year counterparts, students entering community colleges tend to be older, have dependent children, serve as the major care provider for their families, along with assuming many other roles and responsibilities (Bryant, 2001; Cohen et al., 2014). This complex set of life circumstances, responsibilities, and events may either pull or push students on their academic trajectory, as some of them may serve as motivating factors that fuel momentum (e.g., working hard toward finishing a degree to obtain a job in order to support one’s family and community; Cohen et al., 2014; Voorhees & Zhou, 2000), while others counteract momentum (e.g., working too many hours to sustain a momentum-garnering

⁵ Dual enrollment programs are designed to allow high school students to enroll in high school and programs offering college courses concurrently (Andrew, 2004; Bragg, Kim, & Barnett, 2006).

credit load; Calcagno et al., 2007; Cohen et al., 2014). Accordingly, a careful consideration of these other forces is in order when constructing momentum-building activities for community college students.

Major Assumptions and Considerations Underlying the Momentum Model

After describing the new momentum model, I now turn to a discussion of three important suppositions underlying the momentum model: (1) the centrality of the classroom, (2) the intersectionality of the momentum model, and (3) the malleability of momentum. To sum up, the new momentum model centers on what educators can do to help students build momentum, rather than the question of how much momentum students require for success. In this sense, a momentum “point” measurement cannot give a holistic view of the malleability of momentum as a continuum.

The Centrality of the Classroom in the Process of Building Momentum With the understanding that community college students navigate different spaces in their academic and social encounters with their community college experience, the momentum model highlights the centrality of the classroom when considering all potential venues for cultivating momentum. In the existing college retention models developed with traditional four-year college students in mind, the academic integration aspect of Tinto’s (1975) model, for example, has gained some empirical ground for community college students (Deil-Amen, 2011; Halpin, 1990; Pascarella & Chapman, 1983). The centrality of classroom experience also extends into the academic life of students who transfer out of community colleges and into the four-year venue. For example, Lester, Leonard, and Mathias (2013) revealed that transfer students contextualize their college engagement within academic work. In sum, prior scholarship has established the centrality of the community college classroom as the main venue for engaging student learning and facilitating progress, as community colleges are organized around classroom teaching (Lundberg, 2014). Accordingly, the community college classroom and curriculum represent the most immediate vehicle for building momentum in a holistic, concentrated, and purposeful manner and should be prioritized in related discussions, especially since this potential is still by and large unrealized, as indicated in the literature. Development of positive motivational beliefs and metacognitive skills will particularly benefit academically underprepared students in order to persist through multitudes of obstacles, academic or otherwise. Given their limited time on campus, the classroom becomes the educational space community college students spend most of their time navigating (Hagedorn & Kress, 2008) and holds vital potential for building a safe and positive learning environment. At the same time, I do not suggest that venues other than the community college classroom do not merit exploration. While historically, little emphasis has been placed on student organizations or faculty-student interaction

outside of the classroom, these out-of-classroom domains may be missed opportunities where community colleges could expand efforts to increase student momentum and learning.

Intersectionality of the Momentum Model Similar to their counterparts in classical mechanics, the domains of momentum and their various forms are neither mutually exclusive nor static. They represent a dynamic, collective process in which one form of momentum builds upon, extends, and amplifies another. For example, cognitive and metacognitive momentum that students gain through actively engaging in learning activities within the classroom can strengthen students' commitment to goals (Crisp, 2010; Wang, Sun, Lee, & Wagner, 2015), thus adding to students' aspirational momentum in the motivational domain. In addition, as Wang et al. (in press) illustrated in their research on contextualization within remedial math courses, instructional practices centering on meaning making and active engagement of students can transform the classroom setting into a motivational environment, thus cultivating both cognitive momentum and the types of momentum in the motivational domain, such as growth mindset. In fact, the interconnected nature of various types of momentum has also received support from academic momentum researchers as they articulated a theory of change explaining why academic momentum through coursework may foster success. For example, Attewell et al. (2012) posited that momentum works through better integration of students, increased academic self-concept, and the "crowding-out" of other obligations of students that could counter momentum through heavy course loads, thus suggesting that curricular momentum in the form of enrollment intensity can help build momentum in the teaching and learning domain as well as the motivational domain. Martin, Wilson, Liem, and Ginns (2013) further illustrated that momentum's potential to push students forward toward progress can also be explained from the perspective of learning as a generative process through which students make meaning through a connection between new and prior knowledge and experiences, further demonstrating that one form of momentum extends from and contributes to other forms of momentum.

Malleability of Momentum A major limitation with the existing academic momentum framework is its heavy emphasis on individual students' decisions and choices. As such, momentum in prior literature is viewed as almost exclusively stemming from students' own decisions, choices, and efforts because "there is a limit to what [we] institutions can realistically do unless students respond to highly targeted advice and prodding" (Adelman, 2006, p. xxiv). However, as Grubb et al. (1999) argued, "Even if some decisions to drop-out depend on financial and familial factors beyond the control of the college, improvement in teaching would at least do everything a college can do to help students realize their goals" (p. 355). By advancing a more holistic and dynamic momentum model, I further extend Adelman's later acknowledgement that these student decisions and behaviors happen in conjunction with the structures and opportunities provided by institutions. Momentum, true to its original definition as in classical mechanics, is thus malleable and can be collectively built by students and the community colleges they attend (Grimes & David,

1999). As an example, the development of momentum in the teaching and learning domain is made viable through concerted efforts involving both instructors and students in contextualized and integrated instruction, as these approaches have gained a strong empirical base as rigorous ways to strengthen community college students' learning of the subject matter (Perin, 2011; Perin & Charron, 2006)—thus developing cognitive momentum. These approaches also help cultivate student self-efficacy in the subject matter (Wang et al., *in press*)—therefore adding to various elements to the motivational domain of momentum as well, such as aspirational momentum and growth mindset.

I should note that by being malleable, community college students also play an active role in developing their own momentum. This is why agentic momentum plays such an essential role, both as a form of motivational momentum, and as a generative force that empowers community college students to assume a proactive approach in developing other forms of momentum. To strengthen agentic momentum, it is pivotal to help clarify the value and utility in coursework, as research has shown that a failure to recognize them is one of the major barriers leading to counterproductive behaviors such as failing to complete assignments and courses (Cox, 2009a, 2009b; Grubb, 2006). Community college students tend to have a strong orientation toward the utility of what they learn. As such, clarifying utility, expectations, and more importantly, how learning is connected to students' future goals, will help build agentic and other types of momentum.

Future Research Directions for Using the Momentum Model

In this section, I offer several major directions for future research building upon the momentum model. As a comprehensive and holistic model, it is not always feasible to tackle all of the elements contained in the model in a single chapter. Therefore, I organize my recommendations for future research based on the specific domains of momentum, followed by a set of common directions that apply across all three domains of momentum. However, as I discuss in greater detail later, it is important to keep in mind that, to fully understand how momentum works and is cultivated, a sustained research program addressing all the elements of the momentum model is worth pursuing through longitudinal, mixed methods research designs.

Curricular Domain

Among all three domains of momentum, this area has received the most sustained empirical attention and efforts. As such, empirical evidence abounds, pointing to the positive influence of this type of momentum, especially with regard to enrollment intensity and continuity. What is less clear is momentum built through following well-sequenced and scaffolded course and program pathways or a clear unequivocal

identification of the pathways. As discussed previously, transcript analysis has been in existence for several decades and more, proving particularly informative when considering the often chaotic patterns followed by community college students. However, empirical evidence is still limited and falls short of fully revealing clear course and program pathways. This is partly due to the fact that analysis of course taking in the current literature is primarily approached through traditional statistical analysis that fails to account for the complexity and richness of transcript data.

Moving into the future, more sophisticated and robust approaches to transcript-based analysis hold enduring promise for disentangling specific trajectories contributive to community college student outcomes, especially situated within concrete institutional contexts or a domain-specific subject area (e.g., biology in STEM fields of study). Given the large volume of transcript data, it is clear that exclusively relying on descriptive approaches would not be sufficient to truly mirror the complex and nuanced ways in which students gain or lose momentum as they navigate college through coursework in a longitudinal and highly interactive fashion. Corresponding with the rise of policy interest in big data and the potential adoption of machine learning analytics in exploring education data, in the past few years, there has been a small but growing body of work on academic momentum and transcript analysis that employs data mining techniques to reveal complex course-taking patterns (e.g., Bahr, 2010b, 2011; Crosta, 2014; Wang, 2015a). Future research endeavors can further benefit from these analytical approaches utilizing institutional or state administrative data. In these efforts, it is particularly valuable to compare how the identified course-taking patterns and sequences align or do not align with published and recommended course sequences and transfer agreements. This approach offers insight into any potential gaps between students' actual practices and the intended course sequences as well as program or transfer pathways, illuminating specific problem areas for targeted interventions.

In addition, more research is needed to not only elucidate commonly practiced course and program sequences and pathways, but more importantly, outcomes associated with them. Certain data mining techniques, such as association rule mining and decision tree, as exemplified by Wang (2015a), not only offer a typology of course-taking patterns, but also tie patterns to student transfer outcomes. These approaches represent promising directions for future research. Furthermore, quasi-experimental approaches and machine learning techniques may work in concert with each other to both tease out clear patterns based on complex transcript data and offer stronger causal inferences, thus shedding light on policy implications associated with course and program sequences.

Teaching and Learning Domain

Overall, much more research is needed that focuses on what happens inside of the community college classroom. The momentum model highlights the centrality of the classroom in fostering momentum, an argument well-grounded within both prior literature and the realities of a community college student's engagement with

her/his experience. Yet, scholarship on teaching and learning within community colleges is quite disjointed and spans a range of disciplines, with only limited research in the higher education research literature. While evidence-based, high-impact teaching approaches such as active learning, contextualized and integrated instruction are known to many, limited research (e.g., Baker et al., 2009; Hamilton, 2013; Mazzeo, Rab, & Alssid, 2003; Wachen et al., 2012; Wang et al., *in press*) exists that truly delves into the extent to which these approaches are adopted and their actual impacts on student outcomes. A critically important missing link in our knowledge base is the potential barriers and opportunities in faculty adoption of these practices and students' reception of and participation in practices aimed at fostering cognitive and metacognitive momentum. Research tackling these dynamics will prove especially beneficial as we think about how to strengthen faculty professional development to better cultivate student involvement, especially in light of the earlier discussion of a major counter-momentum friction point in the lack of professional development opportunities.

In addition, existing research in this area has heavily relied on data collection tools that are not always truly reflective of what is going on within the classroom. Sole reliance on surveys and interviews, while helpful in their own right, do not speak directly to the actual practices and dynamics within the classroom. Future empirical work should further leverage classroom observations as a way of collecting data in conjunction with other tools to reconstruct an authentic and complex picture of learning experiences and teaching practices that happen within the community college classroom that shape and develop momentum.

Motivational Domain

There has been solid empirical support for the correlation between college students' motivational attributes and educational outcomes. But within the general college student population, community college students have only received limited attention. As such, it is imperative that more research is devoted to understanding specific motivational factors that may prove especially pertinent for this student population. Other than the inherent need to grow the research in this area, future research endeavors should strengthen their application of relevant psychological theories. The theories undergirding the motivational constructs that have been utilized in community college research are often well developed in the field of psychology, especially social psychology; yet, the constructs adopted in existing research on community college students are sometimes used in a piecemeal fashion without a complete theoretical background. A more purposeful and systemic adoption or adaptation of these theories will strengthen the rigor of studies in this area. Furthermore, it is crucial for future research to identify the sources shaping the development of attributes and beliefs that keep students motivated, such as those core types of momentum depicted in the motivational domain. These sources are

often well theorized depending on the particular construct under study, but need to be situated within the community college student success context to lend insights into the concrete conditions and settings underlying its development.

Common Considerations

Interdisciplinary Approaches to Defining and Measuring Momentum As a theoretical model, the momentum model is meant to offer a new lens of thinking about community college student success, instead of delineating a full-blown measurement model with an exhaustive and fine-grained depiction of all constructs contained in the model. As a matter of fact, a fully developed theory requires continued refinement through robust collection and analysis of original data that is beyond the scope of this chapter. In this sense, the momentum model put forth herein, by nature, calls for future endeavors to further clarify, define, measure, and fine tune the domains and constructs of momentum. With that established, it is important to take full advantage of interdisciplinary approaches to studying momentum, grounded within the realities of community colleges, their students, and what success means. Many of the elements in the momentum model have their theoretical roots and backing within disciplines of social psychology, learning sciences, as well as higher education research as a field in its own right. Given the multi-threaded, multifaceted nature of the barriers, challenges, and opportunities facing community colleges and their students across and within the curriculum, future research drawing upon the momentum model will certainly benefit from utilizing scholarship across disciplines to truly reflect and address the complexities of the issue of community college student success.

Getting to the Bottom of “What Works” Aside from issues of measurement, pragmatically, it is important for researchers to better understand the sources of momentum and the mechanisms underlying the development of momentum. To that end, both research aimed at identifying potentially viable momentum interventions and studies on the efficacy of existing interventions are of value. In the first regard, qualitative inquiry, as opposed to statistical analysis that is correlational in nature, embodies abundant untapped potential to pinpoint the types of supports and services that reap the most benefits in terms of building momentum. By delving deep into students’ experiences and voices through qualitative research in search of a rich and nuanced understanding of how momentum is shaped and what shapes it, clear light can be shed on specific policy and practice. In regard to existing interventions, rigorous research better at drawing causal inferences is needed to gauge efficacy. For example, prior research has indicated that community college success courses may help holistically develop momentum. There has been a growing body of evidence suggesting that these types of courses may cultivate curricular momentum as both developmental and college-ready students who have taken them have earned more college-level credits and persist into the second year (Cho & Karp, 2013).

Student success courses may also help build aspirational momentum by providing knowledge about college itself and helping students make connections with instructors, advisors, and peers (O’Gara et al., 2009). Success courses are also linked to other domains of momentum by means of improving metacognitive skills and motivational attributes (e.g., Rutschow, Cullinan, & Welbeck, 2012). Yet to date, the evaluation of success courses or similar interventions is mostly correlational, lending limited insight into their effectiveness, particularly in terms of why they may or may not develop momentum.

In general, future quantitative research on momentum should move further in the direction of drawing causal inferences. An exemplary approach in this direction can be gleaned from the research on the City University of New York’s (CUNY) Accelerated Study in Associate Programs (ASAP), an intervention aimed at increasing graduation rates by offering students a holistic range of support services. Experimental and quasi-experimental studies on this intervention have produced evidence indicating that this intervention seems to encourage momentum through proactive and comprehensive support, leading to improved graduation rates. In addition to creating a model of quantitative evaluation that is better at revealing what works to foster momentum, future studies, again, should better and more fully utilize qualitative approaches to reveal the specific points and pieces in the intervention that encourage momentum and positive outcomes. For example, a qualitative component assessing ASAP could involve interviews with students to understand the specific support elements within the holistic bundle that helps them the most. This approach would strengthen policy implications of such interventions by highlighting mechanisms worth the most investments.

Attending to Heterogeneities Among Community College Students While I argue that a momentum-building perspective will benefit all community college students, it is also critically important to not assume that all community college students possess, develop, and respond to interventions to build momentum the same way. To be sure, there exists a multitude of diversity within the community college student population based on their gender, racial/ethnic, cultural, socioeconomic, academic, and other backgrounds, and these differences may certainly influence the sources and underlying forces related to their momentum. Using racial/ethnic background as an example, for students of color, educational aspirations for oneself are often inseparable from a sense of responsibility to one’s community (Yosso, 2005). Among Latino students, aspirations and academic attitudes may outweigh other factors such as age and English proficiency in predicting their academic success (Hagedorn et al., 2007), and the students’ sense of purpose and commitment to others reinforce their academic intent to persist (Zell, 2010). Given these findings, an integration of academic and personal goals may constitute a particularly promising way to strengthen the aspirational momentum of Latino/a students. Also, students of color at community colleges often face unique challenges (Fiebig, Braid, Ross, Tom, & Prinzo, 2010) that may be particularly counterproductive to building momentum. By the same token, there might be unique opportunities as well as challenges regarding how to best engage students in building momentum. The best route

to teasing out these differences is to purposefully address them in empirical work, such as using multi-group approaches or adding interaction terms in quantitative analyses, and focusing qualitative inquiries to delve into the lived experiences of a particular subgroup of students.

Utilizing Longitudinal, Mixed Methods Research Designs To better account for the holistic, intersectional, and continuous nature of momentum as delineated in this chapter, rigorously designed longitudinal, mixed methods research encompasses enormous promise for future inquiries based on the momentum model. In regard to research conceptualization, it will prove fruitful to both reflect the interconnectedness of various domains of momentum and identify ways that shape different forms of momentum, in both unique and interlocking fashions. Longitudinal designs will add much rigor to momentum research as it will allow inquiry that captures the evolving and fluid nature of momentum and what factors and barriers turn out to be salient along the momentum-building process. For quantitative studies, modeling techniques such as structural equation modeling, path analysis, growth curve modeling, etc. that accommodate repeated measures of momentum and depict the temporal order of change have great utility toward that end. Qualitative approaches are vital in order to fully understand the complex process through which certain patterns of momentum or momentum building (e.g., how to develop momentum within the motivational domain) can be richly understood. Ideally, a longitudinal, mixed methods approach that combines the strengths of both quantitative and qualitative inquiry is best positioned to produce nuanced, sophisticated, and contextualized findings that illuminate a brighter picture of how momentum is developed among community college students to foster their success.

Conclusion

As a national priority, understanding community college student success represents an area of opportunity for education research. While the notion of academic momentum has been instrumental in shedding light on students' course-taking behaviors and patterns in connection with their educational attainment, it is theoretically underdeveloped and has been only applied to a single dimension of students' progress through coursework and program requirements. Thus, its potential is yet to be realized to chart a clearer research agenda for community college student success.

In this chapter, I seek to extend the theoretical and methodological conceptualization of the academic momentum literature, based on which I develop the new model of momentum for community college student success. Rooted in the concept of momentum from Newton's classical mechanics, the proposed momentum model connects several highly important, highly complementary, yet understudied and often disconnected lines of inquiries. It thus fills significant gaps in the community college student success literature through advancing a compelling theory of the impact of momentum on success. By viewing the community college education as

a process of building momentum that can be found in students' curricular behaviors and pathways, teaching and learning within the classroom, and students' psychological development, community colleges can become the avenue for overcoming the multifaceted barriers often facing their students.

Hagedorn and DuBray (2010) maintained that, in order to truly live up to their mission, community colleges must provide holistic and appropriate support structures to help their many historically underserved students combat the multiple financial and academic barriers that they face. The momentum model serves exactly that. Adopting a holistic approach to cultivating momentum that prioritizes the active role of both community colleges and students in the process, the momentum model calls for a comprehensive plan appealing to multiple attributes, behaviors, and ways of thinking to build momentum that encourages community college students to engage in rigorous educational experiences and develop momentum-generating mindsets in order to maintain a strong and steady path toward success. As the higher education landscape enters the twenty-first century, the discourse around community colleges should move away from the process of cooling out (Conway, 2010) and the deficits in the community college student population, and instead toward a new model shedding a positive light on the process of building momentum to directing, supporting, and empowering community college students to proactively pursue a viable educational path and build momentum from within and without to achieve their own success.

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Chapter 7

Conceptualizing State Policy Adoption and Diffusion

James C. Hearn, Michael K. McLendon, and Kristen C. Linthicum

Conceptualizing State Policy Adoption and Diffusion

Since the 1970s, state higher-education policy has undergone profound and widespread change. During this period, the 50 states, long the nation's laboratories for testing novel solutions to such social and economic problems as poverty and economic development, emerged as workshops of policy experimentation in the arena of postsecondary education, as well. In the early 1980s, for example, most states used their powers of taxation in an effort to expand college access for low-income students, practiced a form of oversight that rested primarily on monitoring the flow of resources into institutions, and governed public colleges and universities in a more-or-less centralized fashion. In contrast, by 2010, many states had adopted new, incentives-based programs in college student finance, increased their subsidization of college for middle- and upper-income students, experimented with outcomes-based accountability systems, and enacted reforms in state-level governance and coordination that upended long-established patterns.

These historic shifts on the state policy landscape of higher education raise questions about the origins and the nature of policy change. What factors prompt state governments to adopt new policies for higher education at the times they do? That is, what drives states to adopt changes in the ways they finance, govern, and hold responsible their colleges and universities? More specifically, how do conditions within the states, such as their demography, economic patterns, postsecondary

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organizational patterns, and political institutions, shape states' likelihood of experimenting with new policies? And to what extent might pressures that operate at the boundaries between states shape policy experimentation as states compete with one another for resources, people, and ideas? To what extent do the states influence one another in the spread of policies across geo-political boundaries?

A growing number of researchers have empirically addressed these questions over the past three decades. The first two authors of the chapter have each examined state higher-education policy adoption since the 1990s and have worked together to examine this topic since the early 2000s. Over the course of these empirical efforts, a kind of "standard theoretical model" of adoption has been distilled from higher-education studies, political science, organization theory, economics, and sociology for pursuing questions around postsecondary policy adoption in the American states. In the chapter, we aim to advance a comprehensive theoretical framework for interpreting this research tradition and shaping future work.

Our framework builds on several lines of theory and research in the fields of political science, public policy, and higher-education studies. Cutting across these three fields a body of scholarly literature focused on *state policy innovation and diffusion*. This literature, along with the distinctive analytic approach evolving alongside it, posits that two sets of factors drive policy adoption: internal and external. That is, states adopt the policies they do in part because of the influence of their internal socio-demographic, economic, organizational and political characteristics, and in part because of the influence the 50 states have on one another's policy behavior. The latter influence is a byproduct of emulation and competition among the fifty states, which comprise semi-autonomous, yet semi-interdependent, actors.

From this perspective, any satisfactory explanation of state governmental behavior must account both for the within-state and the across-state determinants of that behavior. The first set of policy influences, those arising exclusively within a given state, are *intrastate* determinants of public policy; the latter ones, occurring at the intersections between and among states, are *interstate* determinants. Guided by this perspective, we examine in this chapter the conceptual underpinnings of a variety of state-level factors and interstate influences that may have helped drive state policy experimentation in higher education.

Within states, we devote particular attention to the potential catalyzing role of state politics in driving policy change. Specifically, we attend to both certain institutional facets of states' political systems (e.g., how much power is vested in the governor's office?) and to states' partisan profiles (e.g., what is the level of competitiveness of the two major political parties at a given moment in time?). State political institutions and actors have traditionally been neglected as topics of serious scholarship in the field of higher-education studies (McLendon, 2003a, 2003c). A recent wave of empirical research, however, points to these factors as exerting a powerful influence over the policy behaviors of the states in the realm of postsecondary education (e.g., Hearn, McLendon & Mokher, 2008; Hearn, Lacy, & Warshaw, 2014; Hicklin & Meier, 2008; McLendon & Hearn, 2013; McLendon, Hearn, & Deaton, 2006; McLendon, Hearn & Mokher, 2009; McLendon, Mokher & Doyle, 2009; McLendon, Tandberg, & Hillman, 2014; Tandberg & Ness, 2011;

Tandberg, 2010a, 2010b, 2013). Clearly, political factors warrant serious attention in examination of intrastate policy emergence.

We begin this chapter by sketching the origins and development in the 1950s and 1960s of a systematic line of research in political science and sociology focused on state policy innovation and diffusion. We trace some of the key conceptual questions and issues that gave rise to this scholarship in core disciplines and highlight important methodological improvements that more recently have sharpened and rejuvenated this line of inquiry.

Having constructed this broad scaffold, we then present the core elements of an integrative conceptual framework for understanding state policy innovation in higher education. In distilling ideas and key findings from a number of areas of research in the subfield of comparative-state politics and policy, we consider how states' socio-demographic contexts, economic contexts, postsecondary organizational and policy contexts, political contexts, and interstate diffusion can propel state governments to undertake innovative policy initiatives for higher education. After reviewing empirical work relating to this perspective, we conclude with reflections on prospects for future scholarship in this arena.

State Policy Innovation: An Emerging Theoretical and Analytic Concern

Why do states adopt lotteries, or new taxes, or abortion regulations, or, for that matter, reforms to their systems of higher and postsecondary education, at the times at which they do? Although social scientists of many disciplinary traditions and backgrounds have studied this question, the bulk of theory and research resides in the domain of political science, in particular, in the subfield of comparative-state politics and policy. Indeed, efforts to explain systematically the sources of variation in public policy outcomes across the 50 American states stand as one of the pillars of modern political science. A number of related research traditions have arisen around this question, all of them dating, in their contemporary forms, to the 1960s—era social sciences. The tradition of scholarship upon which we most closely build finds its roots in several important works of this era, notably Jack Walker's (1969) pioneering research into state policy innovation and diffusion.

The tradition of research that Walker initiated, and upon which we build, is distinct from another tradition called "policy process" studies (e.g., Sabatier, 1999; DeLeon, 1999; McLendon, 2003b). Theory and research on the public policy *process* typically examine how policy problems are defined and formulated, how policy choices are made, and how those choices are subsequently evaluated. Many classic publications exist on the different stages of the public policy process, including those by Nelson Polsby (1984), John Kingdon (1984), and Barbara Nelson (1984) on policy agenda-setting Kingdon (1994, 1995), and ones by Jeffrey Pressman and Aaron Wildavsky (1973), Eugene Bardach (1977), and Daniel Mazmanian and Paul

Sabatier (1983) on policy implementation. These lines of work have influenced scholarship in the realm of higher-education studies, too. Studies by Olivas (1984), McLendon (2003a, 2003b), Ingle, Cohen-Vogel, and Hughes (2007), and Ness (2009, 2010a) all clearly build on the policy-process genre of political science. Notably these works have tended to rely on comparative-case studies aimed toward theory generation or elaboration regarding the nature of policy formation in higher education, rather than on quantitative, empirical testing of hypotheses about the determinants of policy choices and outcomes.

With his highly original work, Walker (1969) defined a new genre. In doing so, he substantially expanded research into the determinants of state governmental spending that Thomas Dye (1966) and others had popularized. Walker synthesized different strands of research in the fields of rural sociology, organization theory, communication studies, and political science in an effort to identify factors contributing to governmental actions. Observing that there had been a “growing awareness...that levels of expenditure alone are not an adequate measure of public policy outcomes” (p. 880), Walker argued for the merits of scholarship on the determinants of decisions outside the budgetary process, focusing on what he considered the most fundamental policy decision: whether to initiate an individual program in the first place. Because ultimately every policy can be traced to a non-incremental change, Walker reasoned, the key question was: What explains patterns in state adoption of altogether new policies? In other words, what accounts for policy *innovation* among the American states?

In using the term “innovation,” Walker meant a policy that is *new to the jurisdiction adopting it*. He thus differentiated “innovation” from the concept of invention or the process through which altogether original policy ideas are conceived. Most researchers have followed this convention, and we do so in this chapter, defining a state innovation in higher education as any policy that is new to the state adopting it, regardless of how many other states already may have adopted the policy.

As Walker turned to the American states as units of analysis for his study of the factors influencing policy innovation in America’s democratic systems, he immediately observed that some states had long been regarded as policy leaders and others as policy laggards. He set out to understand better this aspect of American federalism, specifically the “relative speed and spatial patterns of adoption of new programs” (p. 881) or the reasons some states adopt innovations faster than others. Using scores that he assigned to states based upon the dates of their adoption of more than 90 different public policies since the late nineteenth century, Walker identified correlates of the states’ overall innovativeness. Using simple correlations and factor-analytic techniques, Walker found evidence that states of greater urbanicity, industrial development, wealth, political turnover, and urban representation in their legislatures tended to adopt new programs more rapidly than states with lower levels of these attributes.

Walker was not content, however, to simply examine the internal political, economic, and social characteristics of states as factors in innovation patterns. He argued that policies in other states must also be influential. In looking beyond state

lines, Walker added an important new angle, asking to what extent policies spread or, diffuse, among the American states.

Walker was one of the first scholars to empirically examine policy diffusion but, by the time he came to this focus, diffusion studies had long been a staple of the academic literature of sociology, organizational theory, and decision sciences.¹ Most influential in this vein was Everett Rogers' (1962) *Diffusion of Innovations*, a book that left an indelible imprint on scholarship in the area. Rogers' synthesis of more than 500 studies found that the diffusion of innovations across a variety of organizational settings seemed to be characterized by an "S-Curve," whereby the adoption of a new program or technology began little by little, then rapidly accelerated before ending slowly as the product matured or as new technologies emerged.² This conceptualization, and subsequent works by Katz, Levin, and Hamilton (1963) and Mohr (1969), helped to inspire the development of so-called "leader-laggard" models, which sought to explain the order in which organizations within a given field adopt a given innovation.

Walker brought this approach to diffusion to the state level, declaring that states' "inter-organizational contexts" may hold the key to understanding why some states seemed to adopt new programs faster than others. Using factor analysis, Walker found that geographically proximate states tended to adopt similar policies in a similar order over time. What's more, he suggested, certain regional leaders – for example, New Jersey in the Mid-Atlantic region; Florida in the South; and New Mexico in the Mountains and Midwest – tended to adopt a given policy first, followed by other states within the same geographic region. He interpreted this pattern as evidence of *regional* policy diffusion, and characterized it as being an inevitable byproduct of the states' embedment in the fixed community of sub-governmental systems that comprise American federalism. Walker characterized the phenomenon of governmental innovation in the American states overall as that of a national system of emulation, with regional variation in policy innovation driven by states' imitation of their bellwether neighbors.

Walker speculated on three possible explanations for the policy mimicry that he observed. These explanations themselves have become widely diffused throughout the growing literature on state policy innovation and diffusion. First, Walker surmised that states copy one another because of the "satisficing" tendencies of government officials. Incorporating the groundbreaking work of several contemporary theories of decision making in complex organizations (notably Simon, 1957, Cyert

¹ Interestingly, early scholarship in rural sociology examined the diffusion among farmers of agricultural innovations developed at state land-grant universities. One influential analysis of diffusion of hybrid seed corn across Iowa communities found that more educated and cosmopolitan farmers tended to adopt the new seeding practices first, and that direct experiences and communication with nearby farmers were key mechanisms in spreading those practices (Ryan & Gross, 1943).

² Rogers' longer line of research pointed to a number of factors as having influenced a unit's probability to innovate. Such factors included resources, organizational size and complexity, education levels (individual or aggregate), the unit's age, the unit's tolerance for risk, the extent to which the unit may be networked with others, the extent to which the unit seeks the advice of opinion leaders, and the unit's propensity for innovativeness overall.

and March, 1963, and Lindblom, 1965), Walker argued that state officials are able neither to process comprehensively all of the information available to them, nor to evaluate every possible policy option. Confronted with the demands of too-little time and incomplete information, officials rely on certain heuristics, rules of thumb, or decision shortcuts, when attempting to resolve, or at least address, complex policy problems. One such shortcut is that of analogy, in which state policymakers compare their own situation to similar situations in other states. Consequently, Walker argued, policymakers may look to their neighbors in an effort to disencumber themselves of the complexities that normally attend decisionmaking in America's democratic subsystems.

Walker cited two additional possible explanations for the diffusion of policy ideas: the presence among the states of both competitive and normative pressures for policy change. He emphasized in particular the role of interstate competition. For example, the awareness by governmental officials of a policy initiative in a given state can shape the conditions for policy consideration and debate elsewhere, especially when officials perceive the prior state's actions as possibly disadvantaging the relative competitiveness or the material well-being of their own state. This pattern is prominently seen in the examples of tax cuts and business deregulation, Walker contended. Because a frequent argument against raising taxes or, passing measures that more stringently regulate business, is the fear that such actions could make a state less competitive than its neighbors in attracting new industry, changes in the fiscal and regulatory climates of a state's neighbors can prompt officials to undertake similar policy actions in response.

Normative pressures among the states also can spur policy innovation, Walker speculated. Although "uncertainty and the fear of unintended consequences have always been formidable barriers to reform," wrote Walker, "inertia can more easily be overcome...if the proponent of change can point to the successful implementation of his program in some other similar setting" (pp. 890). As more states adopt a program deemed successful elsewhere, other states face increased social pressures to follow suit. This condition, Walker maintained, can create its own momentum for reform, however weak the demands for a particular policy may be in a given state. Similarly, states mimic one another, he argued, because of social desirability; sometimes a given policy simply becomes fashionable, prompting states to adopt it in an effort to 'keep up with the Joneses.'

Underlying these three explanations, argued Walker, are the interactions and communications of state officials across state lines. He surmised that certain well-established patterns of communication between and among the states had likely shaped the regional clustering of policy innovations that he observed. Walker acknowledged that traditional boundaries probably had become more permeable over time, reducing regionalism's role in policy diffusion, but it remained clear to him that regionalism continued to be a force in the complex processes of state policy innovation. That influence would likely continue for as long as the states viewed their neighbors as a basis for legitimate comparisons about the problems that they faced and about the solutions that they would entertain.

Walker's work shaped subsequent scholarship on state policy adoption in at least four important ways. First, by examining the forces that gave rise to *new* state policies, he helped broaden the range of governmental decisions of interest to social scientists, moving the frontier of scholarship beyond the study of levels of public expenditure alone. Second, by seeking to account empirically for the influences of states upon one another, Walker popularized the study of the "horizontal" migration of public policies (that is, innovations that travel from state-to-state, rather than from the federal government to the states, or from the states to the federal level.). Indeed, much of the research on state policy adoption that arose in the wake of Walker's work has sought to incorporate the concept of "diffusion." Notable in this tradition is the influential work of Frances and William Berry (e.g., see Berry & Berry, 1990, 2014) and Michael Mintrom (Mintrom, 1997; Mintrom & Vergari, 1998).

A third meaningful contribution involves the specific diffusion framework that Walker developed. His view clearly was that of a regional diffusion model, whereby the nation was comprised of fixed multiple regions within which constituent states emulated the policies of their most proximal neighbors and peers. Although an alternative model, emphasizing contiguity, rather than fixed regions, later would gain ascendance, Walker's formulation of the role of regionalism in state policy innovation deeply influenced later scholarship.³

Walker's fourth contribution to the literature entails the rationales that he cited as explanations of policy change: the decisional predisposition of public officials toward satisficing and the existence among the states of competitive and normative pressures for policy change. These explanations for interstate policy diffusion have become standard in the literature. States are said to "learn" from one another in an attempt to simplify decisionmaking, using shortcuts to ameliorate the complexities that inescapably attend policy formation in America's fragmented governmental systems. States are also said to vie with one another to achieve competitive advantage or avoid being disadvantaged relative to their neighbors or peers. Indeed today it is conventional to view competition among the states as a prime catalyst for the spread of ideas throughout the nation (Ingle et al., 2007; Lacy & Tandberg, 2014; McLendon, 2003a, 2003b, 2003c; Polsby, 1984), a phenomenon that Dye (1990) and others later termed, "competitive federalism." Finally, because states – more precisely, the officials who lead and manage their governments – occupy a distinct social system consisting of certain norms around the legitimacy of policy ideas,

³Other diffusion models exist. A prominent one is Gray's (1973) "national interaction model," which posits that public-sector officials learn about innovative policies elsewhere from peers in other states through national communications networks. Gray proposed that officials from states that have already adopted a particular program interact thoroughly with officials from states that have not yet adopted the program, and that each contact between the members of the two groups provides an added stimulus for the latter to adopt. Whereas both regional- and contiguous-diffusion models posit that states are most influenced by their geographically proximal neighbors, the national-interaction model conceptualizes the social system as consisting of the entire community of American states, with each state capable of exerting an equal influence over other states regardless of spatial distance.

states also may look to their neighbors or peers for cues about the acceptability of a given course of action.

Following a period of unevenness in scholarship during the 1970s and 1980s, William Berry and Frances Stokes Berry (1990, 1992, 1994, 2014) rejuvenated the study of state policy innovation and diffusion with their introduction into the field of a powerful new research methodology: event history analysis [EHA]. Previous studies in this area, such as Walker's (1969), shared several serious weaknesses in design and methodology. For example, the cross-sectional approaches dominant in that era were well suited for neither the dynamic nature of the policy-adoption phenomena that scholars studied nor the time-variant data that they employed. Berry (1994) pointed to an even more fundamental limitation, however. Because often researchers had relied analytically on separate tests of the intrastate (i.e., internal-determinants) and interstate (diffusion) explanations, analysts typically failed to account for the causal factors specified in each of the rival models (Berry, 1994). Consequently, extant research could not validly discern the true policy impact of state-to-state policy influences net of the effects of various within-state factors, such as demographic, economic, or political conditions.

The Berrys creatively addressed this limitation through their use of event history analysis [EHA], a longitudinal analytic technique that had become popularized in biostatistics. This analytic tool, a form of logistic regression applied to grouped data over time, permitted the Berrys to test the simultaneous effects both of internal state determinants and of state-to-state influences, combining the two explanations into a single, "unified" model of state policy innovation and diffusion. They tested the model in two different studies on the factors influencing state adoption of new lotteries and new taxes (Berry & Berry, 1990, 1992). In both studies, the dependent variable was dichotomous: whether or not a state adopted a lottery or a tax in a given year. The Berrys then included as independent variables a variety of indicators of the states' demographic (e.g., ethnicity, population, religious preference), economic (e.g., income, unemployment) and political (e.g., partisanship, election timing, ideology) conditions, along with a variable indicating whether and when each state in the dataset had adopted the policy. This information about the timing of each state's adoption enabled them to model the sequence in which states had adopted the lotteries and the taxes, permitting them to draw inferences about the effects of a given state's behavior on that of its neighbors. The two studies yielded similar results: certain internal determinants of states influenced the timing of a state's adoption of the new policies, but so, too, did the past actions of a state's neighbors.

At about the same time as the Berrys produced their EHA findings, Paul Peterson and Mark Rom (1990) published their provocatively titled study on state "welfare magnets." Their analysis further popularized interstate competition as a leading explanation for the spread of public policies among the American states. Peterson and Rom described the U.S. system of social welfare as highly decentralized: each state could establish its own levels of welfare benefits, which, along with patterns in social mobility, enabled the poor to cross state lines in pursuit of the largest possible benefits. Because of these conditions, a state would have strong incentive to take action so as to avoid the impression that its welfare assistance was more generous

than that of its neighbors, a conspicuousness that could make the state a “welfare magnet” for the poor coming from other states. Consequently, Peterson and Rom argued, states whose benefits levels stood above those of neighbors are especially likely to allow benefits to decline. This seemingly perverse competition among states created, the authors wrote, a veritable “a race to the bottom” in the provision of welfare benefits in the U.S. Peterson (1995) would later develop the argument further, claiming that such races “to the bottom” are likely to be found operating in many other areas of redistributive public policy and that these races could be extended to other features of welfare programs (e.g., program creation, design elements) that made the programs a source of potential competition among states.

These different strands of scholarship converged at about the same time as the so-called “devolution revolution” in American government. That movement focused on the states’ reemergence as preferred arenas for policy experimentation in the U.S., and sparked renewed interest in understanding the conditions driving state policy reform in such areas ranging from public health to the environment to education. The creation, recreation, and spread of public policies among the states had become a phenomenon for which the policy innovation and diffusion framework seemed notably well suited.

Since 1990, more than 150 published studies have followed in the tradition of state-level research first popularized by Walker, and later refined by the Berrys, and others. A growing subset of this work applies event history analysis in studying the origins and spread of a wide range of public policies including, abortion regulations, capital-punishment legislation, health insurance reforms, hate-crime laws, same-sex marriage bans, utility regulation, welfare benefits, anti-smoking mandates, administrative reforms in state government, and state decisions to join across-state compacts (Ka & Teske, 2002; Karch, Nicholson-Crotty, Woods, & Bowman, 2016; Mooney & Lee, 1995, 1999; Schram, Nitz, & Krueger, 1998; Shipan & Volden, 2006; Soule & Earl, 2001; Volden, 2002, 2006).

Only more recently has a discernible body of research arisen around policy innovation and diffusion in the arena of state education policy. Most of these works, undertaken in the wake of the comprehensive (and frenetic) school-reform movement in the U.S., examine the conditions that are associated with specific kinds of school reforms, particularly vouchers and other school-choice measures (Karch, 2010; Mintrom, 1997; Mintrom & Vergari, 1998; Renzulli & Roscigno, 2005; Wong & Langevin, 2005, 2006; Wong & Shen, 2002). Wong and Langevin (2006), for instance, make use of the state policy innovation and diffusion framework and of event history analysis to study how certain social, economic, and political factors influenced passage of charter school laws in the states. These analysts found significant positive effects for Republican governors, minority legislative representation, and the percentage of private school enrollments, and a negative effect for classroom spending. They found no evidence, however, of a diffusion effect.

In one particularly creative endeavor, Mintrom (1997) melded event history analysis with surveys of state officials to ascertain the influence that “policy entrepreneurs” had played in the spread of state adoption of school choice policies. Mintrom found the likelihood of adoption of these initiatives to have been higher in states

with larger percentages of students enrolled in private schools, looming statewide elections, weaker unions, and poorer student test score performance, relative to national norms. What's more, he also found the probability of state adoption of these measures as being higher in states where so-called policy entrepreneurs had helped facilitate passage of the laws. In addition to these within-state factors, Mintrom's research found evidence of state-to-state diffusion: states with a larger proportion of neighbors that had already adopted a school-choice policy were themselves more likely to adopt one.

Scholarship on the role of diffusion and other factors in state policy innovation and change in the arena of higher education evolved comparatively late, relative to scholarship on other policy arenas. Although, a rich vein of research, spanning more than four decades, exists on the determinants of state spending on higher education (e.g., Archibald & Feldman, 2006; Humphreys, 2000; Hossler et al., 1997; Lowry, 2001; McLendon, Hearn & Mokher, 2009; McLendon, Mokher & Doyle, 2009; McLendon et al., 2014; Ness & Tandberg, 2013; Peterson, 1976; Toutkoushian and Hollis, 1998), scholarship on the factors influencing state adoption of distinctively new programs is both rarer and of a more recent origin.

Hearn and Griswold's (1994) study was one of the earliest, systematic empirical works on state-level policy innovation in postsecondary education. Drawing primarily from sociology, policy studies, and organizational theory, Hearn and Griswold used a cross-sectional research design and multivariate regression to test hypotheses about the factors prompting states to innovate in such areas as policies mandating assessment of undergraduate students, college savings bonds and prepaid tuition plans, and alternative licensure for K-12 teachers. One of their core conceptual interests was in the relationship between centralized governance structures for higher education and state policy behavior. They found governance structure, along with population size, wealth, and postsecondary enrollments, had a statistically significant relationship with a state's propensity to innovate, although the relationships varied across the six policies the authors studied, and were in ways sometimes inconsistent with the hypothesized expectations. Hearn, Griswold, and Marine (1996) soon afterward investigated factors associated with state tuition and student aid policies, finding again that governance structures were significantly associated with certain policy directions.

Later, in a series of conceptual writings, McLendon proposed that the core policy-innovation-and-diffusion model of political science could be applied to the study of state governmental decision making in higher education (McLendon, 2003a, 2003b, 2003c). In that spirit, McLendon, Hearn, and their colleagues then launched the most intensive line of policy-adoption research in higher education, encompassing accountability and governance policies, administrative reforms, state economic development policies, attainment and outcomes-driven policies, and market-based, student financing schemes (inter alia, see Hearn et al., 2008, 2010, 2013, 2014; McLendon et al., 2005, 2007, 2006; Mokher and McLendon, 2009).⁴

⁴Other analysts have pursued a similar course, using EHA to study such decisions as state adoptions of broad-based merit-scholarship programs (Doyle, 2006, 2010). Of course, analysts have

In building this research program, McLendon, Hearn and colleagues built on conceptual scaffolding distilled from political science and other core literatures as well as major recent methodological refinements. Specifically, they extended the early work of Hearn, Griswold, and others by making use of both a broader conceptual framework descended from Walker (1969) and the EHA methodology that the Berrys (1990, 1994) had productively imported for state policy-adoption analysis.

As will be reviewed in more detail later in this chapter, the findings from this line of research are mixed in their details regarding the power and direction of various specific influences, depending on the nature of the policy. This is not surprising: as the authors' conceptual thinking evolved, they tested different hypotheses, utilized different variable indicators, and employed different forms of EHA modeling. These inconsistencies over time and across studies pose some constraints on the generalizations to be drawn from regarding particular influences (see Lacy, 2015).

Nonetheless, the empirical findings have been strikingly consistent in one respect: states' higher-education policy choices are unquestionably linked to identifiable features of states' socioeconomic, organizational, policy, political, institutional, and diffusion contexts. Reflecting what has been learned from our work and that of others working in this arena, we develop in the following section an integrated conceptual framework for examining state-level reforms in postsecondary financing, accountability, and governance policy. Our framework incorporates elements found in the conventional policy innovation and diffusion literature and the emerging political-science literature as well as insights gleaned from our and others' higher-education studies. Our goal is to produce a useful, inclusive conceptual model that, over time, can be further tested, refined, and extended. Ideally, that process can enable researchers to generalize more confidently from specific findings, thus strengthening understanding of state governmental behavior in higher-education policy.

Conceptual Framework

In the preceding section, we outlined the broad contours of established approaches to understanding state governments' policy innovation and the diffusion of innovations across state lines. In this section, we elaborate on and extend the existing theoretical foundation, building on scholarship regarding factors that have influenced state policy reform over recent decades in the arenas of postsecondary financing, accountability, and governance and management.

As with all frameworks for state policy innovation and diffusion, ours accounts for the conditions both within individual states and at the intersections between and among states that may explain states' propensities to adopt new policies. Our model, as summarized in Fig. 7.1, conceives of state policy innovation and change as being

also studied innovation using a variety of research methods and strategies other than EHA, including some qualitative investigations (e.g., see Cohen-Vogel, 2007).

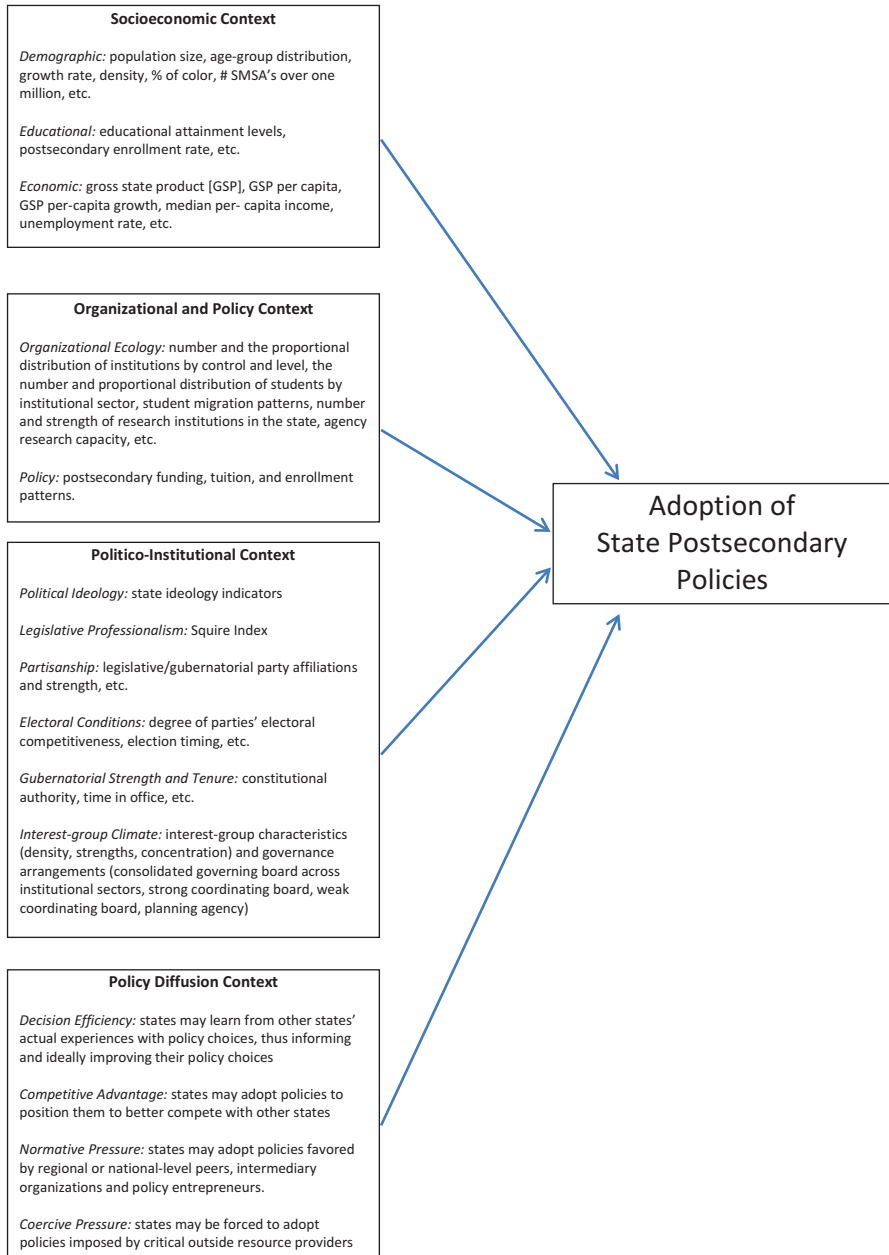


Fig. 7.1 A conceptual model of state policy innovation and diffusion in higher education

a product of four distinct sets of forces: (1) the socioeconomic contexts of states; (2) the organizational and policy contexts of states; (3) the politico-institutional contexts of states; and, (4) the interstate policy diffusion contexts of states. The first three categories represent internal-state determinants likely to influence the probability that states will innovate, while the fourth category represents the inter-organizational context within which states can influence one another's policy behavior. Of course, these various kinds of influences are not as conceptually distinct as the figure implies: they can intersect and overlap. Still, the schema serves to provide a straightforward overview of our thinking. For each category, we describe specific kinds of factors that can help catalyze policy change, discussing their relevance to our conceptual framework in light of research findings distilled mainly from the fields of comparative-state politics and policy and higher-education studies.

Our primary goal for the remainder of the chapter is that of developing a framework for studying state-level policy reform in higher education that is, at once, sufficiently broad as to enable the incorporation of a meaningful array of influences that can capture the complexity of state-level decision making, yet suitably specific as to yield a comprehensible and realistic set of testable hypotheses for future research in this arena.

State Socioeconomic Context

The framework's first set of explanatory factors includes state demography, economic conditions, and other elements comprising the *socioeconomic contexts* of the states. These conditions can be crucial in shaping governmental behavior. A state's socioeconomic context can both produce problems with which a state government may choose to grapple and provide the resource capacity by which the state may choose to address those problems and pressures.

Demography plays a key role in shaping state postsecondary policy outcomes in a number of important respects. Two broad sets of demographic factors, in particular, are especially likely to shape state policy choice in the realm of higher education: 1) certain facets of a state's population and 2) patterns in educational attainment. Regarding population characteristics, we know from the larger research literature on state policy innovation that more populous states often adopt programs and policies of greater technical sophistication (Berry & Berry, 1990; Mohr, 1969; Walker, 1969). There is evidence for such a relationship in some of our own work, for example, in the area of student unit-record systems, where more populous states tend to adopt these programs, perhaps as a way to address the complexities of larger postsecondary enrollments and of the greater array of institutions that dot the postsecondary landscapes of these states (e.g., Hearn et al., 2008). The size of a state's population is clearly capable of influencing postsecondary policy outcomes, but the proportion of a state's population by age grouping (e.g., the youthfulness or, alternatively, the agedness of a state's population) also conceivably affects those outcomes. Age distributions have been influential in other areas of public policy, and

work by Doyle (2006) and Tandberg and Ness (2011) suggests that the youthfulness of a state's population, in particular, can influence state postsecondary policymaking. Beyond size and age distributions, factors such as population growth, density, diversity, and urbanicity may be influential.

Second, educational attainment levels can exert a powerful influence on state policy outcomes in a variety of direct and indirect ways and have been linked with an array of policies, including spending levels and certain innovations. We can think of these influences both on the "supply" and the "demand" side of the policy equation. The supply of an educated citizenry is widely acknowledged to have become a crucial ingredient in state economic competitiveness. Alongside the rise in the 1980s of the "knowledge economy," which rests on the production and management of knowledge and information technologies as engines of state economic growth, state governments began focusing on ways to spur human-capital formation. Rather than winning competitions for industrial plants, states began emphasizing the production of new knowledge and the formation of human capital, overall, as key elements in their economic-development strategies (Hearn et al., 2014). Because states with less educated citizenries stand at a competitive disadvantage relative to those with more educated ones, low attainment levels can sometimes prompt states to adopt new policies that hold promise for building the informational and knowledge infrastructures needed to compete and to grow their economies. Many observers and analysts have pointed to broad-based, merit-scholarship programs as an example of one such innovation in the policy realm of higher education that can deepen a state's supply of human capital (see Doyle, 2006; Doyle et al., 2010; Hearn & Griswold, 1994; Heller, 2002).

The link between educational attainment and policy outcomes can also be examined from the "demand" side: levels of educational attainment in a state can shape the very preferences of citizens for certain governmental services. One of the strongest findings in the literature on innovation, across many different disciplines and fields, is that, persons with higher levels of education are more likely to innovate, or to support innovative ideas and practices, than are those with lower levels. A high level of education provides individuals access to knowledge about innovative practices and an openness to new ideas (Berry & Berry, 2014).

Closely associated with the demographic and educational characteristics of states are economic characteristics, the third class of notable socioeconomic influence in our schema. The literature on state policy and politics speaks clearly with respect to this factor's importance: patterns in state economic development and fiscal capacity "matter." Many classic studies of the 1960s and 1970s, such as those by Dawson and Robinson (1963) and Dye (1966), found strong, positive statistical relationships between economic development patterns – principally state wealth, employment, and gross product – and public expenditures. Much evidence also points to connections between higher levels of wealth and economic activity and state adoption of altogether *new* policies, particularly ones requiring substantial new expenditures (e.g., Berry & Berry, 2014; Walker, 1969). For example, personal income can be an important determinant in initiating certain state programs, because wealth determines what a state can afford to do for its citizens. Although the prepon-

derance of research over the past 25 years has dispelled the myth of economic determinism, which viewed economic-development patterns as the exclusive, driving force behind all governmental activity, the literature nonetheless points to economic conditions as crucial factors in helping to shape much of what government does. The direction of these economic influences on the policy behavior of states can vary, however.

In the literatures of political science and public policy, economic advantage tends to be associated with a greater propensity for state policy action, including the adoption of distinctively new policies, but not always so. Indeed, economic privation, taking the form of declines in gross product or of increasing unemployment rates, can sometimes catalyze policy change. In some recent studies of policy adoption in higher education, researchers have found economic disadvantage associated with certain forms of policy experimentation, for example in the cases of merit-scholarship programs (Doyle, 2006), state-funded eminent scholars policies (Hearn et al., 2013), and research and development tax credits (Hearn et al., 2014). Thus, while the broad economic conditions of states, and the resulting fiscal capacity which those conditions can produce, likely influenced many of the postsecondary reforms of the past 30 years, the direction and the magnitude of these relationships was unquestionably contingent, varying across different kinds of policies or policy designs. In general, ample fiscal resources may be a precondition for certain reforms in the postsecondary policy realm requiring substantial new investment, while economic disadvantage may have helped to prompt state adoption of new policies that promised improvement in the economic or the infrastructural capacity of states.

State Postsecondary Organizational and Policy Context

Our framework's second set of explanatory factors points to the organizational and policy contexts of postsecondary education as prospectively important influences on state governmental behavior. The *organizational ecology* of a state's postsecondary system refers to such conditions as the number and proportional distribution of institutions within a state both by control (i.e., public or private) and level (2-year or 4-year), the number and proportional distribution of students by institutional sector, student migration patterns (in-state and out-of-state), and the number and strength of research institutions in the state. Importantly, states vary in their level of reliance on their public- and private-systems of postsecondary education, as well on their two- and four-year colleges and universities. Thus, the context for governmental decision-making in Arizona, which has large numbers of students enrolled in the state's many public two-year institutions, is unquestionably different from that Vermont, where community-college enrollments are comparatively few and most students attend private colleges. Some analysts have argued that the variation in these system-ecologic patterns produces for states different kinds of pressures, problems, and opportunities in the provision of higher education, and thus can account for differences in certain policy outcomes for higher education across the

states (Hearn & Griswold, 1994; Hossler et al., 1997; McLendon and Mokher, 2009; Zumeta, 1992, 1996).

Another organizational factor worthy of attention is the nature of a state's higher-education governance arrangement. States vary in whether they employ a consolidated central governing board (as in the highly centralized systems in Iowa, Utah, or Georgia), or rely on system- and institution-level boards, overseen (but not controlled) by a state coordinating board or planning agency (as in Texas, Virginia, and Indiana). What is more, as Lacy (2013) has noted, agencies in some states have policymaking authority themselves, independently of other branches of government. This authority contributes to the argument of some observers (e.g., see Glenny and Dalglish, 1973) that higher-education governance bodies have been at times sufficiently autonomous to constitute a "fourth branch" of state governments.

Regardless of level of governing autonomy and centralization, state-level postsecondary organizational and governance arrangements can be consequential for decisions on such issues as presidential hires, mission differentiation, and tuition increases. Those arrangements can also help determine the value of the information, data, and research provided policymakers. A central agency's research capacity can facilitate cost-effectiveness studies, the formative and summative evaluation of postsecondary policies, and the identification of problems in such areas as postsecondary access and persistence (Hearn and Griswold, 1994; McLendon, 2003b).

Still, on the question of how governing arrangements affect the adoption of important new state policies (our focus in this chapter), we believe those arrangements are most appropriately considered under our next category of influences (states' politico-institutional contexts). Higher-education agencies are closely implicated in the ways innovative policy ideas fare in processes involving governors, legislators, interest groups, media, and other stakeholders. Unlike the organizational factors outlined just above, governance arrangements holistically shape the nature and outcomes of a state's postsecondary policymaking, reaching across the particularized concerns of any given moment. In effect, governance arrangements constitute a core institutionalized element in state legislators' and governors' decisionmaking regarding innovations in postsecondary education. In distinctive ways, they shape and channel the interests of colleges and universities, students, and parents (McLendon et al., 2006). Governing arrangements, therefore, comprise a critical element in states' politico-institutional contexts.⁵

The *postsecondary policy* context of the states includes such factors as levels and trends in state appropriations for higher education and tuition and enrollments at the campus or the system levels. State funding levels, funding effort, and funding disparities vary across states in ways that may differentially draw the attention of policymakers to newer ideas or proposals for funding higher education. Some states, particularly those in the South and the Southwest regions of the U.S., have experi-

⁵In a significant recent report, McGuinness (2016) argues that governing boards should take an increasingly central leadership role in policy creation, debate, and initiation in the states. Hearn and Anderson's (1995) study of Minnesota's "Design for Shared Responsibility" presents an example of a coordinating board taking such a role.

enced historic surges in demand for postsecondary education, which can focus governmental attention on alternative routes to postsecondary educational attainment or accountability approaches that reward improved completion rates at public colleges and universities. Rapid tuition rises likewise may prompt state officials to consider increased institutional oversight (McLendon & Hearn, 2013) or the introduction of innovative ways to help citizens plan for and pay for college (Mumper, 2001). These policy conditions, relating to postsecondary funding, tuition, and enrollment patterns in the states, can shape the perceptions of public officials about the postsecondary conditions warranting consideration and can fix their attention on the suitability of some solutions over others.

State Politico-Institutional Context

The third set of explanatory factors in our theoretical framework points toward the state politico-institutional context, which we characterize as the political conditions and institutionalized arrangements that can shape governments' behavior in policy innovation. As Tandberg and Griffith (2013, p. 648) have suggested, examining governing arrangements and partisan patterns in states may be characterized as a "new institutionalism" path in higher-education policy studies. Clearly, socioeconomic, educational, and organizational factors alone do not drive state actions in higher education. By incorporating also the influences of states' politics and their political and governmental institutions, Tandberg and Griffith suggest, scholars are working in the tradition of Shepsle (1989), who stated that those in this analytic school "seek to explain characteristics of social outcomes on the basis not only of agent preferences and optimizing behavior, but also on the basis of institutional features" (p. 135).

For our conceptualization, we focus on six particular dimensions of the state politico-institutional context that may have played a determinative influence in the rise of state policy reforms in postsecondary policy over the past several decades: 1) political ideology; 2) legislative professionalism; 3) partisanship; 4) electoral conditions; 5) gubernatorial strength and tenure; and, 6) interest-group climate.

We begin by considering states' *political ideology*. The politico-ideological climates of the states have long been considered a prospective source of influence on policy change and reform. One of the staples in the early literature in the field of comparative-state policy studies was Daniel Elazar's (1966) influential work on "political culture." The term refers to contrasting collective conceptions of the American political order that, according to Elazar and others, have shaped both the structure of state political systems and the policies arising therefrom. Elazar argued that early migration and settlement patterns in the United States produced several regional political subcultures, each of which held a distinctive vision for the role of government in public life. He characterized the three major, political subcultures in America as "moralist" (predominant in New England, the upper Midwest, and the far West), "individualist" (comprising the Mid-Atlantic and lower Midwest regions),

and “traditionalist” (primarily the South and Southwest). A large volume of research subsequently explored the relationships between Elazar’s politico-cultural archetypes and different policy outcomes (e.g., patterns in state taxation and expenditures or the adoption of certain kinds of policies) in the states. Although Elazar’s ideas remain intuitively appealing, Fitzpatrick & Hero (1988), Erikson, Wright, & McIver (1993) have concluded that the research evidence in support of his thesis is quite limited. In higher education, in particular, Louis et al. (2015) recently observed that examinations of the influences of political cultures on state higher-education policy have been largely fruitless.

As enthusiasm for political culture waned among policy researchers, many shifted their attention to a more refined notion of political ideology as a determinant of public policy in the states. Broadly speaking, political ideology may be understood as a coherent and consistent set of orientations or attitudes toward politics, and is usually defined as being situated along a continuum ranging from liberal to conservative. Scholars often differentiate between two forms of ideological influence, that of citizens and that of the governmental elite. Berry, Ringquist, Fording, and Hanson (1998), for example, defined “citizen ideology” as the mean position on a liberal-conservative continuum of the electorate in a state, and state “government ideology” as the mean position on a liberal-conservative continuum of elected public officials in a state. In one creative undertaking, Erikson, Wright, and McIver (1993) pooled the results of over 100 national telephone surveys conducted from 1976 to 1988 to obtain measures of ideology by state, concluding both that the political attitudes of Americans vary according to where in the U.S. they live and that these attitudes appear linked with certain state policy choices. Berry et al. (1998), in an effort to address some of the shortcomings of earlier, cross-sectional measures, created indicators of state political ideology that now are the leading ones of the field. These indices, which assign ideology scores for all states for all years since 1960, have demonstrated high levels of validity and reliability.

Using the Berry measures, many studies have found strong empirical connections between the ideological proclivities of a state’s citizens and of its politicians and certain policy outcomes. For example, states with more liberally minded populations and elected officials tend to support higher levels of public welfare benefits, more expansive social services, and larger government. States with more conservative ideological bents, by contrast, tend to adopt abortion regulations, more market-oriented reforms in health care, and more stringent penal laws, such as death-penalty statutes (e.g., Barrilleaux, Holbrook, & Langer, 2002; Berry et al. 1998; Soss et al., 2001; Yates & Fording, 2005).

Some research examines the link between state political ideology and policy outcomes in higher education. Most early investigations of this kind shared the same limitations as those in political science, because of their reliance on cross-sectional designs. Recent longitudinal investigations have found strong evidence that ideological patterns can shape the choices that states make for higher education, including their decisions about spending levels and their choices to experiment in the areas of college student financing, for example, in adoption of prepaid tuition policies, college savings programs, and merit scholarship programs (e.g., Doyle,

2006; Doyle et al., 2010; Hearn et al., 2008; McLendon et al., 2014; Nicholson-Crotty & Meier, 2003; Tandberg, 2010a, 2010b, 2013). To date, no firm rule has emerged about the direction of these influences. Some studies have found liberal-leaning citizenries and states more likely to support robust public spending on public colleges and universities and more prone to enact the newer financing initiatives, while other studies have found conservative leaning states more likely to do so. A standardized set of measures uniformly deployed in studying policy change both across states and over time, would certainly be useful in helping to determine whether, how, and to what extent political ideology has contributed to the recent wave of policy change in postsecondary education.

With our second politico-institutional influence, *legislative professionalism*, we turn to the organizational context in which legislation arises. In operational terms, professionalism includes certain institutional attributes of state legislatures which make them resemble organizationally the U.S. Congress: lengthy sessions, ample resources in the form of committee and personal staff, and high pay for members. State legislatures that meet in more-or-less year-long session (in contrast with those that meet for only 90 days each year), pay their members well, and have available large numbers of staff relative to the number of elected members are deemed as being professionalized. Conversely, legislatures with session lengths of only a brief duration, relatively few staff, and little pay for members are called non-professional or “citizen legislatures” (Squire, 2000).

Scholars have studied the policy impacts of legislative professionalism since the 1950s, when many states undertook a campaign to improve their legislative organization designed to enhance the process and the outcomes of lawmaking. The success of legendary California Assembly speaker, Jesse Unruh, in transforming that body’s legislative capacity sparked similar efforts nationwide (Squire, 1997). One leading observer described the professionalization “revolution” of this era as, “the most dramatic metamorphosis of any set of U.S. political institutions in living memory” (Mooney, 1995, p. 47). By 1975, the professionalization movement had reached its high-water mark, the end of a 10-year period during which “traditional assemblies [had] become modern ones; reformed legislatures [had] emerged” (Rosenthal, 1993, p. 70). According to Rosenthal (1996), the clearest consequence of this reform movement was the strengthening of the institutional capacity of state legislatures, and the single biggest boon to this enhanced capacity was that of professional staffing. As a result of the professionalization movement, he suggested, standing committees in state senate and house chambers gained staff with expertise in their own substantive domains; fiscal staffs helped finance and appropriations committees become more centrally positioned in the legislative process and provided more and better fiscal analysis; and, audit staffs increased the capability of legislatures to assess the effectiveness of government programs and monitor the efficiency of the executive branch. Many analysts (e.g., Squire, 1997, 2007; Fiorina, 1994) have concluded that these changes helped deepen the institutions’ capacity to deliberate, develop policy alternatives, and enact legislation.

To be clear, this movement to professionalize state legislatures penetrated the institutions in some states far more than it did in others. Peverill Squire, a foremost

scholar of legislative design and decision making, has noted that while most state legislatures have been professionalizing over the past several decades, only a small number of them can be considered fully professionalized (e.g., see Squire, 2007). As a consequence, the organizational profile of legislatures, and the role that staff and facilities play in policymaking, today vary considerably (Squire & Hamm, 2005). For example, in 2003 the California General Assembly, the most professionalized of the legislatures, paid its members \$99,000, maintained a staff approximately 70 % the size of the U.S. Congress, and met in almost year-round session. Other states with highly professionalized legislative settings include New York, Massachusetts, and Michigan. New Hampshire's "citizen legislature," by contrast, paid its members only \$100 annually, maintained a staff one-seventieth the size of California's (despite a similarly sized legislative body), and met in session for fewer than 10 weeks of the year (Squire, 2007; Squire & Hamm, 2005). Other non-professionalized legislatures include those of North Dakota, Utah, and Alabama. Although state population tends to be highly correlated with professionalism, one can find exceptions. Georgia is among the ten most populous states, for example, yet its legislature is less professionalized than the size of its population might suggest. Conversely, Hawaii's legislature is more professionalized than its population would suggest.

Political science theory contends that variation in the decision capacity of the states should influence legislative behavior and outcomes in a number of ways, including the likelihood that a state will undertake certain policy experiments. Some arguments suggest that the influence itself can vary depending on the policy at-hand (e.g., Squire & Hamm, 2005). In some instances, greater decision capacity may heighten the chances for state passage of a certain kind of public program, while in other instances higher capacity levels may lessen the probability. States that possess a great deal of decision capacity, for example, may be more likely to experiment with regulatory policies, some have suggested, because the development of such initiatives often requires of state governments the capability for designing complex systems of oversight and processing large amounts of technical data in support of the regulatory schemes. On the other hand, because professional staff lend legislators expertise and information of the kind for which legislators might otherwise have to rely on interests groups, the presence of professional staff can buffer the legislative institution against interest group pressures, thus diminishing the prospects of passage of some policies and programs that are of high public salience (Lowi, 1964).

Although the empirical record concerning these relationships isn't uniformly strong, there is ample evidence that organizational attributes such as staffing, session length, and member pay, can influence state policy outcomes in both direct and indirect ways (Squire, 2007). Professionalism can directly shape policy inasmuch as full-time legislators who are paid more may commit more time and resources to the act of lawmaking, thereby resulting in more bills introduced and passed. There is also some evidence linking professionalism with the adoption of more complex and technically sophisticated policies. Professionalism can also influence policy indirectly, insofar as more professionalized settings tend to attract better-educated

legislators, the very ones who may be most inclined toward new policies and policy approaches (e.g., Barrilleaux et al., 2002; Squire, 1992, 2000).⁶

Only a relatively small number of studies have assessed the impact of legislative professionalism on state policy outcomes in the realm of higher education, although the number has grown appreciably in recent years. A few studies have documented distinctive associations between states' levels of legislative professionalism and funding effort for higher education (e.g., McLendon et al., 2009, 2014; Ness & Tandberg, 2013; Nicholson-Crotty & Meier, 2003; Toutkoushian & Hollis, 1998; Tandberg & Ness, 2011; Tandberg, 2010a, 2010b, 2013), a result that would seem to bolster the purported link between lawmaking capacity and state policies promoting equity. In addition, at least two studies (Lacy & Tandberg, 2014; Hearn et al., 2013) have found positive links between legislative professionalism and policy adoptions. These connections indicate professionalism's likely importance in shaping state behavior in at least some areas of postsecondary policy.

Curiously, researchers for many years disregarded *partisanship* – our third highlighted politico-institutional influence – as a factor capable of explaining outcomes in the policy realm of higher education. Whereas scholarship in the field of K-12 education long ago began building a research base on the interrelationships between partisanship and education-policy outcomes in the states (e.g., Browning, Marshall & Tabb, 1984; Meier & Rutherford, 2014; Mintrom, 1997; Peterson, 1974; Wong & Shen 2002), empirical investigations in the field of higher-education policy studies until recently have been few. Indeed, the bulk of the literature tended to ignore or dismiss the prospective role that party control of state political institutions may have played in influencing state behavior in the policy realm of higher education, focusing instead on demographic and economic drivers of state policy choice and change. Scholars seemed to view higher education as existing above “the partisan fray,” perhaps because the perceived social significance of the sector elevated it beyond the realm of petty partisan differences. As McLendon (2003c) noted, few studies examined partisanship's effects, leading inevitably a paucity of findings regarding their role in states' postsecondary policy postures.

A recent burst of empirical activity in the field has called into question these long-standing assumptions, however (Dougherty et al., 2013; Hicklin & Meier, 2008; Lowry, 2007; McLendon et al., 2009; Tandberg, 2010b). While economic, demographic and organizational factors clearly can influence state policy formation

⁶There are other possible indirect policy effects of professionalism. An oft-debated question is whether professionalization leads to a higher incidence of divided government DOUBLEHYPHEN—the condition in which one of the two major parties controls one or more legislative chambers while the other party controls the executive branch. Fiorina (1994) has argued that increased levels of member compensation, one of the components of the professionalism measure, can induce government service-oriented Democrats to hold on to their legislative seats even when GOP candidates are elected governor. Squire (1997) advanced a somewhat different argument, claiming that professionalization “generates electoral resources that incumbents may use to insulate themselves from changing political tides” (p. 17). In either event, professionalization can be viewed as shaping legislators' incentives, which in turn may influence party control of legislatures and thus policy outcomes.

for higher education, recent research tells us that party control of government institutions seems to matter, too. For instance, our own previous research finds that states where Republicans have greater legislative strength have been more likely to pass rigorous performance-accountability programs. This is so, we surmised, because of the party's traditional aversion to public bureaucracy and its espoused commitment to efficiency and accountability in government programs (McLendon et al., 2006; McLendon & Hearn, 2013). Other researchers have identified Republican strength with accountability initiatives (Dougherty et al., 2013). A growing body of empirical research finds state spending on higher education linked with party control of legislatures. Often, but not always, Democratic strength and control of government have been linked with higher appropriation levels, for example (e.g., Archibald & Feldman, 2006; Hicklin & Meier, 2008; Lowry, 2007; McLendon et al., 2009; Tandberg, 2010b, 2013).

This evidence aligns with research evidence in the field of comparative-state politics and policy. There, one finds Democratic Party strength in state legislatures linked often with higher overall levels of state spending, with higher levels of spending on education and welfare, and with passage of certain civil liberties and equal-protection statutes. Republicans and conservatives, on the other hand, have been associated with opposition to lotteries, stem cell research, and abortion access, and with regulatory and tax policies that often are viewed as favorable to business interests (Alt & Lowry, 2000; Barrilleaux & Bernick, 2003; Barrilleaux et al., 2002; Berry & Berry, 1990; Holbrook & Percy, 1992; Mazzoni & Clugston, 1987; Stream, 1999). We acknowledge that these relationships between party control and government output are by no means clear-cut: parties may stake out a position on a given issue at a given moment in time, either because of a genuine commitment consistent with the party's true policy preferences or as a strategic adjustment in order to attract voters. Too, some research, including our own, has shown the absence of a partisanship effect on certain higher education policies (e.g., Doyle et al., 2010), thus the empirical support for partisan strength and control of state political institutions is mixed.

Yet this newer cluster of empirical findings regarding partisanship is a noteworthy development in the field. Based on both higher-education findings (e.g., Archibald & Feldman, 2006; Knott & Payne, 2003; McLendon et al., 2005, 2006, 2009; Nicholson-Crotty & Meier, 2003; Rizzo, 2004) as well as findings in other policy arenas (Alt & Lowry, 2000; Barrilleaux & Bernick, 2003; Barrilleaux et al., 2002; Berry & Berry, 1990; Holbrook & Percy, 1992; Stream, 1999; Yates & Fording, 2005), it seems reasonable to speculate that Republican legislative strength and gains in Republican strength in the 1980s and 1990s, may have been an influential factor in the rise of many of the state reforms and innovations in postsecondary education in the past several decades.

Quite aside from the question of which party controls government (and to what extent), there is the important issue of *electoral conditions*, our fourth politico-institutional influence. Electoral conditions incorporate the degree of parties' electoral competitiveness and the timing of elections.

Regarding electoral competitiveness, scholars have long recognized V.O. Key's insight well over half a century ago (1949) that the degree of competition between the two major parties for elective office can influence state policy outcomes. In his classic work, Key suggested that in the South, where electoral competition was minimal, the lack of competitiveness resulted in policies that benefited the economically advantaged rather than those less advantaged. Many subsequent works formalized and tested this claim, with mixed results. For example, using a variety of approaches to studying and measuring competitiveness, some studies have found electoral competition increases funding for programs that primarily benefit the poor, while other studies have found evidence supporting the counter-argument, that electoral competition can decrease the likelihood of state action in behalf of the interests of lower-income citizens (Besley and Case, 2002). Although until recently the matter had largely been ignored in higher education research, a few studies have found that electoral competitiveness is related to changes in spending for postsecondary education (Tandberg & Ness, 2011; McLendon et al., 2014).

Related to electoral competitiveness is the timing of elections. Political scientists, especially political economists, have long been interested in the extent to which election timing – that is, whether an election is 4 years away, or 1 year away, or today – can influence the behavior of elected officials, hence the policy choices of states. One popular formulation, the “political-business cycle hypothesis,” posits that, as elections draw nearer, politicians may become more likely to enact popular programs in an effort to shore-up electoral support among key constituencies. Once elections are over, however, those politicians, having won office, then become more likely to enact less popular programs, like new taxes. With the time until the next election serving as a buffer politically, elected officials wager that the public's memory of past unpopular policies will likely fade.

In one classic formulation of this phenomenon, Nordhaus (1975) suggested the policymakers will turn from macroeconomic policies for reducing inflation to policies for reducing unemployment, and back again, depending on the timing of the election. Policies aimed toward reducing unemployment will be utilized most heavily at the end of an electoral term (i.e., nearer to an election), while more fiscally aggressive policies to reduce inflation will be pursued nearer the beginning of an electoral term. Nelson's (2000) empirical analysis on this question found that tax increases in fact are most likely to occur in the period immediately following a governor's election. It appears, Nelson argued, that states undertake “painful” policy changes when the next election is at the farthest possible distance.

Few studies of state policy choice in higher education have examined the relationship between electoral timing and policy adoption (e.g., McLendon et al., 2007). Research on K-12 education policy, however, has found the passage of charter-school legislation and of other school-reform measures was more likely in years closer to a statewide election (e.g., Mintrom, 1997; Wong & Shen, 2002). Scholars argued that timing was prompted by the programs' popular appeal and incumbent politicians' desires to position themselves as education reformers. The link overall between state election cycles and policy change in higher education is a tantalizing one meriting close attention.

Governors can be an especially significant source of policy influence in postsecondary education, so *gubernatorial strength and tenure* represents the fifth factor in our conception of politico-institutional influences. Theory and informed observation tell us that the separation-of-powers system that characterizes American state government ensures governors a structurally prominent role in policy formation. What's more, the past several decades have witnessed notable institution-building efforts, which in many states, have resulted in a strengthened chief executive, as well as more-empowered bureaucracies over which governors preside (Barrilleaux & Berkman, 2003). The precise nature and extent of a governor's influence can vary, depending in part on their formal powers of office. Governors in some states possess formidable formal powers, such as the line-item veto, which they can use to strike (or threaten to strike) specific legislative spending provisions; broad appointment powers, through which governors can influence both the strategic and the day-to-day functions of the executive branch; and stout tenure potential, which enables some governors to outlast their opposition and to insinuate their preferences into the sinews of state government over long periods of time.⁷ Governors with less-robust institutional powers enjoy fewer such instruments of formal policy control, a condition that can limit their overall policy influence, overall (Dye, 1969; Dometrius, 1979; Beyle, 2004).

Yet these relationships are not as straightforward, nor is the empirical evidence for the impact of governors on public policy outcomes in the states as uniform, as some observers have suggested. For example, in two classic 1960s studies, Dye (1969) found that economic development variables consistently were more influential than the formal powers of governors in determining a wide variety of important policy outcomes at the state level,⁸ while Sharkansky (1968) found evidence that governors' influence over budgetary allocations was stronger in states where they had long tenure and robust veto powers. Such inconsistencies in the literature persist to this day.

Although governors may appear to be central actors in American politics, relatively few studies have rigorously assayed their influence. In one such undertaking, Barrilleaux and Berkman (2003) found that governors with greater control over the budget process tend to use those powers to deliver a higher proportion of policies that confer benefits statewide as opposed to more localized constituencies. Other studies have shown that the policy influence of governors depends on other factors, for example, their electoral margins, the size of legislative majorities, the professionalism of a state's legislature, the strength of political parties, or the vigor

⁷Schlesinger's (1965) index of gubernatorial power was the first to array the states according to the formal powers of their chief executives in such areas as veto, appointment, tenure, and budget authority. Different measures were subsequently developed (Dometrius, 1979; Beyle, 2004), notably the index that Beyle popularized.

⁸Among other relationships, Dye's (1969) multivariate model examined the impact of governor's formal powers on 25 different policy outcomes, including funding and educational performance of public K-12 school systems. The budget powers of governors rarely were found to significantly affect educational outcomes, but the appointive powers of governors did positively affect per pupil expenditures and average teachers' salaries.

of a state's economy (e.g., Sigelman & Dometrius, 1988). Overall, the literature indicates that governors can influence policy outcomes, although the precise influence they wield is likely to be contingent upon a combination of structural and contextual factors beyond the chief executive's exclusive control. Barrilleaux and Berkman (2003) lamented over a decade ago that there was a paucity of empirical research on governors' influence on state policymaking and on policy outcomes, and that observation still holds.

Studies of state policy formation in the realm of higher education likewise have paid too little empirical attention to gubernatorial influence. To be sure, the case study literature describes how governors have sometimes provided strong political "backstopping" for their own appointees to leadership positions in state agencies and public colleges and universities (e.g., Marcus, 1997; McGuinness, 1997; McLendon, 2003a; Protopsaltis, 2004). Yet empirical treatments are few. In an earlier longitudinal investigation, the first two authors of this chapter found the length of governors' tenures negatively associated with the likelihood that states would enact reforms of their postsecondary governance structures. The longer governors occupied office, the lower the probability that their states would enact structural changes for higher education (McLendon et al., 2007). We conjectured that a longer tenure might make the chief executive more dependent on his or on her bureaucracy, dampening gubernatorial interest in overturning existing bureaucratic structures and leadership.

A recent body of empirical writing has also taken up the question of whether and to what extent governors' formal powers can influence state policy for higher education, and has produced some evidence that they do. Using time-series cross-sectional analysis, a number of researchers have found the formal powers of governors as having distinct associations with state spending patterns and campus tuition setting, independent of other factors, although the direction of the influence has varied across the studies (e.g., Hearn et al., 2013; Lowry, 2001; McLendon et al., 2009; Ness & Tandberg, 2013; Tandberg, 2010a, 2010b; Tandberg & Ness, 2011; Tandberg, 2013). In an EHA investigation, Mokher and McLendon (2009) found stronger governors associated with an increased likelihood of states adopting dual-degree programs, a popular policy promoting alignment of the K-12 and higher education sectors. Other studies have found stronger, activist governors associated with policy adoptions related to P-16 council creation (Mokher, 2010), outcomes-based funding (Dougherty et al., 2014), and efforts to spur economic development through research (Hearn et al., 2013, 2014). Although nascent and sparse, this emerging line of research in higher-education studies suggests that the influences of governors in state policy formation warrant further examination.

Our sixth and final politico-institutional influence involves the *interest-group climates* of the states. The study of interest groups comprises one of the most venerable research traditions in political science. Scholarship in this tradition entails examining what lobbyists do and how and why they do it, the factors facilitating group mobilization, and the impacts of interest groups on governmental behavior. For many years, interest-group research at the state level developmentally lagged relative to interest-group research at the national level. Since the 1980s, however,

state interest-group scholars have made noteworthy gains, both theoretically and empirically (e.g., Browne, 1985; Gray & Lowery, 1996; Nownes & Freeman, 1998; Rosenthal, 1993).

The empirical link between interest groups and the policy behaviors of state governments is better established today than it was 25 years ago. In reflecting on a decade of empirical gains around this topic, Gray and Lowery (1996) concluded: “when such [organized] interests, as well a government interests, add their weight to efforts to pass legislation, it has a greater likelihood of passage, all other things being equal” (p. 242). Jacoby and Schneider (2001) found that interest groups can have a visible impact on establishing state spending priorities. Specifically, they found that the level of interest group diversity and strength influenced whether the state favored general policy areas or particularized policy areas, such as aid for the needy. Less diversity and strength were correlated with policymakers focusing more resources on programs that provided particularized benefits. Additionally, Gray and Lowery (1988) found that interest groups not only affect policy outputs, but also influence states’ economies and economic development. Yet research has also found the actions of governors and of legislative party leadership as being capable of counteracting the lobbying efforts of interest groups (e.g., Wiggins, Hamm, & Bell, 1992). Thus, while interest groups have been shown to influence policy outcomes in some areas, the impact can be offset by the efforts of other governmental actors.

Research on interest groups in higher-education policy remains underdeveloped. While researchers have produced a large, conceptually developed body of work on interest-group activities in K-12 education (e.g., see Malen, 2001), scholars in higher education had produced until very recently little systematic research on state interest-group activity in higher education. As Ness, Tandberg, and McLendon (2015) note, prior to recent efforts, the small volume of existing scholarship tended to be descriptive rather than conceptual, and anecdotal rather than analytical.

Three important limitations have emerged in the development of a research literature on interest groups and state-level higher-education policymaking: definitional challenges, the absence of a clear theory of action for the influence of interest groups in this realm, and the lack of data on which researchers could rely. “Lobbying” can refer to an extraordinarily wide array of activities undertaken by a potentially very large number of visible and invisible actors. In addition, state laws pertaining to lobbyist registration and disclosure widely vary, masking much of what individual lobbyists or organizations do. Although political scientists long ago devised ways to delimit their research into interest groups and their activities, such that these definitional challenges might be reasonably met (e.g., see Browne, 1985; Cigler, 1991; Gray and Lowery, 1996), few in the field of higher-education studies have attempted to do so. The literature also has suffered from the absence of any sustained efforts to postulate the bases of group mobilization and influence in the context of higher education and at the level of the American state. A final limiting factor, one that has both contributed to, and resulted from, the prior two conditions, involves the dearth of readily obtainable data on higher education lobbying, in particular data that covers multiple states and extends across time.

Some recent scholarship on interest groups in higher education is beginning to overcome these challenges, however. To review that emerging line of work, and build understanding of interest-group influence state policy change in higher education, we propose two distinct conceptual bases, each with its own correspondingly distinct measures and literature.

The first conceptual framework emphasizes the notion of interest-group density, and builds on work by Tandberg (2010a, 2010b, 2013; Tandberg & Ness, 2011; Ness & Tandberg, 2013; Ness et al., 2015). Tandberg studied the relationship between higher education interest groups and state funding for higher education by borrowing from Gray and Lowery's (1996) widely cited finding that interest groups are most successful when there are relatively few of them within a state, all things equal.⁹ Gray and Lowery's scholarship on the "relative density" of state interest-group climates spurred Tandberg to develop a measure of interest-group influence that gauges the size of the higher education lobby in a given state relative to the size of the entire state's interest-group universe; i.e., the ratio of the number of public higher education institutions to the total number of state interest groups in a given state. Tandberg's time-series cross-sectional analysis found the relative size of the higher education lobby predicted the amount of state expenditures devoted to higher education; the larger the relative size of the higher-education lobby, the higher the levels of appropriations (Tandberg, 2006). Tandberg interpreted his findings as evidence that, when the interest group landscape is densely populated, the higher education lobby becomes less competitive. Indicators such as those of Tandberg and Lowery can facilitate examining the manner and extent to which the competitive interest-group "space" for higher education in a given state influences the probability of the state enacting new policies that are deemed as benefitting or threatening the presumed preferences of the sector.

One can also study interest-group influences on state policy change for higher education in a second way, testing the proposition that different kinds of statewide governing boards can organize and channel interests in different ways. That is, the kind of statewide governing arrangement that a state employs may independently influence state policy outcomes for higher education. Recall that earlier we introduced statewide governance arrangements as an element in the statewide organizational context of higher education, but promised to return to those arrangements later. We divide our treatment of governance in this way because we believe that, beyond their informational roles, governance structures play critical roles in the expression and evolution of interests in state higher-education policy. Thus, we consider here these arrangements in greater detail.

Because state-level structures are so central for the oversight of higher education, we begin with a brief overview of patterns in statewide coordination and governance of higher education in the twentieth century. Most writings on statewide organization

⁹In that same vein, Jacoby and Schneider (2001) found that, when there are fewer interest groups, specific interests tend to receive more funding. See the work of Browne (1990), Cigler (1991), and Heinz, Laumann, Nelson, and Salisbury (1993) on other aspects of interest-group power and effectiveness.

of higher education acknowledge three distinct modes of state oversight: the planning agency; the consolidated governing board; and the statewide coordinating board. The planning-agency model is distinct organizationally because it provides for very weak state-level oversight of higher education. Under this governance arrangement, campuses enjoy vast latitude over their internal affairs, including budgets and program planning. Michigan, for example, has long drawn attention as providing one of the nation's least regulated or, least-governmentally directed, climates for higher education. Michigan's state constitution more than 150 years ago granted the boards of the University of Michigan, Michigan State University, and Wayne State University sweeping powers over their own academic and fiscal affairs, powers the universities have ardently defended from encroachment by state authorities.¹⁰ Consequently, in Michigan, and in other states where state boards for higher education hold relatively weak powers, the central board functions mainly as a planning body whose role primarily is that of collecting information and monitoring state and federal student financial aid systems.

In the early decades of the twentieth century, the governance pendulum swung decidedly in the direction of greater state oversight and control of public colleges and universities. In part, this trend stemmed from the growing financial involvement of the states in higher education. By 1908, California, Illinois, Michigan, and Wisconsin had begun making direct "lump-sum" appropriations in excess of one million dollars annually to their respective flagship universities (Thelin, 1982). As state investment deepened so, too, did state officials' interest in assuring the funds were well spent. One vehicle for achieving this goal was the establishment of state consolidated governing boards, the second of the three primary models of statewide organization of higher education.

Consolidated governing boards were formed by consolidating the local boards of individual institutions into a single, state-level board responsible for all higher education (or a sector of higher education) in a given state. Under these centralized arrangements, the state granted a single, state-level board line authority over constituent campuses. These empowered boards then made certain day-to-day decisions for institutions, including the hiring and firing of campus leaders, the development and review of academic programs, budget allocations, and other important management functions (Berdahl, 1971; McGuinness, 1997). By the early 1970s, some 20 states had created centralized governance arrangements for governing higher education.

¹⁰Michigan, in 1850, was the first state to grant its flagship institution, the University of Michigan, constitutional standing. This practice was pursued to further remove public universities from the reach of "meddlesome politicians" in legislatures and governors' offices. By codifying the self-governing authority of universities in the constitution, state constitutional conventions elevated the status of their flagship university to that of a "fourth branch of government" with powers that, in theory at least, placed the university on a legal plane coordinate to that of the state's legislature, executive, and judiciary (Glenny and Dalglish, 1973). Over the next 20 years, California and Minnesota, and a handful of other states, followed Michigan's lead (Chambers, 1965; Douglass, 1992).

In the post-war boom of the 1950s and 1960s, a third distinctive form of statewide organization of higher education arose: the statewide coordinating board. By this time, many state officials had grown both acutely concerned about the unbridled growth of postsecondary education and weary of the internecine warfare over public resources that had arisen among individual institutions. These officials in many instances no longer trusted the information they received from individual campuses, believing it to reflect the provincial views of the separate campuses, rather than contributing to an understanding of statewide needs overall. Officials desired unbiased information about the funding and the academic planning needs of the rapidly developing postsecondary systems. Consequently, some states established coordinating boards, with full-time professional staffs, as entities responsible for integrated planning, budgeting and academic review for an entire state.

Over time, two distinct kinds of coordinating boards emerged. To assist legislatures and governors in making informed decisions about statewide needs and the appropriate allocation of limited public resources, some coordinating boards, the so-called “regulatory coordinating boards,” were empowered to authorize new academic programs, terminate existing programs, and approve institutional budgets. The second kind of coordinating board, a less-empowered entity known as “advisory coordinating boards,” merely made recommendations to legislatures and governors about programs and budget allocations. These boards had to rely more on their powers of reason and persuasion, rather than formal powers or line authority, to help steer state systems of higher education. Reformers conceived of both kinds of coordinating boards, staffed by professionals with expertise in public finance and management, as neutral third-parties capable of balancing campus freedoms with the public’s interest in maintaining high quality in and broad access to higher education. More than 20 states erected coordinating-board systems in the period from 1950 to 1974 (Berdahl, 1975).

Yet, the coordinating-board model has long demonstrated its vulnerability to outside political influence. States initially designed coordinating boards to serve as buffering bodies, with dual obligations to campus and to state. The historian, Hugh Davis Graham (1989, p. 96), once described them indeed as, a “middle man in a bimodal distribution of power” between the campuses and state elected officials. As the intermediary between two sets of entities, each more powerful than itself, coordinating boards have survived through their delicate balancing of these different, often competing interests. Because of the boards’ lack of an independent power base, or a core constituency, many observers have asserted that coordinating boards in effect are beholden to the interests of powerful elected officials, notably governors. Governors typically control, for example, the appointment of members to coordinating boards, and sometimes have used these appointment powers as a means for influencing the boards’ agendas.

Capitalizing on this variability across states in the design of postsecondary governance systems, a large body of scholarship has examined the extent to which statewide governance can influence the policy choices states make for higher education. Indeed, one of the most consistent empirical findings in the state policy literature is that governance “matters:” the particular form of statewide governance that

a state practices can shape the state's policy choices (McLendon, 2003b). Some studies have shown that states with consolidated governing boards tend to be less likely to adopt some harder-edged regulatory policies, while other studies have linked the structures with an increased probability of state adoption of certain newer financing policies, such as merit-aid policies and college savings, outcomes-based funding policies, and prepaid tuition programs (e.g., Hearn & Griswold, 1994; Hearn et al., 2008, 2014; Lowry, 2007; McLendon, 2003a; McLendon & Hearn, 2013; McLendon et al., 2005, 2006, 2014; Tandberg & Ness, 2011; Tandberg, 2013; Zumeta, 1992, 1996).

Whereas the research evidence overwhelmingly points to postsecondary governance patterns as a factor capable of shaping state policy choice, the reasons for this influence are not well understood. As noted earlier, one long-standing tradition in the literature equates the different modes of governance (i.e., planning agency, coordinating board, and consolidated governing board) with varying levels of informational and decision capacity, and suggests that these capacities in turn differentially influence the probability of states undertaking new policy initiatives (Hearn and Griswold, 1994). Because consolidated boards often possess more staff than do the two other types of boards and thus lend their states more of the decision capacity believed to be needed for policy deliberation and change, states with this type of governance arrangement may be more inclined to innovate. This line of reasoning has been persuasive to us as well as other scholars, and is widespread in the literature, although the assumptions that underpin it generally have not been closely examined. One problematic assumption is that the three types of boards are not rigidly stratified with respect to the size of their professional staffs. While the staff sizes of planning agencies tend to be smaller than those of the other two modes of statewide governance, some coordinating boards boast larger and more professionalized staffs than do consolidated governing boards, thus complicating the question of whether one or the other type of board necessarily affords states more analytic capacity than the other type.

There is yet another limitation of the familiar analytic-capacity perspective: in its exclusive focus on the information that boards provide, this explanation of state action ignores the interests that boards serve. In addition to providing certain analytic capacities, different boards can channel preferences and interests in distinctive ways. As a few analysts have commented, consolidated governing boards are distinctive organizationally inasmuch as they function much like an academic cartel, whereby central university-system administrators set the policy agenda and make many day-to-day governance decisions for campuses (Lowry, 2001; McLendon et al., 2006; Zumeta, 1996). Because consolidated boards tend to institutionalize the preferences of faculty and administrators, their existence in a state should lead to policies that are more consistent with the preferences of academic stakeholders. By contrast, coordinating boards, because of their explicit mission to report to elected officials on statewide needs, can be considered extensions of elected officials' capacity to supervise, and thus behave in a manner that is more consistent with the

preferences of elected officials and voters, rather than those of university administrators and faculty.¹¹

In our earlier work on the drivers of performance-funding program adoption in the states (McLendon et al., 2006), we used this line of reasoning to explain why states with consolidated boards tended to adopt performance-budgeting policies, which are programmatically weaker, rather than the harder-edged, performance-funding programs: the preferences of consolidated boards, which are dominated by academic stakeholders, is to avoid rigorous, externally imposed performance regimes that would firmly hold constituent campuses to account. Consistent with those preferences, we argued, consolidated governing boards, behaving in cartel-like fashion, could have leveraged their centralized resources in such a fashion as to have influenced their states' adoption of the weakest form of accountability mandates, because those programs would have lent the appearance of accountability, yet lacked real enforcement teeth. Governance structure "matters," we concluded, because authority structures can help determine whose interests will prevail. Building on this earlier work, we posit that different governance arrangements institutionalize the preferences of different sets of stakeholders, which seek to shape policy consistent with their preferences.

State Policy Diffusion Context

The final category in our conceptual framework looks beyond intrastate influences, and toward the forces operating between and among the states, what we have termed the interstate diffusion context of policy change. As we earlier noted, policy diffusion refers to the pressures that the 50 states exert upon one another, as a result of the states' embedment in the fixed geopolitical community that is American federalism. Building on the conceptual strands already outlined from the fields of political science, public policy, and K-12 education studies, we consider the extent to which state governments engage in this "copycat" form of behavior in postsecondary education policy adoption.

Somewhat surprisingly to us, the question of whether states influence one another's policy behavior in the postsecondary arena – that is, the extent to which policies diffuse – remains unanswered. Some studies have documented diffusion-like forces at work in the adoption of recent postsecondary financing innovations, such as state merit scholarship programs, college savings plans, and prepaid tuition programs (e.g., see McLendon et al., 2005; Cohen-Vogel et al., 2008), while other studies, such as those on the emergence of some newer accountability mandates for higher

¹¹In states with coordinating boards but highly centralized sector-specific systems (e.g., for a research university sector, a state comprehensive sector, and a community-college sector), it is possible that coalitions can build between sectors to wield influence sufficient to parallel that of a consolidated governing board system (Austin Lacy, personal communication, May 28, 2016).

education, have found little evidence in support of the diffusion thesis (e.g., McLendon et al., 2006).

In our conceptualization, we note four explanations for the horizontal migration of policies (i.e., state-to-state, rather than state-to-federal or federal-to-state).¹² First, states may borrow ideas from their neighbors or peers because, in doing so, officials gain certain decision efficiencies – so-called, shortcuts – that can simplify the range of alternatives from which the officials can choose. States look to, and “learn” from, one another’s past policy behaviors for a variety of reasons. A state can learn from others what has (and has not) worked elsewhere, thus enabling it to bypass costly and time-consuming searches for policy solutions that may already have been tried (and failed) somewhere else (Dougherty et al., 2013, 2014; Lacy & Tandberg, 2014).

Second, states may adopt others’ policies in an effort to gain a competitive advantage, or avoid being disadvantaged, relative to their neighbors or peers. Actions taken by one state can affect the state’s neighbors in ways beneficial or detrimental (and sometimes both), which in turn may prompt those other states themselves to take action. Just as a state’s decision to lower welfare benefits can trigger a “race to the bottom” in public-assistance spending by neighboring states seeking to avoid becoming “welfare magnets” for low-income populations, one state’s establishment of a broad-based, merit scholarship program may likewise lure the state’s neighbors to follow suit in an effort both to retain their own talented, college-bound students and to prevent “brain-drain” to competitors (Doyle, 2006). Similarly, one state’s decision to adopt a research-centered economic-development policy may prompt neighboring states to adopt similar policies to remain economically competitive within a region (Warshaw & Hearn, 2014).

Third, states may adopt others’ policies as a result of pressures to conform to nationally or regionally accepted standards. This explanation of policy diffusion suggests that states (i.e., officials who decide government policy) experience powerful normative influences. Some civil-liberties legislation, education reforms, and changes in state administrative practice bear the hallmarks of having arisen in part because of normative pressures on states to legitimize themselves by evidencing compliance with “best practice” (or “most popular practice”) in a given policy arena. Likewise, some adoptions may be compelled by growing acceptance of their importance, necessity, or even fashionableness within the “field” of higher education. The movement in higher education toward adoption of student unit-record systems and of newer student financing strategies deemed as institutionalizing certain societal values may also be examples in this vein.

Fourth, of course, *de facto* coercion is also a possible influence in policy adoption, although it seems rare. Under this scenario, states may adopt policies chosen by other states out of necessity: if providers of critical financing, prestige, or other

¹²Our four bases for state policy adoption diffusion in higher education have roots in social and political theories regarding institutionalism and isomorphism, including the works of Walker (1969) and the Berrys (2014) in political science and, from sociology, works in the pioneering tradition of DiMaggio and Powell (1983). Most recently, such theoretical influences can also be seen in the conceptualizations of Sponsler (2010) and Lacy and Tandberg (2014).

resources to states make adoption of a particular policy central to continuing support, and if peer states are stepping into line and not revolting, then a given state may have no real choice but to adopt the policy itself. For example, if an important interstate entity like a regional association or consortium or a powerful athletic conference imposes certain policy criteria for continued membership, and if authority over such policies lies at the state level, then failure to act at the state level could endanger a state's higher-education institutions vis a vis institutions in peer states.

The influence of any one of these different sources of policy adoption can be shaped significantly by the perceived success or failure of a given policy experiment elsewhere (Berry & Berry, 2014; Dougherty et al., 2013; Karch et al., 2016; Levine, Lacy, & Hearn, 2013)). When a state adopts a program that becomes, for example, more costly, complex, or controversial than initially anticipated, such an experience may actually diminish the likelihood of other states following suit. In other words, in quantitative terms, we would see not an absence of influence from adopting states but rather a significant negative influence from outside adoptions. A prominent recent non-education example: North Carolina's experience with boycotts after adopting transgender bathroom legislation may have created negative influences on the likelihood of similarly inclined states adopting such policies. In such cases, one might say states sometimes exert upon one another negative, in addition to positive, diffusion pressures.

While diffusion (whether positive or negative) remains an intuitively powerful explanation for policy adoption in higher education, evidence is mixed. Some earlier quantitative studies have found no evidence of diffusion, while others have found evidence of positive diffusion, and still others have found evidence of negative diffusion. Representative of these diverse diffusion findings are Cohen-Vogel & Ingle (2007); Doyle (2006); McLendon et al. (2006); Mokher & McLendon (2009); Hearn et al., (2013), (2014).

Traditional EHA studies of specific policies may not be ideal for uncovering the motivating forces for any particular instance of diffusion. Lacy and Tandberg (2014) raised a noteworthy question: might the attention in postsecondary policy-adoption studies to finite differences among policies be missing the ways the postsecondary policy is understood by most state policymakers? For example, are legislators really attuned to the differences between state 529 savings plans and prepaid-tuition plans, or are they simply seeking to adopt affordability policies serving constituents more generally, without close regard to the particular kinds of policy visible in the policy window at that time? If the answer is the latter, then analysts may need to turn away from traditional EHA studies of specific policies. One alternative may be to aggregate specific policies to encompass a broader domain of legislative concern (e.g., affordability), then conducting quantitative analyses with more inclusive definitions of "adoption events." Alternatively, researchers may turn to in-depth qualitative analysis aimed at probing legislator understandings and perceptions. Cohen-Vogel and Ingle (2007), for example, conducted interviews with policymakers in six southern states in an effort to understand better where, in the policymaking cycle, the influence of a state's neighbors is most felt. Such work can facilitate deeper understanding of context and the "how and why" of diffusion, including the roles of

such factors as research information, policy and political networks, as well as factors relating external financing and leverage. While qualitative studies tend to be context-bound and thus may have limited transferability to other issues and other contexts, they may suggest critical insights for untangling causality at the state level.

Quantitative analysis may be especially useful for empirically discerning leads regarding the varied kinds of influence paths in this arena. For any of the four reasons highlighted above, states may adopt innovations that are in place in other states. Yet, identifying the particular *kind* of state-to-state influence taking place is not the same thing as identifying the particular *channel* for state-to-state influence taking place. For example, facing an EHA finding that neighboring states' adoptions seem to shape a given state's adoption likelihood, what can analysts conclude about the actual processes taking place? Are intermediary organizations and policy entrepreneurs successfully prescribing or "selling" policy ideas "door to door?" A careful reader of Fig. 7.1 will note that the items within the diffusion box are distinct from those in the other boxes in their focus on the kind of influence rather than on particular measures of that influence. Quantitative findings of significant diffusion effects are more often merely "trace elements" of policy influences rather than meaningful actual measures of the nature of influences.

Helpfully, researchers in other fields are making major strides in addressing the many challenges of diffusion research. Boehmke and Witmer (2004) identified useful methodological approaches to untangling learning-based versus competitive roots for state diffusion patterns. Arguing that different factors working in different ways in the initial adoption of a particular policy and the subsequent expansion of similar adoptions across state lines. To address the proposition that learning and competition might be distinctly powerful influences at different stages of across-state diffusion processes, they introduced the counting of prior events within and across states as a factor in subsequent adoptions. Their findings upheld their proposition and their methodological approach, contributing a new theoretical and methodological approach to diffusion research.

In other breakthrough work, Volden (2006) has helpfully identified a hidden assumption that seems worth questioning: should the unit of measurement for diffusion influences be multi-state, as has been the tradition in the field? Historically, numerous possible forms for a diffusion indicator in EHA models have been explored, ranging from indexes of action in neighboring states to measures of regional collaboration to identification of actions among peer states and institutions at the national level. As Volden (2006) perceptively noted, however, the most promising focus for studies of adoptions may be dyadic rather than inclusive - pairs of states may turn to each other regularly, forming policies in anticipation of or in reaction to developments in their partner state.

More recently, Berry and Berry (2014) have produced a remarkably comprehensive and detailed examination of various potential kinds and channels of state-to-state diffusion, the theoretical grounding for these, and the methods appropriate for examining diffusion in its full variety. Among their many insights are a valuable reconsideration of three classic channels of diffusion (national interaction, regional

diffusion, and leader-laggard) and a new, more inclusive diffusion typology including five potential kinds of mechanisms (learning, imitation, normative pressure, competition, and coercion). This essay seems essential for those wishing to learn about past research and current thinking on innovation and diffusion processes in the states. With the tools being developed by Boehmke and Witmer, Volden, the Berrys, and numerous others, more nuanced understandings of states' diffusion influences seem to be on the near horizon.

Conclusion

There is no sign that governors and state legislators in the U.S. are slowing down in their aggressive and prolific experimentation with innovative, and frequently controversial, approaches to controlling, expanding, assessing, and improving public higher education. Too often, system and campus leaders find themselves limited to simply scurrying after the parade, trying to retroactively understand the factors that drove largely unanticipated actions. No political activity will ever be fully understood by those outside the decisions, but sharpening our ability to forecast developments would almost certainly serve policy and theory development and improvement. Better forecasting heavily depends on analysts better understanding the dynamics of state action, including the factors driving states to make the choices they do, when they do. It is to that end that research on policy adoption and diffusion has proceeded.

Consider the question of educational attainment. Arguably, there is no more important issue in postsecondary policy. Inarguably, attention to the issue has grown dramatically in recent years: states have joined foundations, the federal government, business leaders, and others in pushing the nation toward improved competitiveness in an increasingly globalized, knowledge-driven economy. Deservedly, the role of states in improving attainment rates is increasingly being scrutinized, with an eye on establishing and refining policies likely to be effective, equitable, and efficient (Perna, Klein, & McLendon, 2014). But identification of good policy choices is only part of the battle: those policies must first be adopted by policymaking bodies, including often-recalcitrant state governments. Certain choices, like “free college” or performance funding, may have strong intuitive appeal to policymakers (and citizens), but may not represent the choices most likely to work “on the ground” in improving students' attainments while also serving other state goals. As McGuinness (2016) noted, the leadership of well-informed policy actors is essential to maximizing the congruence between the political prospects and the cost-effectiveness of potential policy choices. Ideally, the postsecondary policy adoption and diffusion concepts and findings assayed in this chapter can inform leaders and analysts regarding the contours and paths for success in educational policy choices.

In this essay, we have argued that many of the new postsecondary financing, accountability, and governance and management policies of the past few decades have arisen because of certain conditions involving states' demographic and

economic context, the structural aspects of their postsecondary systems, their political-system dynamics, and the prior policy behavior of their neighbors and peers. Several points about this framework merit more attention.

First, we outline here a conceptual framework rather than a theoretical model. Suggesting that a broad category of factors, or a specific factor, is part of the context shaping policy emergence is different from assigning a direction of influence. For example, Republican-dominated legislatures may be especially likely to adopt incentives-based policies for institutions or students, but especially unlikely to adopt policies expanding a state's need-based aid funding. Similarly, state research-and-development tax-credit policies favoring corporations that establish partnerships with research universities may be especially likely in states with strong research universities. In contrast, there seems little reason to add an indicator of research university strength to modeling of, say, prepaid-tuition policies. The conceptualization vs. theory distinction also applies to state-to-state diffusion effects. Diffusion must be theorized and studied in direct relation to the policy at hand. Some policies clearly have been adopted within a context of keen competition among neighboring states (merit scholarships seem a prime example), while other policies seem to reflect other motivations (for example, states have learned from each other in framing their performance-funding policies). In sum, directional theoretical propositions are contingent upon the nature of the particular policy being considered.

Our goal in proposing our conceptual framework has been to iterate and examine the relevant array of factors shaping policy adoptions, not to suggest consistent directions of impacts from any one of them across policies. Analysis of particular policy innovations must be adaptively creative, rather than a mechanical extension of any singular overarching theoretical notion.

Also, it should be stressed that the influences of the factors highlighted in Fig. 7.1 can be variable or stable over time. For example, the governor's constitutional power in a given state rarely shifts over time, and thus shapes policy outcomes year after year. But other contextual influences can be dynamic: beyond certain baseline conditions, we theorize that a state is most likely to undertake changes in postsecondary policy when it has experienced recent, dynamic change in the demographic, economic, political, and diffusion contexts in which it is situated (e.g., see McLendon et al., 2009). Rapid demographic shifts, periods of economic growth or decline, changes in the partisan balance or control of legislatures, shifting electoral competitiveness, and the rush by a state's neighbors or peers to adopt a given policy each may increase the likelihood that a state would choose to undertake new policy directions. Virtually every one of our own team's EHA analyses has provided evidence that the power of particular influences waxes and wanes over time, as larger national and international socioeconomic and political conditions shift.

In the context of such changing contextual influences, the temporal nature of the policy should help determine whether we focus on recent *changes* in a variable's values, the latest value of the variable, or a lagged value of the variables. All else equal, one can propose that we might use simple indicators reflects the basic, rather stable aspects of a state's policy environment (e.g., a state's stock of college-educated

workers or its reliance on a highly professionalized legislative staff) while we might use change indicators to reflect shifts in more dynamic aspects of the environment (e.g. rapidly rising unemployment, or rapidly falling tax revenues).

Further, the influences of factors in the framework can be interactive with each other and with time. For example, while some states may develop a particular new higher-education financing scheme to cope with challenging economic conditions, other economically similar states may resist such a reform, owing to some ameliorating or mediating political condition, such as a governor facing a strong election challenge discouraging costly new initiatives. For example, governors elected to a first term in a context of longstanding state domination by the other party and pressing economic conditions may be especially likely to push for greater attention to cost-effectiveness and accountability in the funding of institutions and students.

Looking Ahead. While much has been accomplished in the profusion of research on higher-education policy adoption and diffusion since the 1990s, we find it hard to disagree with our colleague Will Doyle's (personal communication, May 5, 2016) characterization of this research as only now beginning to move past its "hunter-gatherer phase" theoretically and methodologically. In a similar vein, McLendon, Cohen-Vogel, and Wachen (2015) note that the knowledge base in educational policy adoption and diffusion studies remains "thin and piecemeal" overall (p. 111), and that seems particularly the case for studies in higher-education contexts. Much remains to be done. We can highlight three significant challenges.

First, current quantitative models of policy adoption often rely on distal variables to build understanding of complex social processes. For example, what does it mean to say that a state's educational attainment levels or partisan make-up affect policy-makers' decisions on postsecondary policies? Thinking more deeply about the particular mechanisms at work in specific outcomes, and constructing persuasive narratives about those processes, is necessary. As noted earlier, we believe that new qualitative and mixed-methods analyses can serve to buttress the existing findings and substantially enrich the existing literature. Ideally, our conceptual framework, along with the many new theoretical and methodological advances noted in this review, can contribute substantially to addressing this progression.

Second, for the field to build cumulatively, it is critical that researchers emphasize employing more precise, meaningful, and consistent definitions of policies and adoptions. For example, should legislative and gubernatorial sign-off merit being coded as an adoption, as has been the case in some earlier studies, or is funding at a particular level or a particular proportion of state funding essential for that designation? When, exactly, is an implementation of sufficient magnitude to be "counted" in adoption studies. Does it still make sense, for example, to define performance funding as one "thing", when in fact states devote widely differing funding amounts to it and focus on widely different objectives in their individual policies (Gándara, 2016; Hearn, 2015). Prominent policy advocates (e.g., Albright and Lumina Foundation, 2004.) suggest that, to implement a successful performance funding system, a state must tie a significant proportion of its postsecondary funding to an outcomes-based policy. Yet, using a rather modest cut-off of 25 %, only six states currently meet that level, and all of those states have met the cut-off only within the

last decade (Snyder & Fox, 2016). Imposing strict policy definitions can create a trade-off by reducing the data needed for convincing across-state statistical analyses. That said, inconsistent policy definitions severely limit generalizability, and severely limit the building of a coherent body of knowledge on adoptions. For this research arena to move ahead further, there is need for analysts to investigate the implications of alternative definitions for the results of policy-adoption studies (Hearn, 2015).

Another aspect of policy and adoption definitions also merits attention in future work. Much of the quantitative research on policy adoption has relied on coding adoptions as occurring in a single year. In the terms of EHA, the state/year indicator moves in that year from 0 to 1. Yet many adoptions take states multiple years to implement (Berry & Berry, 1990). Recently, analysts have begun to specify adoptions in graded, non-binary ways, assigning values based in the level and stage of adoptions (Berry & Berry, 2014). Higher-education researchers may well want to follow suit. Even more ambitiously, there is a need to consider not solely the birth of new higher-education policies but also their declines and deaths. This life-cycle perspective seems especially appropriate in such areas as performance and outcomes funding. That policy approach first arose over 30 years ago, then declined, then re-emerged in the early 2000s after a seeming decline in popularity among the states in prior years (a phenomenon that inevitably called to mind a well-known Monty Python skit centered around a parrot that was, at least arguably, “not dead yet”). Fortunately, promising new research is beginning to consider the benefits of taking more inclusive perspective on the lives of postsecondary policy ideas (Gorbunov, 2013). Expanding this vein of research could provide a valuable complement to social-historical analyses of the tides of educational policy history, such as that of Loss and McGuinn (forthcoming).

Conclusion. Taken as a whole, the policy-adoption research of the last three decades has unquestionably yielded a number of insights on the forces driving change in state higher-education policy. Ideally, the work will continue and expand. The framework provided here is meant to help guide both theory development and practical application. It is also meant to help shape both quantitative and qualitative analysis of policy adoptions. Many studies of adoption in higher education have fruitfully employed quantitative designs, and promising methodological advances arrive almost every year. And, as we noted earlier, opportunities are extraordinarily rich for other, less statistical approaches (McLendon et al., 2015; Ness, 2010b). This good work should continue and grow. Certainly, there is a well-established need for analysis of adopted policies, but there is also great value in work on the front end, at the stage when new ideas are emerging and actors are beginning to array themselves to consider those ideas and, potentially, to act on them. The ways novel policy approaches emerge from the maw of the fifty states’ diverse internal and external contexts continue to merit serious attention.

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Chapter 8

Expanding Conceptualizations of Work/Life in Higher Education: Looking Outside the Academy to Develop a Better Understanding Within

Margaret Sallee and Jaime Lester

Recruiting and retaining women to the professoriate remains a critical issue in contemporary higher education. Beginning in the late 1960s, women entered higher education in undergraduate and, eventually, graduate programs in larger numbers, resulting in a healthy pipeline of women with the degree and experiential qualifications for faculty roles. Women accounted for only 33.2 % of all faculty in 1987, increasing to almost half in 2013 (National Center for Education Statistics [NCES], 2015). The aggregate numbers of faculty by gender identify equal representation of women but also mask the inequities across disciplines and employment contracts. In terms of rank, national statistics indicate that women remain concentrated in non-tenure-track roles at 54 % and fewer women seek promotion to full professor with only 32 % women (NCES, 2015). In part, the overrepresentation of women in lower status positions in the professoriate is related to the lack of family-friendliness in the academy. In addition, women faculty remain segregated into specific disciplines with few changes over time. Hill, Corbett, and St. Rose (2010) found that women “made up less than one-quarter of the faculty in computer and information sciences (22 percent), math (19 percent), the physical sciences (18 percent), and engineering (12 percent)” (p. 15). More recent data from the National Science Foundation reports that women make up only one-fourth of full professors in science, engineering and health (NSF, 2015). And, as Hill et al. point out, even in the biological sciences, which is widely assumed to have achieved gender parity, women represent just 34 % of faculty. These statistics suggest that the academy is not yet gender

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equitable. Scholars have found that particular disciplines may be more hostile to women than others. One manifestation of this hostile, or unwelcoming, climate is a lack of concern for work/life balance.

Yet, work/life issues run rampant through the academy, carrying differential consequences for women and men navigating parenthood. According to the 2013–2014 HERI Faculty Survey, 43 % of all faculty have at least one child under the age of 18 in the home. Disaggregating by gender reveals that 44 % of men and 41 % of women are parents to at least one child under the age of 18 while 48 % of men and 38 % of women have children over the age of 18 (Eagan et al., 2014). These statistics suggest that more senior women faculty were less likely to have children in the home than their male colleagues. While men and women are approaching parity in parenting status, navigating parenthood and an academic career remains fraught with difficulties for both genders. Mason and Goulden (2002) noted that women doctoral and postdoctoral students opt out of the professoriate due to a belief that childrearing is incongruent with the expectations of tenure review. Often, the tenure-track coincides with a woman's proverbial biological clock and a man's optimal time for childrearing, 30–40 years old, leaving many to think having a family and an academic career are incompatible goals.

However, faculty—both men and women—continue to combine work and family, though utilize multiple strategies for doing so. For example, Armenti (2004a) noted that many women aim to have “May babies,” timing pregnancies to coincide with summer leave, thus not requiring any maternity leave during the academic year. Some women hide their pregnancies out of fear of colleagues' expectation around productivity (Armenti, 2004a; Monroe, Ozyurta, Wrigleya, & Alexander, 2008). Still others engage in bias avoidance behaviors, such as not using available institutional leave to avoid calling attention to their parental status (Drago et al., 2006). Policy usage remains quite low; several studies note that few faculty, both men and women, utilize policies for stopping the tenure clock or taking leave (Bunton & Corrice, 2011; Mason, Goulden, & Wolfinger, 2006; Pribbenow et al., 2010; Quinn, 2010; Williams, Alon, & Bornstein, 2006).

Work/life challenges are a concern for women and men alike. As we detail in this chapter, studies have found that men are likely to minimize the use of leave, fearing challenges not just to their careers, but to their identities as men (Sallee, 2014). Other studies identify the challenges that different constituent groups—faculty across institutional types, graduate students, and staff members—face navigating work/family issues¹. Navigating family concerns is a pervasive issue across institutional types and all employee contracts. Despite their existence, institutional policies seem to do little to support change.

¹In this chapter, we distinguish between work/family and work/life as two separate but interrelated concepts. Work/family refers to the balance between one's job and family responsibilities while work/life considers family as well as other aspects of one's life outside of work. As we discuss, the majority of scholarship in higher education focuses on work/family concerns. We describe any definitional confusion in the literature throughout the chapter.

The majority of our discussion thus far has focused on issues that individuals face navigating work and parenthood. However, work/life extends far beyond the confines of parenthood; work/life concerns include those contending with elder care issues to those dealing with their own illnesses to single people who do not want work to occupy all of their time. Yet, scholarship and accompanying policy implications, particularly in higher education, has tended to focus exclusively on the needs of individuals navigating parenthood. Our review focuses predominantly on work/family concerns as related to parenting, reflecting the state of current scholarship. However, this is a limitation of the literature and one to which we return in the implications section at the end of the chapter.

Work/life is a concern beyond just the academy, but transcends all aspects of society. Scholars across multiple disciplines have been increasingly concerned with the notion of work/life, identifying relationships across a complex set of constructs including demographics (gender, socioeconomic status), organizational dynamics (turnover, job satisfaction, absenteeism), and individual consequences (role conflict, productivity shifts). While a “sticky” concept to define, work/life is generally considered as conflict across the roles between life and work domains. The literature on work/life spans multiple disciplines to include education, sociology, social work, organizational studies, and psychology. This is not a surprise given the complex nature of work/life, which includes, but is not limited to, the relationship between family life and responsibilities and social expectations; practices, policies and norms within organizations; relationship between job satisfaction and productivity; well-being and health; and leadership training. While this list is not exhaustive, the layers of influence on work/life are vast, spanning across disciplinary considerations.

Despite the pervasiveness of work/life research broadly and within higher education specifically, challenges still remain. The extensive knowledge across decades of research in organizational studies and psychology has done little to support larger scale interventions to address work/life balance, a concept that newer generations of workers, including faculty, desire, nor has it provided detailed evidence of how to address work/life within a higher education context. Recent surveys find that while previous generations of faculty desired work/life balance, new generations are more concerned with better work/life integration, which focuses on ways to combine the demands of the two realms, rather than keep them separate (Trower, 2010). What is needed is a thorough and comprehensive review of the work/life literature across multiple disciplines that includes a discussion of how this knowledge is applicable to the higher education enterprise and what research is needed to inform practice, such as work/life programs, institutional policies, and programs. Important to this chapter are three areas of inquiry, which have the greatest influence on and implications for the research on work/life in college and universities: higher education, organizational studies, and psychology literature. These areas overlap in their use of conceptual definitions, theoretical frameworks, and methodologies, which are all highlighted in this chapter.

As a note on our method for choosing articles to review, we initially looked across the fields of sociology, organizational studies, psychology, social work, nursing, and education, finding that the major bodies of work were in the three disciplines included in the study. Organizational studies and psychology tend to provide the conceptual foundations for many other disciplines. For example, scholarship in nursing might add contextual differences, such as changing the context of inquiry to the hospital, but the scholarship did not provide significant new insights to be included in this review. Additionally, we chose to focus on the organizational studies literature rather than the sociology literature for three reasons. First, length limitations preclude us from devoting a thorough treatise to the literature in all disciplines. However, second, the organizational studies literature has interdisciplinary roots and tends to draw on sociological and economics concepts, among others, to inform its study of work/life, thus ensuring that relevant concepts are included from both disciplines. Third, although both disciplines have contributed to the advancement of work/life concepts, organizational studies occupies a dominant position in the work/life field and has influenced higher education scholarship on the topic.

The purpose of this chapter is twofold. First, we seek to review a vast amount of literature from organizational studies, psychology, and higher education research to provide a thorough understanding of the major theoretical and conceptual frameworks within and across those disciplines. We identify the definitions of work/life including how those definitions impact methodological considerations and ultimately research findings. These areas generally underpin much of the existing research on work/life in higher education and thus serve as a review of theoretical and methodological assumptions of current research. Second, we seek to identify major assumptions that limit the understanding of work/life and propose additional areas of inquiry framed by new theories or application of existing theories and methodologies. We seek not just to identify the gaps for future studies but to suggest that collective understanding of the concept of work/life, the interventions needed, and the relationship across specific demographics (i.e., gender and socioeconomic class) needs new theoretical conceptualizations and methodologies.

We begin this chapter with a discussion of the definition of work/life with attention to how work/life has evolved over time. The next major section reviews theoretical frameworks and concepts in organizational studies and psychology that have been used to study work/life. We pick up on those theoretical frameworks in the next section, a lengthy examination of the work/life scholarship in higher education. After reviewing the major trends that have informed scholarship in the field, we consider how higher education scholars have utilized theories from organizational studies and psychology as well as introduced theories from other disciplines to push work/life scholarship forward. Finally, we conclude with a discussion of implications for future research, providing suggestions for the ways in which higher education researchers can continue to push work/family scholarship forward. Overall, we argue that work/life research across multiple disciplines and as applied to the higher education context has yet to fully capture the complexity of work/life, instead tending to focus on narrow populations (faculty) navigating narrow issues (childbirth

and rearing), thus leaving out a significant portion of the campus community and those navigating other work/life concerns. Furthermore, the higher education scholarship has tended to draw from the same narrow base of theoretical concepts, often replicating findings rather than expanding to generate knowledge informed by new theories and approaches.

Definition of Work/Life

The definitions of work/life across the disciplines share a similar etiology; the concept of work/life in organizational studies and psychology, including the operational definition, has evolved over time. Beginning in the 1980s work/life was seen as unidimensional construct and often examined separately (Bedeian, Burke, & Moffett, 1988; Cooke & Rousseau, 1984; Kopelman, Greenhaus, & Connolly, 1983). Early studies measuring work/life, for example, were concerned with either satisfaction in the context of the workplace or the home, not the relationship across those domains. It was not until later studies that a bi-directional relationship was measured, such as how work and family interface or impact one another. Importantly, the measures were self-reported and worded to address how satisfied an individual was in their work or home domain and how levels of satisfaction in these work/family domains related to job and global job satisfaction. Changes in the number of women entering the workplace, technological advances that made work and workers accessible at home, and a need for more dual-earner households resulted in researchers examining work/family together, understanding that work and life may interface with one another.

Coming out of the focus on work/life is a focus on work/life or work/family conflict, which Greenhaus and Beutell (1985) famously defined as “a form of inter-role conflict in which the role pressures from the work and family domains are mutually incompatible in some respect” (p. 77). In short, Greenhaus and Beutell’s definition underscores that work/family conflict is simply a particular type of role conflict in that individuals are navigating conflict between roles in the workplace and in the home. Greenhaus and Beutell (1985) defined three forms of work/family conflict: time-based conflict, strain-based conflict, and behavior-based conflict. Time-based conflict is based on the premise that time spent devoted to activities in one role cannot be spent on activities associated with another role. Strain-based conflict arises when strain associated with the pressures of one role affects performance in another. Finally, behavior-based conflict suggests that expectations for behavior in one role may conflict with expectations for behavior in another role. For example, a mother who is nurturing to her children may find that she has to adopt different behaviors in her work as a prison guard.

In addition to identifying different types of work/family conflict, research also differentiates between the direction of conflict: work/family conflict (WFC), also referred to as WIF (work interfering with family) conflict, is distinct from family/work conflict (FWC), or FIW (family interfering with work) conflict (e.g., Frone,

Russell, & Cooper, 1992a, 1992b; Kelloway, Gottlieb, & Barham, 1999; Williams & Alliger, 1994). As Frone, Russell, and Cooper (1992) pointed out, each type of conflict has different antecedents and consequences and therefore deserve separate attention. Although Frone et al. suggested that previous research tended to focus exclusively on WFC, many of the studies that we review focus on both types of conflict (see for example, Allen & Finkelstein, 2014; Blanchard, Tremblay, Mask, & Perras, 2009; Nohe, Meier, Sonntag, & Michel, 2015; Rantanen, Mauno, Kinnunen, & Rantanen, 2011). We will discuss these types of conflict and their antecedents and consequences in later sections.

In the organizational studies literature, a more fundamental definitional shift occurred when empirical studies consistently found a unidirectional nature to spillover; conflict is more likely to occur from work to family as opposed to family to work (Aryee, Luk, Leung, & Lo, 1999; Bellavia & Frone, 2005; Netemeyer, Boles, & McMurrian, 1996). A meta-analysis of research on work/family conflict found that family interfering with work resulted in more negative work performance and attitudes than work-to-family (Kossek & Ozeki, 1999). In addition, conflict between work and family, regardless of direction, is “associated with higher turnover intentions, care-related absences, and lower commitment to organizations and careers” (Kossek & Ozeki, 1999, p. 25). The lack of boundaries associated with family life creates the potential for more conflict from family to work. These conflicts are more pronounced with families that have younger, pre-school aged children (Byron, 2005). The major assumptional definition resulting from these studies is that individuals need to achieve some sort of balance between time spent in work and family domains. Yet what was found in empirical studies testing this assumption of balance is that individuals who spent more time with family had higher reported quality of life, despite the fact that they were imbalanced (Greenhaus et al., 2003).

Contemporary studies are beginning to identify the impact of individual perceptions of work/life. Greenhaus and Allen (2011) introduced the notion that how individuals perceive compatibility between work and family roles may be a more accurate measure of whether or not work/life balance is occurring. They define work/life balance as “the extent to which effectiveness and satisfaction in work and family roles are compatible with an individual’s life values at a given point in time” (p. 174). Odle-Dusseau, Britt, and Bobco (2012) examined the relationship between desired and actual hours spent in the work and family domains and found similar results to other studies – fit between number of hours desired to spend and actually spent in the family domain was significantly related to work/family balance, well-being, and intent to leave. While research began with rather simplistic notions of work and family in separate and discrete domains, more contemporary literature is grappling with the overlapping and individualized articulations of how one balances work and life. These definitional changes are reflected in the literature on organizational studies and psychology and align with empirical findings, methodological decisions, and theoretical orientations.

Work/Life Research in Organizational Studies

The focus of research on work/life in organizational studies is the relationship between individual and organizational contexts and the impact on job performance. Much of the research concludes with recommendations of how organizations can and should address the growing conflicts employees experience across work and life. Importantly, most studies have focused on life in relationship to childbearing and parenting, more aligned with the dichotomy of work and family as opposed to work and life. The vast empirical record in organizational studies attempts to build sophisticated models to predict work/life conflict. These studies have largely relied on a few theoretical and conceptual frameworks such as role conflict, spillover, and boundary theory. The major assumption is that when work and life spill over into one another, the resulting conflict will lead to decreased satisfaction, performance, well-being, and the like. The desire is to find models that help workers to achieve the ostensible work/family balance and to assist organizations in identifying effective programs, policies and practices to support employees in finding a balance (Odle-Dusseau, Britt, & Bobco, 2012). A major assumption and point of critique in the literature is the assumption that balance can and should be achieved. Much of the literature has relied on qualitative, self-report survey methodologies with little attention to the critique, development, and articulation of theoretical frameworks. This is not to suggest that theoretical frameworks were not applied; rather, the explicit articulation of the relationship between the individual study findings and the frameworks were lacking. The result is that the theoretical frameworks continued to be used across multiple decades with minor changes and additions (Eby, Casper, Lockwood, Bourdeaux, & Brinley, 2005). As we argue in this chapter, the research on work/life balance in higher education has relied heavily on organizational studies, which consequently is impacted by similar critiques.

Methodological Approaches

Work/life balance in organizational studies has been examined using both quantitative and qualitative approaches. The vast majority of the studies have been conducted with survey methods and multivariate analysis procedures. In a review of the industrial organization/organizational behavioral literature from 1980–2002, Eby, Casper, Lockwood, Bourdeaux, and Brinley (2005) found that “the overwhelming majority of studies predicted specific relationships between work and family variables ($n = 170$, 89%) as opposed to posing exploratory research questions ($n = 20$, 11%), reflecting an orientation ... toward predictive rather than exploratory research” (p. 133). Hypothesis testing was more common than exploratory studies noted in the Eby et al. (2005) meta-analysis, arguably due to a more quantitative tradition in the discipline. While important to examining very specific research questions to provide empirical support for future inclusion of such variables, these studies also

predetermine the mix of factors and thus preclude any previously unknown or unmeasured factors. Complementary qualitative and exploratory studies, for example, may lead to the identification of other unknown and unmeasured constructs that have a direct impact on work/life. In addition, the questioning of assumptions identified in application of theoretical frameworks would also assist in complicating existing measures. For example, assumptions about the egalitarian nature of organizational life preclude attention to differential experiences across race/ethnicity, gender, and sexuality to name a few. The design of these studies and their prominence in the literature calls for more exploratory studies, reflection on assumptions underpinning theoretical frameworks, or usage of alternative frameworks.

Survey research is very common in the organizational studies literature. These surveys are largely self-report data with samples of individuals working in industry. Large scale studies, more common in European countries, have several prominent and consistent features. In an examination of large scale surveys, Pichler (2009) found that most surveys include indicators of work/family fit, balance, and conflict from work to family and family to work (e.g. Crompton & Lyonette, 2006; Noor, 2003; Wallace, 2005). Pichler noted that surveys measure the relationship between working conditions measured by strain, interference, and adaptation across life and work roles as well as the extent that family responsibilities impact work duties. Very few studies examine the integration of work and family.

Survey research on work/life balance has several important critiques worth noting. First, as Pichler (2009) argued, the very abstractness of the terms *work* and *life* provide little specificity in measurement. Work is often defined in surveys as paid work, for example. Other forms of volunteer or care work are not included in the measure, despite the fact that they can have a high impact on individual perceived balance. Eikhof, Warhurst, and Haunschild (2007) further argued that framing work as a single entity that creates conflict with life distorts the reality that work can also be a source of satisfaction. Life is an even more abstract variable; “current measurements do not account for this [abstraction], instead they partly put ‘life’ into a black box: life means everything else than work, from cleaning, care work, leisure, family, to social life” (Pichler, 2009, p. 461). A number of concerns arise from this slippage. First, life is often framed in studies as care responsibilities that women continue to enact at rates greater than men (Eikhof, Warhurst, & Haunschild, 2007). Second, many of the single item measures in commonly used work/life balance scales presume causality. Pichler pointed out survey items such as “jobs prevent” or using “from work” presume that there is a negative connection between work and life (p. 461). Third is a concern about a disconnect between the conceptualization of work/life balance and well-being (Pichler, 2009). The work/life literature assumes that work/life balance will create increased satisfaction and well-being; yet, the correlations in Pichler’s analysis reveals weak associations with work/life balance. Pichler stated

from the literature we could have expected that WLB is a core component of the good life but the proposed measurement in the ESS [European Social Survey] does not support this interpretation. In measurement-theoretical terms, this finding indicates a poor criterion validity as the measurement does not reveal associations with other relevant and similar constructs. (p. 464)

These arguments add up to an important critique of the design of large scale surveys to measure work/life and suggest a need for refinement in measurement and theoretical assumptions.

Few qualitative studies are found in the organizational studies literature that address work/life. In fact, the Eby, Casper, Lockwood, Bordeaux, and Brinley (2005) literature review did not include qualitative studies, thus signaling their lack of prevalence in the field. The few qualitative studies are case study- and interview-based and often contain some mixed-methods design. For example, Gholipour, Bod, Zehtabi, Pirannejad, and Kozekanan (2010) interviewed and sent a questionnaire to female entrepreneurs who engage in job sharing to examine perceptions of job sharing as a viable mechanism to support work/life balance. Their interview findings were supported by statistical analysis of the questionnaire. Similar case studies with a mixed methods approach are found throughout the literature (Takahashi, Lourenço, Sander, & Souza, 2014). The studies that only use qualitative methods utilize a case study design and often focus on one specific occupation. Harris and Giuffre (2010), for example, interviewed women chefs to understand the complexity of work/life in a male-dominated profession and to identify strategies the chefs used to attempt to achieve balance. The few qualitative case studies conducted in organizational studies, or those mixed methods studies that have major qualitative data collection processes, focus on higher education institutions (Damiano-Teixeira, 2006; Takahashi, Lourenço, Sander, & Souza, 2014; Rani Thanacoody, Bartram Barker, & Jacobs, 2006; Woodward, 2007). This is an important observation as studies in the higher education discipline also rely heavily on qualitative methodologies. Gaio Santos and Cabral-Cardoso (2008) conducted in-depth interviews with faculty at a Portuguese university and found results similar to U.S.-based studies – the academy is not family-friendly with significant traditional gender norms that create tensions between work and family for women academics. Similar results are found across other studies that focus on women faculty across multiple institutions and countries.

Theories and Conceptual Frameworks

Despite the vast number of articles and books on work/life balance in organizational studies, very few theoretical or conceptual frameworks have received extensive treatment. Eby, et al. (2005) found that little attention has been paid to developing theoretical frameworks. Much of the literature focuses on hypothesis testing with theories used to articulate potential relationships across variables or constructs. This is a criticism clearly articulated by Pichler (2009) in the previous section. Therefore, the focus of this section is on the few theoretical frameworks that assist in conceptualizing the relationship across a variety of variables commonly found in the work/life research in organizational studies.

Role Theory The most prevalent theoretical framework is arguably role theory, which proposes that human behavior is shaped by individual expectations as well as those of others (Hogg, Terry, & White, 1995). The expectations for behavior are related to the roles (i.e., mother, father, friend, employee) that individuals play in their daily lives. Within each role, an individual has an identity that is related to social roles, social attributes, stigmatizing characteristics, biographical categories, and social types (Thoits, 1991). These role identities emerge in significance and importance based on salience – how important and committed one is to that role (Stets & Burke, 2000; Wiley, 1991) and generally have a hierarchy based on salience. Salient role identities provide a sense of self and lead to individuals acting in a manner confirming that identity.

To explain the hypothesis that a potential conflict exists between work and life, researchers adopted role conflict theory, a derivation of role theory. Role conflict proposes that ambiguity or conflict within or between roles will result in an undesirable state (Bruck, Allen, & Spector, 2002). Due to competing demands, multiple roles often create conflict as it is difficult to sustain and perform in each role successfully. Biernat (1997) explained that role conflict exists when role expectations are incompatible. “Role strain or difficulty in meeting role demands is inevitable” (p. 9), and a person “must continually make role decisions and bargains in order to meet role requirements” (p. 9). Conflict theory states that work and family territories are irreconcilable due to their different tasks and norms (Bayron, 2005) and individuals may experience work interfaces with family – when confusion about work duties and family responsibility arises and prevents balance between them (Byron, 2005; van Daalen, Willemsen, & Sanders, 2006). Figure 8.1, adapted from Greenhaus and Beutell (1985), summarizes work/life conflict with attention to the separation of the work and family domains and the resulting conflict inherent in role conflict theory. As shown on the work domain side, when time, hours work, and

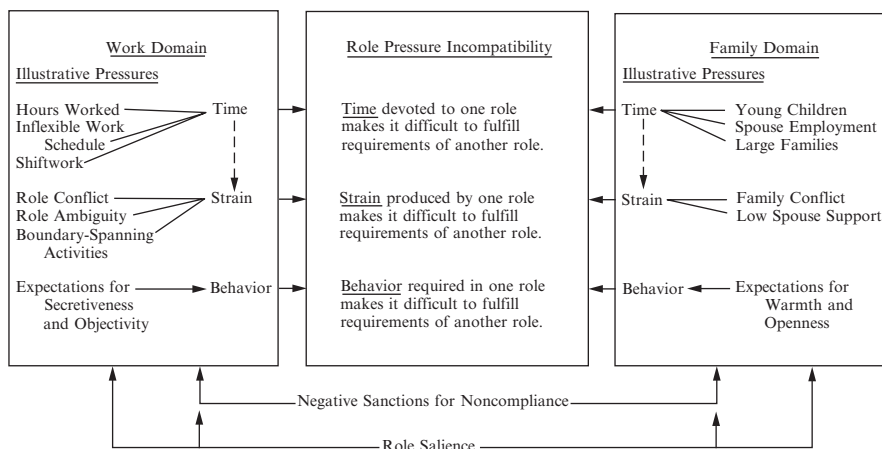


Fig. 8.1 Work/Family Role Pressure Incompatibility (Source: Greenhaus and Beutell 1985:78)

inflexible work schedules increase, there is a higher likelihood of role conflict and ambiguity. Similarly, as time, family structure (i.e., number of children, spouse employment, and large families) increase, so does role strain and family conflict. The result is role pressure incompatibility with role strain or difficulty in completing the demands of either the work or family domain.

Another modification to role conflict theory is role balancing or the process of experiencing interrole facilitation and enhancement. For role balancing to occur, facilitation and enhancement need to exceed conflict and depletion (see Frone, 2003). In a study of academic parents, Comer and Stites-Doe (2006) argued that balancing is not a state of ideal equilibrium between roles but coordination to “foster harmony while diminishing dissonance” (p. 498). Essentially, when individuals are participating in activities that create positive emotions, they experience interrole enhancement while the reverse is also true – unfulfilling tasks lead to negative emotions and interrole depletion. Their study found that faculty women, often due to a lack of institutional support, are more likely to experience interrole depletion. Other researchers utilized role theory alongside other complementary theories when examining specific populations and constructs. Budworth, Enns, and Rowbotham (2008) argued that role theory focused exclusively on the individual and does not account for shared identity among dual-career couples. They conceptualize a new theoretical model that introduces interdependence theory (Thibaut & Kelley, 1959) to examine the interactions between a dyad, such as a dual-career couple, suggesting a more complex set of interactions, conflicts, and identities. Research is needed to test this model. Judge, Ilies, and Scott (2006) introduced emotions, specifically guilt and hostility, finding that conflicts between home and work, and in both work interfering with family (WIF) and family interfering with work (FIW), are associated with feeling guilt and hostility, suggesting additional areas of research to fully examine the outcomes of work/life conflict.

Research on role theory has dominated the research on work/life and has a number of notable and consistent findings. Consistently, individuals are found to experience role strain from conflicting responsibilities between work and home and in both directions – work interfering with family (WIF) and family interfering with work (FIW) (Greenhaus & Allen, 2011). In studies across organizational contexts, in multiple countries, and with varied populations, women tend to experience work/life conflict. Other studies assume that this conflict occurs focusing on the antecedent and moderators or the structural elements that may reduce work/life conflict. While the list is quite exhaustive (see Eby, Casper, Lockwood, Bordeaux, & Brinley, 2005 for a full review), many studies focus on the general areas of situational variables (e.g., family domain, work domain, job satisfaction), dispositional factors (e.g., personality), and outcomes (e.g., well-being, job satisfaction, WIF, FIW, absenteeism). Greenhaus, Ziegert, and Allen (2012), for example, found that family-supportive supervision reduces feeling of work/life conflict suggesting that individual supervisors play a crucial role in promoting balance. Other studies note the utility and promise of alternative work arrangements (Gholipour, Bod, Zehtabi, Pirannejad, & Kozekanan, 2010).

Boundary theory Another theory applied to the research on work/life in organizational studies, and related to role theory, is boundary theory – a continuum of ways that individuals erect temporal and spatial boundaries between roles (Nippert-Eng, 1995). The continuum represents the various ways that individuals enact boundaries, such as keeping roles completely separate, or segmentation, or allowing them to intermingle, or integration (Ashforth, Kreiner, & Fugate, 2000). Often individuals chose to engage in segmentation or integration to reduce difficulty in enacting roles (Ashforth et al., 2000). The boundaries can also be weak (permeable) or strong (impermeable) (Ashforth et al., 2000). Kreiner, Hollensbe, and Sheep (2009) identified a series of tactics that individuals use to create boundaries to include: behavioral (i.e., leveraging and allowing differential permeability); temporal (i.e., controlling work time); physical (i.e., manipulating physical space) and communicative (i.e., setting expectations and confronting violators). Use of these tactics is mediated by age, gender, and other individual characteristics.

Boundary theory places increased emphasis on individual agency, a criticism of general role theory. Bourke, Pajo and Lewis (2010) argued that

boundary theory is an especially useful heuristic device as it places emphasis on the agentic, negotiated and socially constructed nature of efforts to differentiate, and to manage transitions between, various role domains. Boundary theory directs attention to how individuals attribute meaning to their various roles, how they negotiate with others to delineate domains, and the highly dynamic and situated nature of this process. (p. 20)

Studies using boundary theory often focus on people's individual agency in attempting to create boundaries across various roles. In their study of women managing eldercare, Bourke, Pajo and Lewis (2010) found that participants actively sought to create boundaries between their work and elder care responsibilities but often struggled due to the unpredictable nature of caring for an elder parent, resulting in feelings of frustration and guilt. Rothbard, Phillips and Dumas (2005) found that individuals who desire segmentation or integration react differently to work/life policies:

The findings indicate that for segmenters the presence of an incongruent policy (i.e., onsite childcare) decreased satisfaction and commitment, even when they had high access to a congruent policy (i.e., flextime). However, for integrators, simultaneous high access to both congruent (i.e., onsite childcare) and incongruent (i.e., flextime) policies did not substantively decrease satisfaction and commitment. (p. 253)

A more recent study on the role of mobile technologies concludes that these new devices allow workers to engage in temporal flexibility, to work in areas outside their office, to achieve goals in both work and family domains (Cousins & Robey, 2005). In the same study, the mobile devices allowed individuals to engage in segmentation and integration in different ways at different times depending on the needs of their roles leading to more successful boundary management. Together, these studies suggest that individuals desire agency to choose the tactics that they want to engage to manage boundaries, suggesting that work/life policies need to be diverse.

Feminist Approaches Starting with the article "Hierarchies, Jobs, and Bodies: A Theory of Gendered Organizations," Joan Acker (1990) brought together several distinct areas of inquiry (see Ferguson, 1984; Kanter, 1977; MacKinnon, 1979;

Martin, 1985) that all examined gender, but previously had not been synthesized in one cohesive and systematic model to explore the ways in which organizations are gendered. As Acker explained, “to say that an organization, or any other analytic unit, is gendered means that advantage and disadvantage, exploitation and control, action and emotion, meaning and identity, are patterned through and in terms of a distinction between male and female, masculine and feminine” (p. 146). According to Acker (1990), gendering occurs through five interacting processes: (a) construction of divisions along lines of gender; (b) construction of symbols and images; (c) production of gendered social interactions; (d) creation of gendered components of individual identity; and, (e) implicit and fundamental creation and conceptualization of gendered social structures. A prominent concept derived from Acker and Williams (1989) is that of the ideal worker defined as:

the male worker whose life centers on his full-time, life-long job, while his wife or another woman takes care of his personal needs and his children. While the realities of life in industrial capitalism never allowed all men to live out this ideal, it was the goal for labor unions and the image of the worker in social and economic theory. (Acker, 1990, p. 149)

Williams (2000) more recently defined the ideal worker as “someone who works at least forty hours a week year round. This ideal-worker norm, framed around the traditional life patterns of men, excludes most mothers of childbearing age” (Williams, 2000, p. 2).

The research on work/life in organizational studies that has applied Acker’s (1990) theory focused on the structural and cultural dimensions of organizational life that create the role conflict and inability to achieve any form of balance. In their study of women chefs, Harris and Giuffre (2010) concluded that

women who were most able to accomplish this task included those who had worked their way up the kitchen hierarchy so that their position afforded them the luxury of relative flexibility. However, women are only able to attain such positions after years of near-total commitment to their work. Even obtaining high level positions did not eliminate work–family conflict. (p. 46)

Other studies that apply gendered organizations to work/life have similar results, supporting the incongruence between women and the ideal worker, which is essentially a precursor to the ability to achieve any balance. Women continue to take on the lion’s share of domestic work resulting in an inherent conflict with being an always-available worker.

Ecological Systems Theory While only recently gaining traction in the work/life literature, ecological systems theory has promising future applications and, therefore, is important to briefly review. Ecological systems theory, theorized by Bronfenbrenner (1989), argues that individuals exist in interactive nested levels of systems composed of microsystems, mesosystems, exosystems, and a macrosystem. The microsystems are the most immediate environment in which an individual exists, such as the family and work. When two or more microsystems network or link, they create a mesosystem. The exosystem relates to those contexts that impact an individual, but that the individual does not have immediate control over, such as a change in policy at work. Finally, the exosystem relates to societal culture and

other sociological settings. In the work/life literature, work and family are conceptualized as microsystems that create the work/family mesosystem (Voydanoff, 2002). Adaptive strategies between work and family impact the relationship across work and family characteristics, conflict, fit, and outcomes. The promise of this model is that it allows for more expansive definitions of work, as it places work and family in multiple levels of one's ecosystem, and not as discrete categories, as role theory does. In a study of dual earner couples who shared a 60 hour work week, Hill et al. (2006) found that the couples experience satisfaction in both microsystems of work and family, suggesting that job-sharing policies, indicative of the exosystem, may be effective in the workplace. Conceptualizing work and family in a more nested model has promise in examining the more complex interaction of societal expectations of parenting and domestic work, organizational policies and culture, and individual strategies and tactics to find balance. More applications of ecological systems theory are explored in the implications section. In sum, the literature in organizational studies carries a strong bias toward quantitative research and has introduced a number of important concepts and theories, including role conflict, boundary theory, gendered organizations, and ecological systems theory. The introduction of these concepts and theories has not been extensively or systematically discussed or critiqued, resulting in a limitation in the theoretical contribution and development of work/life research. As we discuss later, some of these concepts have informed the higher education scholarship on work/family while other concepts are still waiting to be applied.

Summary of Organizational Studies Literature

The organizational studies literature has been largely concerned with why individuals experience work/life conflict and how those conflicts impact organizational outcomes, such as job satisfaction and productivity. The initial and dominant frameworks applied focus squarely on the assumption that individuals conceptualize their lives in a series of discrete roles. The work/life equation holds work on one end of the proverbial balance and life on the other, with the scale tipping based on spillover or strain among those domains. This work draws heavily on quantitative methodologies that help to measure time spent on activities, stress, spousal support, and other demographics, such as the number of children an individual has. The use of these methodologies helps to perpetuate a more separated view of work/life with those variables feeding into a discrete equation. The conceptualization and assumptions create a discrete view of work/life among employees, which has been shown to be murkier in practice. Individuals experience more overlap and permeability across work and life that changes due to life and career stage, belief in individual agency within one's job, and societal expectations related to gender, race/ethnicity, and culture. The organizational studies literature takes a more reductionist assumption of how to address work/life conflicts; this conflict can be mediated by

organizational policies to support flexibility, supervisor behaviors, and beliefs to allow for usage of those policies, whether formal or informal.

It is from this last point that an important critique emerges and is introduced by Acker (1990) and Williams (1989). The assumption of role strain and related theories is that organizations are generic – nongendered, nonsexed, and without any sociological influence. The relationship between family dynamics, for example, is only hinted at in the findings that women experience more conflict, which is often due to greater home responsibilities. The work by Acker, however, identified a complex set of interacting principles in gendered organizational theory that underscores the deep and pervasive gendered expectations that disadvantage women in the workplace and create this strain. This is an important distinction as the literature had not acknowledged that deeply held assumptions about the nature of work need to be questioned. For example, if the literature suggests that supervisors can address role strain and conflict among employees, how do the gendered biases of supervisors impact that level of support and to whom? These are crucial questions that can only be addressed if adopting, formally or informally, the assumptions of more feminist approaches to organizations and work/life.

Moreover, boundary theory, also aligned with role theory, introduces individual agency to managing conflict by actively engaging in strategies to erect boundaries between the tasks and identities associated with those roles. While boundary theory introduces more complexity by suggesting that discrete roles (and scales) do not exist, the assumption is that individuals have the power to enact their agency. Again and as suggested by Acker (1990), individual agency is truncated by the presence of an ideal worker trope that makes any worker who is not always available deviant and thus women or any other groups with significant, and often sociologically driven, outside work responsibilities unable to resolve or mediate work/life conflict. Additionally, the research using a more ecological lens helps to embed organizations and workers in a larger sociological context, building increased evidence that relying on discrete notions of strain, spillover, and boundary management is inappropriate, even unrealistic, for research on work/life balance.

Work/Life Studies in Psychology

As in organizational studies, work/life research has a long history in psychology. Most often using quantitative measures, psychology studies tend to focus on how an individual experiences work/family conflict (WFC) and ways that organizations might improve working conditions to lessen that conflict. Although the literature is too vast to review in its entirety, we begin by briefly reviewing the various methodological approaches that psychology studies take. We then highlight three theories – self-determination theory, conservation of resources, and subjective well-being – that are oft-cited in the psychology literature, but have yet to receive much attention in higher education studies of work/life. As we discuss later, this absence from the higher education literature may be due to higher education scholars' tendency to

draw from the organizational studies literature, focusing on broader organizational aspects that influence work/family conflict as opposed to individual and psychological factors.

Methodological Approaches

Nearly all the psychology studies reviewed used quantitative methods. Such a trend should not come as a surprise as traditionally psychology has embraced quantitative research. Studies varied in their use of a one-time survey versus longitudinal studies and the degree to which they relied on self-report or report by others. Research in psychology also frequently reports multiple studies by one author in the same article. Further, though studies tried to measure WFC, they often relied on different measures to do so, pointing out that work/family conflict is not a monolithic construct, but instead composed of a variety of factors. As we discuss in this section, the use of quantitative designs brings both benefits and drawbacks.

Many studies in psychology rely on one-time surveys. For example, Blanchard et al. (2009) administered a one-time survey to a population of nurses (in Study 1) and a population of employees of a health services agency (in Study 2). Allen and Finkelstein's (2014) findings are drawn from the 2008 National Study of the Changing Workforce, a one-time random sample of individuals in the U.S. workforce. Although the data collected through this study were via interviews, all of the results reported in Allen and Finkelstein's work used fixed item responses. One-time surveys are a popular approach favored by researchers, including in higher education. However, one-time surveys capture a snapshot of individuals at a particular point in time, and do not allow researchers to fully understand the dynamics of individuals' lives, including how work/life conflict might fluctuate over time.

However, other studies have sought to measure WFC over a sustained period of time (Grant-Vallone & Donaldson, 2001; Kinnunen, Geurts, & Mauno, 2004; Matthews, Holliday Wayne, & Ford, 2014; Sheldon & Niemiec, 2006), allowing researchers to capture changes in respondents' lives. For example, Kinnunen et al. (2004) sent two surveys to a random sample of Finnish people one year apart. Similarly, Matthews and colleagues administered surveys at four time points: the initial survey date, one month later, two months after initial survey, and eight months after initial survey. In their study on the relationship between subjective well-being and work/family conflict, although Matthews and colleagues initially found a negative relationship between work/family conflict and well-being, measurements taken at later time points suggested that there was a positive relationship between work/family conflict and well-being. In other words, experiencing work/family conflict at an earlier point in time led to greater well-being later. While we will return to the importance of the content of these findings later, what we mean to underscore here is the gains offered by using a longitudinal study design.

While there are some variations in the degree to which research has relied on one-time versus longitudinal design, most studies of work/family conflict have

relied on the use of self-reports. Individual survey takers are asked to report on their feelings related to work/family conflict (e.g., Blanchard et al., 2009; Kinnunen et al., 2004; Matthews et al., 2014). The problem with such a design, at least from the quantitative and positivist perspective, is that it is subjective. Are feelings meaningful indicators of work/family conflict? In an effort to reduce subjectivity, some studies have taken to asking others to evaluate an individual on a variety of measures. In Grant-Vallone and Donaldson's (2001) study on the relationship between work/family conflict and well-being, researchers queried individuals as well as an individual's co-worker to try to obtain reliable data about well-being. Others have used similarly innovative methods to study work/family conflict, such as Liu, Wang, Chang, Shi, Zhou, and Shao's (2015) research that relied on the use of a daily diary research design to study the relationship between FIW conflict, emotional exhaustion, and aggression. As this brief review suggests, researchers have used a number of methodologies to try to understand work/family conflict, each bringing with them their own benefits and drawbacks. Some of the designs, particularly those that are longitudinal in nature and those incorporating alternate modes of investigating WFC, such as the use of daily diaries, might be of use in higher education scholarship, which has typically not gone beyond one-time surveys or interviews.

Researchers have similarly used a variety of measures to study the different factors that influence work/family conflict. For example, Senécal, Vallerand, and Guay (2001) used measures of feeling valued by partners and employers as well as measures of motivation toward work and family in addition to the work/family conflict scale. Kinnunen et al. (2004) used indicators of satisfaction and well-being along with a work/family conflict scale while Liu et al. (2015) measured perceived managerial support, workplace interpersonal conflict, emotional exhaustion, and displaced aggression in conjunction with a work/family conflict scale. The list of different potential measures is nearly endless as are the important findings that have come out of psychology. Of note, few of these measures have appeared in the higher education scholarship. Putting aside the fact that most higher education scholarship on work/life issues is qualitative in nature, research in higher education tends to focus on workplace variables (supervisor support) as well as feelings of work/family conflict. However, as the psychology studies point out, work/family conflict is a complex variable that is comprised of multiple factors. Perhaps higher education scholars' broad application loses some of the particularities of the individual components of the construct. Other constructs that comprise work/life issues, such as well-being and emotional exhaustion, are ripe for exploration in higher education scholarship.

All of the studies reviewed in the psychology literature have relied on quantitative methods. Although quantitative methods allow researchers to gather data quickly and from a large population, our concerns remain the same as those articulated in the previous section; by identifying concepts and constructs a priori, researchers limit the scope of what they might find. Additionally, quantitative designs do not allow researchers to understand the nuances of daily life and the lived experiences of those grappling with work/family conflict.

Despite our concerns with the lack of qualitative studies on work/family conflict in psychology, the literature offers significant benefits in the wide range of designs

employed, including one-time surveys, longitudinal designs, and the use of time-diary studies. While we recognize the larger cost that comes from longitudinal designs, they allow researchers to gather a more complete understanding of participants and the ways in which various constructs and experiences change over time. Further, time diary studies offer an objective measure of how people spend their time, which can be useful for determining relationships with work/family conflict, satisfaction, and other measures. Additional diversity in study design comes in the use of self-reports versus querying others. Higher education scholarship has not used many of these approaches to study work/life issues and could benefit from the use of longitudinal designs, time-diary studies, and querying others to provide additional approaches to the study of work/life in the discipline. In addition to benefiting from the wide range of methods used in psychology research, higher education literature might also profit from adopting some of the theoretical approaches that psychology researchers use to inform work/family scholarship.

Theories

Although work/family conflict has been examined through a variety of perspectives, we highlight three theories that have been used in psychology, yet received little attention in the higher education literature: self-determination theory, conservation of resources, and subjective well-being. These theories offer the potential to push higher education scholarship in new directions. We provide an overview of each theory and briefly discuss some empirical studies that illustrate how they inform work/family research. Although each theory also brings benefits, we also raise concerns about each.

Self-Determination Theory A theory of motivation, Ryan and Deci's (2000) Self-Determination Theory (SDT) seeks to identify both individuals' needs and organizational conditions that facilitate growth. The authors suggest that three needs are essential for facilitating an individual's growth and well-being: autonomy, competence, and relatedness. An autonomous person is not one who is independent, but rather one who feels that she or he is making choices out of free will. In other words, autonomous people make their own choices. Competence refers to an individual's capabilities to perform a task or successfully navigate a particular environment. Finally, relatedness refers to individuals' inherent need to belong to a group and connect with others.

Self-Determination Theory also seeks to understand the ways in which different types of motivation are related to a variety of outcomes including work performance and well-being. Ryan and Deci (2000) suggest that motivation might be best characterized on a continuum, from amotivation on one end to intrinsic motivation on the other. Those who are intrinsically motivated are "highly autonomous and [represent] the prototypic instance of self-determination" (Ryan & Deci, 2000, p. 72). However, SDT suggests that not all behavior is intrinsically motivated, but

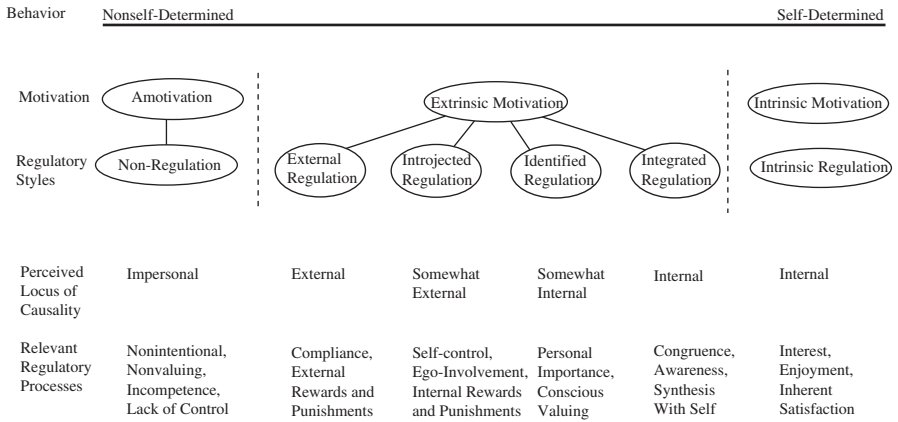


Fig. 8.2 The self-determination continuum showing types of motivation with their regulatory styles, loci of causality, and corresponding processes (Source: Ryan and Deci (2000), reprinted with permission)

rather much behavior, particularly that required by the workplace, is extrinsically motivated. The continuum also differentiates between different degrees of externally motivated behavior, ranging from externally regulated behavior, in which an individual’s behavior is best regulated through rewards and punishments, to integrated regulation, in which an individual has assimilated external regulations into their sense of self. An individual whose motivation is characterized by integrated regulation has adopted the organizational values and needs as their own. The sole difference between this state of motivation and intrinsic motivation is “they are done to attain separable outcomes rather than for inherent enjoyment” (p. 73). Figure 8.2, taken from Ryan and Deci (2000), illustrates the different types of motivation and regulatory styles:

The figure above catalogues different types of motivation—amotivation, extrinsic motivation, and intrinsic motivation—along with how those behaviors might be regulated. Of particular note, there is little difference between integrated regulated extrinsic motivation and intrinsically regulated intrinsic motivation. Note that the relevant regulatory processes are similar in that a person who is extrinsically motivated comes to adopt particular behaviors as being congruent with themselves while one who is intrinsically motivated performs behaviors out of inherent satisfaction; there is little difference between the two. As we elaborate shortly, these minute differences suggest that organizations and supervisors can help create conditions to help employees come to perceive a match between their needs and those of the organization.

Internalization and assimilation of regulation contribute to an individual’s autonomy (Ryan & Deci, 2000). Indeed, each of the three needs—autonomy, competence, and relatedness—are related to internalization and motivation. For example, internalizing extrinsically motivated activities is related to competence. As Ryan

and Deci (2000) suggested, “people are more likely to adopt activities that relevant social groups value when they feel efficacious with respect to those activities” (p. 73). In other words, a person who enjoys math is more likely to pick a career as a budget manager than someone with an aversion to numbers. Additionally, relatedness is a key condition for internalization of values. A person who feels connected to others is more likely to support and adopt their values as their own. In turn, an individual whose needs for autonomy, competence, and relatedness are met are more likely to adopt self-determined behavior.

The theory is highly influential and widely cited in psychology; a May 2016 Google Scholar search noted over 16,000 citations of Ryan and Deci’s (2000) foundational article. The theory has received limited documented critique, instead becoming widely accepted in psychology. Some concerns arise from the articulation of the theory. First, some may wonder why competence, autonomy, and relatedness are the only needs related to self-determination. Earlier work, such as Maslow’s (1954) hierarchy of needs, suggested that individuals needed to have a variety of needs met, including such basic physiological and safety needs, to reach self-actualization. Perhaps such needs are implicit in self-determination theory. Second, actions performed out of extrinsic rather than intrinsic motivation may not allow an individual to engage in self-determined behavior. Am I truly self-determined if I am performing a task because someone else told me that I am required to? However, the theory suggests that individuals may be encouraged, through the actions of supervisors and others, to adopt behaviors that ultimately lead to self-determination. Simply stated, an individual does not have to be intrinsically motivated to reach self-determination.

Some of the literature on self-determination theory includes the ways in which SDT might be useful in considering motivation in the workplace and work/family conflict. As Ryan and Deci (2000) argued, organizational conditions matter. And, as many have found, supervisors play a key role in creating conditions to facilitate self-determination and autonomous behavior (Baard, Deci, & Ryan, 2004; Deci, Connell, & Ryan, 1989; Senécal et al., 2001). For example, in their three-year study of employees at a major corporation, Deci et al. (1989) found a significant relationship between managers’ support for self-determination and employees’ attitudes, particularly related to satisfaction. Those employees who perceived their supervisors as supportive of self-determination as well as were satisfied with the quality of feedback given and ability to provide input into organizational processes—all tasks that support self-determination—had higher levels of general satisfaction.

Additional studies further underscore the important role that the workplace can play in facilitating self-determination. In their study of 528 employees of one corporation, Baard et al. (2004) found a relationship between individuals’ workplace performance and the satisfaction of their needs for competence, autonomy, and relatedness. Those who had their needs satisfied had higher work performance and adjustment. Additionally, those who perceived their managers as being autonomy-supportive also experienced greater need satisfaction. Finally, the same study found that satisfaction of the need for relatedness predicted higher performance evaluations (Baard et al., 2004). Plainly stated, self-determined employees experience

greater satisfaction and perform better in the workplace. These studies underscore that it is in the workplace's best interest, from a productivity standpoint, to find ways to facilitate employees' competence, autonomy, and relatedness. As these studies suggest, organizations can facilitate self-determination by giving employees agency in determining their work tasks and soliciting input on organizational processes as well as creating an environment that facilitates trust among all employees.

Finally, one study focused on the relationship between a supervisor's support for self-determination, an individual's motivation, and work-family conflict. Echoing the findings of others, Senécal et al. (2001) found that employees with autonomy-supportive supervisors experienced an increase in their own self-determined motivation. Those who experienced more self-determined motivation experienced lower levels of exhaustion and therefore lower levels of work/family conflict. Although this study is just one to specifically focus on work/family conflict, the body of literature on Self-Determination Theory underscores the benefits to the workplace in helping employees develop competence, autonomy, and relatedness. While long neglected by higher education scholars, SDT offers tremendous potential for studying the worklives of faculty and staff. In particular, its focus on crafting environments that help employees reach their full potential has significant implications for reducing work/family conflict.

Conservation of Resources A second theory that offers a helpful approach to understanding work/family conflict is Hobföll's (1989) Conservation of Resources theory (or, COR), which suggests that individuals strive to accrue and maintain resources and consequently experience stress when they lose these resources, or perceive the threat that they may. Resources can include tangible objects, characteristics, conditions, or energies that are valued by an individual; one individual might value money (objects), another might value skill at math (characteristic), and another might value having free time (energy). Occasions can arise that can threaten an individual's resources, thus leading to stress. When an individual experiences stress in one area, she may try to offset the loss by drawing upon resources from another area. For example, a working mother who has an upcoming deadline may work late nights at the office, thus taking time away from her children at home. However, the theory suggests that loss spirals may develop, if an individual does not have enough resources to offset the loss. Returning to the same example, if the mother is not able to spend extra time at work because of demands on her time at home, she is likely to experience further loss (or loss spirals) in both domains.

Conservation of Resources offers a benefit in that it focuses on how individuals might experience stress and burnout in all domains of their lives, both work and home. In contrast, other theories that we have reviewed focus primarily on the workplace. However, the basic premise of this theory is that work and family domains are naturally in opposition to one another, and do not have the opportunity to operate in harmony via integration, as some theorists have suggested (Barnett, 1999). Under COR, a gain in one realm is necessarily a penalty in another, thus creating a no-win situation for those navigating responsibilities in multiple domains.

Conservation of Resources is used in work/family conflict research, both in isolation and through incorporation of other theories, like Subjective Well-Being that we soon discuss. Nohe, Meier, Sonntag, and Michel (2015) investigated the relationship between work/family conflict and strain to understand the role of loss spirals. In a meta-analysis of 30 articles that used strain as a variable of study, the authors found that research overwhelmingly suggests that WIF and strain mutually predicted each other; WIF predicted strain and strain predicted WIF. This finding reinforces the notion of loss spirals; an individual who experiences strain in one area is likely to experience strain in another. COR offers a complement to existing theories of role conflict and role strain, frequently found in the organizational studies literature, and might be used to understand the ways in which faculty and staff balance their home and work responsibilities. Conservation of Resources underscores that individuals only have so much time to give to each role; when one role becomes burdensome, this necessitates drawing additional resources (be they time, money, or other resources) from the other role. However, our cache of resources is finite and overlapping resources from one domain may lead to overlapping resources in other domains (the concept of loss spirals). COR might be particularly useful to investigate the concept of burnout among faculty who are torn between work and family, and feel as if they are underperforming in both domains. This notion of strain and resources is evident in theories of subjective well-being, another foundational theory used in work/family studies in psychology.

Subjective Well-Being Broadly speaking, subjective well-being refers to an individual's evaluation of whether they are happy and living a worthwhile life. Evaluations of subjective well-being are both affective (or, based in emotion) and cognitive (Diener, 2000; Diener, Suh, Lucas, & Smith, 1999). As Diener (2000) argued, subjective well-being can be further separated into a number of components, including "life satisfaction (global judgments of one's life), satisfaction with important domains (e.g., work satisfaction), positive affect (experiencing many pleasant emotions and moods), and low levels of negative affect (experiencing few unpleasant emotions and moods)" (p. 34). In short, while some theories utilize objective measures for evaluation, SWB is by its very nature (and name) a subjective and individual evaluation of life and satisfaction.

An individual's personality plays a pivotal role in determining subjective well-being. In fact Diener et al. (1999) suggested that personality is "one of the strongest and most consistent predictors of subjective well-being" (p. 279). Individuals who are happier are more likely to report higher levels of SWB. As Diener (2000) argued, the percent of time that an individual reports being happy is a better predictor of SWB than positive emotional intensity, or being intensely happy. Although personality plays perhaps the most critical role in determining SWB, the role of the environment is also important. To gain a more nuanced understanding of SWB, researchers would do well to study the interactions between personality and the environment, as particular personality traits will likely interact with environmental traits in different ways (Diener et al., 1999). In the higher education environment, for example, some individuals may have greater SWB in a community college or

liberal arts college, where the focus is on teaching while others may have greater SWB in a research university. Similarly, individual department or unit culture makes a difference; some individuals will have greater SWB in a fast-paced environment in which they are constantly interacting with others (such as many student affairs units) while others find greater SWB in a quiet environment that depends on solo work, such as many faculty members' work. While underexplored in higher education scholarship, studies using SWB can help to explore how individuals interact with the environment, and the implications this might have for work/life conflict.

Subjective well-being is dependent on the degree to which an individual reaches his or her goals. Diener et al. (1999) suggested that individuals work toward a variety of goals and their happiness (or unhappiness) is related to their ability (or failure) to attain those goals. A faculty member employed at a research university who repeatedly fails to have publications accepted to journals will likely have lower SWB than those who succeed in getting manuscripts published. As several authors argued (Diener, 2000; Gröpel & Kuhl, 2009), resources play a critical role in helping individuals reach their goals. Having resources related to obtaining particular goals better predicts SWB than having resources unrelated to those goals. Returning to the previous example, a faculty member who receives support from the institution related to conducting research and writing and submitting journal articles, perhaps in the form of research funds or editorial assistance, will be more likely to have SWB than a faculty member with different resources available (such as those related to teaching). The resources available must be congruent with the goals.

Goals are subject to change, particularly when individuals are confronted with new situations. Thus, another key component of SWB focuses on adaptation in which individuals learn to respond to setbacks to their goals (Diener et al., 1999; Matthews et al., 2014). When confronted with a setback or stressor, an individual will initially experience a decline in SWB, though research suggests that SWB will later rebound after a period of adjustment. In one study, Suh, Diener, and Fujita (1996) found that individuals generally rebounded from a stressor (such as being fired) after three months. Individuals who are able to adapt and alter their goals are therefore more likely to achieve greater SWB. The faculty member who is unsuccessful in publishing might decide to seek employment at an institution in which research is not given primacy. Thus, while the faculty member might initially experience a decline in SWB, adapting to the situation leads to greater SWB.

There are, of course, concerns that arise from the constructs that compose subjective well-being. First, it suggests that people who are happy and satisfied have greater SWB. Yet, how can one objectively measure happiness and satisfaction; might one person's happiness be qualitatively different than another's? Second, given that personality plays the most central role in determining SWB, this creates concerns for an organization's ability to help employees achieve greater SWB. If one person has higher levels of negative affect and low levels of positive affect (both contrary to the definition of SWB), what steps can an organization reasonably take to help an employee achieve SWB and ultimately reduce WFC? If personality traits are fixed, what hope does an organization have of helping its employees?

Although this theory is underused in higher education, studies in psychology have interrogated the relationship between subjective well-being and work as well as work/family conflict. Diener (2000) suggested that happier people are more productive in the workplace and Diener et al. (1999) suggested that happier people are happier in the workplace. Given that SWB suggests that individuals will be happiest when working toward personally meaningful goals, organizations might find it mutually beneficial to help employees find satisfaction in their work. And, indeed, studies have confirmed that a positive relationship exists between subjective well-being, need fulfillment, and work/family balance. In their study of 79 people, Gröpel and Kuhl (2009) found that subjective well-being was positively related to need fulfillment. Additionally, the study found that work/life balance was also positively related to subjective well-being and need fulfillment. In brief, people whose goals were being met were happier and had greater levels of work/life balance.

Additional research also suggests a negative relationship between work/family conflict and subjective well-being. In their study of 488 people over an 8-month period, Matthews et al. (2014) found that work/family conflict was associated with a short-term decrease in levels of subjective well-being. However, over time, individuals who experienced work/family conflict at the initial survey time point later evidenced higher levels of subjective well-being, thus illustrating adaptation as a key tenet of SWB. Those who experienced conflict (a stressor) were able to adapt their goals and, as a result, experienced higher levels of SWB. This study has implications for faculty who arguably are under considerable stress, particularly in the pre-tenure period. Might they experience similar adaptation in the face of work/family conflict, and ultimately greater SWB? Matthews et al. (2014) also found that individuals with greater SWB also experienced reduced work/family conflict. In short, the causal relationship operates in both directions between SWB and WFC. Those who experience WFC are likely to have reduced SWB in the short-term, but greater SWB in the long-term. This greater SWB likely serves as a buffer to reduce WFC. Given that work/family conflict can have numerous individual and organizational consequences, organizations might find ways to help their employees achieve greater SWB, for both the good of the individual and the organization.

Summary of Psychology Literature

The work/life literature in psychology offers a number of possible avenues for exploration for higher education scholarship while also bringing a number of cautions. We have highlighted three theories here—Self-Determination Theory, Conservation of Resources, and Subjective Well-Being—that have received little attention in the higher education scholarship. Applying each of these theories to the higher education setting would provide new ways of addressing work/life issues. Self-Determination Theory and Subjective Well-Being, in particular, call attention to the importance of workplace environments for facilitating worker satisfaction and reduced work/family conflict. Both theories suggest that workers will thrive

when certain conditions are met; achieving autonomy, competence, and relatedness, in the case of SDT, and subjective well-being will ultimately allow workers to be more productive in the workplace. These theories are particularly important to the study of work/life in that, as we soon discuss, typically higher education scholarship examines policy interventions, such as the kinds of leave policies available for faculty and staff, as a measure of the way that organizations attend to work/life issues. What these theories suggest, however, is that by paying attention to all aspects of the work environment, organizations can help employees be more engaged in the workplace as well as experience more satisfaction and less work/family conflict. Examining policy availability is not enough; all aspects of the organization matter.

However, as we have pointed out, the theories are not without weaknesses. SDT suggests that only three needs—competence, relatedness, and autonomy—must be met for an individual to achieve self-determination, skimming over basic physiological needs. People who are employed in low-wage jobs, not earning enough to pay their bills, will have a difficult time satisfying these needs, regardless of how supportive the workplace is. COR naturally sets work and family domains in opposition with one another; demands of the workplace necessarily interfere with demands in the home. COR does not leave space for individuals to find ways to satisfy the demands of both realms at the same time. And yet, many parents do just this—bringing their children into the office on occasion or performing work from home. Finally, by its very definition, SWB is subjective and impossible to objectively measure. Furthermore, it relies on happiness as a construct and leaves little space for organizations to maneuver to attend to the needs of those employees who are, by the very nature, unhappy people.

In addition to the strengths and weaknesses inherent in the theories, psychology research's reliance on quantitative methods brings both benefits and drawbacks. Quantitative methods allow for greater ease in surveying larger populations than qualitative populations. Many studies reviewed here employed a longitudinal design, which allow researchers to gain an understanding of how work/life changes over a period of time. Higher education scholars might be encouraged to adopt longitudinal designs in their own work to understand the ways in which work/life changes, over both short and long periods of time. However, the use of quantitative methods and pre-existing constructs limits potential findings in determining the types of topics researchers explore. Qualitative studies allow for the nuances of daily life to emerge. Such nuances and close attention to individual experiences characterize much of the higher education scholarship on work/life.

Literature on Work/Life in Higher Education

The literature on work/life in higher education follows some of the theoretical and methodological traditions outlined in the sections on organizational studies and psychology, though authors tend to apply the concepts in different ways. While the focus in organizational studies and psychology emerged from an area of scholarly

inquiry, the higher education literature appears to have emerged due to changing institutional contexts that led to significant issues around work/life. For example, the higher education literature on work/life began from an economic human capital perspective on productivity, sparked by the emergence of more women in faculty roles and the identification of stark salary inequities. Later research incorporated role theory to examine the relationship between academic parenting and the professoriate in response to a professoriate with more women raising children. However, perhaps fitting for its status as an interdisciplinary field of study, higher education scholars have also pushed the study of work/life issues by incorporating concepts and theories from sociology and gender studies as well. The primary focus of the higher education research has been largely concerned with how work/life conflict impacts the professoriate, focusing specifically on tenure-line faculty, with attention to contextual differences, such as the role of institutional and disciplinary cultures. Still other work has focused on policy existence and use as well as relationships between productivity and work/life.

Summary of Historical Influences

The work/life scholarship in higher education can be broadly divided into four topical areas: (1) productivity (as measured by research output); (2) the use of institutional policies; (3) work/life challenges of specific identity groups (e.g., women, men, students); and (4) contextual differences in work/life issues, such as studies focusing on the role of organizational culture. The topics above have been published in chronological succession: the earliest scholarship tended to focus on productivity while more recent scholarship has shifted to contextual differences in work/life issues. In what follows, we provide a brief overview of the historical progression of work/life scholarship before turning to a more detailed discussion of the scholarship on each topical area.

The research on higher education tracks closely with the historical trends of women entering the professoriate and socio-historical gender bias. While women were entering the professoriate decades prior to the 1970s, the first formal acknowledgement of work/life came by way of the 1977 AAUP statement on pregnancy. The initial articles on work/life emerged around that same time as the AAUP policy and were primarily concerned with proving that women faculty having children and a spouse did not deter from productivity. These studies often relied on the assumptions, whether explicitly stated or not, of human capital theory, suggesting a relationship between productivity (i.e., number of articles published) and investment or detraction from jobs due to family status (i.e., number of children). For example, the early article by Hamovitch and Morgenstern (1977) sought to address the argument that pervasive salary differentials between men and women were due to lower productivity among women. Their findings echoed similar studies that found that women have slightly lower levels of productivity than men but experience no negative effect due to childrearing. The questions of productivity did not get

resolved in this early work despite the consistency in results; rather, the bias continued within the academy, building a need for additional empirical and more robust evidence. Articles in subsequent decades by Cole and Zuckerman (1987), Perna (2001), and Sax, Hagedorn, Arredondo, and Dicrisi (2002) continued to address productivity among women faculty with more sophisticated analysis with results showing little to no difference across men and women. Essentially, the arguments around productivity took a defensive stance, maintaining that women can be productive members of a faculty in ways similar to men and that their historic role as caretakers of the home sphere, including childcare, would not deter from their faculty work. Implied in many of these articles is a more complex gendered environment that is seemingly incompatible with family responsibilities. As Sax, Hagedorn, Arredondo, and Dicrisi (2002) stated at the end of their article,

In sum, while our findings characterize many faculty women as overextended, managing to balance the demands of home, children, and a productive academic career, this study suggests that family-related factors do not interfere with scholarly productivity. Nevertheless, there continues to be a widely held assumption that family responsibilities do stand to compromise a faculty member's career, and prevailing myths continue to affect the recruitment and retention of women faculty. (p. 438)

The studies on productivity laid the groundwork for conversations being held in organizational studies on gender bias in organizations and helped to establish a more robust set of studies on the relationship between childrearing and faculty work. These studies also started the conversation around productivity and childrearing, leaving out research on single faculty, faculty without children, and other work/life conflicts, such as caring for aging parents. This focus on parenting and the absence of all other life responsibilities is reflected throughout decades of research on work/life (or work/family) in the higher education literature.

Following on the heels of scholarship concerned with comparing productivity levels of men and women faculty came scholarship focused on policy use, specifically the development and use of programs and policies that seek to promote more work/life balance. Some studies catalogued the existence of policies (e.g. Hollenshead, Sullivan, Smith, August, & Hamilton, 2005) while others sought to examine the use of these policies. Many of these studies arose out of large-scale surveys, such as the work of Mason and Goulden (2002), which identified specific work/life factors that lead to the lack of retention and recruitment of women in the professoriate. For example, Mason and Goulden found that women with children were far more likely to leave the professoriate than men, suggesting that institutions need to address a perception of incompatibility between childrearing and faculty work. Resulting from this research and others was a national movement sparked by private foundations, federal funding agencies, and system-wide adoption of new programs and policies for work/life. Important research questions emerged about the use of policies, the relationship between policy use and department or university climate, and the effectiveness of such policies.

Emerging diversity in the professoriate helped to push forward a more explicit set of research studies specifically on work/life. The sheer increase in the number of women, more women faculty with children, and new generations of men and women

faculty desiring more work/life balance all helped to influence the salience of work/life as an issue in need of research and intervention. These studies largely drew on the prevalent theories related to role theory, such as role conflict, identifying if there is role strain among faculty who seek work/life balance. The work of Ward and Wolf-Wendel (2004), for example, drew attention to role identity development among academic mothers, identifying a complex relationship where individuals find synergy and conflict in childrearing and faculty work. Other studies around the same time took a more critical stance providing evidence of the conflict between motherhood and faculty roles (Armenti, 2004a) and pervasive gender bias in the academy (Drago et al., 2006).

The studies related to faculty productivity and work/life began to identify a complex set of organizational dynamics operating on multiple levels – among faculty peers in departments, during faculty hiring, discourse by leaders, and so on – that suggest a need to more deeply understand and develop work/life in higher education. A more focused area of research developed on organizational dynamics, often relying on the assumptions of gendered organizations established by Acker (1990) and Williams (1989). These studies focused on expectations related to the ideal worker and how those expectations place women and men at a disadvantage. For example, Gardner (2013) identified undue service expectations placed on women to support an institution striving to increase research productivity. These expectations were aligned with the socio-historical notions of women in service and support roles (i.e., secretaries). Further complicating the research on work/life was an acknowledgement of the need to disaggregate and contextualize faculty work across institutional types, faculty contracts, and career stage. Research by Ward, Wolf-Wendel, and Twombly (2007), for example, focused on community college faculty while Sallee (2014) interviewed men faculty.

In the following, we review the higher education scholarship on the four primary topical areas: productivity, policy use, demographic changes, and contextual differences that follow the general trajectory of work/life research starting in the 1970s. Each section presents the literature noting the impact of theoretical and methodological assumptions that shape the focus and findings of the studies. As will become clear, the changing professoriate, such as the increase in the number of women and contingent faculty, plays a role in the focus of work/life research in higher education. More importantly, the reliance on specific theories in organizational studies and psychology has left many areas of inquiry unexamined, leaving major questions about the ways in which work/life functions in colleges and universities. Many critical questions remain that we address following this section.

Productivity

As noted, the first major area of research on work/life related issues was concerned with examining the relationship between productivity, often defined by number of publications, and gender among faculty. The research in this area addressed the

pervasive assumption that childbearing and rearing were incompatible with faculty work; women faculty with children could not be productive. At the same time, more national studies emerged identifying a lack of equity in terms of salary and promotion (i.e., tenure and promotion) between men and women faculty. These studies tend to rely on the assumptions of human capital theory, which posits that “an individual’s status and rewards in the academic labor market are determined primarily by his or her productivity” (Perna, 2001, p. 588). In this regard, productivity is defined by the investments that an individual makes to improve current and future job prospects to include: education; professional development and training; physical health, motivation; and geographic mobility. As individuals continue to invest in themselves, such as through increasing levels of education, their human capital increases. In higher education, many studies rely on the notion of human capital to justify the need for continued education as more education tends to increase lifetime earnings.

The research studies on productivity directly or indirectly suggest a human capital framework and are primarily quantitative using existing data, such as the Carnegie-American Council on Education data (Hamovitch & Morgenstern, 1977), National Study of Postsecondary Faculty administered by the National Center for Education Statistics (Bellas & Toutkoushian, 1999), and faculty surveys (Finkel & Olswang, 1996) and Higher Education Research Institute (HERI) faculty survey (Sax, Hagedorn, Arredondo, & Dicrisi, 2002). A few of the more recent studies use qualitative methods, primarily case studies or individual interviews across different sectors of higher education (Cole & Zuckerman, 1987; Sallee, 2014). The quantitative studies define productivity in a myriad of ways making it difficult to compare across studies; yet, the studies consistently find no effect of childrearing on women faculty productivity. Hamovitch and Morgenstern (1977) used number of publications and a more qualitative measure of peer-assessed ranking of faculty research quality. Comparing the productivity of women with children to those without children, the authors concluded that “we find no evidence of a diminution of academic productivity, measured by quantity of publications or by peer assessment, associated with the presence of children in the household” (p. 634). These findings were confirmed several decades later by Sax, Hagedorn, Arredondo, and Dicrisi (2002) who found that family-related commitments had no or very little effect on faculty research productivity. What did emerge as significant were professional variables defined by academic rank, salary, recognition, and research orientation.

Many studies, as cited by Perna (2001), also examined other academic variables and suggest that family status and responsibilities reduce human capital by limiting opportunities in education, mobility, and participation in the job market. Structural characteristics are related to human capital in that they account for the social inequities by accounting for the relationship between organizational attributes and human capital. A classic example is the reality that women make on average 80 % of the salaries of men, controlling for experience, education, and other pertinent factors. Within higher education, women faculty account for just 29 % of full professors but 49 % of assistant professors (NCES, 2015), suggesting that significant barriers exist that prevent women from attaining promotion to the highest ranks.

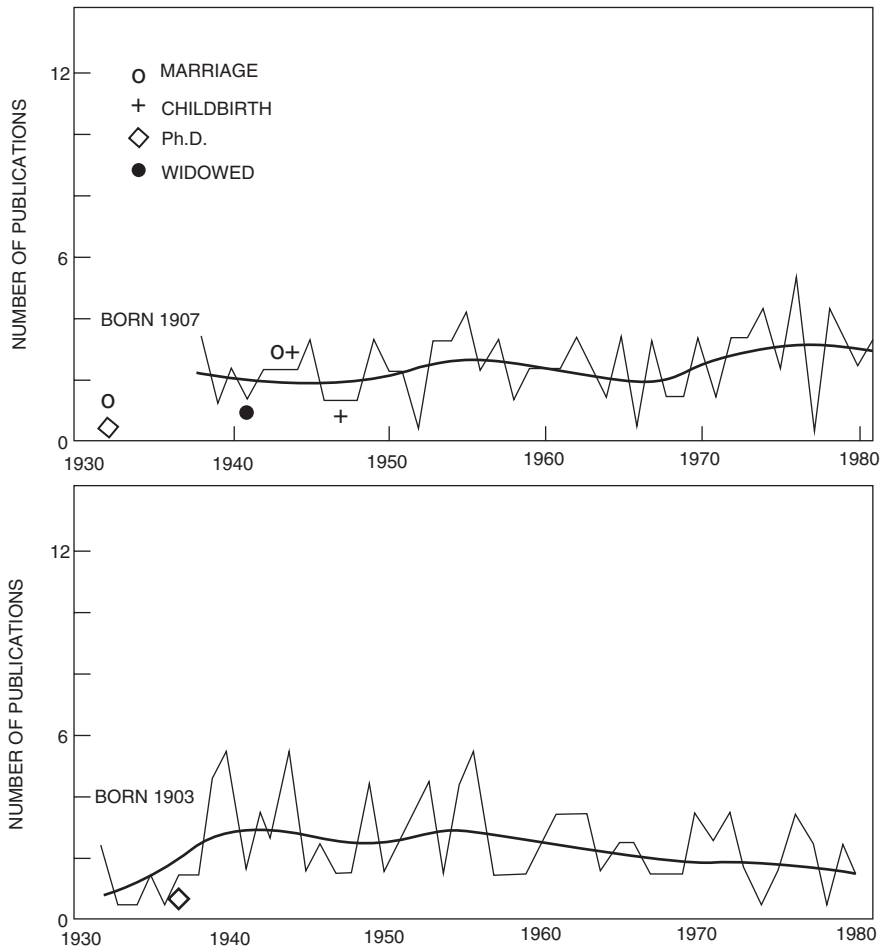
Findings from Perna's (2001) study generally align with the theories of structural characteristics as, "even after controlling for differences in race, family responsibilities, human capital, and structural characteristics, women are more likely than men to hold full-time, nontenure positions, positions of lower status in the academic labor market hierarchy" (p. 603). Marital and family status were found to be associated with odds of holding a nontenure eligible position for women, thus supporting the use of human capital theory. Half a century earlier, Hamovitch and Morgenstern (1977) noted that

another alleged cause of the lower rewards for women is that women professionals are, on the average, less productive than men. It has been argued that this difference in productivity can be at least partially accounted for by the heavy demands of child rearing on many women in our society. (p. 634)

The timing of these articles is not surprising given that women entered the professoriate in larger numbers in the 1970s and 1980s and tenure-line probationary years often coincide with childrearing years. Concerns with women faculty retention took hold in the 1990s with data suggesting that women leave the professoriate because they see faculty work as incongruent with childrearing (Finkel, Olswang, & She, 1994).

Other studies of productivity compare across men and women and find that overall, women produce fewer publications (Long & Fox, 1995) and that married men publish more than unmarried men (Bellas, 1992). In a qualitative study based on interviews with 120 scientists combined with measures of their publication rates, Cole and Zuckerman (1987) found that marriage and childrearing had no negative lasting effect on research productivity. Married women with children published on average as many papers as single women. The cyclic, almost roller-coaster visual, nature of paper publications existed for married women with children and single women (see Fig. 8.3). Finkel and Olswang (1996) focused on examining why women assistant professors do not receive tenure at the same rates as men by examining the perceived impediments and pressures that women faculty experience. Their findings indicate that women faculty postpone childbearing for fear that time required to raise a child or children would interfere with their ability to achieve tenure. These findings were echoed the following decade by Armenti (2004a).

Challenging publications as the only means to measure faculty productivity, other studies have looked at the relationship between time spent on a multitude of activities and faculty characteristics (i.e., gender and race). Bellas and Toutkoushian (1999) defined productivity in terms of traditional measures to include books, journal articles, and patents but also included creative works and non-referred publications. Their results indicate that increases in time spent on teaching and service activities results in lower research productivity and that women have lower research productivity overall. Marriage for men and women had a positive impact on research productivity as well as number of dependents. These findings continue to challenge the assumption that life responsibilities interfere with work productivity. In somewhat contradictory findings, Ludlow and Alvarez-Salvat (2001) focused on the potential spillover effect for work and family by honing in on the relationship



SOME SCIENTISTS publish at a rather constant rate throughout their career. These are profiles for two eminent women: one who married twice and had two children (*top*) and another who never married (*bottom*). Although the annual number of publications fluctuates, the mean number in five-year intervals remains much the same for these scientists. This pattern appears as often among married women as among unmarried ones.

Fig. 8.3 A Comparison of Publication Rates of a Man and Woman Scientist (From Cole & Zuckerman, 1987). Reproduced with permission. Copyright ©(1987)Scientific American, a division of Nature America, Inc. All rights reserved

between marital status and work performance, measured by student evaluations over time. Consistent with spillover theory, their results indicate that “both models tested the hypothesis that teaching evaluation ratings would suffer during the period of divorce, and then improve with remarriage” (p. 117), suggesting that marriage has a positive spillover, or impact, on productivity. By all measures and for both

men and women, productivity is enhanced by marriage and family; yet, there needs to be some acknowledgement that spillover can have a temporary negative impact.

Other scholars have addressed the issue of productivity from the perspective of employee retention or, in the case of tenure-line faculty, achieving tenure. These studies are consistent with human capital theory, suggesting that organizations need to be attentive to losing their human capital in the form of faculty attrition. These studies also add to the literature social and cultural institutional norms that appeared initially as somewhat generic structural characteristics in need of more in-depth study. In their study in the University of California system, Mason and Goulden (2002) found that babies matter – those faculty who have babies within five years of receiving their doctoral degree are less likely to achieve tenure. There are some differences across gender where men who have early babies are more likely than women who have early babies to achieve tenure. Mason and Goulden posit that the reason for this substantial gap stems from the fact that

women with early babies often do not get as far as ladder-rank jobs. They make choices that may force them to leave the academy or put them into the second tier of faculty: the lecturers, adjuncts, and part-time faculty. (p. 25)

Their choices, however, are not simply due to individual preference but a systemic cultural problem where women are unable to balance the increasing demands of faculty work and life responsibilities. Other studies document that implicit biases that women faculty with children experience (Drago et al., 2006). Moreover, women faculty continue to report that they spend more time on domestic responsibilities than men (Sax, Hagedorn, Arredondo, & Dicrisi, 2002), suggesting that the family structure has not dramatically altered and that women are still considered to be primarily responsible for household chores and childcare.

Research on productivity and work/life balance among faculty generally agrees that women produce fewer publications than men but that family responsibilities are not the primary driver of reduced productivity. In fact, those male and female faculty who are married with children tend to be more productive than their within gender single or no children counterparts. These findings are consistent with different measures of productivity (i.e., student evaluations and other research products) with some indication that major life events, such as divorce, temporarily impact productivity.

There are several critiques of this area of literature worth noting. Across the several decades of research and many different datasets, researchers tended to rely on somewhat crude measures of productivity, mainly number of publications. While publications have continued to be the gold standard of productivity at research universities, faculty are often judged by different and more complex productivity measures, particularly at comprehensive and community colleges and across their career stage. Number of credit hours taught, number of students advised, committee assignments, and other service obligations could measure productivity. There is also some evidence that gender is related to service obligations (Park, 1996), suggesting that more analysis is needed that takes into account individual demographics and identities. These studies also did not have a longitudinal design, which limits the

ability to see in more depth the peaks and valleys of productivity that naturally occur over faculty career stage. The research on mid-career faculty, for example, identifies difficulty in producing publications post-tenure due to advising and academic departmental management/leadership roles. The impact of work/life events may be more diverse; childrearing may have a different impact than caring for aging parents. This type of analysis requires more longitudinal design. Moreover, the research has largely ignored other faculty contracts. Do student evaluations for non-tenure track faculty change over time and in relationship to work/life events? Finally, measuring productivity of existing faculty, particularly those with tenure, hides the cultural biases of having children as noted by Mason and Goulden (2002). Their studies reveal that women leave the professoriate either by choice or because they do not receive tenure, due to an incompatibility, both perceived and real, between faculty work and childrearing.

Policy Use

Although not all work/life research in higher education focuses on context and institutional factors, studies on parental leave policies tend to center context as important. This focus on policy use in higher education scholarship is in contrast, in some sense, with scholarship in organizational studies and psychology. Although there have been some studies in organizational studies that examine differences in policy use among employees (Haas, Allard, & Hwang, 2002; Thompson, Beauvais, & Lyness, 1999), higher education's consistent concern with policy use stems from the field's shared site of research and practice. Higher education scholarship concerns itself with colleges and universities and those who populate them while organizational studies focuses on a variety of organizational types with their own structures and norms. Thus, focusing on policy use in one unique setting (e.g. an insurance company) may not be applicable to the use of policy in another (e.g. a medical office). However, higher education scholars seek to develop an understanding of the types of policies available and the patterns of use across colleges and universities which, though diverse in their composition, are united by a loose set of shared structures, norms, and values.

Over the decades and since the 1977 AAUP statement on pregnancy, parental leave has had a variety of stipulations. The first iteration of policies was more aligned with pregnancy leave and often mirrored short-term disability policies. This may be due to the fact that the AAUP argued that pregnancy is analogous to disability. More contemporary versions are parental leave that is inclusive of maternal and paternal leave as well as adoption. A variety of studies have sought to catalogue the existence of parental leave policies as well as link policy existence to outcomes, often relying on a notion of individual agency. However, the earliest work on policy use was largely atheoretical and focused more on description of existing policies.

In their survey of 255 U.S. institutions, Hollenshead, Sullivan, Smith, August, and Hamilton (2005) examined which institutional types were more likely to offer

seven types of work/family accommodations: tenure clock extensions, modified duties, paid leave while recovering from childbirth, paid dependent care leave, unpaid dependent care leave, in excess of the 12 weeks ensured by the Family and Medical Leave Act, reduced appointments for dependent care needs, and the availability of part-time positions or job-share positions. The authors found that, on average, institutions offered 1.67 of these 7 available policies. Research institutions offered the greatest number of policies, averaging 2.99 policies per campus; doctoral institutions offered 1.38 policies, master's and baccalaureate offered 1.29 and 1.09 policies, respectively. Community colleges offered the fewest number of policies at 0.80 policies per campus. These discrepancies across institutional types are correlated with the resources available on each campus; research institutions tend to be more resource-rich and therefore are able to offer more policies than the typically cash-strapped community colleges. In another study of the availability of parental leave across institutions, Yoest (2004) found that the most highly ranked institutions were more likely to offer paid parental leave, compared with institutions in the middle and bottom tiers. While both studies identify which institutions are more likely to offer leave policies, both are over a decade old and thus the field may benefit from a new survey of institutions to catalog the current state of work/family policies.

Although there have been no recent national studies across institutional types of family-friendly policies, there have been a number of studies seeking to catalogue the existence of family-friendly policies in medical schools in both the United States (Bristol, Abbuhl, Capolla, & Sonnad, 2008; Welch, Wiehe, Palmer-Smith, & Dankiski, 2011) and Canada (Gropper, Gartke, & MacLaren, 2010). Welch et al. (2011) studied leave policies at medical schools in the Big Ten conference and found that institutions offered a range of policies (maternity/paternity leave, childcare options, lactation rooms, part-time appointments, etc.) often used to support work/life. However, the institutions varied dramatically as to the degree of availability of policies; out of a maximum of 21 points, institutions in their sample ranged from a high of 13.5 to a low of 9.25, indicating that medical schools still are not offering maximum benefits for faculty. Similarly, Bristol et al. (2008) found that the top ten medical schools in the U.S. range in the degree to which they offer policies for faculty use. The authors noted that the medical schools that offered the most comprehensive policies also tended to have the highest percentage of women full professors, further underscoring the degree to which policy existence and use is critical for women who are navigating work/family demands.

Additional scholarship has gone beyond simply cataloguing the availability of leave policies to examining faculty perceptions around the existence and use of leave policies. In one of the first articles to systematically examine leave policies, Finkel, Olswang, and She (1994) surveyed faculty at one large research institution and found that faculty overwhelmingly supported paid leave policies for women who have children. They also support a wide range of options to support new mothers. Supported in more recent studies (Mason, Goulden, & Wolfinger, 2006), the study found that only a small percent of eligible women took paid leave as they believed taking time off would be detrimental to their career. Additional scholarship

has also found that faculty are less likely to use family-friendly policies, despite their widespread availability (Mason, Wolfinger, & Goulden, 2006; Pribbenow et al., 2010; Quinn, 2010). In their study of nearly 4500 tenure-line faculty in the University of California system, Mason, Wolfinger, and Goulden (2006) found that only 30 % of eligible faculty used a tenure clock extension. However, women were far more likely to use the tenure clock extension; 30 % of eligible women compared with just 8 % of eligible men used the policy. Similarly, Quinn (2010) found that only 24 % of eligible faculty at one research university used a tenure clock extension; women were slightly more likely to use the policy as 32 % of women compared with 18 % of men reported taking an extension. These quantitative studies conclude that women are far more likely to access policies than men are, but do not provide any explanation as to why that might be. However, some qualitative scholarship has investigated reasons behind men and women's policy use, acknowledging social and cultural norms that may create gender-based inequities.

O'Meara and colleagues (Campbell & O'Meara, 2014; O'Meara & Campbell, 2011) introduced the theory of agency to examine parental choice for men and women faculty. Their focus was on the scaffolding that supports faculty in making parental decisions. They conceptualize agency as "a sense of power over her or his work" (O'Meara & Campbell, 2011, p. 448), creating a conceptual relationship between structural environments (i.e., institutional reward systems, policies, demographics, and institutional type to name a few) and temporal elements (i.e., socialization in graduate school and career stage). Part of agency is the ability to exercise one's desire for work/life balance by using institutional policies and programs.

A few other higher education scholars have examined faculty agency in navigating work/family issues. In her consideration of the ways in which men navigate parenting and academic careers, Sallee (2013) used Lawrence's (2008) theory of institutional power, which calls attention to the ways in which organizations both shape and are shaped by individual actors. In short, Lawrence's (2008) theory considers the role of institutions, defined in this theory as social norms, as well as types of power (both individual and organizational) in shaping attitudes, beliefs, and structures. Sallee (2013) examined the institution of parenting to consider how gender norms and beliefs about parenthood shaped individuals' responses to parenting. She found that some participants minimized the use of available family-friendly policies because they did not want to appear to be uncommitted to their work. Some also worried about having their identities as men challenged and reported hearing messages that work/family policies should only be used by women, despite being available on a gender-neutral basis. In comparing the experiences of faculty fathers on three campuses, she concluded that while institutions maintain a stronghold on expected gendered behaviors, individuals on one campus, through repeated forms of collective action, were able to challenge the institution of parenting to create a new definition that was more inclusive of men and women as parents. Similarly, in their study of faculty fathers, Reddick, Rochlen, Grasso, Reilly, and Spikes (2012) also found that participants felt that there was a bias against active parenting on the part of fathers and did not feel supported by colleagues to prioritize family over career.

Although studies focusing on policy use have evolved in this decade to incorporate notions of faculty agency, initial studies primarily sought to simply catalogue the existence of policy and perceptions of the acceptability of their use. These initial descriptive studies were needed and important in mapping the types of policies but did little to understand the impact. Questions still remain as to the impact of using a parent leave policy versus not; more comparative and quasi-experimental designs are needed to know the long-term and relative impact of policy use. Do faculty who use the parental leave policy have a greater bond with their children compared to those who do not? Do the patterns of productivity return after using the parental leave policy compared to those who do not? Or, do those who use parental leave policies experience greater productivity upon their return? In addition, the studies remain isolated to specific levels of the organization and do not take into account the nested nature of higher educational institutions. More research is needed on how power and agency operate across and within the institution to frame cultural and social norms around policy use. In an age where higher education institutions are overwhelmingly susceptible to external influences and faculty work continues to be both inside and outside the institution, the complex dynamics across and within sectors need attention. For example, how do faculty with external research grants navigate institutional leave policies with on-going research grants that offer no opportunity for leave? These are just a few critique and opportunities for research on work/life policy which are continuously complicated by the diversity within faculty ranks and faculty responsibilities.

Demographic Changes

Stemming from the research on productivity that suggested a more complex set of dynamics within higher education institutions that create, perpetuate, or mediate productivity differences, many scholars sought to identify differences in how various groups navigate work/family issues. While many studies have focused on the unique experiences of one gender (Armenti, 2004a; Sallee, 2012; Ward & Wolf-Wendel, 2012), others have focused on differences by appointment type – such as full-time versus part-time on the tenure-track (Perna, 2001). Still others have focused on differences by generational status (Helms, 2010; Sallee, 2014). Generally, these studies have relied on the assumptions of role theory in order to understand how salient roles and identities create spillover and conflict between work and life. Work/family conflict occupies an important place in the higher education literature, drawing upon theories of role conflict, role strain, and satisfaction. However, with a few exceptions, scholars do not necessarily articulate that they are examining these particular constructs in their work. Rather, the general sentiments behind conflict, strain, and satisfaction emerge in findings. In part, this may be due to the preference within the work/life higher education literature for qualitative methods, which rely less heavily on strict operational definitions of constructs. Nonetheless, these concepts, so pivotal to psychology and organizational studies'

treatment of work/life, make an appearance in the higher education scholarship. As we discuss, role conflict and strain receive the most treatment, though there has been limited consideration of satisfaction in higher education scholarship.

Satisfaction first emerged in the higher education literature in Near and Sorcinelli's (1986) mixed methods study of 100 faculty at one research university. The authors used in-depth interviews in conjunction with questionnaires to understand the relationship between various work and life factors to measures of life, work, and nonwork satisfaction. The authors found that work and nonwork conditions were related to work satisfaction as well as nonwork satisfaction, which points to spillover between life in various domains, a concept that the authors picked up on in a subsequent study (Sorcinelli & Near, 1989). In short, satisfaction in one domain is related to satisfaction in another. Satisfaction received little subsequent attention in the higher education literature until McCoy, Newell, and Gardner's (2013) survey of 242 faculty at a research university. The authors combined a study on environmental conditions with a focus on well-being among faculty, which was composed of a series of constructs, including job satisfaction and emotional and physical health. The authors found that women experienced significantly lower measures on each of these scales. The authors also found that "work-life integration was significantly associated with job satisfaction, emotional health, and physical health" (McCoy et al., 2013, p. 320). Like Sorcinelli and Near (1986) three decades earlier, McCoy et al. found a relationship between job satisfaction and work/life integration, and importantly focused on differences between women and men.

Gender differences in navigating work/family concerns have occupied a central place in the higher education literature. While many studies in organizational studies and psychology have included gender as an operational variable, higher education has more closely examined the specific nature of work/life for gender groups, primarily women. The focus has been on the relationship between the role of being a worker, often a faculty member, and other roles, such as being a mother, drawing both implicitly and explicitly on theories of role conflict and role strain. Early studies focused specifically on the concerns of women, as work/family concerns were often considered in the mother's domain (Finkel & Olswang, 1996; Finkel, Olswang, & She, 1994; Hamovich & Morganstern, 1977). Indeed, mothering has remained a focus of many higher education scholars over the past four decades as more recent scholarship has also focused explicitly on their experiences (Armenti, 2004a, 2004b; Philipsen & Bostic 2008; Sallee & Pascale, 2012; Ward & Wolf-Wendel, 2012; Ward, Wolf-Wendel, & Twombly, 2007). These studies have tended to focus on the disproportionate role that women assume in childrearing. For example, Armenti's (2004a) study of women faculty explored the differences between senior and early career faculty and the different strategies each group used to accommodate the arrival of a new child in the home. As we discuss later, this notion of generational differences continues into other scholarship. Other studies of women faculty found that women assumed a disproportionate burden in the home compared to their husbands (Sallee & Pascale, 2012; Ward & Wolf-Wendel, 2012). Some studies have focused on the unique experiences of men navigating parenting concerns. Both Sallee (2014) and Reddick et al. (2012) studied faculty fathers; both concluded that

men wanted to be engaged in parenting but felt that they were less free to prioritize their family demands because of their genders. In other words, they received messages that parenting was best left for women to perform. In a follow up study, Sallee and Hart (2015) focused exclusively on the experiences of international faculty fathers at two research universities, concluding that many of the men became more engaged parents than they might have had they stayed in their countries of origin. In part, their increased involvement was due to being removed from traditional support structures, but also due to the influence of U.S. gender norms that have started to shift to encourage men to take an increasing role in the home. Each of these studies relied on the basic assumptions of role theory, principally that individuals play multiple roles that may have a spillover effect on one another.

Still other studies have compared the experiences of women and men at both home and at work examining potential role conflict. Mason and Goulden (2002) compared the family formation decisions of men and women Ph.Ds, using the Survey of Earned Doctorates. The authors found that men who had babies five years post-PhD were far more successful at earning tenure than women who had babies in the same period. Other studies have also compared the ways in which men and women navigate family decisions. In their study of over 4000 English and Chemistry faculty members across 507 U.S. colleges and universities, Drago, Colbeck, and colleagues (2006) compared men and women's bias avoidance behaviors, or the ways in which parents either productively or unproductively avoid bias against caregiving in the workplace by minimizing or hiding family commitments. Productive bias avoidance behaviors increase career success while unproductive behaviors hamper success. The authors found that women were far more likely than men to engage in both productive and unproductive bias avoidance behaviors. For example, the authors found that 14.4 % of fathers but 51.1 % of mothers returned to work sooner than they would have liked after the birth of a child, out of fear of career repercussions. These results underscore that men and women are often expected to assume different roles, and choose to navigate that conflict in different ways. Additional studies have compared differences in men and women's role strain, such as Elliott (2008) who found that both women and men faculty experience role strain. However, women's role strain tended to emanate from family stress while men's role strain emanated from work stress.

A few studies have focused on the ways that administrators navigate work/family demands (Bailey, 2008; Jones & Taylor, 2013; Marshall, 2009; Nobbe & Manning, 1997). For example, in her study of student affairs administrators with children, Marshall (2009) found that the intense time demands of work in the field coupled with challenges of parenting led participants to pass up some opportunities for professional advancement while also reducing time spent with their children. The experiences with role conflict and the potential for additional conflict are major barriers to women entering leadership roles. Additional scholarship has focused on the ways in which graduate students (Lynch, 2008; Martinez, Ordu, Della Sala, & McFarlane, 2013; Mason, Goulden, & Frasch, 2009; Sallee, 2015) and undergraduate students (Brown & Nichols, 2013; Wilson, 1997) navigate work/family demands. The majority of these studies highlight the difficulties that students have navigating a campus

context that typically assumes that students are single and childless. Participants in several studies noted a lack of understanding from professors when childcare issues arose, interfering with class or assignment due dates (Lynch, 2008; Robertson & Weiner, 2013). However, in other studies, faculty were noted for playing an important role in helping participants navigate the demands of school and family (Sallee, 2015). Regardless of the differences, it is worth noting that the past decade, in particular, has seen a significant increase in studies focusing on student-parents. As higher education demographics continue to shift, this population will hold an even larger position on college campuses.

One final demographic area of interest has focused on differences by generational status, most frequently comparing the experiences of Baby Boomer and Generation X faculty (Helms, 2010; Latz & Rediger, 2014; Sallee, 2014). Scholarship on generations suggests that each generation is characterized by a particular set of values that are shaped by societal issues that emerged during each generation's youth. One of the largest generations, Baby Boomers (born between 1943 and 1962) tend to be assertive, competitive, and willing to work long hours; in part, the large size of this generation made competition for jobs especially fierce, leading Baby Boomers to feel the need to put in longer hours at work. In contrast, Generation Xers (born between 1963 and 1980) are one of the smallest generations in recent history and value adaptability, independence, and privilege flexibility in work practices (Lancaster & Stillman, 2002). Studies of these two groups of faculty have confirmed these claims. In her study of Generation X faculty, Helms (2010) found that participants expressed a strong commitment to work/family balance. In addition to seeking greater balance between work and family responsibilities, Sallee (2014) found that Generation X faculty also were more likely to espouse progressive gender norms than their Baby Boomer counterparts, arguing that men should take more of an involved role in parenting. As Millennial faculty are a relatively new addition to the academy, they have yet to be explicitly included in studies on work/family issues in higher education. However, given that this generation is also noted for valuing work/life balance and has been noted for being more open to progressive ideas on gender and other identities than Generation Xers (Lancaster & Stillman, 2002), additional studies might be useful to parse out differences between the expectations and experiences of the multiple generations making up the academy.

While role theory, albeit not explicitly, has been used in many studies on work/life in higher education, it is not operationalized in the same ways as in studies in other disciplines. While most studies in psychology and organizational studies evaluate role conflict using quantitative measurements, studies in higher education tend to apply the concept of role conflict more broadly in qualitative settings. For example, in their study of faculty mothers, Ward and Wolf-Wendel (2004, 2012) used role conflict theory to examine the ways that women navigate the competing roles of mother and professor. They argued that while traditionally role conflict theories set multiple roles in opposition to one another, their participants viewed their roles as complementary. The authors applied role conflict theory alongside the notion of the ideal worker found in gendered organizations to explore how tenure-track women manage their roles of being mothers and academics. The findings from their

interviews generally cast academic motherhood positively, noting that while there are “dark clouds,” faculty generally felt that they experienced more “silver linings” (Ward & Wolf-Wendel, 2004, p. 241). Or, as they indicated, “for example, faculty work tends to be autonomous (a silver lining), but this work condition can lead to ambiguous expectations and isolation (dark clouds). We saw participants grappling with varied aspects of their roles as academics and as mothers” (p. 241). Throughout the findings of this study is a sense of contradiction: faculty work is autonomous which allows one to juggle childrearing with work but also boundaryless with a high level of demands requiring extended work hours often done after the children are in bed. The faculty also found that motherhood complemented their faculty work, helping them become more efficient and to place their jobs in perspective, as a job and not as a defining identity.

Other studies have also approached role conflict theory from a qualitative perspective as Sallee did in her study of women scientists (Sallee & Pascale, 2012) and in graduate student parents (Sallee, 2015). In both studies, she used theories of role conflict to explore the ways participants navigated their multiple roles. Although traditional theories of role conflict suggest that multiple roles are incompatible (Goode, 1960), participants found ways to combine the responsibilities inherent in both roles so that they might complement one another. Not all studies of role conflict employ a qualitative lens. Elliott (2008) used quantitative data to investigate role strain and stress among 288 faculty at one research university. The author measured role strain by using two items that measured how frequently participants experienced conflict between their jobs and families and how often they felt their jobs affected their family lives. Findings suggested that women and men both experienced role strain, though the causes and sources of the role strain differed for each group.

The studies on demographic changes largely were an outgrowth of the increase in diversity in higher education generally and in the professoriate specifically. With more women, faculty with children, people of color, and those identifying as LGBTQ, for example, more research was needed to unpack the complexity of work/life beyond questions of productivity. While many studies have interrogated the differences between men and women’s experiences, a number of other demographic variables remain ripe for future exploration. LGBTQ faculty’s experiences navigating work/family demands remain noticeably absent from the literature. Furthermore, in some ways, by emphasizing differences between men and women’s experiences, work/family researchers may only be succeeding in reinforcing differences between genders as well as the gender binary. Additionally, relatively little research disaggregates by race and ethnicity. As we discuss later, these are critical gaps that need to be filled.

The research consistently identifies pervasive role conflict across groups suggesting that there are some significant areas of higher education as an organization that requires changes. The identification of role conflict, while congruent with the literature in organizational studies and psychology, continues to rely on the assumptions of the discrete nature of roles. Much like the Conservation of Resources theory out of psychology, early work on role conflict in higher education suggested that

attention given to demands in one domain necessarily detracted from available attention to other domains. However, as recent research has suggested (Sallee, 2015), there are ways for people to integrate the demands of multiple roles; considering responsibilities as in opposition with one another suggests that individuals will always have to choose between roles. Future research should identify exactly where those points of conflict arise and what interventions can be developed to reduce role conflict, promote role integration, and continue to retain and promote diversity in the professoriate. Research also needs to move beyond conceptualizations of individual experiences as roles and to theoretical frameworks of identity and how multiple and overlapping identities relate to create and even mediate work/life.

Organizational Context

Another body of work/life scholarship in higher education has addressed institutional or organizational factors. While some of this research is driven by theories in organizational studies, such as Acker's (1990) notion of the ideal worker and role theory, others focus more on the structural differences within and across institutions – these studies tend to rely less on theoretical assumptions as they are more descriptive or exploratory. This section provides a review of research that complicates the research on tenure-line and tenured faculty by accounting for institutional differences, such as the expectations across research-intensive and extensive universities.

The majority of initial studies included faculty as one major group without attention to difference in discipline, career stage, and institutional type. As higher education became larger and more embedded within disciplinary cultures, a need arose to understand how those disciplinary norms and practices may impact work/life. Tosti-Vasey and Willis (1991) examined differences across disciplines, English and Engineering, but did so with a sample of mid-career faculty, those individuals who are post-tenure or over 10 years from date of employment. The faculty who were clustered as competent – engaged and productive in their work – reported spending considerable time on family responsibilities, experiencing greater role strain. Engineering faculty reported more difficulty in balancing family and work as their work was often place bound in a laboratory while English faculty had more flexibility in working from home or other locations. The authors conclude that more work/family policies could assist these faculty in continuing their productive careers during the mid-career stage and acknowledge disciplinary difference.

Another organizational perspective found in the literature in higher education is a more explicit gender analysis that acknowledges the role of proportionality of men to women across departments within the context of work/life. Wolf-Wendel and Ward (2015) similarly identified disciplinary differences germane to the nature of work and critical mass of, or lack thereof, faculty in the department. For example, humanities faculty tended to have an easier time balancing work and family because

their work tended to be individualistic and not place bound. STEM faculty who worked in a lab setting noted that “the communal nature of the lab sciences made these women aware of their absences because the larger lab community relied on them for continuity” (p. 30). The authors concluded, however, that there were more similarities than differences across the disciplines, suggesting that faculty work/life continues to be a significant struggle across all universities. In her study of faculty fathers, Sallee (2014) found differences between the structure of faculty work in various disciplines. In particular, she found that while faculty in the humanities and social sciences had more flexibility in where they performed their work, faculty in the sciences and engineering also felt more tied to campus to oversee work in their labs. Many scientists also noted the pressure to bring in grants to keep their labs operating and their graduate students funded, adding an additional layer of stress that their social sciences counterparts did not experience, thus leading to greater work/family conflict.

Higher education is diverse with substantial contextual differences across institutional types that have an impact on work/life. Acknowledging these differences, several studies have focused exclusively on work/life within community colleges. Community colleges often do not have a tenure option, may have employee unions, and faculty focus exclusively on teaching (Cohen, Brawer, & Kisker, 2014); each of these features of organizational life have consequences for work/family conflict. This research tends to rely less on theoretical or conceptual frameworks. Ward, Wolf-Wendel, and Twombly (2007) found that women chose to work in community colleges as opposed to four-year universities because they desired more balance between work and family responsibilities; their prior experience in community colleges and four-year universities resulted in these perceptions. This does not suggest that women did not feel pressure and stress. The faculty in the sample struggled with balance, often due to the lack of flexibility from administrators, but noted contentment and joy in their faculty and family roles. The authors concluded, “despite these challenges, one major conclusion from this study is that female faculty at community colleges who have young children form a fairly contented group of individuals” (p. 276). Respondents to Sallee’s (2008) survey of faculty at one community college did not share the same levels of satisfaction as Ward et al.’s (2007) participants. Although 72 % of participants noted that they chose to work at a community college, in part, due to work/family concerns, 84 % of respondents noted that they consistently experienced great degrees of work/family conflict. Only 17 % of respondents strongly agreed with the statement that the institution encouraged faculty to seek work/life balance.

Although Sallee’s (2008) participants felt great levels of work/family conflict, other studies of community college faculty and administrators found that employment at the institutional type led to satisfaction. The theme of contentment despite heavy workloads was also found by Bailey (2008) who interviewed occupational deans at community colleges. The deans in this study worked at least 60 hours per week on average, but noted enjoying their work and intended to remain in their current positions. This is not to suggest that community colleges are a haven for work contentment despite work/life balance. Indeed, Bailey (2008) concluded, “the

deans in this study espoused work life integration, but the levels of tension noted, the lack of white space on their calendars, and a focus on work belies this claim. Indeed, both men and women in this study are working as ideal workers” (p. 790). A study of mid-level staff confirms the contradictory nature of work/life at community colleges. Jones and Taylor (2013) surveyed community college staff who consistently noted that their colleges are family-friendly but lack formal work/life policies, flexible work arrangements, and career advancement.

A few additional studies focus on other institutional types. Wolf-Wendel and Ward (2006) examined work/life among faculty with young children at comprehensive institutions. In this qualitative study, work/life among faculty was impacted by the shifting aspirational mission of the colleges who were striving to be more research-intensive and thus placing additional demands on faculty for research productivity. Faculty reported feeling overworked with high levels of stress. Having young children complicated their ability to meet the increasing and unreasonable demands and, thereby, created more frustration and stress.

Although less frequently used in the organizational studies literature to examine work/family concerns, Acker’s (1990) work on gendered organizations has been deployed by higher education scholars to examine the ways in which the structures and culture of higher education institutions create challenges for men and women seeking to reduce work/family conflict. Gardner (2013) interviewed women who left a striving research university to understand reasons for their departure. Applying Acker’s (1990) theory of gendered organizations, she argued that gender is seen in the division of labor in pay differences and an increase in service work for women. Mentoring and informal relationships as well as the nature of rewards and awards being linked to productivity privileges men over women. Finally, gendered interpretations are present in the continued disproportionality of men in leadership roles and emphasis on research over teaching. Gardner concludes that striving institutions place increased emphasis on the gendered nature of organizations:

Given the fact that the research environments to which these striving institutions aspire can foster culture that promote male-dominated social structures (i.e., “the old boy’s network”) as well as an emphasis on self-advancement, competition, and a lack of transparency (Becher & Trowler, 2001), the quest for status in the academic hierarchy can further such a gendered perspective. (pp. 363–364)

Although Acker’s work has traditionally been used to examine the ways in which women are penalized by organizational structures and practices, Sallee (2012, 2014) used the theory of gendered organizations to understand how faculty fathers might be similarly penalized. She focused on the ways in which divisions between genders do not just suggest divisions on campus, but divisions off campus as well. Men who wish to prioritize caregiving are often at a disadvantage as it is assumed that they have a wife to care for their children; these divisions are supported by symbols that suggest that women are more nurturing than men. Sallee (2012) similarly found that these divisions and symbols were reinforced by interactions with other faculty and department chairs on campus. Some fathers received messages that family-friendly policies were meant to be used only by women; some who wanted to use the

policies had their masculinities and consequently, their identities as men challenged. Acker's (1990) work has been used by scholars to help call attention to the ways in which the structures of the contemporary university make it difficult for men and women to be engaged parents without penalty.

O'Meara and Campbell (2011) also make use of the ideal worker, placing additional emphasis on the academic department and the role it may play in work/life policy usage. Their findings suggest that the additive nature of faculty work constrains faculty agency to achieve any form of work/life balance. The participants in their study were regularly working over 50 hours a week. Moreover, female faculty felt more constrained due to their status as the primary caregivers of children. The contribution of this study is on a focus of the constraints that are constructed by individuals over time that limit individuals to conceive of work/life balance. The impact may lead to overworked faculty or faculty who forgo childbearing altogether. Similar findings emerged in Gardner's (2013) study of faculty departures noting that the striving culture of the institution promoted and perpetuated a gendered organizations framework with an emphasis on competition, self-advancement, and a lack of transparency.

Few studies explicitly address the relationship between organizational culture and work/life balance. Lester (2013) applied Schein's (2010) theoretical framework of organizational culture and found that artifacts and beliefs play a strong role in creating a narrative of eligibility that emphasized the hierarchy of employment contracts; by virtue of having progressive policies for faculty, their employment status was perpetuated and perhaps heightened. In addition, Lester found that connecting "change movements for work/life balance to gender-laden histories and traditions on the campus perpetuates work/life as a gendered issue" (p. 483). In a similar study by Lester (2015), cultural attributes emerged as connected to one's individual identity and symbols, suggesting that a unified culture that values work/life is, perhaps, not the most appropriate goal; rather, the fragmented nature of organizational life leads to individual interpretations, a fluidity of needs connected to identity and life circumstances, and contradictions in symbols. Cultures that values work/life need to include a vast and expansive definition that account for changing needs around work/life.

Additional scholarship has examined the role that organizational culture plays in shaping work/life. Sallee's (2014) study of faculty fathers similarly employed Schein's (2004) theory of culture in conjunction with Acker's (1990) theory of gendered organizations and Connell's (1995) work on hegemonic masculinity to understand how organizational culture both shapes and reflects norms about parenting in the academy. She used Schein and Acker's work to examine differences between campus cultures as well as disciplinary cultures. Like Lester (2013), she used artifacts, values, and assumptions to gain an understanding of each campus culture. Artifacts such as the existence of policies, the actions of department chairs and administrators as well as colleagues, and the degree to which children were present in the department pointed to different values on each of the four campuses studied. For example, on one campus where only women were expected to use family-friendly policies and administrators did not support men navigating work/family demands, traditional gender roles were evident in the campus's values.

The research on organizational context evolved from a more descriptive approach by simply addressing the variations in experience and needs related to work/life across faculty groups. These studies were instructive and important as faculty work began to grow in complexity with the introduction of more contingent faculty. More contemporary studies take a critical and even feminist approach to unpack the gender bias within higher education that creates and perpetuate work/life conflict proximately found in the research using role theory. With a need to address differences across faculty groups and a lack of structures, climates, and cultures to support work/life policies and programs for work/life balance and family-friendliness developed across many higher education institutions. This area of research, however, needs to continue to unpack the ways in which ideal worker norms permeate all aspects of higher education. Major questions still remain about the relationship between power and agency: how do individuals exercise agency in organizational contexts that continue to exert power that aligns with (and is always increasing) productivity standards? Other questions that might be interrogated include the role that the relationship between academic capitalism and gender norms might play in shaping work/life issues for faculty.

Summary of the Higher Education Literature

Given its status as an interdisciplinary field of study and the historical trajectory of women entering the professoriate, it is perhaps not surprising that the higher education scholarship on work/family covers a wide variety of topics, including policy use, demographic changes, organizational differences, and productivity. The studies largely responded to the conflicts and assumptions that emerged as women entered the professoriate and challenged the very way that faculty work was constructed. The research on work/life in higher education paints a picture of progress and stagnation. On the one hand, the increase in the number of women entering the professoriate has helped to bring to the fore gender inequities and promoted scholarship to debunk myths related to gender and productivity. Studies consistently identified a lack of long-term impact of childbearing and childrearing on women faculty productivity. Women and men faculty experience peaks and valleys in their productivity throughout the career which can coincide with major life events, including having children. Consistently, however, the literature finds that being married and having children leads to more productive and dedicated faculty. More recent qualitative studies applying role theory suggest that there is congruence between the roles of faculty and parent, leading to more, not less, satisfaction.

On the other hand, the research has created further evidence of biases that continue to support notions of the ideal worker identified in the organizational studies literature. This represents an area of stagnation where the issues are consistently identified but remain unchanged. The area of literature focused on what work/life policies exist and if and why they are being used identified bias avoidance where faculty shy away from using policies in fear of professional repercussions,

particularly if they are on the tenure-track. In this regard, the critical mass theory suggesting that more women will lead to change is debunked; merely having more women in the professoriate is not leading to cultural change. And, the picture of how policies and norms operate are complicated by many institutional factors, such as institutional type, size, and mission. Those faculty who are at rural community colleges have very different needs than those urban research universities, for example. These issues are further complicated by the continuation of focus of work/life and work/family. No studies in higher education address the issues of caring for elderly parents, experiencing medical leaves, or those of single individuals who do not have children. The intense focus on work/family does little to help those who lead and manage higher education institutions to see the pervasive nature of work/life needs across all constituents groups on a campus.

The literature also helps to frame the relationship between higher education institutions and society, suggesting that universities are, in fact, a microcosm of societal dynamics. Socio-historical notions of gender, particularly the primary role of women as caregivers, creates additional challenges for women faculty. While they can find synergy, as opposed to conflicts, across their roles, more critical studies point out that the lack of conflict is not a solution; rather, the very gendered nature of higher education institutions must be revealed and challenged if women and parents are to find equitable workplaces. These more critical perspectives are supported by the recent studies on policy use suggesting that individuals still experience bias and discrimination, truncating their agency to navigate work/life issues. These very serious issues around work/life will become increasingly salient as higher education becomes more diverse. Scholars have incorporated a variety of organizational and psychological theories, but as we discuss in the section that follows, the field seems to suffer from a repeated application of the same theories and may benefit from a deeper treatment of some of the theories reviewed here as well as a consideration of other theoretical traditions not explored. Given that higher education is a multi-disciplinary field, it has the promise of combining theories from across disciplines to create new insights to ultimately push the field forward. We discuss this and other implications for the future of scholarship in the field in what follows.

Implications

Our review of the work/life scholarship, both within and outside of higher education, has led us to the following critiques and conclusions. First, the very conceptualization of work/life in higher education needs to be expanded to include life issues beyond parenting and populations beyond faculty. Second, the field could benefit from a more application and discussion of theory with the intent of building, critiquing, and creating theories relevant to work/life in higher education. Although our review of the literature in psychology and organizational studies began by first discussing method before turning to theory, our implications foreground theory, given

that concepts and theory should drive methodological choices and thus comes first as we reimagine work in this field. After discussing theory, we then turn our attention to the importance of multiple methodologies that address the dynamic and personal nature of work/life balance. Additionally, we see the need to find some mechanisms to continually update baseline information about policy use, as some of the oft-cited studies are already quite dated. Finally, we see the need for the use of networks for information-sharing as well as the use of evidence-based practices. We discuss each of these suggestions in what follows.

Reframe and Expand Work/Life Research

As stated throughout this chapter, the primary focus of the research on work/life has been on parenting or work/family. The field needs to expand to consider how issues beyond parenting affect an individual's career. Individuals navigate a slew of issues, from elder care to illness, that deserve additional attention; all create unique demands on an individual's time. But beyond work/family issues, the field might consider simply work/life demands, considering how those without significant family responsibilities navigate the press of work with the ability to craft a meaningful and satisfying life. What implications does the ideal worker construct have for faculty, staff, and students? How do expectations that individuals are always working impact their ability to craft meaningful and fulfilling lives off-campus?

Most suggestions for future research in articles state that the research should be expanded to include other populations. While this has become somewhat of a platitude, it is an important truth for work/life scholarship on higher education. The field has succeeded in capturing differences between men and women's experiences, yet attention to nearly all other identity groups is noticeably absent. Scholarship could benefit from differences in the work/life experiences of faculty, staff, and students by race and sexuality. What are the unique experiences of LGBTQ faculty, staff, and students as well as those outside the gender binary and how do heteronormative assumptions around parenting affect their experiences navigating work/life? How might the extra service burden placed on faculty of color, along with the racialized context in which all faculty work, affect the work/life experiences of faculty from various racial and ethnic groups? The field has failed to focus on racial differences, which is a tremendous shortcoming and one that deserves immediate attention. Attention across difference need not stop at race/ethnicity and sexuality/gender. Additional studies might focus on people with disabilities, which creates a unique host of work/life demands. Finally, identities are not neatly siloed; rather an individual simultaneously is defined by race/ethnicity, gender, sexuality, religion, disability status, SES, and many other demographic factors. Work/life scholarship would benefit from adopting an intersectional lens, in both quantitative and qualitative research, to understand the influence of intersectional identities on work/life issues.

Additionally, scholarship needs to expand to consider more than just the needs of tenure-line faculty. Scholarship should focus on the work/life experiences of contingent faculty and the difficulties this underpaid and undersupported group of faculty face. Staff are noticeably absent from the work/life literature. Although a few studies have examined the experiences of women in student affairs, the university is populated by employees in a variety of areas, including facilities, finance, and athletics. Studies might investigate the role that departmental culture and norms play on the worklives of staff including those in auxiliary services. All too often, staff who are in service roles in the university are working multiple jobs and have little to no ability to maintain work/life balance. These individuals are also often faced with temporary summer layoffs or jobs just under full-time status. Very little research has been conducted on these groups across the higher education scholarship, let alone in the work/life literature. Similarly, scholarship should interrogate the differences between exempt and non-exempt staff, as the demands placed upon each group of employees differ, creating different challenges for work/life. Another group in need of additional research are postdoctoral researchers who are often on grant-funded projects with no long-term financial stability and are in positions generally designed to prepare them for faculty careers, thus creating ideal worker demands.

Finally, as we commented earlier, students are understudied in the work/life scholarship and their unique experiences should be investigated. Given that an increasing number of undergraduates take substantial time away from schooling before matriculating, some of these individuals will be parents, and thus face work/family challenges. How might institutional work/life policies and protections (i.e., paid leave for childbearing or adoption or medical issues, availability of lactation rooms, childcare, or guaranteed funding after a family or medical leave), or lack thereof, for undergraduate and graduate students impact their ability to be successful students? However, the conversation about work/life should not only focus on those with parenting responsibilities, but with obligations to other family members as well as a focus on crafting a meaningful balance between work or school and life responsibilities. Scholarship that centers the experiences of all on a college campus—faculty, staff, and students—and acknowledges the multiple demands on their lives would be a welcome addition to the field.

Go Beyond Descriptive Studies

While the higher education work/family scholarship is robust, some of it suffers from a lack of a theoretical orientation, in some cases, or incomplete theoretical application in others.. Many studies have detailed the differences in productivity of parents versus non-parents. Other studies have detailed the differences in policy use between men and women. These studies either do not offer a theoretical framework or seem to use it to frame their studies as opposed to fully integrating it into their methodology. Let us be clear: these findings are important and have contributed to developing a baseline for understanding work/family issues in higher education.

However, we are concerned about a lack of theory use to guide interpretation of findings. Even in some articles that introduce theories in the literature review, authors do not always use the theory to interpret their findings. We offer a challenge to our colleagues to be more intentional in their use of theory, and to use it as an interpretive tool. Doing so will only strengthen the scholarship in the field and help create new frameworks for how to more deeply understand work/family in higher education and other organizational forms. For example, the research on productivity, often framed using human capital theories, would benefit from integration of theoretical frameworks that address power, agency, and identity, such as the work of Foucault (1976) or Weedon (1997). One major critique of the productivity studies emerges from the assumptions of human capital theory, particularly the assertion that all individuals are able to receive the benefits of education regardless of social or structural inequities related to gender, race, social and economic class and so on. There is some acknowledgement in the quantitative models of the structural, or organizational, constraints but the variables fall short in identifying how power and agency operate throughout the organization that define and constrain the ability for individuals, particularly women and people of color, to meet standard notions of productivity (i.e., number of publications). Whether it be merging or using new theoretical frameworks, more attention is needed to build more sophisticated models that account for power and truncate agency in higher education institutions.

Although higher education scholars have used a variety of theories in work/life scholarship, many of those used come from other disciplines, principally organizational studies and psychology. In some instances, they simply replicate the findings from studies in other arenas in the higher education sector. For example, higher education scholars have deeply engaged with role strain and role conflict theory (Elliott, 2008; Sallee, 2015; Sallee & Pascale, 2012; Ward & Wolf-Wendel, 2004, 2012), perhaps to the extent that the field might agree that navigating work and family is indeed a conflict of two roles. Our concern is that higher education scholarship may be limiting itself by relying on the same theories to guide discussions of work/family scholarship. We suspect that the field would benefit from an engagement with alternative theories and disciplinary traditions in our work. For example, the work/life scholarship in higher education has yet to grapple with ecological theories found in the organizational studies literature. Those studies using Bronfenbrenner (1989) interactive nested levels of systems – microsystems, mesosystem, exosystem, and a macrosystem – are beginning to identify a complex relationship between individual family circumstances, organizational dynamics, and societal expectations. Applying this work to caring for aging has the ability to reveal how individual cultural and familial expectations of elder care coincide with gendered norms and a lack of discourse and policy for elder care.

However, there have been few applications of some theories and constructs (e.g., satisfaction, well-being, boundary theory) in higher education literature, which has not provided enough opportunity to replicate findings to see if there are any unique differences between the higher education sector and other organizational contexts. Indeed, our review of the higher education literature suggested only two studies that used satisfaction as a theoretical construct (Near & Sorcinelli, 1986; Sorcinelli &

Near, 1989). While we are not advocating that higher education scholars must use the same theoretical traditions as our counterparts in other disciplines, we wonder to what extent the field would benefit from considering these concepts more deeply in our research.

While satisfaction has received some attention in the higher education literature, there are additional key concepts from various disciplinary traditions that have received little to no attention in the higher education scholarship, such as subjective well-being, Ryan and Deci's (2000) self-determination theory, and Bronfenbrenner's (1989) ecological systems model. Subjective well-being and self-determination theory, both constructs out of psychology, have tremendous promise to introduce new depths to the higher education scholarship, in part because both focus on ultimately helping individuals reach their potential, which, in turn, has consequences for workplace productivity. For example, self-determination theory suggests that an employee is most productive and happy when she experiences autonomy, competence, and relatedness. Although higher education scholars have used the concept of agency to explore faculty work/life issues, SDT goes beyond simply suggesting that faculty have control over their lives (via agency) to describing the various conditions that must exist for an individual to be both productive and motivated (i.e. self-determined). While much work/family scholarship in higher education has focused on the existence or use of policies as a proxy for how an organization helps employees strive for work/family balance, self-determination theory suggests that supervisors and administrators can play a key role in facilitating self-determination, which has implications for work/family in higher education. This theory has not been used in the higher education work/family scholarship. Going beyond the standard theories that have come to dominate higher education work/family scholarship is necessary to continue to push the field forward. Given the field's overreliance on the same theoretical concepts, we are particularly concerned that this leads to a lack of depth in scholarship. There is a limitation in producing original results with the continued application and replication of the same theoretical frameworks.

Finally, the theories are not always accurately or fully adopted. We reviewed some work/family studies in the higher education literature that did not use all parts of a theory or did not apply theory with the depth that was present in the original. In another study, Lester, Sallee, and Hart ([in press](#)) found that many applications of Acker's theory of gendered organizations failed to implement all five interaction processes. The authors concluded that

while separating these interacting processes has the potential to expand and test the robustness of their assumptions, all too often authors seek to make larger scale claims about gender in organizations and must find other theories with more robust conceptualizations (and decades of empirical refinement) to provide clarity to one or two interacting processes as often happens with those using performance theories. (p. 22)

In other words, parsing out the original theory loses the ability to more deeply understand the systematic nature of how gender operates within higher education or other organizational forms. Simply, Acker's theory is not just a sum of its parts of a complex overlaying of the constantly shifting and morphing set of processes that disadvantage women.

In their review of studies using Acker's (1990) framework, Lester et al. (in press) further found that the many articles used Acker's theory in conjunction with other theories to provide greater theoretical depth to the arguments. In some instances, the multiple theory use was to compensate for a partial or inaccurate application of Acker's work as we suggested above. However, in other instances, authors accurately engaged with more than one theory, which provided a novel way to interpret findings. Work/life scholars, for example, might combine theories from the organizational and psychological literature, such as using Bronfenbrenner's (1989) ecological systems model in concert with Ryan and Deci's (2000) self-determination theory. Such studies could seek to understand how different organizational contexts (microsystems and the resulting mesosystems formed through the microsystems' interactions) shape an individual's ability to achieve autonomy, relatedness, and competence. For example, how does the mesosystem formed by an individual's workplace and home influence self-determination? Do demands in one realm influence an individual's ability to achieve relatedness in another? Other studies might examine how boundary theory interacts with Conservation of Resources. The list is potentially endless, and our examples simply serve to underscore that higher education scholarship could benefit from deeper engagement with multiple theories to ultimately push work/family scholarship forward.

We would also suggest that higher education scholarship might benefit from theory-building, and not just theory application (Eisenhardt, 1989). Higher education provides a unique context for the study of work/family issues, given the enterprise's historic reliance on governance and collegiality among faculty as well as the presence of multiple actors—faculty, staff, and students—who play a variety of roles and have various—and sometimes competing—concerns. Further, the differing contexts of various institutional types create unique concerns. The field could benefit from the use of grounded theory to develop theory that accurately reflects the unique conditions of higher education. Potential theories that might be developed could focus on factors that affect work/life concerns over an individual's life course or the role of institutional policies and programs on work/life outcomes.

Adopt Robust and Innovative Methodologies

Another observation across the work/family literature in higher education is the need to consider new methodologies that examines the complexity of the work/family phenomenon. Across the literature, there is a reliance on only a few methodologies, principally quantitative survey research, and case studies and interviews in qualitative research. The criticisms of the large scale survey research are noted in the organizational studies and psychology sections. A lack of consistent definition of key constructs, an over reliance on the same measures, and a lack of complex measurement all call into question the findings or the application of the findings over time. And, comparison across studies is difficult without similar measurement. What is needed are more meta-analyses, agreement on testing more refined

measures, and a sharing of data across studies to examine not just the outcomes of the studies but also the methods employed. There are also more contemporary analytical tools available to explore larger datasets that can approximate quasi-experimental designs such as propensity score matching. The field might also benefit from drawing on longitudinal designs or time-diary studies, used by some of the psychology work/life scholars. Additional studies, either quantitative or qualitative, might also take to querying an individual's partner or children to gain a more holistic understanding of the impact of work/family demands. More experimental designs would also help to examine key questions that either have contradictory evidence or no evidence. For example, what types of interventions (i.e., policies, professional development programs) assist faculty and staff in balancing work/life? We also need to develop programs to address implicit bias that is found to lead to a lack of policy usage. Of course, these designs rely on robust datasets that have national samples. With the stopping of the National Study of Postsecondary Faculty (NSOPF) by the National Center for Education Statistics, a large scale and robust dataset of faculty does not exist. Although efforts to revive the survey are underway, higher education scholars have to rely on either dated statistics from past iterations of the NSOPF or other datasets that, while robust, do not offer the same deep pool of institutions that was present in the NSOPF. These datasets need to include the diversity of faculty ranks, including contingent faculty, and consideration of institutional variables for more hierarchical and nested analyses. Additionally, more national studies are needed on the work/life needs of graduate students and university staff. The intense focus on faculty across the literature is a point of critique that could be addressed with future studies. Without more quantitative research that employs expanded methods, the findings continue to be limited.

Turning our attention to qualitative research, all too often the case studies methodologies draw on single institutional (or case) samples, yet still draw conclusions beyond the scope of the data. For example, several case studies have twenty or fewer interviews of faculty per institution with conclusions that attempt to speak to the experiences of all faculty across those institutions. Lester (2015) began to identify the complexity of faculty employment contracts and a significant area of research on contingent faculty points to a diversity within faculty ranks. As we discuss shortly, while there is great worth to qualitative studies that intimately explore the experiences of a small group of people, the field would benefit from more large-scale qualitative studies, such as that undertaken by Ward and Wolf-Wendel (2012) and Sallee (2014). These studies would help to illuminate key concepts, such as the salient differences across institutional types as well as aspects of climate and culture within units and departments that impact work/life balance. Case studies can also explore how organizational logics and discourse related to academic capitalism impact how work/life interfaces with institutional priorities, internal and external pressures, and isomorphic tendencies. These are just a few ideas of how larger scale qualitative studies can fill a gap in existing knowledge on work/life in higher education.

Qualitative research need not be just large scale to have a direct benefit on knowledge of work/life balance. In addition to case study research, the field would also

benefit from the use of additional methodologies, including narrative research, discourse analysis, and ethnography. Such methodologies would allow scholars to capture the nuances of a handful of participants' lives, analyze the use of language related to work/life, and describe how a department or institutional culture shapes the home and work lives of those who populate it. Although several studies identify a relationship between personal definitions, career stage, family status, and perspectives and use of work/life policies, there seems to be a dynamic nature of work/life needs that remains unexplored. This has implications on policy and program development, which often focuses on two major areas: parental leave and elder care. The mid-career individuals and those with other life needs beyond caregiving are not understood. In addition, the role of individual agency is unclear. How do we address work/life balance when one chooses to not have balance, for example? In-depth narratives and observational data are needed to examine questions about perspectives of individual agency, the role of surveillance, and structural impediments (such as the rise of productivity standards for faculty), to name a few.

Finally, work/family scholarship in higher education could benefit from the use of mixed methods studies. Such studies would allow researchers to combine the strengths of quantitative and qualitative methods to capture a broad snapshot of a particular issue across large populations while also employing qualitative methods to develop a deep understanding of the context. Mixed methods studies could be used to address any number of topics, including the consequences of policy use on faculty productivity and careers. A study might survey faculty across institutions to measure which faculty used institutional policies related to work/family issues and what consequences (research productivity, tenure and promotion) faculty experienced as a result. In-depth interviews might be conducted with a small sample to better understand the ways in which faculty felt that their careers were affected, both positively and negatively, by policy use. This is just one possible study that would benefit from mixed methods. The field could benefit from the bold deployment of a variety of methods to enhance the knowledge generated for the field.

Create a National Repository of Work/Family Scholarship in Higher Education

In conducting this review, we were struck by two realizations: 1) the higher education scholarship is quite disparate and 2) findings become quickly obsolete. For example, the most recent national survey of work/family policies is Hollenshead et al.'s (2005) survey, which, as of this writing, is over a decade old. We suspect that many institutions have shifted their policies; given the economic downturn that began in 2008, it is possible that some institutions have scaled back the policies that they offer. Rather than the anticipated progression of more work/family policies throughout institutional types, it is possible that policy existence has contracted. For example, a decade ago, many research universities were offering modified duties for faculty, which typically provides a semester of teaching release after the birth of a

child. And while other institutions were slowly following suit and adopting such policies as their own, it is possible that the progression slowed. Other innovative policies and supports included lactation consultants, emergency back-up childcare, and childcare funds to use for conference travel. All of these policies cost money and therefore may not have been adopted by other campuses or defunded on existing campuses. But, since there is no agency that collects this data, we are left to speculate. The field could benefit from an updated survey of work/life policies across institutions, but not simply another one-off study that is conducted by a group of researchers. Rather, we suggest that an infrastructure be implemented that allows a research center to conduct a similar survey on a regular basis. The field suffers from a lack of regular collection of data; having a common baseline of data with which to work would help unify the scholarship in the field. The national repository might go beyond simply cataloging which institutions offer which types of policies, but perhaps also track employee and student use as well as various outcomes associated with such use (tenure and promotion, career advancement, graduation, etc.).

Network to Promote Scholarship and Knowledge Sharing

As our survey of the literature has suggested, scholars have taken a variety of approaches to the study of work/life, both within higher education and in other disciplines. However, with few exceptions, ideas from one discipline do not inform scholarship in others. Multiple knowledge networks, such as the existing Work and Family Research Network, should be created to facilitate the dissemination of research and collaboration across disciplines. Such networks allow scholars from a variety of disciplines to meet and learn from one another. In addition to focusing on content, these networks should also promote the use of new methodologies for the study of work/life. Scholars in psychology might benefit from bringing more qualitative methodologies to their work while higher education scholars might be pushed to adopt longitudinal designs, qualitative designs in addition to the oft-used case studies, or use more sophisticated statistical methods to inform their research. The point of such networks is to push work/life scholarship in all disciplines forward in meaningful ways to ultimately find solutions to the significant concerns facing individuals who work and study in all sectors.

Develop Evidence-Based Interventions

As work/family scholars, we are strong advocates for policies and programs that help faculty and staff navigate their personal and professional responsibilities, such as paid parental leave, tenure clock extensions, alternative duties, and a reduction of teaching duties. However, rarely is research publicized that illustrates outcomes of

such interventions. The National Science Foundation (NSF) ADVANCE program has spent much of the last two decades funding programs to increase the representation of women in science and engineering fields. Many of the institutions who have received such grants have included attention to family-friendly programs and policies as one way to recruit and retain women in the STEM fields. Although funding reports are submitted, few of the work/family-based outcomes have been documented in the higher education research. Researchers at the University of Colorado at Boulder conducted a large-scale study of 19 institutions that received a NSF ADVANCE institutional transformation grant (Austin & Laursen, 2015). Findings from this study reveal important strategies for promoting institutional change but did not compare institutional data across interventions. Coordination on a large scale prompted by a national organization or funder would need to be in place to help individual institutions collect similar data and share that data nationally. Questions still remain to include: do tenure clock extensions or a reduction of teaching duties ultimately lead to more success (defined in any number of ways—productivity, retention, promotion) for those who use the policy versus those who do not? Providing evidence to support the existence of policies will both illustrate their effectiveness and signal to other institutions the importance of adopting them. From this corpus of research-based practices, scholars should compile practical resources to help others develop work/life programs and policies. We envision the presence of a clearinghouse that highlights best practices. As higher education is a discipline that focuses on both research and practice, it is incumbent on work/life scholars to bridge the two arenas.

Conclusion

Work/life scholarship in higher education has evolved considerably since Hamovich and Morgenstern's (1977) article, comparing women and men's productivity to provide a defense for mothering in the academy. Over the past forty years, the field has taken up important questions of faculty productivity, demographic differences, the importance of organizational context, and policy use. Scholars have incorporated theories from a variety of disciplines to support their analyses, including role conflict, gendered organizations, and agency. However, we are concerned that the field is stagnating by the repeated use of many of the same theories and methods to drive scholarship. We offer a challenge to higher education scholars to continue to turn their gaze outward to the concepts explored by scholars in other fields, including psychology and organizational studies, among others. By bringing new concepts and methods to bear on work/life research in higher education, scholars will push the field forward, producing new knowledge that comes closer to creating a gender equitable academy that recognizes the importance of work/life for all who populate it.

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Chapter 9

A Historiography of College Students 30 Years After Helen Horowitz's *Campus Life*

Michael S. Hevel

Four years after publishing his now classic *The American College and University*—and amid a time of increasing unrest on college campuses—Frederick Rudolph (1966) wrote “Neglect of Students as Historical Tradition.” In this essay, he argued that college students had been doubly overlooked. First, since the beginning of American higher education, college students’ needs and desires went unfulfilled by presidents and faculty members. Students responded to this neglect throughout history by pulling off ingenious pranks, fomenting rebellions, and creating long-lasting—and not always desirable—features of campus life. Second, historians of higher education had focused on presidents, faculty, curricula, and endowments, leaving “students ... [to] flow rather aimlessly in and out of our picture of the past” (p. 47). “This picture was both unfair and inaccurate,” Rudolph asserted, “for unquestionably the most creative and imaginative force in the shaping of the American college and university has been the students” (p. 47).

Rudolph used this essay to call for educators to research college students and their activities, both in the past and in the present, and to develop a more purposeful relationship with students. Such a scholarly focus would tell educators “what is going on, what requires attention, what may or may not happen unless conscious responsible direction is asserted” (pp. 53–54). The alternative would be a continued reactive rather than proactive role for administrators and faculty in responding to students’ behaviors and activities. Recalling that literary societies predated fraternities and athletics, Rudolph told readers, “if boys insist on playing ball and getting drunk, administrators should remember that even before it occurred to us—they wanted to read books” (p. 55).

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Although college students had captured some attention in histories since the nineteenth century, Rudolph's essay nonetheless captured the prevailing exclusion of college students in contemporary historical research. Of the three eventual classic books on the history of higher education published between 1955 and 1965, only Rudolph's (1962) meaningfully incorporated students (Hofstadter & Metzger, 1955; Rudolph, 1962; Veysey, 1965). In the decade following Rudolph's call for greater scholarly attention to college students, historians offered a notable increase in books related to earlier generations of college students, though these works were as much a response to the campus unrest of the 1960s and early 1970s as to his essay. These historians often focused on specific populations of college students over short periods of time in which they had rebelled against college officials, participated in activism off campus as part of larger political movements, and captured the nation's attention. Collectively, these studies provided useful perspective to Americans that the recent discord on campus was not an aberration that signaled a drastic and permanent change in higher education but rather one of its enduring, if itinerant, features. Another decade would pass, however, before a scholar—Helen Horowitz—offered a history that explored college students from diverse backgrounds at a variety of institutions over a long period of time.

In 1987, just 3 years after her detailed history about the formative years of the “Seven Sisters”—elite, northeastern women's colleges—Helen Horowitz published *Campus Life*. First offered in hardback by the prestigious and popular publisher Alfred A. Knopf and kept in print in paperback by the University of Chicago Press, *Campus Life* paid particular attention to how college students' gender, race, ethnicity, religion, and socioeconomic status shaped their experiences over time. Synthesizing existing historical research and incorporating many memoirs written by alumni, Horowitz argued that there had been four “distinct ways of being an undergraduate”: (1) college men, (2) outsiders, (3) rebels, and (4) college women (Horowitz, 1987, p. x). Despite the approach of its 30th anniversary, and a steady stream of historical research on college students that followed it, *Campus Life* continues to be a popular entry point into the history of college students for the interested public and many graduate students, in no small part because of its focus on students with diverse identities over a long period and its accessible prose. Historians writing in the wake of *Campus Life* have largely eschewed Horowitz's emphasis on breadth for depth, delving deep into the experiences of specific groups of students over shorter periods.

This chapter explores the historiography of college students in the United States, using *Campus Life* as a scholarly divider. It begins by surveying the literature that existed prior to *Campus Life*, stretching back to before the Civil War. After considering Horowitz's rationale for *Campus Life* and its contributions, the remainder of the chapter focuses on the historical scholarship published in the subsequent three decades. Though recent historians writing about college students seldom situated their research in relation to *Campus Life*—that is, how their study confirms, contradicts, or nuances the four categories of college students—they have provided a burgeoning body of knowledge that, similar to Horowitz, has considered how students' salient identities have shaped their experiences. The chapter concludes by noting

historical studies related to student organizations and student behaviors and suggesting avenues for future research.

In emphasizing breadth and incorporating students from a variety of backgrounds, this chapter cannot claim to engage every relevant publication. Rather, it emphasizes books written primarily about students in higher education. As it moves on to consider student groups traditionally excluded from both higher education and its historiography, the chapter increasingly incorporates articles and chapters. Largely excluded are histories of individual colleges or universities published after the 1950s, biographies that devote significant attention to their subject's college years (e.g., Caro, 1982; Davis, 1971/2003), and the large literature on college athletics. The burgeoning body of scholarship on students since *Campus Life* was published is representative of a steady scholarly progression, for even though Rudolph claimed that historians had neglected college students, they had devoted some—if not proportional—attention to college students for nearly a century by the 1960s. Enough attention, as Rudolph well knew, to draw a meaningful analyses of college students and campus life over time.

Early Historiography of College Students

Rudolph (1966) was right to express concern about the inattention provided to understanding college students, given the contemporary prominence of student activism on campus and the fact that recent histories of higher education had largely excluded the experiences of these most numerous members of the academic community. At the same time, publications focused on college students and their history had been around for well over a century by 1966. Several of these would prove to be useful sources for later historians studying college students and campus life in the future.

As early as the 1840s, White men, as either upperclassmen or recent alumni, began publishing books about their alma mater. Geiger and Bubolz (2000) surveyed many of these publications, classifying them as “descriptive accounts ... of ... everyday curricular and especially extracurricular experiences” (p. 80). Both Belden's (1843) *Sketches of Yale College* and Wells and Davis's (1847) *Sketches of Williams College*—the latter modeled after the former—opened with a brief history of the institution, a contemporary description, and ended with student-focused chapters, “Day in College” and “College Life” respectively. Mitchell (1847) looked back on his undergraduate days at Yale that transpired a quarter century earlier. He wanted to demonstrate how religious young men could take advantage of a college education without succumbing to vices present on campus. Antebellum alumni would continue to write memoirs and reminiscences of their college years into the twentieth century (e.g., Wall, 1914).

Some works in this genre revealed an especially lively and intimate view of campus life. In 1851, Harvard senior Benjamin Hall (1856) published *A Collection of College Words and Customs*. The book was mostly a glossary of antebellum

vernacular at college, but Hall also included anecdotes “to explain the character of student life, and afford a little amusement to the student himself” (p. iv). Readers learned that students used “sprung” to describe the jovial effects of alcohol: “The positive of which *tight* is the comparative and *drunk* the superlative” (p. 291). If Hall’s 319 pages tested readers’ patience, they would be thoroughly exhausted by Lyman Bagg’s (1871) 713–page opus *Four Years at Yale*. This book provided a quintessential example of the emphasis—or lack thereof—wealthy White men placed on their studies. After a 50-page opening devoted to Yale’s history, Bagg wrote the next 500 pages about campus life. Less than 25 pages focused explicitly on the curriculum, and less than 100 pages on academics in total. Bagg’s account of student life eventually became a popular source among historians hoping to reconstruct the experience at men’s colleges directly after the Civil War (e.g., Horowitz, 1987; Thelin, 2011). Before either Hall or Bagg, two Princeton seniors wrote *College As It Is or, the Collegian’s Manual in 1853* (Henry & Scharff, 1853/1996). If not quite as exhaustive as *Four Years at Yale*, the book’s 18 chapters provided a rich, lively, and more manageable account of the student experience at Princeton, but nearly 150 years passed before the manual was published by Princeton University Libraries. Geiger and Bubolz (2000) noted that the pleasant tone and fond remembrances of these “descriptive accounts” marked a significant change in the relationship between college students and their institutions of higher education. A generation earlier, students had regularly rebelled and rioted on campus.

More official histories of White college men and campus life emerged over time, though many continued to be written by alumni. Several focused on specific features of the extracurriculum while others concentrated on the larger student experience. Cutting (1871) provided a thorough account of the extracurriculum at Amherst College. He focused primarily on the history and current activities of the literary societies, before moving on to other organizations and campus honors. Sheldon (1901) offered a longer history, starting with student life and customs at medieval universities. He divided American higher education into four specific eras, writing about class activities, debating societies, fraternities, athletics, student government, and religious organizations in each era. Three decades later, Shedd (1934) wrote a 200-year history of Christian religious activities on campus. Patton and Field (1927) and Canby (1936) offered broader histories that emphasized the student experience. In *Eight O’Clock Chapel*, Patton and Field considered New England colleges in the 1880s. While they devoted chapters to the curriculum, especially the elective system and prominent faculty and administrators, the last half of the book focused on students, including their organizations, religious activities, and athletics. Canby, drawing largely on his personal experience as a student and professor at Yale, provided a nostalgic portrait of men’s colleges in the 1890s.

College students also began to be highlighted in institutional histories in the first half of the twentieth century. Samuel Eliot Morison (1935, 1936a) devoted several chapters to students in the volumes he prepared in advance of Harvard’s 300th anniversary, which he synthesized into the lively chapter “Good Old Colony Times” in

his more accessible *Three Centuries of Harvard* (Morison, 1936b). Institutional histories generally relegated student experiences to one or two chapters, but they nonetheless could provide compelling analysis about student life, at least on an individual campus. Wertenbaker (1946) wrote that the relaxing of strict discipline in the 1830s and 1840s at Princeton resulted in improved student-faculty relations. In addition, institutional histories could collectively provide insights into national developments among college students and campus life. In fact, Rudolph (1962) relied heavily on institutional histories, particularly for his chapters about students, including histories of Amherst College (Fuess, 1935), Miami University (Havinghurst, 1958/1984), Ohio University (Hoover, 1954), and the University of Wisconsin (Curti & Carstensen, 1949).

A handful of histories of institutions provided a more holistic historical perspective, bordering on social histories that would emerge in the 1960s and 1970s, written by professional historians. Merton Coulter's (1928) *College Life in the Old South* inaugurated this genre. Coulter focused on the University of Georgia because of its extensive archival record, though he believed that "[t]here were no differences in what happened at the University of Georgia" and other southern colleges and universities (p. xii). Chapters covered the discipline system, student life, literary societies, commencement, religious tensions, and student rebellions. A quarter century later, Tankersley (1951) published the similarly named *College Life at Old Oglethorpe*. Oglethorpe, founded by Presbyterians and in operation from 1838 to 1862 and then mostly defunct until reopening in 1913, was one of several denominational colleges that enrolled a majority of Georgia college men from the 1840s until the Civil War. Just 6 years before publishing *The American College and University: A History*, Frederick Rudolph (1956) produced a history of his alma mater and employer. In *Mark Hopkins and the Log*, Rudolph illustrated that college students had been "extraordinarily vital" "in giving shape and purpose to" Williams College in the nineteenth century (pp. vii–viii). Thomas Le Duc's (1946) *Piety and Intellect at Amherst College*, was more an intellectual than a social history. Le Duc demonstrated how a college created for religious ends and to train clergy became, over the course of the nineteenth century, devoted to a more scientific curriculum. Students helped facilitate this change, and Le Duc illustrated how athletics, literary societies, and fraternities influenced this evolution.

Historical research about women's higher education began to emerge in the early twentieth century. Blandin (1909) explored women's higher education in the South before the Civil War. In contrast to prevailing perceptions, Blandin compared favorably the educational situation in the South to the North. She claimed that southern leaders (men) established schools for girls before northern leaders did so, leading to a more substantial higher education system in the South for both genders. By the start of the Civil War, Blandin cited evidence that the South, while having less than half as many White residents as the North, had more colleges, more professors, and more students. Southerners opposed coeducation, but "[a]t a very early period schools, seminaries, and institutes—the last two colleges in all but name—were

established especially for” White girls and young women (p. 18). Blandin asserted that these institutions offered women a higher education:

The criticism is sometimes made that these schools sink into insignificance when compared with the colleges for women of the present day. The same might be said of the schools for men—the high schools and colleges of the present day are far in advance of any colleges fifty years ago. However, the principal difference between colleges for men and women fifty years ago was a substitution of French for Greek and the addition of music and art to the curriculum of the colleges for women. (p. 18)

In his important two-volume treatise on women’s education published 20 years later, Woody (1929a, 1929b) cited Blandin on education in the South and academies and seminaries, but he did not consider these institutions as offering higher education. Woody based this conclusion largely by comparing the study of Greek and Latin at these institutions to those of contemporaneous men’s colleges. Nonetheless, Woody cited the significance of the academies and seminaries “that rose to prominence and exercised a large influence on women’s education were designed and operated for, and frequently by, women” (Woody, 1929a, p. 329). He admitted that they “offered girls a more liberal education than they had received before” (Woody, 1929b, p. 138). Woody (1929b) also offered chapters about women’s colleges, coeducation, coordinate colleges, and women’s graduate and professional education. From Woody’s perspective, one of the first women’s institutions that provided “education equal in value and leading to a degree equal to men” was Elmira Female College in New York, which awarded its first degrees in 1859.

As the title of Mabel Newcomer’s (1959) book made clear—*A Century of Higher Education for American Women*—she largely agreed with Woody in terms of dating women’s higher education. Newcomer demonstrated that, over time, the liberal arts remained dominant at women’s colleges, as the institutions—and their students—resisted reforms aimed to give the curriculum an overt vocational or domestic focus. An economist and emerita Vassar professor, Newcomer included rich quantitative data. By the time she published, there were an equal number of separate men’s colleges and women’s colleges, but an overwhelming percentage of all institutions were coeducational (13 % each vs. 74 %). Newcomer found that a majority of graduates who worked outside the home were teachers, and married women were increasingly working for pay. She also pointed to troubling trends during the 1950s: the percentage of women earning graduate degrees had fallen 30 % since the 1920s; during the same period, the proportion of women to men undergraduates had change from almost one-to-one to one-to-two. Despite Newcomer’s analysis, these concerns would remain on the back burner until the women’s movement of the late-1960s and 1970s, when they would become one of several flare-ups on campus that in turned sparked a surge in the scholarship related to the history of college students.

The Post-1960s Boom

Responding more to developments on contemporary campuses than to Rudolph's (1966) essay, historians paid increasing attention to college students by the late-1960s. As record numbers of young Americans attended college, as many of those students demanded change on campus and in the world, and as two historically underrepresented groups—White women and African Americans—accessed higher education in greater proportions while also engaging in activism, historians offered studies that provided perspective on each of these developments. The result was a boom in scholarship related to the history of college students beginning in the early-1970s that persisted up until the publication of Helen Horowitz's (1987) *Campus Life*.

Mass Higher Education

As the children of the GI Bill generation began graduating from high school in the late-1960s, higher education enrollments swelled, both in absolute numbers and the proportion of young people going to college: by 1970, 8.5 million students enrolled in over 2500 institutions and over a million earned bachelor's degrees each year (Thelin, 2011). As more young people became college students, diversity increased and the campus increasingly became the focus of national attention. Historians during this era captured important markers along America's rocky and uneven path toward mass higher education.

James Axtell and David Allmendinger explored the earliest form of diversity in American higher education. Limited numbers of White men from poor families had long attended college in North America, though some institutions accommodated these students better over time. Axtell (1974) provided a rich and lively account of the higher education of White colonial college men, especially at Harvard. The main form of diversity at colonial colleges was socioeconomic—often represented by students over the age of 20—and this was meager at best. According to Axtell, “when the college was transplanted to New England, it carried roots that had long fed on inequality” (p. 207). Colonists made some room through scholarships for the most academically talented and determined young men from poorer families. Yet class rankings were determined by a family's social prominence rather than a student's academic performance for most of this era, reflecting the limited social mobility offered by colonial higher education. The role of higher education then “was less to make these young men eligible for membership in the elite than to complete and confirm their qualification, right, and obligation to govern that already existed” (Axtell, 1974, p. 208). These young men received favoritism from their government that would, in some wavering forms, persist over the centuries, including release from military service and tax breaks.

Allmendinger (1975) considered a new group of institutions, New England's "hilltop colleges," that developed in the early nineteenth century and better served students from meager backgrounds. With family farms no longer large enough to be split among offspring, many young men faced the choice of moving West to farm and probably never seeing their families again, or entering a profession. To do the latter, they attended college, especially religious young men who aimed to become ministers. Allmendinger documented an increasingly complex, though ultimately failed, private system of financial aid in the antebellum era. It started with pastors and congregations supporting talented but poor local youths and ended with the American Education Society supporting thousands of similar students. Allmendinger also explored how poverty influenced the experiences of young men. They made major sacrifices to attend college, including walking great distances from home to school, working on campus, leaving campus intermittently to teach school, and foraging in nearby orchards and woods to supplement their meager meals. Even though these institutions largely accommodated the needs of low-income youth, this diversity fractured community on campus: wealthier students expected greater amenities, and poorer students demanded flexibility so that they could work and take advantage of the cheapest accommodations for housing and meals.

For higher education to approach mass popularity, it had to be embraced by more than the rich and the poor; it had to become popular among the middle class. Burton Bledstein's (1976) *The Culture of Professionalism* connected the development of professional careers, the emergent middle-class identity, the creation of research universities, and the increased popularity of attending college in the late-nineteenth and early-twentieth centuries. While Bledstein devoted more pages to a cadre of progressive presidents at the nation's first research universities, he credited students as the first members of the academic community to create a culture that "reflected the attitudes and ambitions of the new middle class" (p. 248). These students shared similar identities to the institutional presidents—White, male, and at influential institutions. And they accomplished this cultural transformation through establishing literary societies, fraternities, athletics, and the YMCA at least a decade before presidents and professors began reforms in response to middle-class expectations.

The embrace of higher education by young Americans captured national attention in the 1920s, as they set new cultural standards in behavior and fashion, which Paula Fass (1977) documented in *The Damned and the Beautiful*. She focused on those native-born, White, middle- and upper-class students attending elite and major state universities who became increasingly depicted in popular culture. Fass argued that these students were both the products and the creators of social change, helping to establish modern culture in the United States. These young people grew up in families with more attentive and nurturing parents and fewer siblings than earlier generations. At college, this translated into a peer culture that embraced greater freedoms toward drinking among men, smoking among women, and fashion, and sexuality among both. Yet, as the peer culture at college largely eviscerated Victorian ideals, it nonetheless emphasized conformity toward the new values, and a cloud of conservatism hung over campus life. Increasingly in the 1920s, many young men

went to college to become businessmen and many women to marry future businessmen.

But mass higher education depended on more than enrollments of wealthy White Protestants. Several historians explored the relationship of Jews and higher education. Both Wechsler (1977) and Synnott (1979) located the development of selective admissions at elite institutions to efforts, at least in part, to exclude or limit the numbers of Jewish students. Gorelick (1981) demonstrated how Jewish students attended and navigated the Protestant-controlled City College of New York to promote their social mobility around the turn of the twentieth century. Oren (1985) centered on a more prestigious institution, exploring anti-Semitism and Jewish students' experiences at Yale between the 1870s and 1970s. Evans (1980) illustrated how Catholic leaders and students made higher education more hospitable for their community through the "Newman Movement." He explored the motivations of "Catholic students, campus officials, and clergymen to supply pastoral care and religious education in non-Catholic colleges and universities" (p. xiv). Although Catholic colleges increased in great numbers after the Civil War, the majority of Catholic students would always be educated in non-Catholic, mostly secular institutions, and Evans showed how developments within the larger society could interact to shape underrepresented students' collegiate experiences.

David Levine's (1986) *The American College and the Culture of Aspiration* was a strong study of the expansion of higher education in the U.S. Centering on developments between 1915 and 1940, Levine highlighted the creation of features that led to higher education's mass appeal: curriculum that increasingly focused on students' careers in general and the study of business in particular; establishment of junior and community colleges; and the ability of higher education to serve the nation in times of war and economic crisis. Importantly, Levine acknowledged a hypocrisy that coincided with mass higher education: American leaders, both on campus and off, touted the democratic ideals of higher education—that it was available to all and promoted the success of all—but there was actually little democratic about it. According to Levine, "The American college of the 1920s and 1930s promised young people a chance to pursue the American dream, but it was a dream first and foremost, though not exclusively, for the male children of those who already enjoyed its economic and social benefits" (p. 114). America was on the cusp of mass higher education when Levine ended his book, but it was far from offering equal experiences to the masses.

By the mid-1980s, historians had documented how earlier generations of low-income students have afforded college, the middle class had come to embrace higher education, affluent college students had influenced the larger culture, aspirational immigrant populations had experienced higher education, and higher education continuously rewarded the advantaged. But if diversification and growth helped to transfix Americans on higher education in the 1960s and 1970s, they may not have been the most important reasons. That likely belonged to the activism and unrest on many campuses.

Activism and Unrest

For many Americans by the late 1960s, the activism and unrest on college campuses—which ranged from lawsuits to strikes as students demanded change both at their institutions and in the larger society—seemed a historical aberration. Americans worried that higher education was forever changed. Yet historians soon highlighted earlier eras when campus unrest and activism were prominent. They concentrated on two periods—the turn of the nineteenth century and the early decades of the twentieth—to explore how earlier generations of students responded to times of social unrest. A main difference between the two eras was the focus of student activists: the earlier generation, while influenced by larger social forces, focused primarily on internal, institutional change; the later generation focused on external, societal change.

Several historians, including those who explored socioeconomic diversity at the nation's oldest institutions, revealed the preponderance of student unrest around the American Revolution. “Although many were legal adults”—over the age of eighteen—colonial “college students were always regarded as children” (Axtell, 1974, p. 230). In fact, in the colonial period, White college men represented society's only adolescents, and faculty members treated them as children, subject to strict discipline codes. Their non-college-going peers enjoyed the rights and obligations of adulthood long before college students, even though the latter were expected—and expecting to—quite literally rule over them in the future. This created friction between students and college leaders, especially as the rhetoric of democracy and liberty heated up in the years before the Revolution. Harvard students sued faculty and petitioned the governing board to stop corporal punishments (Axtell, 1974, pp. 235–236). Though the college was usually victorious in court, negative publicity and costly defenses led Harvard to gradually eliminate the practice. With no formal influence over the institution, colonial college students responded by petitioning for redress, riots, attacking faculty, and threatening to kill presidents. Parents, too, complained when college leaders fined their children in amounts that hurt family finances. By the end of the colonial period, institutions treated students more like adults. For many Americans reading *School Upon a Hill* in the mid-1970s, college students making demands for institutional change—through the courts, riots, and public opinion—not to mention many parents siding with their children instead of educators—were familiar if frustrating features of higher education.

Allmendinger (1975) explored activism and disorder in the decades after the American Revolution. Older, poorer students were more likely to support the era's major social reforms, temperance and abolition. Since some southerners attended these institutions, and wealthier students often enjoyed drinking, this activism “brought conflict to the college” (p. 102). As the college community fractured between poorer and richer students, and as students increasingly dispersed into town, instances of theft, assault, general disturbances, and sexual activity increased. Many of these campuses also experienced intermittent rebellions from 1760 to 1860. Though Allmendinger attributed these rebellions largely to changes brought

by poorer students, little evidence suggested that these students, anxious as they were to use their education to improve career prospects, were the main antagonists against college authorities. The fact that authorities used religious revivals and parental involvement to stem the tide of disorder would largely seem to exonerate older, religious students.

Steven Novak's (1977) *Rights of Youth* more convincingly placed the blame for the era's campus revolts on younger, wealthy students. Novak studied student revolts between 1798 and 1815. By including conflicts at the University of North Carolina, University of Virginia, and William and Mary alongside those at Harvard, Princeton, Dartmouth and Yale, Novak provided national consideration of the era's activism. If, as Axtell (1974) suggested, colonial college students increasingly resisted strict rules as ideas about liberty and democracy circulated through society, then young White men who attended college after independence expressed greater frustration toward dictatorial tendencies of faculty and presidents. To Novak, these "Sons of the Founders" who, having lost out on a chance to fight for their nation's independence against an unrepresentative government, took up the cause of fighting an unrepresentative faculty. To stem these revolts, college leaders created blacklists of student agitators that prevented them from enrolling elsewhere, tightened discipline, stifled curriculum reforms, and, as Allmendinger (1975) acknowledged, embraced religious revivals. Novak showed that students could create profound institutional change, though not always in the direction in which they agitated.

If the revolts described by Axtell (1974), Allmendinger (1975), and Novak (1977) highlighted adverse interaction of politics and higher education, other scholars illustrated more positive possibilities of this mixture. Robson (1985) argued that politicization of the colonial colleges from 1750 to 1800 provided intellectual justification to support American independence. Faculty members first developed a political consciousness open to independence. In turn, they developed "a curriculum designed for preparation for state service," which led many colonial college students to embrace arguments for republican government (p. 58). These young men used debating societies and public speaking to test their own arguments about political issues. By the 1770s, students were increasingly militant about independence. After the Revolution, James McLachlan (1974) illustrated that young White antebellum college men designed literary societies to engage the pressing issues of the day and prepare for life after college.

While one group of historians after the 1960s uncovered the unrest and activism among college students during the nation's founding, another focused on a more recent era with closer similarities to contemporary issues. Horn (1979) offered a history of the Intercollegiate Socialist Society (ISS) from the group's founding in 1905 until its transformation in 1921 as "the first nationally organized student group that had a distinct political and ideological orientation" and the organizational antecedent of a prominent college activist groups of the 1960s (p. xii). The more than 100 ISS chapters faced obstacles from campus administrators opposed to explorations of socialism, yet ISS encouraged intellectual curiosity during a time when many students were uninterested in the classroom. ISS members planned vigorous debates, invited controversial speakers, advocated for academic freedom, and

explored contemporary social issues through the curriculum. The socialist movement in the U.S. splintered in the wake of World War I, the Bolshevik Revolution in Russia, and the more conservative political climate of the 1920s. ISS itself transformed into the Student League for Industrial Democracy, a name it held until 1959 when it became Students for a Democratic Society (SDS). The main difference between ISS and SDS, from Horn's perspective, was that the earlier group embraced democracy, believing that socialism could only be successful if brought about by popular means, whereas when the latter "adopted the tactics of confrontation, it broke apart and ended in anarchy and random violence" (p. 191).

Any agitation organized by ISS in the 1900s and 1910s paled in comparison to that of the student activism of the 1930s, the decade in American history that, as two historians demonstrated, most resembled the tumultuous 1960s. Both Ralph Brax (1981) and Eileen Eagan (1981) explored student activism during the Great Depression, which represented the first national "movement" among college students. Despite the economically troubled times, most 1930s student activists focused on international political issues, especially the peace movement. Brax identified an important source of activism, the liberalization of college students' attitudes in the late-1920s and early-1930s. Activist leaders garnered increased support among average students by advocating for world peace, vilifying fraternities and ROTC, and planning anti-war strikes. The movement reached its pinnacle when somewhere between 350,000 and 500,000 students—30–50 % of the total college population—participated in the 1936 strike. Thousands of students signed the Oxford Pledge, an oath of refusal to serve in any future wars. From this peak, the student movement was stymied by internal strife and the nation's involvement in World War II. Neither Brax nor Eagan provided a definitive account of student activism in the 1930s, but they nonetheless documented a time—not too far from the 1960s—when college students interrupted the operation of their institutions to advocate for social change. These scholars largely left unexplored how students' identities influenced their activism; other historians, however, paid increasing attention to two groups of college students—White women and African Americans—who represented important populations within mass higher education and previous campus activism.

White Women

As women in the 1960s and 1970s argued for parity with men in terms of career opportunities, family responsibilities, and sexual freedom, historians began to document the longstanding nature of their inequities on campus, both at coeducational universities and women's colleges. In particular, scholars explored the tension between the prevailing social importance placed on domesticity and higher education. Concentrating their attention on two coeducational research universities and northeastern women's colleges from the end of the Civil War into the early-twentieth century, these scholars focused on White women, who represented the majority of female enrollments at these institutions.

McGuigan (1970) and Conable (1977) explored women's experiences at two of the country's oldest and most prestigious coeducational institutions, the University of Michigan and Cornell University respectively, which opened their doors to women in the 1870s. While both authors briefly provided some consideration of women students' later experiences, they focused on the first five decades of coeducation. McGuigan detailed the many arguments women endured against their higher education. First, women were supposedly not smart enough for college. When the earliest women at Michigan proved that wrong in the classroom, the second argument—spread by the misogyny couched as medical expertise of Dr. Edward Clarke's (1874) *Sex in Education*—maintained that higher education taxed women's bodies, especially their reproductive system. Higher education leaders demonstrated that women students and graduates in fact were healthier than their less-educated contemporaries. The harder argument to refute was that higher education “damaged the breeding function of American women,” for alumnae did marry later and had fewer children in an era when the large size of immigrant families caused anxiety among social leaders (McGuigan, 1970, p. 101). Coeducation continued to be controversial in large part because of women's success at college, with 53 % of bachelor of arts degrees awarded to women in 1899 at the University of Michigan. McGuigan focused on Michigan while touching on other campuses, referencing efforts to segregate men and women into separate classes and admission quotas on women at the turn of the twentieth century.

Similar events occurred at Cornell. In the first decade of coeducation, women experienced little discrimination (Conable, 1977). But as their numbers grew, alongside the concerns of parents as to their daughters' safety and honor at college, university leaders erected an impressive residence hall, Sage College, in which “Cornell women were sheltered in splendor” for decades (p. 82). By the early twentieth century, Cornell restricted the admission of women. Even by 1925 the newly constructed student union had a front entrance for men and a side entrance for women.

Such experiments with coeducation were only partially adopted. After 1870, most new public institutions in the Midwest and West opened as coeducational (McGuigan, 1970). But for men's institutions in the East, few followed the examples of Cornell and Michigan. After several women's coordinate colleges were established alongside prestigious men's institutions, including Radcliffe (Harvard) in 1882, Barnard (Columbia) in 1889, and Pembroke (Brown) in 1891, eastern men's institutions—the most prestigious in the country—remained single-sex until the 1950s (McGuigan, 1970).

Other historians focused on the experiences of students at women's colleges. Frankfort (1977) offered an interesting, though at times too simplistic, history of how the early women presidents of Wellesley and Bryn Mawr influenced the lives and careers of alumnae. Wellesley president Alice Freeman's resignation to marry a Harvard professor, Frankfort suggested, reflected the tendency of Wellesley alumnae to embrace a domestic role and remain outside the paid labor force. In contrast, at Bryn Mawr, which was led by scholarly and career-minded M. Carey Thomas for nearly 30 years, over 60 % of alumnae earned graduate degrees and less than 50 %

married—compared to almost 90 % of women among the larger populace—between 1889 and 1908.

Helen Horowitz's (1984) *Alma Mater* provided a broader and more sophisticated history of all the “Seven Sisters” women's colleges—Mount Holyoke, Vassar, Smith, Radcliffe, and Barnard, in addition to Wellesley and Bryn Mawr—plus Sarah Lawrence, Bennington, and Scripps, three elite women's colleges established in the early twentieth century. Horowitz illustrated how the architectural designs of these institutions, usually planned by male leaders, addressed domesticity-related concerns about college women. These plans ranged from the large, self-contained, almost convent-like original buildings of Mount Holyoke, Vassar, and Wellesley, which were designed to protect women students from potentially nefarious influences, to the cottage-like living at Smith, designed to “keep” women students “symbolically at home” (Horowitz, 1984, p. 75).

The historical scholarship about women's higher education in response to Second Wave feminism crested in 1985 with the publication of Barbara Miller Solomon's *In the Company of Educated Women*. Solomon offered the first synthesis of women's higher education since Newcomer (1959). In comparison to both Newcomer and subsequent historians, Solomon offered a more comprehensive consideration, exploring a longer amount of time, a greater variety of institutions, and emphasizing diversity among students. Building in part off the work of Blandin (1909), Solomon acknowledged the importance of antebellum academies and seminaries in women's higher education, long before the opening of coeducational universities and women's colleges. While White, Protestant, middle- and upper-class women received most of her attention, Solomon, more so than any other historian of women's higher education of her era, worked to incorporate the experiences of low-income, Catholic, Jewish, and African American students, a diversity that subsequent generations of historians would explore in coming decades.

All of these authors explored the relationship between women's higher education and their subsequent careers. Collectively, they demonstrated that alumnae's post-college opportunities constricted over time as hostility to women's higher education persisted and more women who embraced traditional roles attended college. The earliest women's college founders considered a primary purpose of their institutions the preparation for careers, especially teaching, of women from modest backgrounds (Horowitz, 1984). The first women at coeducational institutions also viewed higher education as a vehicle for economic prosperity. For example, before 1900 the most popular post-graduation plans for Michigan alumnae were teaching and medicine and many graduates regularly found employment as faculty at women's colleges (McGuigan, 1970).

But the early success of alumnae using higher education to prepare for careers in traditionally male fields did not persist. The percent of women earning medical degrees at Michigan fell from 25 % in 1890 to under 5 % in 1910 (McGuigan, 1970). By 1908, Bryn Mawr alumnae became increasingly similar to Wellesley's, more likely to marry and less likely to pursue careers or graduate school (Frankfort, 1977). The percentage of women faculty members remained remarkably stable from 1920 to 1980, hovering around 25 % (Solomon, 1985). Partially, this was a

result of higher education becoming popular among women who did not desire paid employment. “By the 1890s,” Horowitz (1984) wrote, “the women’s colleges attracted a new clientele—young, well-educated women of the wealthy strata who had no thought of a career after college” (p. 147). Partially, this was as a result of the rise of new, “feminine” fields. By applying the social and natural sciences to issues with domestic overtones, the emerging fields of social work and home economics provided women with socially acceptable career opportunities and faculty positions within coeducational universities (Conable, 1977; McGuigan, 1970). However, this approach simultaneously “served the purposes of academic men” who wanted to segregate women from men in the classroom (Frankfort, 1977, p. xvii). Ironically, then, as higher education became more popular among women, they used it less often to pursue careers and, when they did, they were increasingly less likely to work in traditionally male-dominated careers such as medicine and law.

Foreshadowing *Campus Life*, Horowitz (1984) provided the most attention to campus life of women students. White women at elite women’s colleges never enjoyed the same freedoms and frivolity as did their contemporaries at the nation’s most elite men’s colleges, but, starting from a disadvantaged position, they worked hard to catch up. Vassar was the first women’s college to have a robust campus life, including literary societies and campus pranks modeled after men’s. By the turn of the twentieth century, athletics, theater, spreads and teas, and all-female dances competed with academics for undergraduates’ attention. The handfuls of Catholic, Jewish, or African American students were almost always excluded from campus life, whereas well-off White women transformed existing egalitarian literary societies and other clubs into “socially exclusive sororities in all but name” (p. 152). These same students spent most of the 1920s fighting ultimately successful battles with campus authorities to relax rules about smoking and dating men.

Women’s college students’ new interest in men frustrated campus authorities in the 1920s, but what had long proved troubling was their interest in each other. Both Horowitz (1984) and Sahli (1979) examined “smashing”—intense, romantic relationships—among White women students. On campus, this often translated into pairing a newer student with an older student. College officials might reassign rooms in order to squelch the feelings of two students living together or near one another. As the nineteenth century came to a close, and as independent women threatened the patriarchal structure of American society, the vilification of intense same-sex relationships became another means of social control over women (Sahli, 1979). That women students largely abandoned their romantic relationships with each other relieved leaders at women’s colleges; that they replaced them with an increased sexuality toward men did not.

Spurred on in no small part by the Second Wave women’s movement itself, historians provided perspective on both the concerns and behavior of women student activists. Most significantly, they uncovered higher education’s bifurcated contribution to the social status of women: advancing economic success and perpetuating sexism. Earning college degrees had improved women’s career prospects, though the accomplishments of the first generation of college women largely dissipated as subsequent generations married or entered more stereotypically feminine fields.

By the 1960s and 1970s, women from middle- and upper-class backgrounds were far better represented in the paid labor force than when coeducational and women's institutions opened a century earlier. However, they remained unpaid for their domestic responsibilities, underrepresented in comparison to men in the workforce, funneled into lower paid positions, and woefully absent in the most influential business, professional, and political positions. To some extent this reflected women's desires and goals; to a significant extent this reflected prevailing sexism within society; and to a great but hard to measure extent this reflected a combination of the two. And while wealthy white women students' activism for the freedom to date men and smoke did lessen gender discrimination in higher education, there was another group of college students waging more significant struggles against power structures on campus and off.

African American Activists

African American students' involvement in the civil rights movement provided the foundation of the activism and unrest related to a variety of causes on college campuses throughout the 1960s and early-1970s. The scholarship of two historians illustrated that African American student activism stretched back decades while also documenting their involvement in the tumultuous 1960s.

Raymond Wolters' (1975) *The New Negro on Campus* reminded readers that African American activism was not novel to the 1960s and early-1970s by tracing it on college campuses in the 1920s. Then, African American students protested against all-White boards of trustees, White presidents of Black institutions, vocational curricula, the absence of Black studies, mandatory military exercises, and draconian discipline codes. Wolters told this story through case studies, mostly through chapters focused on a single representative campus: Black liberal arts colleges, Black land grant universities, Black vocational institutions, predominately White institutions in the North, and the nation's only Black research institution, Howard University. Nearly every campus that African American students attended was coeducational, and while both women and men participated in activism, the public leaders appear to have been men.

The New Negro on Campus was an engaging and well-researched narrative history with little analysis in the body of the text. Wolters reserved interpretation mainly for the Introduction where, after sketching the development of Black higher education up to the 1920s, he illustrated W.E.B. DuBois's influence on Black college activism in that decade, and to his Conclusion where he compared African American student activists over time. "The thrust of the black college rebellions of the 1920s was chiefly integrationist," Wolters wrote. "The dissident students and alumni of that time wanted to escape from the backwaters of American life and join the mainstream" (Wolters, 1975, p. 341). Wolters connected this approach to that of African American student activists in the Civil Rights Era, finding that "most black college protests of the late 1960s and 1970s [that] had a decidedly separatist thrust."

This separatism was “based on the belief that blacks could not make real progress until they renounced their cultural and psychological allegiance to middle-class Euro-American values and developed a unique national consciousness” (p. 344).

But Wolters’ narrative suggested more complexity than his neat conclusion implied. To the extent that Black students in the 1920s demanded a liberal arts (as opposed to vocational) curriculum, the right to join fraternities and sororities, and less strict discipline and dress codes, they were claiming features of higher education readily available to the era’s middle- and upper-class White students. If this suggested a desire for integration, the same students often worked to replace White presidents with Black ones and create Black studies, which did not. If Wolters had spread his analysis throughout the book, his integrationist argument might have become clearer, or a more nuanced interpretation might have emerged. At the same time, as someone who would go on to articulate troubling racial views in future books (e.g., O’Brien, 2010; Wolters, 2008)—and such views can be read into this critique of the Black Power activists—Wolters’ narrative approach in the main chapters helped the book maintain a usefulness that might not have endured if he had forced his analysis in the case studies.

While Wolters recovered early Black student activism, Carson (1981) explored a more recent incarnation in a history of the Student Nonviolent Coordinating Committee (SNCC). Carson was especially attuned to “the evolution of SNCC’s radicalism” through three distinct phases (p. 2). In the first, civil rights activists used SNCC to create a sense of community among those pursuing racial justice. Southern Black college students established SNCC in April 1960 to expand upon the momentum of their successful sit-ins at segregated lunch counters. SNCC’s interests expanded from desegregation to larger political rights, most notably helping to coordinate the Freedom Rides, in which northern White students and southern Black students traveled through the South to challenge segregation. Black activists welcomed White involvement in SNCC during this first phase.

SNCC’s failure to replace the all-White delegation from Mississippi to the Democratic National Committee in August 1964 started the organization’s second phase. This was the most introspective phase, as SNCC leaders questioned whether working alongside White liberals and the federal government could result in the significant social changes they desired. Yet during this stage, SNCC helped train college student activists—often White liberals—for other activist movements, including those involved in the Free Speech Movement, Vietnam War protests, and Second Wave feminism. At the same time, Black members increasingly viewed White SNCC members with circumspection.

The third stage began in May 1966, with the election of Stokely Carmichael as SNCC chairman. Carmichael articulated and helped popularize Black Power ideology—the separatist thrust that Wolters (1975) criticized—though this approach failed to unify Black Americans. Internal strife and external racism took a toll on the organization, which was largely moribund by 1968. Similar to the 1920s activism, women were members of SNCC but rarely held leadership positions; many considered SNCC to be rife with sexism. Yet from 1960 to 1968, SNCC had accomplished much. Adding SNCC to the larger history of Black activism of the 1960s,

Carson argued, adjusted the perception of the period from one of leader-centered efforts, most notably by Martin Luther King, Jr. and Malcom X, to “a mass movement” that demonstrated “people without resources and specialized skills can play decisive roles in bringing about social change” (p. 4).

By the mid-1980s, then, historians had created a well-developed body of knowledge regarding how college students had garnered national attention, rioted, and participated in larger social movements in earlier eras. Indeed, books devoted to the history of college students and their extracurriculum multiplied several fold over the course of a few short years. Higher education leaders committed to learning the history of student unrest and activism could have used the lessons from history to inform their interactions with contemporary students. They could have seen that students had long wanted to be treated as adults—even if they did not always act like them; that students had long been good barometers of social change—they represented, after all, the attitudes of the most influential Americans of the future; and that while presidents and faculty members had long squelched campus skirmishes by punishing the most rebellious collegians, students had won nearly every war, if for no other reason that they could influence institutional policies by voting with their feet and tuition dollars. Yet by the time this body of scholarship had developed, the prevailing attitudes and actions of college students underwent a near complete reversal. College students were no longer challenging the established order of American society. They were trying to succeed within it. And Helen Horowitz was not necessarily happy about this change.

Helen Horowitz’s *Campus Life*

Three years after the publication of *Alma Mater*, Helen Horowitz (1987) published *Campus Life*, which provided a longer and broader history of college students and their experiences on campus. Horowitz was not just addressing missing pieces in a larger historiographical puzzle, but trying to better understand the present, asking “How did we get where we are now?” (p. ix). In particular, Horowitz wanted to figure out the source of attitudes and actions of contemporary students that she found troubling, telling readers that “about three years ago I got angry, angry enough to write this book” (p. xi). From her perspective, students were not having fun at college, not exploring the larger purpose of life, and not engaging with ideas. Instead, they were working obsessively in career-oriented majors or earning grades high enough to assure acceptance into prestigious law and medical schools. For Horowitz, a historian, understanding the present lay in understanding the past.

Horowitz’s perspective was informed by her own history in higher education, which she outlined in her book. Upon entering Wellesley in 1959, she was “initially attracted by college life,” or the organized extracurriculum (p. x). But while in college she “was pulled in another direction by a growing interest in the life of the mind and the questions rebellious contemporaries were raising about personal goals, discrimination, and foreign policy” (p. x). As the 1960s wore on and she completed a

doctorate and started her faculty career, Horowitz became “troubled both by the policies which evoked protest and by the protests themselves” (p. x). In the mid-1980s, shifting her focus to a systematic study of college life over time, she realized “that the past has shaped the present ... in the sharper, more direct sense that some students in the past created undergraduate subcultures that have been passed down to successive generations and that continue to shape how students work and play in college” (p. x).

Horowitz identified four distinct and enduring ways—or categories—of being an undergraduate: college men, outsiders, rebels, and college women. An additional hybrid category emerged in the 1970s. These subcultures represented “ideal types” of students and not necessarily any one student, who might have attributes across categories over the course of their college career (p. xiii).

According to Horowitz, the undergraduate cultures influencing the 1980s first developed nearly two centuries earlier, around 1800. Horowitz’s first category—college men—emerged in the wake of campus revolts that followed the Revolution. When college faculty squelched every rebellion, the most advantaged students—white, Protestant men from wealthy families—who led these revolts, moved underground. These students often “saw themselves at war against their faculty and their fellow students,” at least with the studious ones who sided with campus elders. College men’s main weapon was the fraternity. Secretive and selective, fraternities facilitated friendships and the circumvention of campus rules, including their own prohibition. Fraternities replaced the egalitarian and intellectual literary societies as the dominant feature of the extracurriculum by the 1850s. Thus, by refusing the freedoms and respect demanded through student revolts, college authorities helped to create an often undesirable feature of campus life that proved almost impossible to eliminate. College men embraced violent forms of masculinity, leading in part to football, and they pursued drinking, card playing, and profanity. They disparaged hard work on academics, endorsed cheating, and had “no interest in getting to know the faculty in or outside of class” (p. 34). And, as coeducation took hold on many campuses after the Civil War, college men ignored women students and ostracized them from campus life, finding marriage partners after graduation and seldom from the ranks of college alumnae.

College men believed that dominating campus life prepared them to conquer the real world after graduation. Instead of celebrating classroom accomplishments, college men “rewarded leadership won in the competitive trials of undergraduate life,” so they established a plethora of teams, publications, and societies to give themselves plenty of opportunities to win. That they somewhat rigged the system with a high proportion of opportunities said much about campus life (p. 39). College men perceived campus life to be emblematic of the larger democracy in which they lived. To a certain extent they were right. The extracurriculum provided a mostly even playing field for those who could afford it, but rarely could even a majority of students on a given campus afford to play.

Those left out of this “democracy”—college men’s first antagonists and Horowitz’s second category—were the outsiders. Although outsiders could comprise a majority of students at a given institution, Horowitz chose this label “because

they stood outside the select circle of college men,” both within and across institutions (p. 62). The first outsiders were those economically humble and religiously devout White Protestant men who flocked to New England colleges in the first half of the nineteenth century. They emulated the faculty, in large part because they wanted to become them, at least as ministers and perhaps as professors. College men had nothing but disdain for these students, viewing them as younger offshoots of their nemesis, the faculty. College men often anticipated careers in business—they were more likely to have family businesses to run, after all—and viewed the curriculum secondary to the personal contacts and social skills provided through the extracurriculum. In contrast, outsiders used the curriculum to prepare for “professions that offered to aspiring young men with little capital the chance for upward mobility: law, medicine, dentistry, engineering, education, and journalism” (p. 62). New types of institutions with more varied curricular offerings increased the usefulness of college to diverse populations throughout the nineteenth century. Land grant colleges, military academies, polytechnic institutions, research universities, and the elective system all resulted in a curriculum more explicitly tied to specific career paths than the classical liberal arts.

As time went on and other groups accessed higher education, more than social class could create an outsider. College men immediately rejected the first women students, automatically making them outsiders. Jewish students were tolerated in small numbers, but they faced severe ostracism on campus once they became a sizable population. The first substantial group of Catholic students were outsiders clustered in less than 100 Catholic colleges. They experienced close “religious and ethnic ties between faculty and students and the mission to train future clergy intensified student seriousness” (p. 59). Outsiders were comprised of diverse subgroups, but they all shared an emphasis on study as the path for social mobility.

Horowitz’s third category—rebels—emerged in the early twentieth century. Unlike college men, who were only focused on the internal dynamics of campus, rebels were interested in the political and economic world beyond the college yard; unlike outsiders, who used the curriculum for career advancement, rebels were interested in the larger ideas presented in their classes rather than their potential for material gain. Rebel men often had the financial means to be college men, but either their identities, especially being Jewish, or their attitudes precluded their inclusion. Instead, they wrestled with college men for control of campus political offices and publications, wanting to use these avenues to advocate on campus for views percolating in the larger society. Moreover, the rebel as a way of being an undergraduate was open to both men and women, largely on equal footing. Ironically, rebels “rejected parental ways” at the same time as they were raised by “the most sensitive, child-conscious ... middle class” parents (pp. 94–95).

Given the presence of three types of male students on campus at the turn of the twentieth century—college men who eschewed study, so confident were they in their future economic security; outsiders who strived in the classroom, so focused were they on their future economic security; and rebels who wanted to use the curriculum to improve campus and community, so uninterested were they in future economic security—higher education leaders decided to devote their attention to

college men. A variety of educational reforms at some of the nation's most prestigious institutions ensued, including the establishment of the elective system. On the whole, these efforts did little to create more studious college men, but did result in admissions policies that discriminated against Jewish students, the development of the student affairs field to supervise campus life, and the "full acceptance of the Greek system" (pp. 111, 119). College presidents and faculty members found athletics a useful channel for student enthusiasm—far better than revolts and riots—and for producing generous alumni.

The last of Horowitz's categories was closely related to the first: college women. Horowitz classified most early women students as outsiders—studious, career-oriented—or occasionally as rebels. But, as higher education became more popular among affluent women by the early twentieth century, the pleasures and pastimes they experienced on campus came to closely mirror those of college men. A robust extracurriculum developed first at elite women's colleges where "undergraduates played aggressive team sports, organized meetings, politicked among classmates, handled budgets, solicited advertisements" (Horowitz, 1987, p. 197). At coeducational institutions, as college men increasingly became romantically and sexually interested in the most advantaged women students—in terms of looks, race, and wealth—they acquiesced and included them in campus life, though not on equal footing. Just as college men used fraternities to facilitate their involvement in campus life, college women relied upon sororities. By the 1920s, college women enjoyed relaxed fashions, hairstyles, campus rules, and notions of sexual decorum, though this did not rise to approval of intercourse. But college women's acceptance into campus life came at a cost. For even as Victorian-era notions of decorum fell, young women still faced heightened scrutiny over their behavior in relation to young men. In order to safeguard their newfound freedom, Horowitz found college women became "far more prejudiced than any other group on campus" by the 1920s, and sorority members faced "considerable pressure ... to choose conservatively and to conform" well into the mid-twentieth century (pp. 204, 211).

The earlier three ways of being an undergraduate continued to develop as college women emerged on campus. The "most dramatic transformation" on campus in the early twentieth century was college men's romantic and sexual interest in the most socially desirable college women students (p. 123). Fraternity and sorority members dated and drank more than other students. In the 1920s and 1930s, somewhere around 30 % of students belonged to fraternities and sororities, a close approximation of the proportion of college men and women on campus, though their control of campus life belied their technical status as a minority. They were more likely to report "having a 'very good' time" at college, even as they "put small stock in academic work" (pp. 138, 140). By the late 1950s, even college men began to realize that good grades correlated to post-college success, but "the old pressure not to be a 'grind' remained part of the canon of the college man" (p. 142).

The group of college students most prone to study had a brief flash of dominance over campus culture at mid-century. The most prominent outsiders of all were the veterans who returned home from World War II and took advantage of the GI Bill in the late 1940s. Their interest in college was not related to hazing, attending

football games, and joining fraternities, but rather “for the vocational and academic rewards” (p. 185). Like all outsiders, veterans were good students intent on career success. But outsiders overall did not recede into the background after the veterans graduated. By the 1950s, many college students were “openly responding to higher education’s insistence that it had a critical connection to future success” (p. 187). In fact, higher grades in college did correlate to higher earnings in careers attractive to outsiders, notably law, medicine, and government. High marks did not correlate with high pay in business, the college man’s career of choice. This contributed to a college environment, especially at the largest public universities, in which “an intense grade consciousness was emerging” by 1960 (p. 191).

College rebels became more prominent on campus—though never a majority of students—as the twentieth century progressed. Their growing ranks gave them the courage—and sometimes the success—to challenge college men for control of student government and the campus newspaper. While some rebels contemplated alternatives to capitalism through the Intercollegiate Socialist Society in the 1920s, their numbers reached an apex in the 1930s when many outsiders joined rebels in the student peace movement. The irony of the 1930s was that as the proportion of outsiders grew because fewer students could afford the costs of campus life, and these outsiders increasingly aligned with rebels, rebels focused on foreign policy rather than the domestic economy.

The 1930s peace movement proved rather unpersuasive in the face of Japanese and German aggression and fascism. Many who had signed the Oxford Pledge joined the armed forces, and rebels largely receded into the campus background in the 1940s and 1950s. Yet, however staid campuses seemed in the 1950s, there remained rebels, sometimes behind the editor’s desk of the student newspaper, who rallied against higher education’s close ties to industry or the racism that plagued the country.

The political-oriented rebel was not the only renegade on campus. A decade before the rebels ranks increased in the 1930s, another form of rebel materialized. Rather than politically motivated, they artistically and aesthetically challenged the prevailing social order. By the late 1950s, folk singers and Beat writers—themselves having emerged earlier in the decade as Columbia and Barnard students—influenced a growing segment of students to experiment with music and literature, as well as with drugs and sex. In fact, women rebels had long been the only female students open to sexual freedom, rejecting the social prohibition against intercourse before marriage and even attachment to sexual partners. Thus, contrary to what the larger public perceived as conformity on campus in the 1950s, beneath the surface percolated the possibilities of political and personal revolutions that rose to prominence in the next decade.

To Horowitz, the 1960s were formative in the establishment of contemporary undergraduate culture, years in which traditional college life proved especially unattractive. Differing coalitions of college students took up various causes—beginning with civil rights and eventually incorporating free speech, anti-war, and feminism—sometimes coordinated through national organizations such as the Student

Non-Violent Coordinating Committee (SNCC) and Students for a Democratic Society (SDS), to create a larger entity referred to as “the Movement” (p. 229). Many college students were so incensed by U.S. policy at the height of the Vietnam War that nearly half of all campuses had a major anti-war demonstration. What distinguished the 1960s from its closet corollary—the peace activism of the 1930s—was that swelling rebel ranks in the 1960s included many students who might otherwise have become college men and women, rather than the outsiders who aligned with rebels in the 1930s. Over the course of the decade, college student radicals replaced their optimism for creating a better society with anger at the lack of social change. The unrest of the 1960s culminated in May 1970 when National Guard troops and law enforcement officers shot and killed unarmed student protesters at Kent State University and Jackson State University.

In the aftermath of these shootings, many colleges ended their terms early; although the students who returned the following fall were accustomed to a level of activism unconceivable a decade earlier, life on campus seemed forever changed. Having failed to transform American society, politics, or economy in the 1960s, college students largely decided to focus on succeeding within the existing system. Outsiders “triumphed in the 1970s,” Horowitz explained, not only as a majority—which they had long been—but also by dominating the culture on campus—which they had rarely done (p. 245). As America approached mass higher education, most of the new students—especially those who were the first in their families to attend college—came from lower income, minority backgrounds that had long populated outsider ranks. In fact, by the 1970s nearly as many college students lived with their parents or other family members as lived on campus. In addition, many women students “read feminism’s message as a call to enter the traditional professions,” which first required classroom success (p. 253). But probably what most contributed to the dominance of outsiders in the 1970s was the addition of affluent students. Whereas in the 1930s the ranks of outsiders had grown because fewer students could afford the trappings of college life, in the 1970s students from affluent backgrounds became outsiders in an effort to shore up their future economic security.

Horowitz labeled these affluent students at elite institutions as “new outsiders.” In them she found the main source of her frustration with contemporary college students. The swollen ranks of the new outsiders coupled with their influence on the overall campus culture meant that 1970s and 1980s college students, for the first time in history, “were more alike . . . than different” (p. 264). New outsiders obsessed over grades as the route into professional schools and subsequent career success, but they lacked “the sparks of intellectual life that were the saving grace of many earlier outsiders” (p. 268). From Horowitz’s perspective, these students unfortunately “seemed distinctively selfish,” who “unhesitatingly expressed their overriding interest in their own careers and the desire to make money” (p. 251). From interviews with contemporary students, Horowitz reported their concerns about money, downward social mobility, and a strong dependence—both financially and psychologically—on their parents. This attachment helped Horowitz see value in the past world of college men and women: “As limiting as it was, traditional college life did

create a time and place away from home where young men and women could try to define themselves” (p. 271).

It is difficult to assess the validity of Horowitz’s description of and despair toward the new outsiders—the 1980s when she wrote are only now far enough in the past to benefit from historical study—but her enduring categories in *Campus Life* seem more compelling than her criticism of contemporary college students. First, these students lived within a challenging economic era in which a college degree no longer guaranteed success. Even at Princeton, nearly half of graduates looking for work remained unemployed 6 months after commencement in the early 1980s. At the beginning of *Campus Life* Horowitz asserted that earlier “generations of students confronted in college the harsh challenges of an unfriendly future and yet allowed themselves the pleasures and pains of an intense college world,” but she found little evidence of students from affluent backgrounds facing downward social mobility in previous eras (p. 4).

Studying harder, if unenthusiastically, does not seem to be an egregious reaction to the loss of economic security facing advantaged students in the 1980s. Indeed, the fact that students from affluent families then had to worry for their futures may have suggested that the meritocratic ideals of American society in general and higher education in particular were becoming more realized. Regardless of the validity of her critique of contemporary students, Horowitz had well documented the presence of college men, college women, outsiders and rebels in the past, and these categories made—and continue to make—sense for most observers of and actors within higher education.

Post-Horowitz Historiography

Helen Horowitz (1987) provided useful categories to consider college students in both the past and the present, but she hinted that there was more to learn about students historically. “The world of outsiders,” she noted toward the end of her book, “contains many subgroups” (p. 292). Since the publication of *Campus Life*, historians have increased their attention to college students. Yet, in contrast to Horowitz, they have shied away from broad syntheses of the overall student population. Instead, they have usually focused on a subgroup of students during a shorter period of time, and often at a specific type of institution. This section considers recent historical research on a variety of college student populations before offering a brief survey of the historiography of college student organizations and behaviors. Many scholars have considered the intersections of socioeconomic class and higher education: considering the class backgrounds of students, career paths of alumni, and the role of college in shaping larger socioeconomic class identity.

White College Men

In *Campus Life*, Horowitz (1987) devoted significant attention to White men. In the three decades since, historians have continued to explore these students, often at types of institutions or in specific regions. The resulting scholarship has expanded our understanding of White college men during four distinct eras: colonial, antebellum, postbellum, and mid-twentieth century. Across the years White college men often used higher education for self-improvement.

Colonial Era Horowitz (1987) skipped the colonial period in *Campus Life*, and in the ensuing years historians have continued to largely look past the experiences of colonial college students. However, two scholars have provided fresh insights into the earliest college students in what would become the United States, reminding readers that colonial students were the most homogenous, advantaged group of collegians to ever access higher education and demonstrating that higher education helped prepare these young men for adulthood.

In 2002, Hoeveler offered, surprisingly enough, “the first synthetic examination of the nine colonial colleges” (p. x). He explored the political and intellectual role of these institutions by focusing on presidents and faculty members, but his coverage of college students nonetheless provided insight into this early period. Hoeveler described the regimented daily schedule and rules that transcended the colonial colleges and connected the college experiences of several alumni to their later influential political careers. But the most compelling aspect of was Hoeveler’s consideration of the evangelical revivals that swept campuses and flummoxed more-traditionalist presidents and professors. Colonial academic leaders denounced evangelical theologians and barred them from campus, which led affected students to label their scholarly elders as heretics. This offered a nuanced historical understandings of religious college students, as earlier research had found religious students closely aligned with faculty members (e.g., Allmendinger, 1975; Horowitz, 1987). In fact, subsequent generations of college leaders encouraged revival fervor among students in an effort to prevent rebellions and instill discipline.

Conrad Wright (2005) analyzed the lifespan of Harvard’s “revolutionary generation,” the 204 members of the Classes of 1771 through 1774, noting, “We know more about the men who attended colonial Harvard than we do about any other larger group of American men, women, and children before the Revolution” (p. ix). Wright used data drawn from *Sibley’s Harvard Graduates*, a reference series published between 1873 and 1999 by the Massachusetts Historical Society that contains biographies of every Harvard graduate from the colonial period—to describe eight developmental stages in the lives of these alumni, beginning with “early childhood” and ending with “late old age.” Wright provided a lively description of Harvard and its students on the eve of revolution, detailing housing arrangements, financial aid

for the sons of clergy, an extracurriculum that included several secret societies and dramatic and musical performances, and a 95-percent graduation rate. The principal goal of a colonial Harvard education, he explained, was to transform “students into refined and educated gentlemen” (p. 38).

Wright’s (2005) subjects spent the “late childhood” stage as undergraduates, when they began “a never-ending commitment to personal improvement and social order” (pp. 37, 223). This consisted of development in three areas: intellect, which was achieved by meeting Harvard’s minimum academic expectations; character, which focused on honesty and reliability, two traits colonists insisted on in their leaders; and maturity, which incorporated refinement, knowledge, and independence, including beginning to court young women and establishing an evolved relationship with parents. Beyond highlighting the role of Harvard in facilitating the developmental milestones of its students, Wright made a major contribution through his appendix. There, 34 tables provided rich information about the lives of colonial Harvard alumni, from their birthplaces, occupations, number of children, and age of death. This data supported Wright’s argument that the Revolution “radically” influenced the lives of Harvard’s most recent alumni, increasing by 40 % the median number of years between graduation and marriage and stalling the establishment of careers.

Antebellum Era Similar to Allmendinger’s (1975) focus on New England’s hill-top colleges before the Civil War, recent scholars of White college men in the antebellum period have centered their attention on specific regions, especially the South, and on specific institutions within those regions. In the process, historians have connected attitudes and activities among White college men to larger national developments. Indeed, by focusing on the socioeconomic backgrounds and aspirations of students, this scholarship combined to provide a national portrait of antebellum college men and their campus life.

Over the course of 11 years, Robert Pace (2004), Jennifer Green (2008), and Timothy Williams (2015) published books that provided rich and detailed insights into antebellum southern college students. Relying on a large collection of student diaries and letters from 21 colleges in 11 states, Pace (2004) explored “the culture of being a college student in the Old South” (p. 4). He argued that this culture was largely shaped by “a collision of two major forces: the southern code of honor and natural adolescent development” (p. 4). Pace devoted chapters to academics, campus environment, student pastimes, and rebellion. Fraternities developed later and took longer to gain dominance on southern campuses because the student body was so advantaged that there was little need to distinguish between insiders and outsiders. However, a hierarchy of prestige existed across southern colleges and universities, with the wealthiest students enrolling at state universities and less affluent students attending religious colleges, where they were more likely to prepare “to enter the ministry or the professions” (p. 4). Pace’s book was a lively and intimate portrait of antebellum student life, a true heir to Coulter (1928) while covering far more institutions, even if the analysis occasionally seemed forced. For instance, features of southern higher education were attributed to southern honor that had

close corollaries at northern institutions, and contemporary psychological understandings of adolescence do not easily transfer to antebellum America.

Green (2008) examined the role of higher education for the southern middle class by focusing on a distinct institutional type: military schools. Prior to the Civil War, there were 12 state-supported military schools, such as the Virginia Military Institute (VMI) and the Citadel, and more than 70 private ones in the South, representing nearly 90 % of these institutions in the nation. Military schools offered a version of “higher learning” somewhat below that available at southern colleges, even though cadets perceived themselves as college students. Sons from middle-class families flocked to these schools because public subsidies reduced the costs of higher education—though not enough to make attendance affordable to sons of the working poor—and because of their professionally-oriented curriculum in the 1840s and 1850s. Rigid military discipline governed these students, who were less rowdy and rebellious than wealthy students at the South’s proper colleges; such self-discipline was a trait highly valued by the middle class across the country.

Attendance at military schools had almost no correlation to subsequent military service. Nearly 95 % of alumni worked outside the military, mostly as “nonagricultural professionals,” such as doctors, businessmen, and teachers (p. 2). These careers provided economic security in the South outside of owning slaves. Green (2008) detailed how military schools promoted middle-class values that transcended the nation while also producing graduates who blended into southern society, “valuing community, hierarchy, and honor, and favoring slavery” (p. 12). In the end, military schools both developed and reinforced middle-class values, contributed to the professionalization of several vocations, and facilitated social mobility in the antebellum South.

In ways reminiscent of and divergent from Coulter (1928) and Pace (2004), Timothy Williams’ (2015) *Intellectual Manhood* focused on the intellectual culture of White college men at the University of North Carolina (UNC). Across the antebellum years, students used the curriculum and designed their campus life to promote intellectual manhood, which entailed self-awareness, mental acuity, informed actions, and persuasive speaking. Moreover, as UNC grew over the antebellum years, Williams found that the student body included more middle-class students than previously understood, and that the campus was not dominated by planters’ sons with little worry about their careers, but rather by upwardly mobile youths who planned to enter the professions. Similar to Green’s (2008) demonstration that military school alumni both reflected national middle-class values and southern beliefs about society, Williams explored how UNC students’ emphasis on self-improvement reflected national upper-middle-class values “as well as how those values mingled with traditional values of the southern elite, such as honor” (p. 5).

Each of these three books concluded by considering the influence of the Civil War on higher education in the South. According to Pace (2004), the war ended genteel student life at southern colleges. Fraternities replaced literary societies as the dominant campus organizations after the war, reflecting the wider socioeconomic backgrounds among male students, and the realities of enrollment, tuition,

and state funding required many campuses to become coeducational. Military schools fared better over the course of the war, viewed by Confederate leaders as essential to victory (Green, 2008). Alumni who had largely avoided military careers enlisted in great numbers, with over 10,000 fighting in the Civil War, overwhelmingly for the South. Yet enrolling at a military school provided one of few socially acceptable options for southern young men who wanted to avoid fighting. Afterwards, stalwarts like VMI and the Citadel persisted into the twentieth century, but most military schools disappeared or evolved into colleges. Alumni from the region's more elite institutions also flocked to enlist, with nearly 60 % of recent University of North Carolina alumni fighting in the war (Williams, 2015). After the Civil War, UNC leaders advocated a more practical curriculum to meet the needs of the New South.

Kenneth Wheeler (2011) shifted attention from the South to the Midwest, considering how the educational experiences at small denominational colleges “both reflected and shaped a developing” regional culture (p. 3). In comparison to their northeastern and southern peers, midwestern collegians were older, less wealthy, more religious, embraced literary societies longer, and attended some of the country's first coeducational institutions, all of which combined to produce a different college experience. Perhaps this was best represented by the complete absence of riots at Midwest colleges during the otherwise rambunctious antebellum period. Instead of riots, upset students might “negotiate with college leaders” or stage a strike or “mass withdrawal” (p. 75). Midwesterners embraced manual labor programs as an avenue for students to “learn a trade and stay healthy” (p. 31). Responsibilities usually divided along gender lines, with women working indoors cleaning, cooking, and doing laundry as men worked outside chopping wood, tending livestock, and building roads and campus buildings. Despite the preponderance of coeducation, the students Wheeler profiled were overwhelmingly male with seemingly no socioeconomic distinctions. Claiming that alumni “carried many values of the colleges with them” into adulthood and careers, Wheeler highlighted the involvement of many midwestern alumni in Progressive Era causes and scientific advancement.

More recently, Sumner (2014) deviated from a specific regional antebellum focus. She centered her study on “college families”—“presidents, trustees, faculty, graduates” and, importantly, the female members of these families (wives, daughters) along with the servants and slaves of the college—from 1782 to 1860 at what might be considered frontier colleges in several geographic regions, including Bowdoin, Dickinson, Union, Washington (now Washington and Lee), and Williams. In an era known for emphasis on personal enrichment, college families emphasized establishing virtue—embodied by restraint, self-control, and sacrificing personal gain to promote the common good—in students who would go on to lead the young republic. Students were oddly not incorporated into the “college family” until their graduation. But in writing about White women in college families and African Americans who labored as servants and slaves, Sumner illustrated that institutions that only enrolled White men were not all-male, all-White spaces and provided important insights into men's college experience. The presence of “college ladies”

helped dissuade bawdier pursuits among college men and encourage social skills and self-restraint; the presence of servants and slaves on campus, however unsettling to modern readers, provided White college men with opportunities to practice leadership before graduation.

Postbellum and Progressive Eras In the years after the Civil War, White college men helped create many of the features and characteristics of the college experience that are familiar today. Historians have studied their contributions to the expansion of organized campus life, socioeconomic and gender dynamics on campus, and the growing popularity of higher education among larger swathes of White men. Indeed, higher education's importance was increasingly apparent, so much so that even by the end of the Civil War there were concerted efforts by state governments and individual institutions to encourage veterans to enroll.

Of all the historical works about White college men published since *Campus Life*, Bruce Leslie's (1992) *Gentlemen and Scholars* may come closest to a classic. He critiqued the disproportionate focus of historians on the rise of the research university between the end of the Civil War and the start of World War I. Leslie helped provide historiographical balance by studying these years at Franklin and Marshall, Bucknell, Princeton, and Swarthmore. Today, these campuses represent the epitome of the collegiate ideal—smaller campuses where young 18-year-olds move away from home and live residentially for 4 years—which was exactly Leslie's point. Despite the rise of the research university, “the lives of undergraduates in universities remained ‘collegiate’ in many senses of the word” (p. 2). In fact, he argued, they became increasingly collegiate as research universities developed. Initially, the colleges' enrollments were under 300, their students often studied at the high-school level, their graduation rates hovered between 40 and 60 %, and allegiance to their founding denominations remained strong.

Soon, however, these campuses shifted from serving their local and religious communities to “the urban Protestant upper and upper-middle classes,” who in turn helped bolster endowments and engrain the collegiate way (p. 1). While ostensibly holding onto the liberal arts, pre-medicine, pre-law, engineering and business became incorporated into the curriculum as careers that ensured economic security. During these years, White college men institutionalized many features of campus life now synonymous with the college experience: fraternities, dramatic and musical groups, intercollegiate athletics, and even campus religious groups. The student culture “became remarkably standardized and pervasive across the four campuses” by 1890 (p. 189); these White college men valued conformity over individuality.

The students at these institutions were so similar that when the U.S. entered World War I, enrollments at all four plummeted. Just as the students rushed to protect the democracies of Great Britain and France, the rhetoric of their campus life extolled democracy. While it was true at these campuses, as it had been for Horowitz's college men, that success in campus life “could offset parental wealth in establishing student prestige,” “collegiate democracy existed within institutions that did not reflect the ethnoreligious, racial, gender, or class heterogeneity of American society” (p. 203). At the same time, two of these institutions were coeducational by

1885, though Leslie largely left unexplored the campus experiences of women on these campuses and the influence of socioeconomic differences among students.

Four years later, Kim Townsend (1996) considered the gendered influence of higher education on the lives of wealthy young men in *Manhood at Harvard*. He explored how a variety of Harvard educators “taught” students a new idealized form of masculinity during Charles Eliot’s long presidency (1869–1909). This version of manhood emphasized competition, athleticism, patriotism, perseverance, and responsibility, perhaps best represented by the undergraduate and political career of Theodore Roosevelt, Harvard Class of 1880. Manhood was taught in the classroom, by the examples of educators and alumni, through campus life, and, often, by the intersection of all three. This manhood was also based on excluding women and racial minorities. But despite these most advantaged young men in America being taught by the most advantaged men in academia, this manhood was fragile. When the first female seniors of Radcliffe were set to graduate, they were discouraged by influential Cambridge women from wearing academic regalia for fear that that donning attire heretofore worn only by Harvard men could “attract unfavorable attention” (p. 220).

To a certain extent, this masculinizing effort was necessary because critics of higher education had long held that it emasculated students. Daniel Clark (2010) explored how the White middle class came to fully embrace higher education for their sons as the most appropriate path for future economic success between 1890 and 1915. Throughout the nineteenth century, many Americans who aimed for success in business but did not inherit family wealth perceived the classical curriculum as irrelevant and believed that the extravagances of campus life created dandies instead of virile men. But both the influx of immigrant men and women into the labor force and technological advances threatened the place of middle-class White men in business. One way to reserve their special status was to make college attendance indispensable for career success. Clark demonstrated how depictions of higher education in the era’s four most popular magazines transformed its perception among the sons of America’s White middle class. Business success and manliness became intertwined as the liberal arts coupled with the emerging scientific and professional courses provided the ideal training for both business leaders and influential citizens.

The foundation for this future diversity was explored by Cohen (2012), who focused on higher education during the Civil War and Reconstruction (1861–1877). Expanding upon the scholarship about antebellum southern higher education, Cohen argued that the Civil War fundamentally altered American higher education in two ways. First, the federal government began an involvement in higher education that would gradually increase over the next century. Second, southern higher education, which had mostly educated wealthy women and men in separate institutions before the War, began to reflect the more diverse northern higher education, which educated a wider socioeconomic spectrum and provided limited higher education for African Americans.

Cohen (2012) largely focused on access rather than campus life, but he did cover an important and previously overlooked aspect of White college men. Cohen highlighted how state and institutional financial aid programs facilitated the higher education of veterans and their orphaned children. Although some of these benefits were available to African American soldiers and daughters of veterans, this financial aid largely benefited White men—the group who comprised the majority of veterans and already most prevalent in higher education—a situation that would repeat itself in subsequent governmental aid programs.

Great Depression and World War II Era Historians have focused less on White college men after the turn of the twentieth century, but a body of scholarship about federal government programs that helped students enroll and persist during the 1930s and 1940s has provided important information about the approach of mass higher education in the United States. Ostensibly available to men and women and to Whites and racial minorities, these programs mostly benefited White men.

In a history of the National Youth Administration, a New Deal agency charged with addressing the needs of youth during the Great Depression, Reiman (1992) explored the creation of a federal aid program for college students. In the 1930s a majority of students who left college did so for financial reasons, and they placed an additional burden on an already weak economy and threatened to close colleges. College presidents lobbied hard for federal aid, and some New Deal leaders, worried about the increased popularity of socialist and communist student organizations that argued for federal aid to students, unveiled a plan that provided millions to pay students at risk for withdrawing to work and stay in school. This program was designed to be decentralized, with college officials assigning and creating jobs. College students worked mostly at maintaining and improving the physical plant, “labor of value more to the institutions than to the students” who planned on careers beyond grounds keeping (p. 71). New Deal leaders encouraged institutions to lower tuition for students receiving the aid and wanted at least a quarter of recipients to be students who had not previously attended college. But many institutions could not, or chose not, to reduce their charges, and the program managed to stabilize enrollments more than increase them. Reiman left unexplored the demographics of participating students, but its stabilizing effect suggested that it benefited White men fortunate enough, however fragilely, to access higher education.

A better-remembered college aid program modeled after the 1930s NYA program was the Servicemen’s Readjustment Act of 1944, more commonly known as the GI Bill of Rights. The law provided generous funds, based on length of service, for veterans to further their education, often in colleges and universities. The GI Bill long enjoyed a historical reputation for democratizing higher education, as millions of veterans who otherwise would have been unable to attend colleges and universities enrolled and because institutions relaxed strict admissions to attract the federal largesse. Mettler (2005) largely agreed with this perception. With a specific focus on how the law influenced the citizenship of its recipients, Mettler argued “that the G.I. Bill’s education and training provisions had an overwhelmingly positive effect

on male veterans' civic involvement," taking some umbrage at scholars who attacked its democratizing reputation (p. 9). Mettler demonstrated that the longer veterans took advantage of the educational benefits, the more involved they became in their community.

But other scholars have recently questioned the democratizing effect of the legislation (Altschuler & Blumin, 2009; Cohen, 2003; Frydl, 2009; Serow, 2004). To be sure, the GI Bill was popular among Americans, and more veterans took advantage of the educational benefits than policymakers anticipated. In important ways, the law was also forward thinking. When the armed services were still racially segregated, the law made no distinctions between races; when women were banned from combat roles, it made no distinctions between genders. Yet, the law's progressive influence may have been stronger in memory than in reality. Serow (2004) estimated that 80 % of veterans who used the GI Bill would have attended college without the aid, suggesting that the law funneled tax dollars to many Americans who were already economically secure. Institutions could accept governmental funds from White veterans while refusing to admit African Americans. In addition, women made up only 2 % of veterans, and the law did not extend to those involved in the war economy outside of the armed services; in other words, Rosie the Riveter did not get tuition benefits. Even Mettler (2005) pointed out that although the G.I. Bill was supposed to extend to all veterans regardless of discharge status (so long as it was not dishonorable), the Veterans Administration excluded benefits for service members who had received "blue discharges"—which were not dishonorable—for suspected or admitted homosexuality.

Perhaps the most important influence in democratizing higher education occurred in minds of Americans rather than the registration lines on campus. Daniel Clark (1998) studied how veterans in higher education appeared in popular publications and advertisements, arguing that "the GI Bill indeed changed the way Americans thought of a college education" (pp. 167–168). Before World War II, these publications associated college with the aristocratic upper and upper-middle class. Afterward, depictions of the "veteran-everyman attending elite institutions" demanding a practical curriculum and challenging aristocratic campus traditions connected college to social mobility and aligned it with a more average middle-class culture (p. 174). But even in the pages of popular magazines, the GI Bill was not completely democratic. For men, depictions conveyed college "as an economic as well as a social opportunity"; for women, they "emphasized her polished sensibilities rather than her intellectual achievement or career potential" (p. 188). Women were learning how to marry and be a wife to G.I. Joe.

Most evidence suggests that, despite progressive aspects of the law, the GI Bill eased the costs of higher education for the group already most prominent on campus—White men. At the same time, it helped a rising generation of Americans, more diverse than the current enrollments on college campuses, perceive higher education as accessible. But the fact that at mid-twentieth century, the GI Bill, both in reality and in popular culture, poorly served one-half of the population suggested that women continued to endure significant obstacles toward higher education. Many scholars have explored women's navigation of these obstacles, especially White women students.

White College Women

Benefitting from the development of women's history, research on the experiences of White women in higher education has increased significantly in the last 30 years. Historians have explored the types of institutions open to women, the curriculum they learned, their campus experiences, and how higher education influenced their lives as alumnae. These studies are best grouped into three chronological periods: early republic and antebellum eras, postbellum and progressive eras, and the twentieth century. In addition, historical research about White women in higher education has proceeded along two additional scholarly lines that, while beyond the scope of this chapter, deserve acknowledgment. First, scholars have continued to consider women's experiences at individual colleges and universities, including Alfred University (Strong, 2008), Brown University (Kaufman, 1991), the University of California, Berkeley, (Clifford, 1995), and the University of Delaware (Hoffecker, 1994). Laurel Thatcher Ulrich's (2004) edited volume *Yards and Gates* applied a gendered analysis to both Radcliffe women's and Harvard men's experiences. Other historians have connected women's higher education to larger intellectual developments on campus and in society, such as connecting college writing courses to women's abilities to engage with controversial topics (Gold & Hobbs, 2013) or to their careers as writers (Adams, 2001). Rosalind Rosenberg (2004) bridged these two lines by illustrating how women at Barnard and Columbia challenged ideas about biological determinism of sex and restrictive sexuality.

Early Republic and Antebellum Eras In the wake of the student and women's rights movements of the 1960s and 1970s, scholars writing about the establishment of women's higher education overwhelmingly located its development in women's colleges in the Northeast and coeducational universities in the Mid-Atlantic and Midwest after the Civil War (e.g., Conable, 1977; Horowitz, 1984; McGuigan, 1970). They perceived institutions that admitted women before the Civil War as offering education and experiences inferior to those available to men at antebellum colleges and to women at either women's colleges or coeducational universities after the war. Since the publication of *Campus Life*, however, several historians have challenged this perception.

In 1994, Christie Anne Farnham's *The Education of the Southern Belle* reinvigorated research into the higher education of women before the Civil War. Her overarching historiographical contribution was that higher education in the South—long derided by historians for having “always lagged behind those in the rest of the nation”—was more prevalent and more accepted for women than in the North before the Civil War (p. 13). Moreover, “the differences between the antebellum female colleges [in the South] and their postbellum counterparts” in the North were “not as large as generally believed” (p. 28). Farnham traced the evolution of a variety of institutions that increasingly offered women a higher education, beginning with French schools, which focused on French language, etiquette, conversation skills, and “ornamentals” such as penmanship, drawing, and dancing; then academies and seminaries, which held on to “ornamentals” while offering more academic

courses such as “history, geography, and English grammar” (p. 49); and eventually to colleges, or the less radical-sounding “female institutes” or “collegiate institutes,” which combined ornamentals, academic subjects, and some instruction in Greek and Latin. The first women’s college was Georgia Female College, established in 1839. In exploring curricular offerings, Farnham found that young women generally learned less Greek and Latin than men, more modern languages (French, German, and Spanish), more fine arts, and about the same mathematics and natural sciences. Farnham equated the curriculum at the best women’s institutions to what would be “offered to freshmen and sophomores at men’s colleges,” or the equivalent of a “junior college” education in 1994 (p. 12). Southern women had access to higher education, just not the highest education.

Farnham (1994) also explored campus life. Most students who learned advanced subjects were wealthy, as less affluent students stopped their studies earlier. This wealthy clientele may have been the main reason for higher education’s popularity in the South. By educating elite women who did not plan to work outside the home, higher education proved less threatening to the overarching social order. Some southern youth were raised to depend on unpaid labor to such an extent that, by the time they left home, they knew neither how to tie their shoes nor comb their hair, making the presence of slaves at school a necessity from their perspective. Women, like college men, were governed by a lengthy list of rules, though they were more closely supervised.

But there was much fun on campus, if for no other reason than that educators who “depended on tuition ... understood the importance of making student life a happy time” (p. 129). The most important goal, at least for the young women, was to use both the formal and informal curriculum to learn how to be “fascinating.” “Fascination was the essence of the Southern belle,” wrote Farnham, and, while “it defied definition, young women tried to achieve it by developing a lively, fun-loving, and vivacious personality” (p. 127).

By studying women’s experiences before the Civil War, Farnham (1994) advanced insightful arguments that subsequent scholars have explored further. Nash (2005) “sought to understand” academies and seminaries throughout the nation that admitted women between 1780 and 1840 “in their own right, reflections of the social, cultural, and intellectual mores of their time” (p. 4). She analyzed catalogs and advertisements of over 120 institutions in 19 states. While historians had long asserted that most Americans believed women intellectually inferior to men before the Civil War, Nash demonstrated that the sexes were often perceived as intellectual equals. “As a result, women’s and men’s advanced education was more similar than it was different” (p. 54). The sexist attacks on women’s intelligence emerged as a reaction to the growth of women attending colleges and universities in the late-nineteenth century, not during its earlier, formative years.

Nash argued that higher education for women at academies and seminaries was an important way in which the emerging middle class “sought to distinguish themselves from those of both lower and higher socioeconomic status” (p. 53). The middle class developed a variety of justifications for why a woman should pursue higher education, including: to instill self-improvement and self-control, to become a better

mother and household manager, to impart a Christian and moral influence over society, to meet the need for teachers in the common school system, and to develop vocational skills in case she did not marry or become a widow.

Mary Kelley's (2006) *Learning to Stand and Speak* concentrated on how women used academies and seminaries to facilitate their involvement in the public sphere before the Civil War. Agreeing with Nash that women's intellectual capabilities were considered on par with men's by most contemporaries, Kelley demonstrated that White women from middle- or upper-class backgrounds increasingly became teachers, writers, historians, and social reformers—all positions that could shape public opinion—between the Revolution and Civil War. Academy and seminary alumnae formed a "large majority of women who claimed these careers and who led the movement of women into the world beyond their households" (p. 2). Educated women performed a complicated balancing act in which they increasingly influenced society while mostly choosing "not to challenge a social and political system that still rendered them subordinate to men" (p. 277). While affluent African American women might form literary societies in their communities, they were denied admission at the schools. Kelley connected the public influence of antebellum seminary alumnae to the social reform and political activism of postbellum college alumnae through women clubs, epitomized by the Woman's Christian Temperance Union and the Young Women's Christian Association.

In a broader study of affluent young White women in the antebellum South, Jabour (2007) argued that at these "woman-centered, woman-controlled" academies and seminaries, White affluent women learned the knowledge and skills to cope with and resist a patriarchal society. An academy education was expensive, which meant that students hailed from the more advantaged ranks, but families from more middle-class backgrounds nonetheless undertook financial hardships to send their daughters to school. Unlike the prevailing image of affluent antebellum White college men who eschewed study, antagonized professors, and emphasized success in the extracurriculum, academy women "valued academic achievement," "made academic competition a central aspect of student subculture," and developed close relationships with their teachers (Jabour, p. 57).

More recent scholars have focused on the academy and seminary curriculum, nuancing Farnham's conclusion by finding that, in general, women had the possibility to learn something above the equivalent of a "junior college education." Rigor increased over time; by the 1830s, women were learning English (writing and speaking), mathematics, geography, history (ancient, modern, and U.S.), and the natural sciences. Some academies and seminaries offered Greek and Latin; at the same time, many men's colleges were moving away from Greek and Latin and incorporating subjects long taught at academies and seminaries. According to Nash (2005), the difference between colleges and academies was access, not curriculum: "academies were open to women whereas colleges were not. Beyond, that, however, distinctions between academies and colleges were not clear" (p. 35). Moreover, about the same numbers of students attended academies and seminaries as colleges (Kelley, 2006).

Historians had long argued that academies and seminaries offered a lower level of education than men's colleges because of their emphasis on ornamentals. But ornamentals instilled skills women needed to succeed in middle- and upper-class culture (Jabour, 2007; Kelley, 2006; Nash, 2005). Moreover, as Nash (2005, 2013) demonstrated, so-called ornamentals represented real vocational possibilities for women during an era in which their career options were severely limited. Women could take courses in needlework, singing, drawing and playing musical instruments and transfer those skills to paid labor as seamstresses, developing textiles, performing music in churches or at concerts, or teaching fine arts.

Women's student life at academies and seminaries was also similar to that available to young men. In particular, Jabour (2007) painted a vivid portrait of their campus life. By the 1830s, in order to attend an academy, young southern women moved away from home and lived and ate in dormitories alongside other scholars and teachers, separated from the outside world by tall fences, suggesting that these institutions represented a more successful implementation of the Oxford-Cambridge model than most men's colleges. Like antebellum college men, academy women faced a slew of campus rules that, if not officially erased, relaxed in enforcement over time. While women's violations of curfew, quiet hours, and midnight meals paled in comparison to the violence and rebellions of college men, Jabour argued that, in resisting the lights-out policy, antebellum women students were resisting prescribed and rigid gender roles. Kelley (2006) also drew larger implications from campus life. The title of her book, *Learning to Stand and Speak*, referred to the skills women developed as members of literary societies that they used to later influence public opinion.

Another feature of student life at academies and seminaries were "romantic friendships" between southern women students, revealing that the "smashes" detailed by Horowitz (1984) and Sahli (1979) after the Civil War at elite women's colleges had a long—and non-northeastern—history. Young women often partnered off, exchanging gifts of flowers and candy—not to mention kisses—and sharing desks and beds (Farnham, 1994; Jabour, 2007). These relationships were "highly romantic, if not downright erotic," but they were socially acceptable because society considered White women "nonsexual" (Jabour, pp. 73–74). Farnham noted that it was rare for antebellum same-sex relationships to be "maintained at a high level of intensity throughout life" (p. 160); however, Jabour's research suggested that this might not be a conscious choice of affluent southern women, but rather due to their isolation from other upper-class women who lived on secluded plantations. Regardless, romantic friendships provided women opportunities to experience more equitable relationships: "Unlike heterosexual marriage," which required women to subordinate their desires and serve their husbands, homosocial relationships ... involved few trade-offs" (Jabour, 2007, p. 76). Farnham considered the extent to which these relationships represented lesbianism, an analysis complicated by the fact that the label (and vilification) of lesbianism did not emerge until the turn of the twentieth century. Nevertheless, the collective research about romantic friendships

and smashing suggested that higher education has long expanded the possibilities of companionate relationships, however briefly, for women beyond traditional heterosexuality.

In the end, recent scholars have demonstrated that women experienced higher education, though rarely at institutions called colleges, long before Horowitz's placed the "first" women students in her outsider category after the Civil War.

Postbellum and Progressive Eras If Bruce Leslie's (1992) *Gentlemen and Scholars* became a classic post-Horowitz account of White college men, Lynn Gordon's (1990) *Gender and Higher Education in the Progressive Era* deserves the same label for White college women. Gordon made at least three major historiographic contributions: moving beyond the first generation of college women (1870–1890); moving beyond women's colleges to coeducational universities; and moving beyond the Northeast to include institutions in the Midwest, South, and West. Gordon considered the experiences of second-generation college women (1890–1910) through case studies of Agnes Scott College, Sophie Newcomb College, University of California (Berkeley), University of Chicago, and Vassar College—three women's colleges and two coeducational universities.

Gordon (1990) used her first case study, the University of California, to detail the ostracism women students could experience at coeducational institutions. Berkeley's campus life was dominated by rowdy and boisterous activities—especially football and rushes—and men dressed in distinctive fashions by class year, while women dressed generically from their freshman to sophomore years. Women were segregated to their own section at football games, and college men derided their looks and voting decisions, believing that they only voted for the best looking male candidates. In response, college women established a successful student government of their own. At the University of Chicago, with its urban setting and powerful dean of women Marion Talbot in charge of all student life, women students fared better. But even there, when academic men perceived women students as too numerous and successful, they tried to segregate women from classes with men. White college women, of course, controlled the campus life at women's colleges. But Vassar students excluded Jewish women from participating, and the institution excluded African American women from even matriculating. The southern women's colleges of Agnes Scott and Sophie Newcomb were no different, and the handful of African American women to attend the University of California "found no place in the [White] women's community" (p. 69). Second generation college women demonstrated more interest in men and marriage and less interest in working outside the home than their predecessors, though they used their curriculum and campus life to learn about and participate in civic activism and social reform.

Gordon asserted that her focus on coeducation was especially important because, as early as the 1880s, a majority of women were taught alongside men. By the 1960s, nearly 90 % of women were educated at coeducational institutions.

But Gordon ended her book with a blistering critique of coeducation, informed by the past but applied to her present:

Unquestionably, women's colleges provided a superior social and educational atmosphere.... [C]oeducational institutions, then and now, have largely failed to respond to women's needs by providing mechanisms to ensure gender equality.... After one hundred years of educating both sexes, coeducational colleges and universities remain bastions of inequality and male-dominated culture. (pp. 192–193)

This criticism, well-informed by experiences at California and Chicago, helped set the stage for other scholars to explore women's experiences during the formative decades of coeducation.

Christine Ogren's (2005) *The American State Normal School* and Andrea Radke-Moss's (2008) *Bright Epoch* helped to nuance Gordon's assertions about coeducation. These books studied coeducational normal schools and land grant colleges respectively, but devoted most of their attention to women's experience. In Ogren's history of the nearly 200 state normal schools—institutions designed to train future teachers—this focus was a natural outgrowth of the enrollment on campus: women students were a majority, often overwhelmingly so. Historians had earlier either disparaged normal schools for their low levels of education or ignored them altogether. Yet Ogren showed that normal schools were “revolutionary” institutions of higher education in that they provided many students from backgrounds extremely underrepresented in higher education access to a robust curriculum and campus life for four decades following 1870 (p. 5). Normal students were overwhelmingly women, older, with work experience (often as teachers), and generally came from families with low social, economic, and cultural capital. While a majority of normal school students were White, many southern states opened normal schools for African Americans, and, given the relatively disadvantaged background of the average normal student, racial minorities and recent immigrants were less likely to be ostracized from campus life. In short, normal schools served the first sizable numbers of “nontraditional” students (Ogren, 2003, 2005).

Most normal schools offered an initial required curriculum that, while a lower level than the entering courses at colleges and universities, nonetheless stretched their students and provided a foundation for further study (Ogren, 2005). In fact, many normal schools implemented multiple courses of study, such as a two-year and a four-year program, and some even taught Latin, the hallmark of men's classical curriculum. There was little gender segregation in the classroom, and women comprised a majority of the faculty at many normal schools. As their curriculum increased in rigor and breadth, normal schools began adopting loftier names, first normal colleges, then teachers colleges, before finally morphing into regional comprehensive colleges and universities.

Campus life at normal schools was even more similar than the curriculum to that of more prestigious institutions, and perhaps served a more vaulted purpose by advancing the cultural capital of their students (Ogren, 2005). Students could join literary or academic societies, participate in intercollegiate forensic competitions, act in plays, and participate in athletics. Given the meager resources of most normal

students, fraternities and sororities did not develop until the early-twentieth century. Of course, all of the curriculum and most of campus life was designed to help normal students become successful teachers. The opportunities to practice teaching in courses, at model schools on campus, and at schools in the community largely set their student experience apart from that at colleges and universities.

Whereas White women comprised a majority of students at normal schools, they were a minority at land-grant colleges. Radke-Moss (2008) studied “the practices of coeducation” at four western land-grant institutions in Iowa, Nebraska, Oregon, and Utah (p. 1). Earlier historians had disparaged coeducation at land grants, finding women siphoned into home economics programs and excluded from the male-controlled campus life, but Radke-Moss demonstrated that “women students took a much more proactive role regarding their own inclusion on these campuses” (p. 1). Concerns about men and women students interacting with each other permeated these campuses, and “a culture of separation” emerged to keep them apart in classes, at social events, and even while walking across campus. Radke-Moss (2008) considered how land-grant women often challenged and sometimes embraced these efforts at separation, resulting in greater inclusion and promoting their success on campus. One of the chief arguments in favor of coeducation was that it would facilitate more companionate marriages, and, despite strict regulations that relaxed over time, land-grant women fostered heterosexual relationships. At the same time, close relationships that verged on the “romantic friendships” at women’s institutions were not uncommon at land grants. In terms of study, while women were encouraged to take domestic science, the science part was emphasized, which in the end expanded their career possibilities.

Johnson (2008) returned scholarly attention to the Seven Sisters, but this time with a regional focus. She offered “a collective biography” “of a small but influential group of over one thousand white southern women who went north to the Seven Sisters colleges” around the turn of the twentieth century (p. 2). Southern students, who hailed from some of their region’s most prominent and wealthy families, were attracted to the strong liberal arts curriculum of northern women’s colleges. But southern students struggled to acclimate to the fast-paced northern life and the rigorous academic programs at these elite colleges. Those who stuck around—southern women’s graduation rates were not much different than northern women’s, hovering between 50 and 70 %—saw extreme homesickness develop into strong independence, an uncommon trait among most women in the South. Most alumnae returned home after graduation where their Seven Sisters diploma was a “more significant indicator of achievement than a local degree” (p. 3).

Mining collections of student correspondence, mostly between daughters and their parents, Johnson provided rich details of students’ experiences; some of the most interesting centered on interactions with African Americans on campus. While some southern women credited exposure to African Americans in the North to subsequent beliefs in racial equality and civil rights activism, most brought their region’s prevailing racism with them to campus. They might refuse to eat dinner at the same table with African American students. In fact, Vassar leaders refused to admit African Americans, ostensibly justifying their decision in order to not alienate

their southern clientele. For instance, the racist behavior of a Virginian at Wellesley in the 1870s prompted the African American cook to spill “soup on her” (p. 95).

The most interesting theme connecting these histories is the presence of feminism on campus and in the lives of alumnae. Johnson (2008) connected exposure to feminist professors and progressive ideas to the southern Seven Sisters alumnae’s activism. These alumnae often worked as educators to raise the South’s curricular standards. The equality that women at normal schools experienced in the classroom and campus life may have best approached the feminist ideal (Ogren, 2005); that it occurred at some of the nation’s least prestigious institutions did not. Normal school women rarely expressed explicit feminist stances, but in promoting individual autonomy, embracing paid careers, delaying or eschewing marriage, and advocating for suffrage, they embraced them nonetheless. Likewise, early land-grant women not only made their campuses more welcoming of women, but also the world (Radke-Moss, 2008). They often won campus elections, though rarely to the highest offices, and learned to work with men “together for a cause” (p. 253). Writing for the campus newspaper and debating in literary societies prepared these women to continue advocacy after graduation. Gordon (1990) found the presence of feminism at the campuses in her study bleak, and wondered if “greater feminist consciousness ... would have averted or mitigated the troubles of women students” (p. 194). However, educators worried that a reputation of creating feminists would alienate prospective students, or at least their parents.

Gordon (1990) also compared the attitudes of second-generation college women to those who enrolled after the Second Wave feminist movement, the current cadre of students when her book went to press. College women in the 1980s, not unlike those in 1900s, planned to have rewarding professional and personal lives, but few vocally supported or participated in feminist causes. Gordon speculated that the rationale for these attitudes spanned the generations: these women had not struggled to access educational and professional opportunities, had not yet experienced discrimination in hiring or the workplace, and had not yet juggled work and family. In addition, she speculated that romantic relationships with men proved more “compelling than feminist causes,” and many women students “then and now, equate feminists with unattractive ‘man-haters’ ” (p. 195).

Yet, these observations suggested that the historical path between the second generation of college women and themselves had not been a smooth march of progression. Indeed, Gordon (1990) documented that women as a proportion of undergraduates peaked at almost half in 1920 but had fallen below a third by 1980. Several historians writing after Gordon explored the successes and setbacks of White college women in the twentieth century.

Twentieth Century Three books have provided excellent insights into the complexity facing White college women in the twentieth century. McCandless (1999) offered the longest history, considering women’s experiences in the South over the entire century. That region entered the century markedly different from the rest of the nation—more rural, poorer, more economically dependent on agriculture, home to more African Americans, more Protestant—and ended the century largely

representative as urbanization increased, economies diversified, population swelled, and legal segregation ended. In 1900, higher education in the South also diverged from national patterns—racially-segregated institutions, strict gender segregation among Whites (Black institutions were almost always coeducational), more emphasis on agricultural and technical education. By the end of the century, higher education in the South also resembled the larger nation, with traditionally White institutions having desegregated and coeducation becoming the norm.

With the evolution of the South and its colleges serving as bookends, McCandless (1999) devoted her book to women's experiences across the century. Compared to most authors, McCandless came close to providing even attention to White and African American experiences. McCandless persuasively demonstrated the paradoxes of women's higher education in the South. Wealthy White women learned the most prestigious curriculum—the liberal arts—at private women's colleges in the first half of the century, though the goal of this education was to prepare them to be housewives and mothers. Lower-income White women and African American women learned a more vocationally oriented curriculum at Black institutions and White normal and technical schools. This prepared them for careers outside the home, mostly as teachers, that fostered their social mobility, albeit rarely into the ranks of the elite. Sorority members, both African American and White, were active in community service as students and involved in social reform as alumnae, but membership was reserved for the more affluent members of both races. While most southern White students were “staunch segregationists,” some White women risked social ostracism to advocate for racial equality (p. 221). African American college women, in contrast, helped lead the Civil Rights Movement, often being the first students to desegregate White institutions. Here was the rub: an education designed to keep well-off White women in the home and less privileged women working in subservient positions produced graduates who fostered social change.

Other scholars focused on women's higher education at the middle of the century. Linda Eisenmann's (2006) *Higher Education for Women in Postwar America, 1945–1965*, explored concerns about and efforts to improve the experiences of women students. Eisenmann identified four ideologies—patriotic, economic, cultural, and psychological—that influenced women's decisions to pursue higher education after World War II. For example, women had to decide what was best for the nation, for them to stay at home or become trained to work in an underserved field? If the former, did college help them be better housewives and mothers? While historians had long pointed out that the proportion of women among college students fell after 1920, gradually picking back up from a nadir of 30 % in 1949, Eisenmann reminded readers that the sheer number of women students never fell, rising from 585,000 in 1942 to 2.3 million in 1965. By 1980, women would comprise a majority of college students. Despite this growth, male academic leaders rarely paid attention to the needs of women (Eisenmann, 2006). To address this void, several governmental and professional organizations considered the needs of women students. Often led by female educators, these groups “supported research on women, focused attention on their issues and needs, disseminated findings about new scholarship

and good practice, and supported networks of like-minded advocates” (p. 5). Such efforts helped lay the foundation for more explicit feminist activity on campus later and a more equitable educational experience for women students.

Faehmel (2012) studied the experiences of affluent White college women, mostly at the Seven Sisters, between 1940 and 1960. She sought to nuance the conclusions of Betty Friedan’s (1963) *The Feminine Mystique*, which was largely based on a survey of her 1942 Smith College classmates at their 15-year reunion. Friedan found most of her respondents despondent over their lives as housewives, having wasted their college education by failing to pursue a career. In the mid-twentieth century, 60 % of women did leave college before graduating, often to marry. Faehmel argued that these alumnae had demonstrated more agency in establishing their life situations than Friedan acknowledged. Marrying young actually had addressed women’s sexual frustrations while simultaneously satisfying both suitors and parents. White women’s decision to not chase a career could be quite calculated. As new college students, young women might imagine rewarding professional careers, whereas juniors and seniors often concluded the best path would be to marry well and start a family. Many college women realized that only the most talented and driven women could have successful careers, a “realistic” conclusion “considering the extent to which sexism limited professional and academic opportunities” (p. 180). Thus, both decisions—marrying young and becoming a housewife—could represent informed choices arrived at through critical thinking skills instilled by higher education. The limited opportunities available to White college women in the mid-twentieth century were magnified for many students from less advantaged backgrounds.

African American College Students

Historical research about African American students has significantly increased in the decades since the publication of *Campus Life*. Historians have considered African Americans’ earliest opportunities to access higher education, how their access simultaneously expanded and restricted following the Civil War, how higher education influenced the lives of alumni and their larger community, and the role of college students in the Civil Rights and Black Power movements. This scholarship almost evenly divides into a long period—the pre-Civil Rights Era—and a few decades—the Civil Rights and Black Power Eras.

Pre-civil Rights Era Historians have produced many new studies that consider the formative years of African American higher education. In a larger study of African American education in the antebellum period—when few high schools or academies, let alone colleges, admitted African Americans—Hilary Moss (2009) noted that handfuls of the best-prepared African Americans enrolled in New England colleges in the 1820s, but she focused primarily on the 1831 effort of African American and White abolitionists to build the nation’s first Black college. They envisioned an

institution that blended the classical curriculum with “manual labor instruction,” the latter of which would allow students from lower incomes to enroll, learn useful vocational skills, protect students’ health, and prevent men students from “becoming effete” (p. 49). These interracial abolitionists hoped “the college would help create a black professional class,” refute White claims of Black intellectual inferiority, and dampen efforts to recolonize African Americans to Africa (p. 49). They chose New Haven as the location of the institution, considering it the most racially progressive city in the country. In part because of the proposal’s unfortunate timing with the Nat Turner slave rebellion in Virginia, the White population of New Haven vehemently opposed the institution. They believed the school would attract more African Americans to their town, devalue the college degrees of White men, and result in Whites doing the least desirable work performed heretofore by African Americans. Voting 700 to 4 against the proposal, White New Haven men went on to vandalize local White abolitionists’ property and several Black businesses.

Waite (2002) provided an example of how the environment for African American higher education became more hostile, showing how the nation’s first institution of higher education to embrace admitting students “irrespective of color” later came to adopt segregation (pp. xi-xii). When Oberlin College adopted its open policy in 1834, just 1 year after it opened as the first coeducational college for White students, it was illegal in the South to teach African Americans to read or write and they had little access to public education in the North. Oberlin College, supported by a “perfectionist” band of evangelical Christians who embraced an emancipatory theology, provided African Americans an “extraordinarily important”—and rare—collegiate opportunity over the next half-century. After Reconstruction, Oberlin’s White students and presidents came from backgrounds beyond the college’s founding religious mindset, which made the institution more susceptible to a period of increased northern racism. White students refused to sit with African Americans in the dining hall, allow them to join their literary societies and athletic teams, or live with them in the same dormitory. The African American students who continued to attend Oberlin found most of their community in local Black churches rather than on campus. Perhaps the saddest result of the segregation at Oberlin was that there remained no example for the nation of a racially integrated community, which the college and town had provided for 50 years. As Waite noted in her Epilogue, Oberlin College leaders spent much of the twentieth century trying to make their institution as attractive and hospitable to African Americans as it had been before the 1880s.

The years in which Oberlin became increasingly segregated nonetheless saw new opportunities for African American higher education. In the last chapter of his influential *The Education of Blacks in the South, 1860–1935*, James Anderson (1988) demonstrated that, after the Civil War, African Americans quickly established institutions of higher education. They were assisted by two groups of influential White northerners, missionaries and industrialists. White missionary societies and African American churches founded over 100 private historically Black colleges and universities (HBCUs) across the South. These institutions offered a liberal

arts education to help graduates “achieve racial equality in civil and political life” (p. 240). Small and with few financial resources, these colleges continued to enroll 75 % of collegiate African Americans until the late 1920s. As northern missionaries’ involvement in the South began to wane around the turn of the twentieth century, northern industrialists assumed a more dominant role. They had deeper pockets but also held different beliefs about African American higher education. Rather than using higher education to promote racial equality, industrialists often believed in the inherent inferiority of African Americans, and favored, despite African Americans’ objections, consolidating over 100 private colleges into fewer than 10 and providing a vocational rather than a liberal education. However, the need to supply African American teachers for segregated schools ensured that many students learned the liberal arts.

Linda Perkins (1997) shifted attention northward, highlighting the approximately 500 African American women who graduated from the Seven Sister women’s colleges between 1880 and 1960. Wellesley, Radcliffe, and Smith were the first to enroll African Americans. Barnard, Vassar, and Bryn Mawr were the least hospitable campuses, Perkins showed, though it was rare for any institution to have “more than one or two” African Americans “per class until the 1950s” and even the most welcoming often segregated campus housing (p. 720). African American women at the Seven Sisters were minorities not only on campus but also in the larger African American community, most hailing from wealthy and educated enclaves of northern cities. Still, unlike many White alumnae, most African Americans worked after graduation, “contributing their talents to both the Black community and the larger society” as teachers, professors, lawyers, doctors, and scientists (p. 719). Despite the success of these alumnae, leaders at the Seven Sisters did not start “actively recruiting Black women” until the 1960s (p. 720).

Evans (2007) offered a more expansive history of African American women’s higher education in terms of both regions and institutional types, beginning with Oberlin awarding the first college degree to an African American woman in 1850 and ending with the *Brown v. Board* decision in 1954. The geographical center of African American women’s higher education changed over time, beginning in Ohio (and to a lesser extent, Michigan and Pennsylvania) before the Civil War, shifting to the South afterwards, and then relocating to the North as urban universities began to provide access to graduate education by the 1930s. African American women, regardless of background, felt “a sense of isolation and wariness ... most of the time” at predominantly White institutions, whereas “skin color, family status, economic class, [and] gender” shaped their experiences at HBCUs. On the whole, the first generations of African American college women relished their “access to higher education” even as they expressed “frustration at the social limitations they continued to face” on and off campus (p. 104). But most African American were not successful at college if success was measured by graduation rates. Evans argued that higher education “crushed thousands of black women” and “[m]any ... left without their diploma” (pp. 102–103); however, she also highlighted the successful careers and philosophies of several prominent African American alumnae who became influential educators.

Education was a common career path for African American alumni, but so was the military. Just as Green (2008) demonstrated that attending a military school promoted the social mobility of antebellum southern White men, Cox (2013) showed how military training at HBCUs helped African Americans “move from the underclass of the rural south to black middle-class status” in the century following the Civil War (p. 171). Military training and ROTC programs formed an important educational feature at many HBCUs. Unlike their White predecessors, however, African Americans’ social mobility was often facilitated by joining the military after graduation. In fact, many African Americans viewed a career in the military, similar to teaching, as providing a steady and reliable income in an economic system that undervalued their labor. Focusing mostly on Southern University in Louisiana, Cox made connections to the larger system of HBCUs, highlighting, for example, how ROTC programs helped stabilize the finances and enrollments in the tumultuous 1950s and 1960s. The African American community continued to perceive a military career—pursued mostly by men, although women regularly accounted for 30 % of ROTC cadets on some campuses—as respectable until the 1970s, when the Nixon presidency, Vietnam War, and Black Power Movement converged to lead many “to resist serving in the armed forces or to view compulsory military training as an oppressive form of control” (p. 168).

Several historians writing broader histories noted the importance of higher education in the South for African Americans in the late-nineteenth and early-twentieth centuries. Higginbotham (1993) studied how educated African American women—“the Female Talented Tenth”—used their churches to improve African American communities (p. 20). These women worked to instill national middle-class values in middle- and lower-class African Americans, which they learned while attending church-sponsored colleges. At Spelman, the institution sponsored a “missionary program” that trained college women to “live among their people in the most destitute areas” to “impart ... knowledge of the Bible, personal hygiene, temperance, family and household duties, and habits of punctuality, thrift, and hard work” (p. 35). In *Gender and Jim Crow*, Gilmore (1996) demonstrated that, after White political leaders had stripped African American men of voting rights following Reconstruction, educated African American women often emerged as political leaders. They used clubs and organizations to create “social and civic structures that wrested some recognition and meager services from the expanding welfare state,” skills they first learned through the education and campus organizations at Black “normal schools, seminaries, and colleges” (pp. xxi, 31). Higher education was no less significant to African American men. Summers (2004) connected the activism at Fisk and Howard Universities in the 1920s to the “shift from Victorian manliness to modern masculinity.” African American men students rejected policies that constricted their behaviors on campus, wanting the “ability to control their own bodies, the freedom to consume and experience bodily pleasure without fear of being punished” (p. 244). Combined, these histories highlighted the importance of higher education in advancing racial equality long before the more visible Civil Rights Era.

Civil Rights and Black Power Eras Historians have produced many studies that consider the experiences of African American college students—often focusing on their activism—during the Civil Rights and Black Power Movements. Hogan (2007) offered a detailed history of SNCC's most active and successful years in the early-1960s. While some historians had argued that SNCC implemented tactics from SDS, Hogan demonstrated that this was at least a reciprocal relationship, with SDS members learning as much if not more from SNCC. Hogan located the origins of SNCC to a group of “ten to twenty students from Fisk University, Vanderbilt University, Meharry Medical College, and American Baptist College” who met weekly in a Black church in Nashville to discuss the tactics of religious and spiritual leaders “and the Europeans who resisted Nazi aggression,” “trying to figure out how to act on their ideas” (p. 8). They soon began engaging in activism and building a larger organization. Facing resistance from the powerful White men—police, judges, and politicians—SNCC members “imagined and put into practice fresh modes of resistance” (p. 3).

These included lunch counter sit-ins in 1960 to desegregate public spaces in the South, the Freedom Rides in 1961 to desegregate southern public transportation, the Freedom Vote in 1963 to demonstrate the desire to vote among disenfranchised African Americans, and, also that year, helping to plan and lead the March on Washington (Hogan, 2007). Perhaps SNCC's most innovative effort occurred when it created and attempted to seat the Mississippi Freedom Democratic Party, a group that included African Americans who had tried to register to vote but had been refused by White political leaders, at the 1964 Democratic National Convention. SNCC captured national attention but failed to get their delegates seated. In the aftermath, SNCC leaders gathered on the Gulf Coast of Mississippi and tried to implement a more structured and hierarchical organization. This disillusioned many rank-and-file members, and, along with divisions about the role of Whites within the organization and the usefulness of nonviolence, resulted in an end to SNCC's most influential years. Yet other social movements and organizations, including Black Power, women's rights, and antiwar, learned lessons and borrowed tactics from SNCC to advance their own causes.

Rogers (2012) and Biondi (2012) considered the larger activist movement of African American college students in the 1960s and 1970s. In many ways, their books nicely complemented each other. Rogers offered an impressive and seemingly exhaustive list of African American student activism across the nation, but he seldom provided deep coverage of any one campus or event. Rogers recovered from historical obscurity accounts of student deaths as a result of law enforcement actions at South Carolina State University in 1968 and North Carolina Agricultural and Technical State University in 1969, a year before the better remembered shootings at Jackson State and Kent State. Biondi delved deeper into events at fewer campuses, sensitive to geographical and institutional diversity. She demonstrated that activists at HBCUs mobilized to promote Black consciousness, investments in academic programs and facilities, and student involvement in shared governance; at two CUNY colleges, African American and Puerto Rican student activists insisted

on more inclusive admissions policies that helped produce the first significant professional class in New York City from these communities. Biondi also focused on gender, highlighting tensions between men and women activists. Both Rogers and Biondi connected the activism of African American students to the establishment of Black Studies. This field comprised much of what African American students had demanded—representation in the curriculum and on the faculty—but once it became institutionalized, many students became frustrated that it did little to serve the African American community and it became susceptible to disinvestment from White administrators.

Historians have also considered African American activism at individual campuses, dividing their attention between North and South. Studying events at Rutgers University, McCormick (1990) reinvigorated research into African American student activism by bringing a historian's eye, after the initial books written by participants and journalists. He demonstrated how case studies of single institutions could reveal the interactions of African American students and White university officials. In *Black Power on Campus*, Joy Williamson (2003) provided a scholarly exemplar of this genre, focusing on the University of Illinois at Urbana-Champaign (p. 3). African American students, usually hailing from the same Chicago communities, used the Black Students Association to advance “Black Power principles” on campus (p. 3). University leaders had to balance demands of African American students and expectations of (mostly White) political leaders and influential citizens who disliked disruptions. Eventually, African American activists helped institutionalize reform efforts, including recruiting diverse students and serving on campus committees. Brady (2012) provided the only account of African American activism on a northern liberal arts campus, exploring the College of Holy Cross's effort to enroll African Americans in the wake of the assassination of Martin Luther King, Jr. The first cohort of African American men to attend Holy Cross confronted both tacit and overt racism, and staged a walkout in 1969; after their graduation in 1972, many went on to impressive careers, including a Supreme Court justice (Clarence Thomas). Other scholars have considered developments at Columbia (Bradley, 2009), Cornell (Downs, 1999), and the University of Pennsylvania (Glasker, 2002).

In works focusing on the South, scholars have divided their attention between desegregation and student activism, though of course desegregation was a particularly bold form of activism. Historians have offered accounts of the desegregation—and sometimes the corresponding violence—of individual institutions in the South, including the United States Naval Academy (Schneller, 2005), University of Alabama (Clark, 1993), University of Georgia (Pratt, 2002), and University of Mississippi (Eagles, 2009). Eagles provided a minute-by-minute account of the negotiations between President Kennedy and Governor Ross Barnett over the admission of James Meredith to the University of Mississippi and the resulting riots between U.S. marshals and White Mississippians that ended in two deaths. Yet Wallenstein's (1999) article critiqued the perception of desegregation, on the whole, as marked by violence. Most colleges and universities desegregated quietly and peacefully, though often only after a legal challenge. Moreover, violence occurred toward the end—at the institutions and in states most resistant—not the beginning

of desegregation. Wallenstein's article later appeared in an edited book that offered additional perspectives into southern desegregation (Wallenstein, 2008).

Some works focused on southern African American student activism at individual campuses. For example, Lefever (2005) argued that both Spelman College faculty and students had "made major contributions to the civil rights movement" between 1957 and 1967, despite the conservatism that pervaded the campus (p. 252). Shifting her attention from the University of Illinois to the entire state of Mississippi, Williamson (2008) focused on the role of HBCU students in the civil rights movement. Williamson reminded readers that HBCU students could be expelled, suspended, or otherwise punished for their activism. Other writers analyzed specific events, such as the sit-in by a Tougaloo College professor and students at Woolworth lunch counter in Jackson Mississippi in 1963 (O'Brien, 2013) or the shooting at Jackson State University that killed two students and injured twelve more (Spofford, 1988). The bravery, visibility, and success of African American college students—both in the South and North—helped influence the activism of other students long excluded from higher education.

Asian American College Students

Beyond research about White women and African Americans, historically underrepresented groups in higher education have received more limited attention from historians. Research about Asian Americans, for example, spans a long period of time but remains rather sparse. First, historians have noted that before there were significant numbers of Asian Americans enrolled in higher education, there were students from Asia attending American colleges and universities. Leibovitz and Miller (2011) uncovered a program created by the first Chinese graduate of an American university—Yung Wing, Yale Class of 1854—to send Chinese male youths to the United States to study and return home to modernize China. Between 1872 and 1881, over 120 students made the trek, usually at around age 12 and staying through college, enrolling in colleges in the Northeast. These youths were treated far better than Chinese laborers on the West Coast, and they often became involved in campus life and athletics. Fast-forwarding four decades, Lawsin (1996) demonstrated the sometimes blurry distinctions between students from Asia and Asian American students. She studied the experiences of students from the Philippines attending American colleges and universities between 1922 and 1939, years in which the Philippines was a U.S. territory and upwards of 2000 Filipinos enrolled in college annually. Most students self-financed their higher education, but around 500 were sponsored by the colonial government in the Philippines under the condition that they return home and provide an equal length of service to their homeland. By analyzing editions of the *Filipino Student Bulletin*, which was circulated nationally to Filipino students, Lawsin identified three types of students: cultural missionaries, who resisted acculturation to American life; neocolonialists, who embraced American statehood for the Philippines; and nationalists, who demanded

independence and sovereignty for the Philippines. In a troubling twist, the nationalists got their wish but paid a high price: the law that granted Philippine independence revoked citizenship rights of Filipinos studying in the U.S. and restricted future immigration from the islands. In the end, fewer than 60 % of Filipino students returned home, suggesting that many who started their college careers as international students ended as domestic students.

Historians have also provided a chilling reminder that one of the first sizable cohorts of Asian American college students was found in the Japanese internment camps of World War II—more than 4000 interred Japanese youths attended over 600 colleges and universities. Okihiro (1999) focused on the experiences of second-generation Japanese American students who, long concentrated within communities in California and to a lesser extent Oregon and Washington, attended college in the Midwest and East Coast. Some of these students faced discrimination and prejudice on campus, and were discouraged from socializing with each other for fear of creating racist backlash. But, on the whole, these students had positive experiences. Austin (2004) focused heavily on the organization—the National Japanese American Student Relocation Council—that facilitated the transfer of young Japanese from the internment campus to colleges and universities. The group navigated a variety of stakeholders, including governmental officials, military leaders, college administrators, philanthropic foundations, and students and their parents, in an effort to release one of the first sizable groups from the internment camps. The council expected Japanese students to “become ambassadors of goodwill” on campus, as well as hoping that higher education for interred Japanese youth would improve the perception of American democracy tarnished by the camps (p. 3). Japanese students overwhelmingly held up their end of the bargain, being well behaved and studious at college, helping to create the perception that Asian Americans thrived within educational and economic systems designed by—and largely benefitting—White Americans, an approach which would later lead to Asian Americans receiving the label of the “model minority.”

Resistance to this label formed another line of research about Asian American college students, which focused on the Asian American Movement. Umemoto (1989) provided a history “of the longest student strike in American history” (p. 3). From November 1968 through April 1969, students at San Francisco State College from a variety of historically oppressed racial groups—including African Americans, Asian Americans, Chicanos, Latinos, and Native Americans—demanded less strict admissions standards and better representation in courses taught and among faculty doing the teaching. The strike may have been most powerful for Asian American students, many of whom embraced activism and rejected acquiescence for the first time. The strike resulted in the establishment of the institution’s School of Ethnic Studies, the first in the nation. Taking a broader and longer approach, Louie and Omatsu (2001) edited a volume that included historical analysis, first-hand accounts, and primary documents of the Asian American Movement from the late 1960s through the early 1980s. That volume could be most useful as a source for subsequent historians, as Nguyen and Gasman (2015a, b) demonstrated in their work on the influence of the movement on college students in late-1960s California and

among Vietnamese students at the University of California, Irvine in the 1980s. Asian American college students “drew energy from Black Power ideology” as they pushed to improve their communities’ experiences in higher education and challenge the model minority myth (p. 341). The label was first applied in a 1966 *New York Times* article that noted Asian Americans’ “achievement in education and employment” despite “the barriers produced by racial discrimination” (Nguyen & Gasman, 2015a, p. 342). Yet this designation obscured differences within the diverse Asian American community, minimized the struggles of Asian Americans, and pitted them against other racial minorities. Still, as the long strike in San Francisco suggested, one of the main goals of the Asian American Movement was to establish the field of Asian Studies. Some Asian American students resisted the movement, given their desire to advance within the existing social structure, though the Vietnam War helped generate enthusiasm for activism. The late-1960s and early-1970s were formative years for another underrepresented group with a longer history of higher education in North America but a similar limited representation in historical scholarship.

Latino College Students

Latino college student enrollments have increased dramatically in recent decades (Thelin, 2011), but they remained largely absent from the historiography of higher education. College students appeared several times in Victoria-Maria MacDonald’s (2004) “narrated history” of Latino education in North America. Four years before the first normal school in the U.S. was established in Massachusetts, the federal government of Mexico declared in 1833 that normal schools should be established in its territories, including parts of the modern United States. Dozens of Latinos attended the preparatory department of the University of California, Berkeley in the early-1870s, but when the institution closed the department later that decade it effectively shut out enrollments of Latinos until the 1970s. More welcoming was Santa Clara College, where “almost four hundred Hispanic surnamed students” studied “[b]etween 1851 and 1876” (p. 73). In fact, when Latinos accessed higher education in the late-nineteenth and early-twentieth centuries, they were usually from wealthy families and usually attended Catholic colleges, which offered “a smooth continuity and accommodation with the Spanish language and religion” (p. 73). Philanthropy, community outreach, and the GI Bill helped more middle-class Latinos attend college in the mid-twentieth century. The federal government provided millions of dollars in financial aid for Cuban refugees to attend college between 1962 and 1976.

By the late 1960s, Latino college students were becoming increasingly visible and active in improving campus climate and their communities (MacDonald, 2004; Muñoz, 1989). “The fall of 1967 witnessed the birth of several Mexican American student organizations” in California and Texas (MacDonald, 2004, p. 224). In 1969, students from several California institutions gathered at the University of California,

Santa Barbara, where they agreed to adopt a common name for their campus organizations, *Movimiento Esudiantil Chicano de Aztlán*, or MEChA. MEChA's purpose was threefold: to develop mutually beneficial relationships with supportive students and their organizations; to improve the representation of Latinos within college curriculum and among the student body; and to serve the needs of local Latino communities. Just 2 years later, Puerto Rican students chastised Yale leaders for their paltry enrollment numbers despite the university's close location to several Puerto Rican population centers. They listed 15 recommendations to improve representation, including having Puerto Rican students accompany admission counselors on visits to New York City's Catholic schools. MacDonald and her colleagues (2007) advanced a 5-stage chronology of "the struggle for Latino higher education" in which student activism was the distinguishing feature of the second stage—self-determination—in the early 1970s. Chicano and Puerto Rican youth activists began demanding "meaningful access to higher education," representation in the curriculum and among the faculty, "Hispanic cultural and research centers, and the financial means to realize these goals" in the 1960s and 1970s (p. 476).

Native American College Students

Native American students did not appear in *Campus Life*, but more recent historians have worked to uncover their experiences in higher education. Wright (1988) offered a provocative history of the role of Native Americans in the establishment and operation of Harvard, William and Mary, and Dartmouth. In order to gain charters for these institutions, their leaders used the pretense of educating and converting to Christianity the Native Americans in the colonies. Leaders also used this rationale to raise money from religiously devout Britons who were uninterested in educating the youth of those who had abandoned their country for the New World but could be persuaded to help with converting those who were there first. Although Native American enrollments beyond a handful never materialized, both Harvard and William and Mary used money earmarked for Native Americans to build large buildings on their campuses, benefitting the sons of colonists. Many generations passed after the Revolution before elite institutions made meaningful efforts to educate Native Americans, though Henry Roe Cloud, a member of the Winnebago Tribe and the first full-blood Native American to graduate from Yale (B.A. 1910, M.A. 1914), proved a notable exception. Pfister (2009) connected Roe Cloud's undergraduate experiences to his later advocacy for Native Americans. On campus, Roe Cloud demonstrated impressive oratory skills and was tapped for membership to one of Yale's selective senior societies. He became an influential educator and worked with the federal government to improve Native American communities.

Scholars have also focused on higher education for Native Americans outside of the former colonial colleges. Carney (1999) provided a brief but sweeping history, dividing Native American higher education into three periods: colonial, federal, and self-determination. The longest—the federal period, which stretched from the end

of the Revolution until 1960—proved to be the worst, as the federal government refused to cede any control over education to Native Americans. After 1960, Native American activism, the establishment of tribal colleges, foundation grants, and federal funds combined to improve the opportunities for Native American higher education. By the 1990s, over 25,000 students attended 31 tribal colleges.

Other scholars have explored the experiences of Native American students at individual institutions. Lindsey (1995) studied Native American students at Hampton Institute, an HBCU in Virginia. Native Americans, often from reservations in the West, began enrolling in 1878; almost 1400 traveled to Hampton over the next 50 years. Complicated race relations ensued, as White institutional leaders, African American faculty and students, and Native American students navigated the campus. Mihesuah (1993) and Neuman (2014) each considered institutions in Oklahoma. The Cherokee Female Seminary opened in 1851 (Mihesuah 1993), and would eventually become Northeastern State University. Modeled after Mount Holyoke, it offered students a liberal arts curriculum, though it primarily served the most advantaged members of the community—students with educated parents, only partial native bloodlines, and, thus, lighter complexions. Neuman offered a longer history of nearby Bacone College. Members of several tribes attended Bacone, and Neuman explored the extent to which these students shared an overarching identity as Native Americans. Bacone students were savvy about challenging Native American stereotypes while taking advantage of many White Americans' interest in Native American culture, creating a vibrant campus experience in the process. For example, as affluent White women became "collectors" of Native American art in the first half of the twentieth century, Bacone leaders and students helped supply this demand and invested the proceeds into strengthening the institution's study of Native American culture and art.

College Students with Disabilities

In *Campus Life*, Horowitz (1987) noted that the exclusion experienced by Earl Miers, who had cerebral palsy, upon his entrance to Rutgers in 1929 led to his becoming a campus rebel. In the years since both Miers entered Rutgers and Horowitz published her book, students with disabilities have become increasingly present on college campuses. However, they remain largely excluded from the historiography of higher education. Several historians have focused on efforts to improve the campus for students with physical disabilities. Brown (2008) highlighted how Tim Nugent, a 24-year-old graduate student and disabled veteran, developed the Disability Resources and Educational Services at the University of Illinois after World War II. University leaders had originally implemented the program at the behest of prominent veterans, but soon became "wary of the possibility that the" institution "would become known more for its disabled students than for other activities" (p. 171). Nugent and students with disabilities protested threats to close the program, and pressure from the Department of Veterans Affairs kept it in

operation. With the program secure, Nugent went on to create opportunities for students with disabilities to participate in athletics, physical therapy, and community service. The program also helped university leaders commit in the early-1950s to the accessibility of all future buildings, decades before the federal mandate. Similarly, Klink (2014) explored how Betty Nelson, an assistant dean of women, helped implement the Rehabilitation Act of 1973 at Purdue University. She invited students with disabilities to serve as consultants to campus construction projects.

Christiansen and Barnartt (1995) explored the activism of students with disabilities by studying the Deaf President Now protests at Gallaudet University in 1988. The protests began when the Gallaudet board selected the only hearing person out of three finalists for the presidency on March 6. In the ensuing week, students blocked the gates to campus, burned effigies, and marched on Capitol Hill, achieving their four demands: selection of a deaf president, the resignation of the board of trustees' chairwoman, majority representation on the board by deaf people, and no retaliation against protesters. The protest may have been especially successful because of the coalition who supported the students, including young Gallaudet alumni, sympathetic Gallaudet faculty, and many in the larger deaf community.

Lesbian, Gay, Bisexual, and Transgender (LGBT) College Students

Lesbian, gay, bisexual, and transgender (LGBT) college students became increasingly visible on campus in the last half of the twentieth century. Their experiences have become increasingly represented in the historiography of higher education in the early twenty-first century, though, along the LGBT spectrum, studies have focused on the experiences of gay men. Patrick Dilley (2002b) interviewed almost 60 “non-heterosexual” men who attended college between 1957 and 2000. To a large degree, Dilley offered a historical student identity theory, developing a typology and situating them within specific time periods: homosexual (1940s–1960s, men acknowledge attractions but maintained a high level of privacy); gay (late 1960s–2000s, men publicly announced attractions and worked within “institutional systems to create change”); and queer (late 1980s–2000s, men “very publicly deployed identity and tried to change social systems”) (p. 5). Shand-Tucci (2003) connected the lives of many gay or bisexual (sometimes broadly defined) Harvard faculty, alumni, and students to larger developments in American culture in the nineteenth and twentieth centuries.

Historians have also studied administrators' persecution of gay college men and LGBT student activism through their student organizations. Dilley (2002a) considered the ways that higher education leaders had attempted to “control” gay college men across the twentieth century. From the 1940s through the 1960s, administrators expelled gay students—or even students perceived to be gay or those who associated with gay people. Administrators went so far as to conduct sting operations with

local law enforcement to catch gay students, and noted the rationale for expulsions on transcripts and letters of recommendations, effectively preventing expelled students from transferring to other institutions and forestalling promising careers. Such expulsions could come days before graduation and even lead those punished to commit suicide. From the 1950s through the 1970s, administrators increasingly sent gay students to counseling, with the goal of eradicating homosexual desires. They also refused to recognize and support gay student organizations for two decades beginning in the early 1970s, forcing gay college students to sue their alma mater to claim their Constitutional rights. Other scholars have focused on purges of gay students—or those perceived to be gay—at specific campuses in the first half of the twentieth century, including Dartmouth (Syrett, 2007), Harvard (W. Wright, 2005), and the Universities of Missouri, Texas, and Wisconsin (Nash & Silverman, 2015).

Against this backdrop of aggressive homophobia, the first gay student organizations were established. Beemyn (2003) offered a history of the first two LGBT college student organizations, demonstrating that these groups predated the Stonewall Inn riots of 1969, generally considered the beginning of the gay rights movement. The Student Homophile League (SHL) was founded at Columbia in 1967, before branching out to Cornell a year later. At both campuses, gay students encountered hostility from administrators in registering their organizations, relied on sympathetic straight students to join their group and circumvent administrative roadblocks, and were advised by liberal campus religious leaders rather than student affairs administrators. Cornell's SHL was rife with internal divisions. Heterosexual members wanted to focus on education, the most openly gay members wanted to build a gay culture rather than fit into the existing straight one, and more closeted gay members wanted to meet similar students without being outed to the larger public. Influenced by student radicals in other movements—antiwar, women's rights, Black Power, and SDS—SHL leaders decided to stop appeasing their “more closeted members” and adopt a more visible and activist approach. This proved largely successful, leading to the establishment of over 175 student organizations on college campuses just 4 years after the first at Columbia.

Some of these organizations soon materialized in states like Kansas (Bailey, 1999) and Florida (Clawson, 2013, 2014) long inhospitable to sexual minorities (e.g., Graves, 2009). Clawson (2013) first focused on Hiram Ruiz, a Cuban who started the Gay Liberation Front (GLF) at Florida State University in 1970. “There was nothing even close” to a gay rights organization in the South in 1970, Clawson noted, writing that “[t]he significance” of Ruiz's efforts “should not be understated” (p. 144). The student body president and leaders in the women's rights and Black Power movements supported the GLF, though the university “banned the group from using campus facilities” (p. 145). Within the organization, GLF members struggled with how to respond and support a transgender student. The GLF also helped establish a gay student group at the University of Florida (UF), which fought over the first half of the 1970s to gain recognition (Clawson, 2014). Clawson demonstrated that the increasing visibility of the organization simultaneously helped students struggling with their sexuality while at the same time risked members' safety. During the most important event of the year for the UF gay student organization,

members of the Kappa Alpha Fraternity “set up a table and asked passersby to sign a petition ‘calling for the execution of homosexuals’ ” (p. 224). As Dilley’s (2002a) article noted, some gay student organizations had to sue institutions to receive recognition and resources (Bailey, 1999; Reichard, 2010). Reichard (2010) argued that a successful lawsuit at Sacramento State College led to a “golden age” of gay activism, resulting in changes in the curriculum, week-long events, and more students coming out. Similarly, Beemyn (2003) and Clawson both argued that gay student organizations served formative roles in the establishment of a visible and activist gay rights movement in the larger society.

College Student Activities and Behaviors

In the post-Horowitz era, many historians have focused on specific groups of students and their experiences in higher education. Others have produced scholarship about college students that largely falls into two categories: student organizations and student behavior. In terms of student organizations, Current (1990) provided a history of one of the oldest in the country, Phi Beta Kappa. Founded in 1776 at William and Mary as an organization that blended literary society and fraternity, it became the most prestigious honorary organization in the United States. Morelock (2008) demonstrated the importance of literary societies and dramatic clubs to both college students and the larger community in Lexington, Kentucky around the turn of the twentieth century. Historians have written several histories of Christian student organizations (Evans, 2003; Setran, 2007; Turner, 2008). Setran (2007) reminded readers that just as higher education began to shed its sectarian nature, almost 30 % of college men joined the Young Men’s Christian Association (YMCA). Dorothy Finnegan and her colleagues have devoted significant attention to the YMCA (Alleman & Finnegan, 2009; Finnegan, 2005, 2006; Finnegan & Alleman, 2013; Finnegan & Cullaty, 2001), often demonstrating that the organization and its leaders inaugurated programs and educational practices that served as the foundation for the student affairs field (e.g., Hevel, 2016).

Historians have paid particular attention to fraternities and sororities, focusing on specific types—including historically Black (Giddings, 1988; Ross, 2000; Whaley, 2010), Jewish (Sanua, 2003), and traditionally White (Syrett, 2009; Turk, 2004; Wilkie, 2010). Syrett offered the longest and most interpretive history, arguing that members of White men’s fraternities represented the dominant form of masculinity on campus from their inception at the beginning of the nineteenth century through the end of the twentieth. What constituted dominant masculinity changed over time, with debating skills in the antebellum period replaced by drinking skills in the twentieth century. Wilkie explored masculinity within a single White fraternity at the University of California, Berkeley, drawing on evidence from an archaeological excavation of two of the fraternity’s old chapter houses. Whaley explored the history of Alpha Kappa Alpha, the oldest historically Black sorority, demonstrating the organization’s complicated role over time—sometimes promoting

feminism while other times promoting femininity, sometimes emphasizing social life and other times working for social change.

Beyond formal organizations, historians have also studied the more elusive behaviors of college students. Pranks pulled and traditions started by college students have been the subject of several well-written if not overly analytical books (Bronner, 2012; Peterson, 2003; Steinberg, 1992). Beth Bailey (1988, 1999) has written two of the most sophisticated histories of student behavior. In *From Front Porch to Back Seat*, Bailey chronicled the change in courtship practices among American youth from “calling” to “dating” that occurred between 1920 and 1965. This shifted courtship from private to public spaces, and young women lost power in this transition.

Sex in the Heartland picked up where Bailey’s first book left off, exploring how the sexual revolution influenced the community and college students in Lawrence, Kansas. The permissiveness of the 1960s was a far cry from the restrictive sexuality of earlier eras, as Nelson (2003) demonstrated with a history of a “scandal” that rocked the University of Missouri when students (including 1000 women) answered a survey about sex administered by two faculty members in the 1920s. Lowe (2003) demonstrated that the bodies of women college students had long been a concern of educators and the larger public. Before World War I, college women embraced food and hearty appetites as signs of good health; afterwards, college women succumbed to the flapper style, which idealized thinness, exposed skin, and revealing dresses.

Two things college women—and college men—did with their bodies was to sing and to wear clothes. Winstead (2013) traced the history of college singing from colonial Harvard into the twentieth century, focusing on what students sang, their songs about college, and their informal and formal musical groups. Technological changes across the twentieth century, including the rise of the automobile, film, and portable music players all contributed to changing most college students from active singers into passive listeners. Clemente (2014) demonstrated that the styles that dominate contemporary Americans’ wardrobes—short-sleeved shirts, sweaters, shorts, and khakis—became popularized on college campuses beginning in the early twentieth century. College students valued clothes that were comfortable and durable. They established these styles as social customs and campus rules about their attire relaxed, although students at historically Black colleges, especially African American women, were subject to strict dress codes into the 1960s. Clemente’s book deviated from much historical scholarship by showing how college students influenced the larger society rather than society’s influence on students.

Activism on campus has been another way college students have influenced the larger society. As the previously-cited activism of historically underrepresented groups suggests, historians have devoted a significant amount of attention to college students’ efforts to enact social change. Cohen (1993) offered a particularly strong and comprehensive history of college student activism in the 1930s, but historians have overwhelmingly privileged the 1960s and early 1970s. Historians have focused on specific aspects, such as SDS (Barber, 2008), the Peace Movement (Heineman, 1993), and the Free Speech Movement (Cohen & Zelnik, 2002), including the effect

of campus bans on Communist speakers (Billingsley, 1999). Several books considered the relationships between African American activists and White activists—and sometimes antagonists—in the South (Cohen & Snyder, 2013; Michel, 2004; Turner, 2010). Others have focused on more precise locations, studying activism among students in states such as Arkansas (Wallach & Kirk, 2011) and Mississippi (Marshall, 2013) or on specific campuses such as Berkeley (Rorabaugh, 1989) and Stanford (Lyman, 2009). A particularly interesting line of research has centered on how conservative students experienced the 1960s and how that decade influenced conservative political ideology for the remainder of the twentieth century (Andrew, 1997; Klatch, 1999; Rosenfeld, 2012; Schneider, 1999). Rosenfeld, using records obtained after a 30-year legal battle with the FBI, demonstrated how the FBI and Ronald Reagan colluded to fire administrators and circumvent student activists, all of which helped lead to Reagan's increasing conservatism and popularity. Horowitz's rebels—at least the 1960s variety—have garnered significant historical attention over the last 30 years.

Specificity and Synthesis

Although Frederick Rudolph could rightly criticize his contemporaries in 1966 for neglecting college students, today there may be no subject better represented in the historiography of higher education. With students being the most numerous members of the academic community, this attention is certainly warranted. But while historians have increased the study of college students since the publication of *Campus Life*, few have followed Helen Horowitz's lead in offering a synthesis of college students from different backgrounds over long periods of time. Mostly, recent historical scholarship has centered on a particular group of students, often at a specific type of institution over several decades. These studies have made the historiography of higher education much more inclusive, better reflecting the various pasts of the diverse students who attend college today. At the same time, the historiography of students has become more dispersed, making it challenging to understand changes and continuities over time.

Moving forward, historians could well serve higher education stakeholders by continuing to explore specific groups of students but also synthesizing what we know about previous generations. Most importantly, historians must continue to study the past of historically underrepresented students, including African American, Asian American, Latino, and LGBT students. And there are other subjects beyond specific student groups that deserve study. Ogren (2005) provided detailed insights into students at normal schools in the late-nineteenth century, but we know little about students at the subsequent teachers colleges and comprehensive universities that normal schools evolved into. Even the colonial period, the least diverse era of higher education, seems poised for more scholarly attention, whether by identifying previously unused sources or reanalyzing those that earlier historians relied upon.

That is always the challenge of researching the history of college students: What sources exist to aid the reconstruction and interpretation of students' experiences? Usually the more excluded a group was from higher education in the past, the fewer the sources that survive in the present. Historians must identify creative ways to overcome this obstacle.

At the same time, historians must consider synthesizing existing research to explore developments across long periods of time and across student populations. Yet, writing another book like Horowitz's—a long history that aimed to include most groups, however unevenly—may be less feasible today, given the sheer diversity of experiences historians have covered since the late-1980s. Syntheses of specific collegiate populations may be more manageable projects, both for historians and readers. The existing research about White women's higher education from the antebellum era to the mid-twentieth century seems especially ripe for such an undertaking, which could focus on the types of institutions women accessed, what they learned, what they did outside the classroom, and how their education influenced their adults lives, all while acknowledging change over time and deviations among regions and students' socioeconomic backgrounds; including the experiences of women from oppressed racial backgrounds would make such work even stronger. Synthesizing works on twentieth-century student activism—paying careful attention to similarities and differences across historically unrepresented students—would also offer much in terms of understanding the past.

Campus Life endures not because it represents the most sophisticated understanding of the history of college students today—no 30-year-old book could—but because it provides a useful way of thinking about college students across generations. Historians can provide updated scholarship that accomplishes the same task, even if it might not be accomplished in one book. A healthy balance between synthesizing existing scholarship and new studies of specific student groups would be a particularly useful approach for historians of higher education to take over the next 30 years.

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Chapter 10

Peer Review: From “Sacred Ideals” to “Profane Realities”

David R. Johnson and Joseph C. Hermanowicz

Introduction

All modern social systems include people who are formally designated with the authority of evaluating the performance of others in a given system (Zuckerman & Merton, 1971). We thus think of the relationship between managers and employees, teachers and students, coaches and athletes, parents and children, CEOs and governing boards, politicians and an electorate. The same is true in the system of modern scholarship and science. Academic peer review consists of socially structured processes for evaluating scholarly and scientific performance. The faculty members of universities, colleges, centers, and institutes are asked to serve in a role of judge over the quality, quantity, creativity, and originality of a fellow member’s performance, constituting a “review by peers.”

While “peers” are members of academic communities, and while they are normally members of the same field or work area as the individual whose performance is under review, they are otherwise loosely defined. In relation to the person whose performance is assessed, peer reviewers may be of a lower, higher, or comparable status, employed at the same or different institution, methodologically and/or theoretically similar or dissimilar, older or younger, more or less experienced, “blind” or “known.” These permutations arise as a function of the specific type of performance under evaluation and as a result of deliberate and undeliberate decisions in the selection of reviewers by those in charge of overseeing the review.

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Peer review in tenure and promotion assessments, for example, includes a vote from all other tenured faculty members in the unit in which the candidate holds an appointment. All of these members are “known” to the candidate, but they may vary in all of the other stated ways. Assessments of tenure and promotion now often also include “external” reviews from “peers” outside the institution in which the candidate holds an appointment. Those who oversee the review—department chairs or heads—commonly possess considerable latitude to whom dossiers are sent; these external reviewers may vary in relation to the person under review in any number of the above stated ways. By contrast, peer review of articles more often than not transpires as a “blind” process (the identity of the reviewer is not known to the person whose work is reviewed) or as a “double-blind” process (neither the identity of the reviewer nor that of the person whose work is reviewed are known to one another.) Yet even these procedures vary among journals and across disciplines. Single-blind review is prevalent in the life sciences, physical sciences, and engineering, for example, while double-blind review is more commonly found in the humanities and social sciences (Ware & Monkman, 2008). Moreover, the editors overseeing the review process at journals exercise very great latitude in deciding whom to send manuscripts.

Aside from their correspondence to different types of performance, these permutations are also a source of bias in peer review (Lee, Sugimoto, Zhang, & Cronin, 2013; Shatz, 2004), a subject that will assume considerable prominence in the present chapter. Bias arises both as a function of the decisions made by those in charge of the review about which peer reviewers to select, and as a function of peer reviewers themselves who apply “particularistic,” functionally irrelevant, as well as aesthetic, criteria to formulating their judgments, rather than universalistic criteria.

Nevertheless, “peers,” as opposed to clearly specified super- or sub-ordinates as found in other social systems, are used in the review of scholarship and science because of a belief that professions, of which scholarship and science is the prototype (Gustin 1973), require an expertise from fellow members to form prudent judgments about specialized work (Bess, 1988; Waters, 1989). Peer review thus operates as a key mechanism by which professions are, in principle, self-regulating.

Thus conceived, peer review has been called “the linchpin of science” (Ziman, 1968 p. 148, quoted in Fox, 1994, p. 299): modern scholarship does not operate without it. Given the centrality of peer review to academic work, it is important to take stock of what we know about its aims and ideals, its social organization, and the problems in its actual operation. This is the purpose of the present chapter. Higher education researchers have paid considerable attention to other contexts of peer review—tenure and promotion, post-tenure review, grants, fellowships, and salaries—inadvertently eclipsing the centrality and significance of peer review of publication in higher education.¹ For this reason, this chapter focuses on peer review in the publication process.

¹For other, secondary arenas where peer review operates, readers can consult illustrative treatments: for example, tenure and promotion (Fairweather, 2002; Hearn & Anderson, 2002; Lawrence, Celis, & Ott, 2014; Long, Allison, & McGinnis, 1993; Perna, 2001, 2005; Youn & Price, 2009);

The chapter has three parts. First, we consider the functional aims and ideals of peer review, its historical origins, and its conceptualization. Special attention is paid to the relationship between peer review, the communication of science, and the reward system in science and scholarship. Second, we examine the social organizational basis of peer review. Specifically, we focus on the expansion and differentiation of peer review, as well as on how peer review can be understood both as a labor process and as a process of “invisible interaction.” Finally, in a section on dysfunctions, we examine a substantial segment of work on reliability and bias in peer review processes. The discussion underscores structural and cultural characteristics of peer review that seemingly shatter its idealized image. We conclude the chapter by discussing gaps and limitations in extant research to thereby identify promising paths for future empirical studies.

The Social Aims and Ideals of Peer Review

The specific performance of the scholar or scientist to be judged takes multiple forms. The objects of judgment include research and grant proposals, dossiers for tenure and promotion, credentials for select administrative appointments, teaching, salary, “job talks” and portfolios of faculty applicants, records for the conferral of special awards and honors, as well as, occasionally, records of behavior for the meting out of discipline.

While peer review has several referents, the staple of its usage is found in its operation in the process of publication. The publication process is typically viewed as undergirded by a norm of “organized skepticism,” or the social arrangements established to ensure that all scientific and scholarly contributions undergo a fair and proper process of peer-based evaluation prior to becoming a part of certified knowledge (Merton, 1973a, 277–278). This is so because science and scholarship cannot advance determinedly, and thus fulfill its institutional goal of extending knowledge (Merton, 1973a, 1973b), in the absence of work that has been certified as a contribution and placed in the public domain (Ziman, 1968). In short, publication enables *communication*. The communal character of peer review transforms a manuscript, long or short, into consensual “knowledge” (Chubin and Hackett, p. 84). Publication thus becomes the central social process of “constituting” science (Fox, 1994, p. 299).

What is more, all other roles performed by the modern professional scholar and scientist (as opposed to the pre-modern amateur) are dependent on publication (Shils, 1997). Across the gamut of what can be taught in a classroom or virtual medium, to what can be shared through varieties of service, academic roles are

post-tenure review (Aper & Fry, 2003; O’Meara, 2004; Patriquin et al., 2003; Wood & Johnsrud, 2005); grants (General Accounting Office, 1994; Gillespie, Chubin, & Kurzon 1985; Langfeldt, 2001; Liebert, 1976; Roy, 1985); research fellowships (Bornmann & Daniel, 2005; Lamont, 2009); and salaries (Perna, 2003).

dependent upon knowledge that is sanctioned thusly and communicated in a format for others to access (Merton & Zuckerman, 1973). The standardization of publication formats, in both the article and book genres, was not conceived at once, but rather an outcome of evolved practice. This standardization is thus itself social testimony to a functional imperative of sharing science and scholarship (Zuckerman & Merton, 1971). The proliferation of journals (Hermanowicz, 2016a, 2016b; Jacobs, 2013) and the institutional intensification of pressure on faculty to publish (Hermanowicz, 2009) are related, developing phenomena that point not only to the centrality, but also to a contemporary spread and ubiquity of peer review.

As a regulative mechanism in the process of publication, peer review is used by members of academic communities to assess the acceptability of manuscripts and, when judged acceptable, to certify that the work constitutes a contribution to the stock of knowledge. In the case of scholarly and scientific outlets of publication, peer review for a given submission is conducted—in present times—by fellow members of a field, usually numbering between one and four depending on the field and on the specific journal or book press, in conjunction with an editor of the particular outlet. Together these actors operate as the judges who manage standards of publication in the academic system. While representative of the peer review process in operation today, and thus highly recognizable to all academics and indeed a focal concern of many of their livelihoods, these conventions took considerable time to develop. They were, for significant spans of time, not customary to, or indicative of, academic work.

The practice of peer review in the academic publication process is, in the context of organized learning, relatively new. As Zuckerman and Merton (1971) have elaborated, it dates to the seventeenth century—an historical period in which the scientific role was legitimized (Ben-David, 1965)—with the advent of scientific societies and academies.

The new scientific societies and academies of the seventeenth century were crucial for the social invention of the scientific journal which began to take an enlarged place in the system of written scientific interchange which had hitherto been limited to letters, tracts, and books. These organizations provided the structure of authority which transformed the mere *printing* of scientific work into its *publication* (Zuckerman & Merton, 1971, p. 68, original emphasis).

Two journals emerged close in time to each other in 1665: the *Journal des Scavans* and the *Philosophical Transactions* of the Royal Society. The use of reviewers in these and subsequent journals, however, emerged only slowly and unevenly. Manuscripts to fill journal issues often had to be solicited by the editor, and were often “reviewed” or examined solely by the editor, later perhaps by a member of what came to constitute a small in-house staff, and latter still by a member of a journal’s editorial board, though even this specific practice was not always observed. Burnham (1990) has explained how the practice of editorial peer review did not become general until after World War II. Consistent with this historical conclusion, Fox (1994) explained that James McKeen Cattell edited the renowned journal *Science* for the 50 years spanning 1894–1945, used his son to review papers, and only after his own death did the American Association for the Advancement of

Science assume control of the journal and adopt external peer review as a standard procedure.

The explanation of this history is found partly in the twin forces of specialization and quality (Burnham, 1990; Weller, 2001). As science developed, scientists specialized in their research and publication. What is more, the number of scientists grew. The number of scientists grew at dramatic levels in conjunction with the rise and expansion of universities. This pattern includes the emergence of the research university in the United States in the late 1800s, which exerted both national and global effects on an intensification of research (Geiger, 1986). Moreover, the elaboration of the research university facilitated specialization through the creation of academic departments (Shils, 1997). Thus, the net research and publication activity of scientists ascended and began to climb markedly in the early twentieth century.

Consequently, the editorial role of a journal reached a point where editors could not alone assess the merits of specialized submissions and could not alone sort stronger from weaker articles in the growing batch of submissions. “Casual referring out of articles on an individual basis may have occurred at any time beginning in the early to mid-nineteenth century, but *institutionalization* of the process in various editorial settings took place mostly in the twentieth century—either to handle new problems in the numbers of articles submitted or to meet the demands of an increasingly specialized world” (Burnham, 1990, p. 1327, original emphasis).

But while specialization and quality account partly for the institutionalization of peer review in academic publication, they in turn are premised on a condition that, first, precedes their occurrence *historically* and, second, more fully informs the motivations and functional operation of peer review *contemporaneously*. This concerns the *incentive* for scientists and scholars to disclose their newly-found knowledge. The advent of printing provided a technological means to communicate knowledge (Bazerman, 1988, especially pp. 128–150). But, as Zuckerman and Merton (1971) again explain, scientists still placed a premium on secrecy so that others could not steal and appropriate what they had discovered.

Other institutional practices had to arrive to encourage a shift from “motivated secrecy” to “motivated public disclosure” (Zuckerman & Merton, 1971, pp. 69–70). A key such practice was the seemingly simple but dramatically consequential act of the Royal Society recording the *date* on which scientific communications were first received. Henry Oldenburg, one of two secretaries of the Royal Society, oversaw the *Philosophical Transactions* beginning in 1665 and, in handling much of its early correspondence with scientists, acted as an “editor,” though no such designation had been made nor had any outline of an editorial role been construed (Zuckerman & Merton, 1971, pp. 68–69).

What was the significance of assigning a date? Writing to Robert Boyle, Oldenburg concurred:

The society alwayes intended, and, I think, hath practised hitherto, what you recommend concerning ye registering of ye time, when any Observation or Expt is first mentioned... [the Royal Society] have declared it again, yt is should be punctually observed: in regard of wch...hath been written to, to communicate freely to ye Society, what new discoveries he maketh, or wt new Expts he tryeth, the Society being very carefull of registering as well the

person and time of any new matter, imparted to ym, as the matter itself; whereby the honor of ye invention will be inviolably preserved to all posterity (Hall & Hall, 1966, p. 319; quoted in Zuckerman & Merton, 1971, p. 70).

The practice officially established *priority of discovery*, the social function of recording date of publication (Merton, 1973b; Zuckerman & Merton, 1971). The formal authority of an esteemed organization sanctioned when and to whom credit was bestowed for contributions to knowledge. In addition, by recording contributions by date alongside people's names, the practice forwarded the idea of permanence of record, a furtherance of honor of its own accord. Permanence enables a more formal basis of scientific and scholarly archives, which constitute a genealogy of contributions and testifies to scientists' achievements in historical time (Chubin & Hackett, 1990; Zuckerman & Merton, 1971).

The practice of registering the date of contributions received, repeated over time, resulted in a convention in and among the people of science. The convention in turn facilitated the emergence of a norm said to characterize scientists' research behavior: the norm of "communalism," which prescribes the sharing and proscribes the secrecy and withholding of scientific findings (Merton, 1973a). That is, in exchange for sharing their findings and placing them in a public domain, scientists were to be given credit, in the form of recognition, through the systematic process of registering who made a contribution and at what time. Recognition was bestowed at the time by the institutional authority of the Royal Society and, as these processes matured, informally and formally by fellow scientists and the organizations of science and scholarship to which they belonged or with which they were otherwise associated (e.g., departments, colleges, and universities; professional associations, societies, and so on).

The quest for recognition thus itself becomes institutionalized (Merton, 1973b; also Hermanowicz, 1998). The desire for recognition, socially manufactured and maintained, is hitherto an expected behavioral pattern in the life of (effectively socialized) modern scientists and scholars. So conceived, recognition takes its place in the functional process of science. Recognition serves as social testimony from one's peers—those capable of judging scientific and scholarly contributions—that one has indeed satisfied the institutional goal of science, to extend knowledge (Merton, 1973b). "Writing for publication" is a behavior that not only emerges and becomes standardized (Zuckerman & Merton, 1971), but a behavior that comes to be idealized among scientists, for publication serves as the basis of honoring one's own and others' work and, correspondingly, the "ways" of doing science. Great recognition bestowed on scientists implies, by this perspective, a high degree of originality in their work, and thus a proportional furtherance of socially certified knowledge. Through these ways, the force of specialization and the desire for quality, discussed above, do not alone account for the development of peer review. Antecedents are found in the emergent *system* of science itself which, as it modernizes, creates needs and uses of peers to form its very "operational machinery."

For a long time unknown to science, peer review is now so pervasive it signs a signature of legitimacy to the work of scholars and scientists. Editors—and all others who are called upon to review the various performances of academics—can

turn to the advice of peer reviewers to justify their decisions, and to the fact that given work was peer reviewed, to underscore the legitimizing authority that peer review possesses. Tenure and promotion committees, at least in many universities, discount work of candidates that “was not peer reviewed” as well as articles and books that were not subject to “rigorous” (meaning fully genuine) peer review.

Put in starker terms, contemporary academic work that is not subjected to peer review is not even considered scientific; it is “not good.” The process of peer review is now wedded to the system of science and scholarship. As Ripp has stated:

[Peer review] has become part of the reward system of science, and it is legitimated by the ideology that peer review is the best way to conduct evaluation processes. Indeed, questioning the functioning of the peer review system is questioning the ideology, and thus inviting hostile reactions (Ripp, 1985, p. 83).

And, as Campanario has added, illustrating the historical distance that the practices of science have traveled:

Not surprisingly, publication in academic journals is judged as an indicator of performance of an individual effort, and on many occasions it fosters an author’s career advancement... This prestige—and the reason we trust journal quality—rests on the process by which manuscripts are evaluated before publication; that is, the peer review system (Campanario, 1998, pp. 181–182).

It might seem logical, then, that few would dare to question, or indeed criticize, the practice of peer review since, as the modern-day “linchpin of science,” it is its guarantor of authenticity. That is, however, precisely what people have done, and their own work forms a body of literature that has developed and grown over the past three decades. Such scholars assert that peer review “seldom operates according to strictly meritocratic criteria, that it is frequently unreliable (in that reviewers, quite predictably, disagree about the merits of the work under review), and that it may be sensitive to influences other than ‘true’ scientific quality (such as the prestige or past performance of the scientist whose work is under review)” (Chubin & Hackett, 1990, p. 125). By this light, peer review may be viewed not only as a “linchpin of science” but also a “lightning rod” for controversy among scientists.

While central to science, peer review is anything but “pure.” The truism is that it involves other human beings, as opposed to insentient mechanical robots. The “performance” of peer *reviewers* themselves vary, not merely by the types of performances that they are called upon to judge, but by qualitative and quantitative terms of their participation in review processes. The issue prompts key concerns: the raw time faculty members spend in service of peer review, the diligence with which they assume such roles, the sources of variation in the quantity and quality of participation in review processes, and the consequences for the institution of science and scholarship of such variation.

On the one hand, peer review is enshrouded in myth and ceremony: it projects what we shall call “sacred ideals.” We may say that the ideals of peer review are sacred because they encompass the norms of disinterestedness and universalism, are thus “objective,” and consequently assure a positivistic conduct of science (Merton, 1973a). The norm of disinterestedness holds that scientists’ performance of scien-

tific work, including their conduct in evaluation, should be free from biases (Merton, 1973a), while the norm of universalism stipulates that the allocation of rewards for achievement should be based exclusively on objective standards (Merton, 1973a).

By contrast, a growing literature demonstrates the existence of what we call peer review's "profane reality." We may say that the reality of peer review is profane because of limitations and failings of peers as human actors, for whom an objectivity is unachievable, which results in a "social construction of science." By this alternative view, science cannot be "disinterested" or "universal"; these so-called "norms" are in fact not indicative of most actual behavior, but rather they are of a variety of ideals associated with a rhetoric and ideology of science, the manifestations of which are highly contingent on context (Mulkay, 1980).

Consider the following statement:

The work of a scientist should be viewed by disinterested, objective standards. The most appropriate person to judge those standards is an appropriate peer—another scientist. Extraneous and subjective issues such as rank, jealousy, affiliation and rivalry should play no place in this process, neither should lack of expertise. This is the theory behind the practice of peer review, the process by which papers submitted to professional journals or grant applications made to funding bodies are usually judged (Wessely, 1996).

And compare with:

... a high volume of submissions, turnover of editors, and dependence upon ad hoc reviewers and often a part-time (non-professional) managing editor, [makes] circumstances...different. Referees may be chosen with few grounds for assessing their competence as reviewers and with no mechanism for monitoring their performance...Beyond issues of competence are considerations of reviewers' engagement with a manuscript and their affective and aesthetic responses, as noted in Silverman's [1988] sensitive analysis of peer judgment. As Silverman says, reviewers do not simply address a manuscript rationally; they respond from 'experiences, biases, knowledge, expectations, interests, and hopes' [1988, p. 364], which are, in turn, a basis for judgments rendered. Such conditions of peer review as well as quality of manuscripts received and the maturity of manuscripts upon submission vary for journals...Where circumstances of slack selection and monitoring of reviewers do exist, however, some question the very meaning of 'peer' and 'review' (Fox, 1994, 300; see also Hirschauer, 2010).

The first statement captures the normative basis on which scholars (and all others) believe peer review operates or ought to operate (Chase, 1970; Shadish, 1989). The second calls attention to the behavioral basis on which scholars actually act as participants in peer review processes. These behaviors are often invisible, disavowed, and/or discounted by others (and by participants themselves) in order to socially uphold the integrity of peer review and, by extension, the legitimacy of science.

The theme of ideal versus reality is critical since it wraps around the heart of what peer review seeks to accomplish. Paradoxically, as the process of academic peer review has matured, the problems and controversies identified in its practice have increased and broadened. We turn in the following section to how peer review is itself socially organized, which sets the stage, in the chapter's final section, to the areas of research that have challenged the ideals, and exposed many of the realities, in the contemporary practices of peer review.

The Social Organization of Peer Review

Peer review has both a social organizational role in the academic profession, as discussed above, and its own social organization, the focus of the discussion that follows. That is, in saying peer review is itself socially organized we mean that it is structured in specifiable, though often hidden, ways which results in the transparent production of publication. We consider three sets of concerns: the expansion and differentiation of peer review, the study of peer review for its labor process, and a conceptualization of peer review as an instance of “invisible interaction.” Each set of concerns, in its distinctive ways, convey how peer review is socially arranged, and are reflective of the relevant literature. Further, as the discussion will reveal, these concerns exist as sources of strain in how peer review actually operates. The discovery of these strains will draw us to a still different literature, discussed in the final section of the chapter, on the dysfunctions that have developed in contemporary peer reviewing. To understand the problems that have emerged in modern peer review, it is important to provide a context that accounts for how peer review is socially set-up.

Expansion and Differentiation

Organizationally, peer review is situated in journals and academic publishing houses. Among the most noteworthy of changes over time consists of the expansion and differentiation of publishing outlets. Since the establishment of in-house journals at the Royal Society of London and the Académie Royale des Science of Paris in the late seventeenth century (Biagioli, 2002) the number of academic journals has steadily risen. In a classic study, Price estimated a doubling every 15 years in the number of journals between 1665 and 2000 (Price, 1975). Analysis of *Ulrich’s Periodical Directory*, which has monitored all types of periodicals since 1932, places the number of peer-reviewed journals at 16,925 in 2002 and 23,973 in 2008 (Tenopir & King, 2009). Powell (1985) documented a similar pattern of expansion in book publication, where the number of publication companies doubled from 804 in 1954 to 1650 in 1977. Expansion is important to peer review because it signifies the magnitude of peer-reviewing activity taking place and the labor (of many types) necessary to its operation.

Expansion of the number of journals *within* fields feeds an additional and highly consequential aspect of social-organizational change: differentiation. Differentiation is manifest in two ways. First, the caliber of journals and book presses has broadened. Second, coercive pressure has intensified wherein editors compel authors to cite work from the journal in which authors seek to publish, thereby attempting to distinguish one outlet from another.

On the first point—journal and book publisher prestige—publication venues are “segmented;” that is, scholars in fields draw distinctions between general and specialized outlets on the one hand, and finer-grained distinctions in outlet quality on

the other. In all fields, publication venues are symbolically ordered by their visibility, which shapes scholars' outlet preferences. Garfield's (1955) development of journal impact factor measurement—which ranks journals according to the number of citations they receive relative to articles published in a given time period—has become widely popular in academe (Power, 1997; Tuchman, 2009). The use of “journal impact factors” likely reifies author preferences for publication outlet. This is likely so even in light of the fundamental observation that, independent of outlet, evaluating scientific quality is difficult and problematic (Seglen, 1997). Thus, in the modern era, there is little doubt that abundant good science and scholarship is published outside of the most prestigious venues, and this pattern has likely intensified with the expansion of publishing outlets (cf. Cole & Cole, 1973). The research role and institutional expectations for publication productivity have intensified over time (Hermanowicz, 2016b), but expansion of publication outlets has occurred primarily in journals considered outside of the top tier. Consequently, opportunities for academic publishing have expanded, but not among the most prestigious journals.

On the second point—coercive pressure—segmentation induces editors to manage their journals to out-compete others. Coercive self-citation refers to pressure that editors exert on authors to add citations from the editor's journal, which can be viewed as a violation of the norm of disinterestedness (Merton, 1973a), given that the communication of science is biased by the interests of an editor. Through such practices, editors “game the system.” They use the peer review process to attempt to enhance their journal's prestige by improving its impact factor. In a survey of 6672 researchers in economics, sociology, psychology, and business, Wilhite and Fong (2012) found that 42 % of their respondents had experienced coercive-self citation pressure from editors during peer review; 86 % of the respondents viewed the practice as inappropriate. What is more, editors are more likely to coerce assistant and associate professors (Wilhite & Fong, 2012).

More broadly, the differentiation of journals has resulted in new forms of peer review. This has also been fostered by other forces, including long review times and delays in publication (Björk & Solomon, 2013). The journal *Nature*, for example, conducted an experiment in which papers that survived an initial editorial assessment were subjected to open peer review online in addition to standard peer view. But because of a reluctance of researchers to offer open comments, the journal deemed the experiment a failure (Greaves et al., 2006). An alternative approach to peer review, now institutionalized across a number of fields, follows the model of the journal *PLOS ONE*. *PLOS ONE*, and journals that have mimicked its format, are open-access. Its peer review process is limited to the technical validity of results and explicitly excludes judgments about the scholarly contribution of manuscripts (Björk et al. 2010). Assessment of a manuscript's scholarly contribution in this model is determined solely by whether the scholarly community ignores or cites the research.

The expansion of outlets and corresponding intensification of peer reviewing activity prompts significant organizational consequences. One consists of strain on the operation of peer review. A conservative estimate of the number of peer reviewed articles published annually is one million (Björk, Roos, & Lauri, 2009). In most

cases, successful submissions involve two or more rounds of reviews conducted by a minimum of one, but often more, reviewers before acceptance. But the number of articles published in a given year is dwarfed by the number rejected. And yet all submissions—those ultimately published and those rejected in a given cycle—are subjected to review. As Kravitz and Baker (2011, p. 1) explain: “each submission of a rejected manuscript requires the entire machinery of peer review to creak to life anew.” Consequent strain in the system may be more likely in low-consensus fields, such as in the humanities, relative to high consensus fields, such as in the physical sciences, because rejection rates are higher in areas of work where scholars disagree as to what constitutes credible scholarship (Zuckerman & Merton, 1971, p. 77). Nevertheless, publication delays have increased substantially over the past several decades due in part to an increase in the volume of manuscripts to review and the time needed by reviewers to undertake the uptick in review requests (Björk & Solomon, 2013).

But submission rates and review delays themselves are found to vary by the segments of publishing outlets. Institutional expectations exact a pressure on authors to submit their work to the most prestigious journals. Thus the volume of submissions at highly-ranked journals has risen markedly. This outcome generates system inefficiencies (Sugimoto, Larivière, Ni, & Cronin, 2013). In the words of Bruce Alpert, former editor-in-chief of *Science*, bureaucratic obsession with impact factors “wastes the time of scientists by overloading highly cited journals such as *Science* with inappropriate submissions from researchers who are desperate to gain points from their evaluators” (Alpert, 2013, p. 787). Many manuscripts would be better sent initially to outlets other than the most prestigious, which by turn would help yield greater efficiencies in the operation of peer review.

Labor Process

An organizational perspective is useful for mapping the expanse of the peer review system, as well as for discerning the system’s micro-level characteristics. Here we focus on the labor process underlying peer review, a view that brings into relief occupational and micro-organizational features of evaluation in scholarship and science.

For the individual author, peer review is omnipresent in scholarship and science because one’s work continues to be evaluated even after it is published. When delimited to the publication process, peer review can be understood as having informal and formal stages of evaluation. During the production and completion of a scholarly manuscript, some authors ask colleagues to offer feedback prior to revision and submission to a journal; conferences provide another venue for informal peer review. Formal peer review begins with submission to a journal or press. It consists of a transaction involving “suppliers” (authors), “buyers” (journals or academic presses), and “goods” (manuscripts). Authors seek to increase their symbolic capital (Bourdieu, 1984) by publishing in journals with the highest impact, whereas editors

seek to publish papers that increase or maintain the prestige of their journals (Sugimoto et al., 2013). From one perspective, reviewers accumulate symbolic capital (noted on one's vita and journals' annual reviewer acknowledgements) when asked by editors to evaluate a manuscript: the request symbolizes recognition of specialized expertise.² Reviewers have less to gain in this exchange beyond exposure to new research. Accordingly, reviewers often spend little time evaluating scholarship and offering feedback. An analysis of time invested by reviewers, drawing on a survey of 276 reviewers in public health, found that reviewers spent an average of 2.4 h per paper (Yankauer, 1990). Low incentives and limited time invested in peer review raise questions about its reliability, a topic covered later in the chapter.

The labor process underlying this exchange illustrates a craft system of production characterized by autonomy, personal discretion, and informal control (Powell, 1985). Although the sequence of peer review processes can vary within and across fields and journals, formal peer review typically begins with a screening process in which an editor decides whether a manuscript is suitable for external assessment. A study of 100 randomly selected journals in 43 fields found that 10 % of journal submissions receive a "desk reject" by editors (Juhasz, Calvert, Jackson, Kronick, & Shipman, 1975); that is, the manuscript is rejected by the editor without sending it out for evaluation by external assessors.³ In another study that included 1008 manuscripts submitted to three elite medical journals, 76.5 % of initially submitted manuscripts were desk-rejected (Siler, Lee, & Bero, 2015).

If a manuscript is selected for peer review, editors and (at times) editorial board members select external reviewers to evaluate the submission. The labor process of peer reviewing creates "small world" social networks that are decentralized, informal, fleeting, and which include a "horizon of observability". "Horizon of observability" refers to distance in a social network beyond which persons are unaware of others' roles (Friedkin, 1983). In peer review, the horizon of observability encompasses the idea that individuals are tied to one another through the peer review process with no knowledge of one's role as author or referee. What makes this particularly interesting is that reviewers and authors may be tied together through other means, such as doctoral affiliation or mutual participation on a conference panel, yet are unaware of their connection through peer review. An

²Requests to review, however, are not universally a sign of recognition. The role of recognition in this respect is historically contingent, pre-dating the rise of electronic submissions. Authors are now often required to indicate areas of interest when submitting a manuscript to a journal, selections that provide editors and editorial staff with a pool of reviewers to approach in the future. Thus, even a relatively unknown researcher who might have rarely published can be approached to review scholarship. Therefore, reputation and the exigencies of managing a journal likely both come into play in reviewer selection.

³Juhasz et al. (1975) do not specify which fields comprise their sample. They note in a comment about fields that "the conclusions of our study do not relate to any differences between the acceptance-rejection ratios between the humanistic literature and the scientific and technical literature" (p. 184).

account told by former *American Economic Review* editor, Preston McAfee, captures the point:

At a conference, I overheard one author tell another economist that an idiotic referee reviewed his *AER* submission. He detailed all the stupid things that the referee had said, and the economist listening to the story commiserated and wholeheartedly agreed with the author, even though the commiserator was the referee in question. This referee had written a thoughtful and serious report on the paper of a friend, but the author did not appreciate the insights in the report (McAfee, 2014, p. 60).

In a survey of 94 academic psychiatrists who had submitted a paper to the journal *Psychological Medicine*, Wessely, Brugha, Cowen, Smith, and Paykel (1996) found that, of the 252 reviewers associated with the respondents’ manuscripts, only 15 % were accurately identified by authors. Nevertheless, it can be the case that the research, instruments, and resources described in manuscripts belie blind review (Knorr-Cetina, 1981). Crane (1967), for example, discussed the presence of “invisible colleges” wherein the identity of authors is recognizable by their style, use of data, and theoretical orientation.

Further, the proliferation of publication has rendered calls to review more challenging (Hermanowicz, 2016a, 2016b). The editor of the *American Journal of Sociology* has explained that 10 people are customarily asked in order to yield three reviews, but in cases the requests have climbed to as high as 17 (Abbott, 2011). This was not the case prior to using electronic means to solicit reviewers. Receiving a packet of a manuscript and forms in the mail, reviewers evidently felt more compelled to do the review. Receiving an email request, reviewers are more readily able to push a button and decline (Abbott, 2011).

Calls to review are more frequent, faculty workloads have increased (Jacobs & Winslow, 2004), and reviewing in journals is unremunerated (except honorifically) (Kravitz & Baker, 2011). In principle, editors select qualified reviewers who have expertise in some aspect of the scholarship under consideration, but research on reviewer selection exposes the influence of other factors that shape this work. Social proximity (Hamermesh, 1994), status (Stossel, 1985), and career stage (Fyfe, 1994; Guest, 1994) shape the selection of reviewers and potentially the quality of the review. Stossel (1985) found that high-status reviewers are disproportionately more likely to refuse to review manuscripts. This means that editors often must rely on younger and less experienced colleagues to evaluate submissions. Yet, eminence and seniority do not assure high-quality reviews. Editorial commentaries on peer review practices reveal complaints about the quality of reviews submitted by high-status and senior faculty (Finke, 1990; Judson, 1994). Quantitative analyses that use length and elaborateness of a review as a *proxy* for review quality suggest that the highest proportion of high quality reviews are, indeed, provided by younger and lower-status colleagues (Stossel, 1985). And while it is reasonable to posit that reviewer selection is shaped by subfield, given that larger subfields offer larger pools of potential reviewers (e.g. there are more particle physicists than string theorists and more sociologists of stratification than historical sociologists), disciplinary and subfield differences in reviewer selection remain unprobed territory in research on peer review.

Invisible Interaction

Publication results from an iterative process that includes exchanges between authors and reviewers (Teplitskiy, 2015). While gratitude is paid occasionally to “anonymous reviewers” in acknowledgements of published manuscripts, tangible publications occlude the interaction between authors and reviewers, much like other cultural products (such as musical instruments or pieces of art) tend to conceal the work of others who help produce them (Becker, 1984). Hood (1985) has referred to this social pattern as the “lone scholar myth.” Knorr-Cetina (1981) has described how scientific papers entail a “hidden monodrama” in which authors argue with specific others.

Existing work characterizes the relationship between authors and reviewers in two ways. Some scholars depict a *collaborative* relationship between authors and reviewers in which reviewers and editors attempt to “coach” authors by providing feedback on how to deal with flaws in theory, methodological issues, and implications of findings (Cummings, Frost, & Vakil, 1985; Jauch & Wall, 1989). Other scholars depict an *oppositional* relationship in which reviewers and editors challenge authors to meet expectations of scholarly merit (Crane, 1967; Strang & Siler, 2015). Reviewer characteristics are rarely studied comparatively, but one study shows that philosophers’ reviewers are more negative and likely to recommend rejection than psychologists’ reviews (Lee & Schunn, 2011), suggesting “toughness” may vary by field. Describing the book publication process, Coser, Kadushin and Powell (1982:198–199) note that conflict is endemic to the publishing process. In his study of two commercial publishers of scholarly books, for example, Powell (1985, p. 64) described how authors get “caught in the crossfire” of battles between different departments of the publishing house. The review process at journals can operate similarly.

Two characteristics of the interaction between authors and reviewers are noteworthy. First, a power/dependence differential exists in which authors have something to lose, while reviewers have little to gain (Strang & Siler, 2015). Second, authors, reviewers, and editors may share a commitment to the production of knowledge, yet each party brings varied sets of interests to the exchange. Reviewers’ interests may potentially shape how they evaluate an article. For example, reviewers can promote their own reputation by pressuring authors to cite their work (Wilhite & Fong, 2012). They may try to protect their reputation within an area by rejecting findings that contradict or challenge their research (Abramowitz, Gomes, & Abramowitz, 1975) or by delaying the publication of research that competes with their own (Grouse, 1981). In the most egregious circumstances, scientists have expressed concern that peer reviewers have stolen their ideas and published them elsewhere (De Vries, Anderson, & Martinson, 2006).

Knorr-Cetina’s (1981) ethnography of a major research center integrates collaborative and oppositional views of author-reviewer exchange. Her work sought to demonstrate that publications are the result of a negotiated compromise. The publication of scholarship necessarily entails writing against others and, while reviewers

may be friends or acquaintances with an author in an overlapping network, they are also competitors who work on similar topics with stakes of their own (Knorr-Cetina, 1981).

The negotiations between authors, editors, and reviewers have been investigated only sporadically. For example, Simon, Bakanic, and McPhail (1986) examined complaints to editors from authors using 250 manuscripts submitted to the *American Sociological Review*. They concluded that complaints are rare, most frequently focus on perceived reviewer incompetence, and rarely persuade editors to reconsider submissions.

In other work, researchers have shown that reviewers and authors in the social sciences negotiate the meaning of a paper’s findings, rather than the evidence. Using content analysis of published submissions and a survey of authors in *Administrative Science Quarterly* between 2005 and 2009, Strang and Siler (2015) introduced the idea of “revising as (re)framing.” They found that theory sections of papers were intensively reworked and hypotheses were altered, but changes to measures and analyses were limited. Teplitzkiy’s (2015) comparison of conference papers later published in the *American Sociological Review* and *Social Forces* similarly showed that manuscripts change more in their theoretical framing than in their data analyses. How the notion of “revising as (re)framing” applies to other fields remains empirically unexamined. One might hypothesize that theoretical reframing is most operative in low- and medium-consensus fields where scholars are more likely to disagree about appropriate hypotheses and interpretations, and least operative in fields characterized by high-consensus, given the high levels of agreement about theoretic frameworks in such fields.

An examination of peer review for its own social organization has drawn attention to the expansion and differentiation of publication outlets that have directly affected peer review, to the study of peer review for its labor process, and to an understanding of peer review as instantiations of “invisible interaction.” While publication may enshrine works of scholarship with a sense of objectivity, these three sets of concerns underscore the point that peer review is a socially susceptible and socially sustained series of processes. To these ends, publications that result from “successful” peer review are negotiated products that carry the interests of authors, reviewers, and editors. Other works are, of course, rejected as a result of the “same work” of interests. They are shelved, and then some of them are sent elsewhere, and a subset of these are eventually published or rejected again, repeating the processes until authors, reviewers, and editors at some point, at some outlet, are of at least some general accord—to finally publish, or to finally give up in finding a home.⁴

⁴The length of time that authors take to re-submit manuscripts for consideration elsewhere is a question open to empirical inquiry. Length of time may function, for example, from reviews received and decisions to revise before sending manuscripts to different outlets. Length of time may also function by career stage; the younger the stage, the lesser time on the shelf. In the earliest stages, shelves may be altogether short: anecdotal evidence suggests that many junior scholars are advised always to keep completed manuscripts under review, under the premise that they will “hit” somewhere. The premise itself underscores the socially situated variability of peer review processes (i.e., manuscripts of all sorts will be accepted somewhere).

While one view holds that these processes are functional and act in service to a larger system of science, this is but one view. By turn, these processes are stamped with the imprimatur of human behavior. Thus a circumspect consideration of peer review must also take into account social-behavioral realities in the practices of peer review. These considerations turn our attention to dysfunctions that arise in how modern peer review operates.

Dysfunctions of Peer Review

Given that peer review processes are organized socially, in which there may often exist competing interests and conflicts, strongly contrarian attitudes about peer review have developed, not only in the informal life and experience of academe but also in a critical literature that has burgeoned over the last three decades. (This period coincides with an ascendance in the usage and in the consequences of peer review; publication outlets, calls to review, and expectations to publish, have all grown.) The ascendance of contrarian views has occurred even in light of the long line of points established at the outset that accounted for how and why peer review came to constitute nothing less than “the linchpin of science.” Thus one reads, in but one of many editorial columns (this coming from the acclaimed scientific journal *Nature*), that peer review is “the least imperfect way of upholding the quality of scientific publications” (Dewitt & Turner, 2001, p. 93). Such a statement in 1950, let alone an industry of such sentiment, would be unimaginable. A considerable body of research has examined operational machinations of peer review in publication. Through a variety of lenses, much of this research confronts the question of whether peer review is a reliable arbiter of knowledge. This section of the chapter examines the operation of peer review by considering research on its reliability and impartiality. Studies reveal a general agreement among researchers that reviewers themselves rarely agree about the quality of manuscripts. The remaining bulk of the section addresses factors identified in research that seek to explain why the reliability of peer review appears to be so low.

Reliability

“Two scientists acting unknown to each other as referees for the publication of one paper usually agree about its approximate value,” asserted Polanyi (1946, p. 51). Polanyi’s claim, if validated empirically, contends that peer review is a highly reliable process of evaluation. The crux of reliability rests on a simple premise: peer review cannot be a valid means of assessing scholarly or scientific quality if independent referees do not reach similar conclusions about the merit of manuscripts. The earliest research on reliability implied that peer review is, in fact, conducive to reviewer agreement in the assessment of manuscripts. Analyzing 172 manuscripts

submitted to *The Physical Review* between 1948 and 1956, Zuckerman and Merton (1971) found that reviewers recommended the same decision in all but five cases; only minor differences emerged in comments about revisions necessary for publication. Research examining biomedical science (Orr & Kassab, 1965) and sociology (Smigel & Ross, 1970) produced similarly positive depictions of reviewer agreement.

Serious questions about the reliability of peer review, however, were subsequently raised by quasi-experimental studies that identified major failures of the peer review process. Rather than testing reliability by describing frequency of agreement among reviewers of published papers (Orr & Kassab, 1965; Smigel & Ross, 1970; Zuckerman & Merton, 1971), studies in this vein audit the review process by testing how well reviewers detect blatant errors. One such failure includes bias (Mahoney, 1977; Peters and Ceci 1982), a topic addressed shortly. Another such failure involves an inability to recognize fallacious submissions (Sokal, 1996). The “Sokal hoax,” for example, involved New York University physicist Alan Sokal, who devised a manuscript comprised of unintelligible and nonsensical writing—presented as a postmodern argument about math and physics. He successfully published the paper in the journal *Social Texts* (Sokal, 1996). While the goal of the paper was to critique postmodernism, the episode revealed how editorial review failed to detect a completely erroneous and illogical contribution.

Similarly, in collaboration with molecular biologists at Harvard, Bohannon (2013) devised a paper on cancer cells that was written in a credible manner but which included obvious fatal errors. The manuscript was submitted under a series of fictitious author names affiliated with fictitious African institutions to 304 open-access journals, of which only 98 rejected the paper. Of the 106 journals that provided evidence of peer review, 70 % accepted the paper (Bohannon, 2013). The Sokal (1996) and Bohannon (2013) ploys speak most explicitly about *editorial* peer review and, in the case of Bohannon (2013), open-access publishing. Similar events have occurred in peer review of conference papers (McLachlan, 2010). While some of these events attract more popular attention than others, their message is meant as general: the peer review process can be a weak filter for flawed, fabricated, and even non-sensical work. Such events point to significant shortcomings of scholarly evaluation and the limits of peer review as a method for detecting fraudulent work (Fox, 1994).

Quantitative analysis of reviewer agreement, or inter-rater reliability, is the primary means by which researchers have assessed the reliability of peer review. Statistical approaches to examining inter-rater reliability vary across studies. One of the main techniques used is intraclass correlation, where a correlation of 1.0 indicates full agreement between reviewers. Most studies of this kind identify low levels of consensus in reviewer recommendations. In studies with relatively large samples of manuscripts, researchers have found intraclass correlations of .12 in management (Starbuck, 2003), .23 in law (Cicchetti, 1991), .29 in sociology (Hargens & Herting, 1990), and in psychology—one of the most active areas of research on inter-rater reliability—estimates vary from as low as .08 (Cicchetti & Eron, 1979) to .34 (Cicchetti, 1991). A meta-analysis of 48 studies of inter-reviewer reliability similarly concluded

that reviewer agreement tends to be low and that studies reporting high levels of agreement tend to be based on small sample sizes (Bornmann et al., 2010).

These measures, however, reflect *overall* agreement among reviewers, meaning they are averaged across all possible recommendations including “accept,” “reject,” and “resubmit.” As Cicchetti’s (1991) review of peer review in psychology, sociology, medicine, economics, and the physical sciences demonstrates, reviewer consensus is more nuanced than overall averages depict. In decisions about manuscripts to accept, the level of agreement among reviewers varied between 44 and 66 %, whereas agreement about manuscripts to reject varied between 70 and 78 % (Cicchetti, 1991). Still, even accounting for the type of editorial recommendation, reviewer agreement tends to be low in general across many fields, and agreement about acceptance is lower than agreement about rejection (Campanario, 1998; Lee et al., 2013).

It is important to note that these studies fail to control for key factors, such as the experience of the reviewer, the experience of the editor, and the technical or theoretical complexity of a submission. Extant studies of reliability have also generally focused on a highly selective subset of journals; the above studies examined prestigious journals. Although this approach is strategic, insofar as it seeks to capture peer review in its most rigorous form, the norms of review at such journals may reflect a tendency to emphasize the finding of faults in submissions. Reviewing behavior at prestigious journals is customarily circumscribed by the norm: “when in doubt, reject” (Zuckerman & Merton, 1971). By contrast, different evaluation norms may operate at journals with high acceptance rates, conveyed in the converse aphorism: “when in doubt, accept” (Zuckerman & Merton, 1971).

While reviewer agreement tends to be low, one might expect variation in reliability across fields due to different degrees of consensus (Braxton & Hargens, 1996). As Hargens (1988, p. 147) has explained: “When scholars do not share conceptions of appropriate research problems, theoretical approaches, or research techniques, they tend to view each other’s work as deficient and unworthy of publication.” Sociologists, for instance, lack precise definitions of concepts and consequently rely on multiple measures of key ideas, suggesting that reviewer disagreement would be more prevalent in sociology than, for example, in chemistry, a higher consensus field. Cole, Cole and Simon (1981) found reviewer consensus roughly equal in proposals for funding in economics, biochemistry, and solid-state physics—but all are high-consensus fields. In their meta-analysis, Bornmann et al. (2010) found no relationship between discipline and reviewer agreement, but their categories—such as “natural sciences,” “economics/law,” and “social sciences”—may have been too broad to adequately assess this relationship. An absence of studies that assess differences in reviewer agreement between variegated fields limits our ability to fully sort out a relationship between field consensus on the one hand and reviewer reliability on the other.

Bias

Despite expansive lists of normative criteria that scholarly communities believe *should be used* in peer review—criteria that emphasize issues such as the relevance of literature review and the adequacy of research methodology (Cicchetti, 1991; Ramos-Alvarez, Moreno-Fernandez, Valdes-Conroy, & Catena, 2008)—little is actually known about how reviewers conceive of and evaluate scientific or scholarly merit (for an exception, see Guetzkow, Lamont, & Mallard, 2004). But a wealth of research has, however, attended to the influence of factors *unrelated* to merit. While redundant studies of reliability populate the literature, the topic of bias has assumed the greatest share of researchers’ attention to the peer review process. It is, then, no coincidence that *bias*—in its various manifestations—consumes a proportional share of the present review.

Conceptually, whether or not reviewers are impartial evokes a norm of “universalism,” an institutional imperative, which holds that scholarly and scientific contributions should be evaluated according to “preestablished impersonal criteria” and without consideration of social attributes of authors, such as age, gender, race, nationality, past or present institutional affiliation, or other subjective characteristics (Merton, 1973a, pp. 270–271). Conformity to the norm of universalism is understood as a condition of scientific debate within academic communities, unbiased data interpretation, and intellectual freedom.

Universalism is functionally understood to serve the goals of science and scholarship: to extend knowledge free from bias, for it is only then that a legitimate furtherance of knowledge can occur. The impartiality of peer review is an important feature of higher education’s distinctive societal mandate: lack of impartiality entails an erosion of academe’s mandate and its status (Merton, 1973a), centrally because legitimate knowledge can only be promulgated in the absence of irrelevant interests. Impartiality may also perpetuate orthodoxy in the cognitive structure of science, as when reviewers reject research that is inconsistent with a theoretic tradition to which they adhere (Travis & Collins, 1991). What is more, when perceptions of bias in peer review are endemic, and these conditions may vary from field to field for reasons associated with consensus as suggested above, cynicism about career goals, about institutions, about fields, about colleagues—indeed much of academic life—can capture and contaminate a great share of a scholar’s imagination (Gillespie et al. 1985; Hermanowicz, 2009). Such a dynamic is, of course, contrary to the goals of academe.

Contemporary research on the operation of peer review originates from an agenda established primarily by sociologists in the “Columbia school” of the sociology of science, consisting of Robert Merton and his students (Calhoun, 2010; Hess, 1997, especially pp. 52–80). Work in this tradition focused on the question: “Is science universalistic?” In doing so, it sought extensive evaluation of the role of particularism. Overall, this early wave of research found that peer evaluation generally operated universalistically by demonstrating that reviewers make decisions based on scientific quality rather than on particularistic characteristics such as institutional

affiliation (Cole et al., 1981; Cole, Rubin, & Cole, 1978; Crane, 1967; Zuckerman & Merton, 1971). Nevertheless, even within this tradition of work, there have occurred highly significant changes in view about universalism and particularism in the creation of scientific knowledge (e.g., Cole, 1992; Long & Fox, 1995).

More recent research on peer evaluation has problematized the notion of scientific quality by arguing that definitions of quality are not unequivocal (cf. Guetzkow et al., 2004). The contemporary literature comes full circle from its origins: it examines sources of bias that undermine decisions based on intellectual merit. Whereas once upon a time universalism was virtually presupposed, now it is cast as “naïve realism” (Cole, 1992). The occurrence of particularism, the usage of irrelevant factors to assess contributions, carry the day. It is to this large literature that we now turn. We divide the discussion into the two broad forms of bias that the literature addresses: cognitive particularism and social particularism.

Cognitive Particularism

Travis and Collins (1991) developed the term *cognitive particularism* to describe how peer reviewers make decisions based on their adherence to specific schools of thought. This form of particularism is aptly captured in Francis Bacon’s treatise on the interpretation of nature, *Novum Organum*:

It is the peculiar and perpetual error of the human intellect to be more moved and excited by affirmatives than by negatives; whereas it ought properly to hold itself indifferently disposed toward both alike (Bacon, 1620, p. 20).

Cognitive particularism is characterized by a rigidity that biases reviewers against epistemological approaches inconsistent with their own. Three manifestations of cognitive particularism are found in the research literature: confirmation bias, positive outcome bias, and conservatism.

1. Confirmation Bias Confirmation bias refers to reviewer bias against manuscripts that include results inconsistent with a reviewer’s theoretic perspective. In a classic deception study, Mahoney (1977) asked 75 reviewers to assess the same fictitious psychology experiment. Mahoney sent reviewers an identical introduction, methodology, and bibliography, but systematically altered data presentation and interpretation such that reviewers evaluated papers that generated either positive, negative, mixed, or no results. Referees were selected from a list of guest reviewers from a psychology journal associated with a specific intellectual perspective (applied behaviorist psychology). Judgments about the quality of the paper were higher when the results conformed to the theoretic perspective of reviewers and lower when results were incongruent with reviewers’ theoretic perspective (Mahoney, 1977).

In a study of peer review in social work and allied fields, Epstein (1990) sent a contrived research paper to 110 journals and found that journals were more likely to accept papers that presented findings consistent with the mandate of social work, as

opposed to papers that reported findings perceived as contrary to the field’s mandate. Similar patterns of confirmation bias have been documented in medicine (Ernst, Resch, & Uher, 1992).

2. Positive Outcome Bias Another manifestation of cognitive particularism, related to, but analytically distinct from confirmation bias, consists of positive outcome bias, sometimes simply called “publication bias” (Lee et al., 2013; Olson et al., 2002). In this occurrence, editors and reviewers only recommend papers for publication that report statistically significant results (independent of whether results are congruent with reviewers’ theoretic perspective). By one view, bias toward positive results is beneficial to science. In *The Art of Scientific Investigation*, Sir William Beveridge (1950, p. 25) argued that inability to demonstrate a hypothesis does not prove that one’s presupposition is incorrect, and consequently, “it is a commendable custom usually not to publish investigations which merely fail to substantiate the hypothesis they were designed to test.” Beveridge (1950) lauded the rather drastic practice of destroying records of “negative experiments.” Others who have come to work in a more mature period of science have exercised concern over this “emptying of the file drawer” (Rosenthal, 1979). A purging of work that failed to yield positive outcomes leads, in its own way, to a lack of awareness within scholarly communities of important non-findings.

More to the point, the advancement of knowledge is predicated on a self-correcting process (Knight, 2003); nonsignificant results that do not conform to expectations are of considerable importance. Scholars have drawn concern around three consequences of bias against nonsignificant results. First, misallocated effort, time, and money can result when researchers pursue lines of inquiry unaware of prior efforts in their disciplinary communities that resulted in unpublished nonsignificant results (Campanario, 1998a).

Second, researchers may abandon serious theory-building by anticipating that reviewers will reject studies reporting nonsignificant results. Instead, they preoccupy themselves with statistical significance. As Dar (1987, p. 149) explains:

When passing null hypothesis tests becomes the criterion...for journal publications, there is no pressure on the... researcher to build a solid, accurate theory; all he or she is required to do...is produce statistically significant results.

Third, researchers have expressed concern that bias toward positive results may lead to research misconduct. In his research on the abundance of positive results in medical studies, Weisse (1986, p. 23) has noted that he was “struck by the predominance of investigators with positive findings, with the naysayers in the distinct minority...It had seemed, at times, that the only way to get ahead is to be a perpetual yes-man.” Hersen and Miller (1992) assert that bias towards positive results may encourage fabrication or falsification of data because of pressures to publish, and positive outcomes are perceived as standing the greatest chance of publication. This behavioral pattern is consistent with the sociologically-based strain theory of misconduct, which posits that researchers unable to achieve success through legitimate

means will turn to illicit means to advance themselves professionally (Zuckerman 1988).

More general evidence has arisen to lend credence to positive outcome biases (Emerson et al., 2010). In a survey of 429 reviewers at 19 leading journals in management and the social sciences, Kerr, Tolliver, and Petree (1977) found that 28 % of reviewers indicated they would likely reject an article if its results did not approach statistical significance. Sterling's (1959) foundational analysis of publications in four psychology journals revealed that 97 % of the articles published during 1 year reported positive results. Modern replications similarly demonstrate that an exceedingly small proportion of articles in psychology report nonsignificant results (Coursol & Wagner, 1986; Greenwald, 1975; Shadish, Doherty, & Montgomery, 1989; Smart, 1964). Weisse's (1986) analysis of 408 articles in three medical journals found that, depending on the journal, not less than 80, and as much as 90 % of published articles reported positive results.

Change over time further indicates support of positive outcome biases. Fanelli's (2010) analysis of 4600 papers published across a spectrum of fields between 1990 and 2007 reached noteworthy conclusions. The frequency of papers that report positive findings increased from 70 % in 1990 to 86 % in 2007, roughly a 6 % increase each year. The rate of increase differed by field; social science outlets registered the greatest increase relative to the physical sciences, a pattern that is likely consistent with points about field consensus raised previously (Braxton & Hargens, 1996). It may be easier to "generate and sell" positive results in fields whose definitions of what is "positive" are more fluid.

3. *Conservatism* Finally, "conservatism" constitutes a means by which cognitive particularism is expressed in processes of peer review. In contrast to confirmation bias (which underscores reviewers' theoretic stances) and positive outcome bias (which underscores reviewers' devaluation of nonsignificant statistical results), conservatism arises as a bias when reviewers reject otherwise worthy submissions that are judged to run counter to convention. Here we follow the classification schemes in the peer review literature (Lee et al., 2013; Shatz, 2004) in distinguishing between these three modes of cognitive particularism. Scholars' use of the term confirmation bias focuses primarily on theoretic positions, while the term conservatism is applied more generally to innovation, change, and risky perspectives.

On the one hand, conservatism may be considered allied with peer review: "we fully expect our theories to encounter objection along the way that we cannot easily answer, and we are not expected to crumble in the face of a problem" (Shatz, 2004, p. 84). In this vein, conservatism is consistent with the so-called "norm of organized skepticism." Merton described this norm as a "system of institutionalized vigilance...[in which] scientists are at the ready to pick apart and appraise each new claim to knowledge" (Merton, 1973a, p. 339). But to speak of conservative *bias* is to take normative behavior to unwarranted excesses.

Thus the fault refers to "bias against groundbreaking and innovative research" (Lee et al., 2013, p. 9). Chubin and Hackett (1990) similarly argue that reviewer tolerance for innovativeness is limited. All the points are consistent with Kuhn's

groundbreaking treatise on normal science; it often takes a revolution to change a paradigm (Kuhn, 1962).

In this respect, conservative bias may be apt to arise in scholarship perceived as risky, unorthodox, and when new scholarship would seem to upset well-established paradigms of thought. While conservatism can arise at a variety of instances in peer review processes, it may be especially apparent in the arena of proposals for research funding since, by definition, purportedly new ideas, theories, methodologies, and/or techniques are placed under review.

Many more scholars have written to attest to an objection about conservative bias than to empirically document its occurrence. Empirical evidence is found primarily in examples of important scientific papers (indicated by prizes and citations) that were rejected one or more times but went on to receive wide recognition. Writing about Hannes Alvéén, whose research on magnetohydrodynamics resulted in the 1970 Nobel Prize in physics, Dressler (1970, p. 604) noted that Alvéén’s “ideas were dismissed or treated with condescension; he was often forced to publish his papers in obscure journals, and he was continually disputed by the most renowned senior scientists working in the field of space physics.” It is not difficult to locate similar examples of rejected papers that later became award winning classics (Leahey & Cain, 2013; Zuckerman, 1977). Campanario’s (1993) novel study of “citation classics” culls the many (but by no means exhaustive list of) papers that were “too innovative for their time” to realize ready acceptance and publication.

Social Particularism

Social particularism encompasses bias that stems from the use by assessors of functionally irrelevant attributes of authors. These attributes run a social gamut: institution, race, gender, political party affiliation, religion, sexual orientation, gender identity, age, and so on. This form of particularism rests on assumptions that members of a particular group conduct research that is inferior or superior to members of other groups. Concern about this form of bias is pervasive in two senses: as a topic of scholarly inquiry within the purview of peer review, and as a subject of personal experience. With regard to the first point, its validity shall be self-demonstrating by the coverage of the literature that follows. With regard to the second, its validity is borne empirically. In a survey of nearly 4000 academics in the United States, Morton and Price (1986, p. 1) found that fully three out of four respondents viewed peer review as biased—particularly in favor of “established scholars”—and fully half believed that major reform of peer review was necessary. In this sense, academics’ personal concerns about peer review “endorse” the operation of the “Matthew Effect,” which holds that disproportionate recognition is conferred upon already-established or recognized scholars (Merton, 1973c).

Social particularism is most likely to arise in single-blind reviewing. The reason is straightforward: reviewers are exposed to the authors’ identities of the manuscripts under evaluation. Given the frequent usage of single-blind reviewing in the life sciences, physical sciences, and engineering (Ware & Monkman, 2008), one

might speculate that the conditions for social particularism are heightened in these fields. Single-blind reviewing is, however, not a necessary condition for social particularism's occurrence. Conference presentations publicly signal an association between pieces of work and authors' identities; panel reviewers of research funding learn who is conducting particular projects and may end up reviewing resulting manuscripts; job applicants often disclose manuscripts under review on their vitas not knowing a reviewer is a member of the search committee; "invisible colleges," referenced earlier, enable colleagues to know about the projects and manuscripts of others; and an increasing number of authors make no effort to conceal—and in today's age even promote—unpublished manuscripts through websites, electronic mail, professional list serves, and other social media. In short, there are a number of paths by which reviewers glean author characteristics—characteristics that have nothing to do with idealized "preestablished impersonal criteria" (Merton, 1973a, p. 269) that normatively may be thought to constitute the bases of review. Reflecting currents in the literature, three key sources of social particularism in peer review are discussed in turn: institution, gender, and geography.

1. Institution Institutional bias encompasses reviewer partiality toward authors' present and/or past employing organizations and/or locations of educational training. Such bias is reflective of a stratification of colleges, universities, centers, and institutes and a corresponding social assignment of organizational status. Biases result when individual abilities—and the scholarly merit of manuscripts—are imputed by organizational status. Different types of institutions possess varied resources that, by turn, facilitate and constrain scholarly roles, including the quality and quantity of publication productivity (Hermanowicz, 1998). Reviewer judgments may be influenced on the basis of the perception of such organizational attributes.

In early work on the topic, Crane (1965) found that highly productive scientists at high status universities were more likely to receive recognition than highly productive scientists at less reputable universities. Powell's (1985) ethnography of major book publishers captures well the operation of institutional bias through the remarks of an editor-in-chief:

If I received...a manuscript on sociological theory from someone at East Delta State University, I would not consider it for a minute. If the manuscript is any good, why isn't the author at Berkeley...? (Powell, 1985, p. 95).

An early approach to examining institutional bias involved measuring the institutional composition of published research in particular fields. An analysis of 484 articles published in the *American Economic Review* between 1950 and 1959 showed that most authors held appointments at elite universities. Authors located at the University of California—Berkeley, the Massachusetts Institute of Technology, Stanford University, and the University of Chicago accounted for one-fifth of the papers (Cleary & Edwards, 1960). Similar observations have been made by examining the doctoral origins of contributors to top journals. Cleary and Edwards (1960) found that 45 % of all contributors to the *American Economic Review* received their

doctorates from Harvard, Columbia, and Chicago. Wanderer’s (1966) analysis of contributors to the *American Sociological Review* between 1955 and 1965 showed that 40 % of articles appearing during that period were written by authors with doctorates from Chicago, Columbia, Harvard, and Michigan. Goodrich (1945) analyzed manuscripts received and published at the *American Sociological Review* over a period of 16 months, and found that manuscripts submitted by authors at prominent departments of sociology were accepted in greater proportion than those submitted by authors at less prominent departments.

Crane (1967) adopted a comparative approach to infer whether reviewers’ awareness of authors’ institutional affiliations influenced recommendations for publication. The analysis focused on a two decade period during which the *American Sociological Review* adopted a blind review policy, allowing a comparison between single-blind reviewing and double-blind reviewing at one journal. Crane also compared these patterns to those of the *American Economic Review*, which utilized solely a single-blind system in which reviewers knew author and institutional identity. At the *American Sociological Review*, Crane (1967) found that the proportion of authors from major universities actually increased after double-blind review was adopted. When comparing data between sociology and economics, Crane (1967) found that diversity in the doctoral origins of editors—having editors whose doctorates were from less-prestigious universities, for example—had greater influence on the proportion of articles appearing by scholars at less-prestigious universities. This “editor effect,” operating in the opposite direction of most patterns of institutional bias, out-weighed effects in the usage of single- versus double-blind reviewing.

Utilizing a quasi-experimental design, Peters and Ceci (1982) selected twelve articles written by faculty members at prestigious institutions. The articles had been published in the 18 to 32 months leading up to their study. Each article was published in a reputable psychology journal with high citation rates, and all of the journals used non-blind reviewing. Peters and Ceci resubmitted the twelve manuscripts to the same journals that published them. Before doing so, they altered both the authors’ names (but not their gender) and status of their institutional affiliations. They made only cosmetic changes to titles, abstracts, and beginning paragraphs. Three of the papers were detected as existing publications; one was accepted for publication; eight were rejected. Given that the key difference between the original and resubmitted manuscripts was institutional status, Peters and Ceci (1982) turned to institutional bias as the explanation of the assessment differences. The work sparked animated controversy and commentary for the bias it seemed to so transparently reveal (Weller, 2001, pp. 220–221; Harnad, 1982). Others, in related work, have drawn similar conclusions about institutional bias (Shatz, 2004; Lee et al., 2013). Subsequent research has sought to investigate whether institutional reputation carries more weight in reviewers’ evaluations than the actual research under review. Examining reviewers’ recommendations and editorial decisions for manuscripts submitted to the *Journal of Pediatrics*, which uses single-blind reviewing, Garfunkel, Ulshen, Hamrick, and Lawson (1994) found that lower institutional rank was significantly associated with lower rates to recommend publication.

2. *Gender* While research on institutional bias crosses decades, scholars have relatively recently begun to investigate matters of gender bias. The increased attention may stem in part from the changing demographic composition of the academy (National Science Board, 2010). Distinctions begin at the reviewing outlets themselves. Cho et al. (2014) found that between 1985 and 2013, 16 % of the subject editors were women at ten highly regarded journals in the biosciences. In an analysis of 60 top-ranked journals in the field of medicine, Amrein, Langmann, Fahrleitner-Pammer, Pieber, and Zollner-Schwetz (2011) found that 17.5 % of all editorial members were women. While gender representations of editorial boards constitute distinctions, they are not in and of themselves indicative of bias.

Some studies have investigated gender bias by ascertaining whether the evaluation of manuscripts differed by the usage of a female or male author name. In general, these studies have found that, whether rated by males or females, male authors tend to receive more favorable assessments (Goldberg, 1968; Levenson, Burford, Bonno, & Davis, 1975; Paludi & Bauer, 1983; Ward, 1981). But, in studies employing a similar methodology, the differences have not been statistically significant (Levenson et al., 1975; Ward, 1981).

Lloyd (1990) obtained the names of researchers listed on the editorial boards of five behavioral psychology journals (a female dominated field). Lloyd sent different versions of a fabricated manuscript to 65 men and women reviewers, altering only a fictional male or female author name. Male reviewers recommended acceptance of 30 % of male-authored manuscripts and 21 % of female-authored manuscripts; in both instances the acceptance rates are low, and the differences fail to provide clear indication of bias. By contrast, female reviewers recommended acceptance of 10 % of male-authored manuscripts and 62 % of female-authored manuscripts; in one instance the acceptance rate is very low, and in the other, high enough to flag a substantial difference in rates. Female reviewers accepted significantly more female-authored than male-authored papers. Lloyd's work (1990) illuminates the possible existence of gender bias, though perhaps not in ways many might suspect. The study suggests that gender bias may operate as a function of whether a field is considered masculine, feminine, or gender neutral.

Comparisons of *acceptance and rejection rates* by gender do not reveal **strong** evidence of bias (Ceci & Williams, 2011; Weller, 2001). Many studies have typically found slightly higher acceptance rates for articles published by men compared with women, but the differences rarely achieve statistical significance. In economics, studies of authorship patterns at fourteen journals found that women—with or without male coauthors—had higher acceptance rates under blind peer reviewing than at journals using non-blind reviewing. But no *statistically significant* differences in acceptance were observed between men and women (Edwards & Ferber, 1986; Ferber & Teiman, 1980; see also Blank, 1991).

Studying 592 manuscript submissions at the social science journal *Human Organization* over a four year period, Bernard (1980, p. 369) concluded that “aggregated data indicate no gender bias for getting into print...” In one of the largest analyses of gender bias in peer review, the editors of the *Journal of the American*

Medical Association reported observable gender differences in editor and reviewer demographic representation, but none that held implications for manuscript acceptance (Gilbert, Williams, & Lundberg, 1994).

In 2001, the journal *Behavioral Ecology* changed from non-blind to double-blind reviewing. Budden et al. (2008) compared the representation of female authored publications, both before and after the shift, and in comparison to five similar journals. The authors found that the acceptance rate for female first-listed authors increased by roughly 8 % in the 4 years after the onset of blind peer review. Furthermore, the researchers found that the increase in the proportion of female authors in *Behavioral Ecology* was greater than at five other journals that used single-blind reviewing. Critiques of this study emerged on statistical grounds, namely that Budden et al. (2008) were unable to rule out the possibility that the increasing percentage of articles published by women was the result of an increased number of articles submitted, and not decreasing gender bias (Webb, O’Hara, & Freckleton, 2008; Whittaker, 2008). More broadly, analyses indicate that manuscripts by female life scientists are not rejected disproportionately, whether at single-blind journals, such as *Journal of Biogeography* (Whittaker, 2008) and *Cortex* (Valkonen & Brooks, 2011), or at double-blind journals, such as *Biological Conservation* (Primack, Ellwood, Miller-Rushing, Marrs, & Mulligan, 2009).

3. Geography An emergent area of research on social particularism in peer review examines bias associated with geography. This instance of bias is seen to operate in two primary ways. First, reviewers are thought to use an author’s country as a proxy for evaluating the quality of scholarship. In the natural sciences, for example, reviewers could register bias against research from a region outside the global science infrastructure. Reviewers can make an assumption that the instruments and technologies needed to perform cutting-edge research are unavailable in a particular region, or that adequate training for scientists is unavailable.

Second, journals are thought to favor the publication of manuscripts from authors located in the same nation as the journal. Here it may also be noted that some scholars have called attention to the existence of language bias (Herrera, 1999), but little empirical work supports the claim (Loonen, Hage, & Kon, 2005).

Much of the research on geographical bias is situated in analyses of peer review in medical scholarship. One of the first studies of geographic bias investigated the hypothesis that journals favor the publication of scholarship coming from the country in which the journal resides (Ernst & Kienbacher, 1991). Ernst and Kienbacher (1991) examined articles published in 1990 at four journals in the field of physical medicine and rehabilitation; the journals were respectively based in Britain, Sweden, the United States, and Germany. They found that only the United States journal exhibited a skewed regional representation of authors in this specific scientific field. The three journals published in Europe had roughly equivalent representation of native and foreign authors. In the U.S. journal, 79 % of authors had appointments in the United States, while 21 % came from other regions. Skewed representation of authorship is not, of course, equivalent to bias. That is, we are not able to assess the merits of the submissions to the U.S. journal independent of the regional locales of

authors. It is conceivable that the journal simply accepted the best work submitted to it, and the authors of the manuscripts clustered in the U.S. It is equally likely that, given national differences in science infrastructure, regions vary in the volume of research produced.

An additional perspective is offered by a retrospective study of articles submitted to the U.S. journal *Gastroenterology* in 1995 and 1996 (Link 1998). The study sought to determine whether U.S. reviewers and non-U.S. reviewers differentially evaluate manuscripts that originate from within and outside of the United States. Link (1998) found that both categories of reviewers evaluate non-U.S. papers similarly. With respect to domestic papers, both categories of reviewers evaluated U.S.-authored papers more favorably (Link 1998). Still, we are unable to adjudicate whether U.S.-authored papers were more meritorious, resulting in their more favorable reception. That is, one cannot make an unequivocal conclusion about bias without measuring the quality of individual papers.

Opthof, Coronel, and Janse (2002) analyzed material submitted to *Cardiovascular Research* during a four year period (1997–2002). The researchers hypothesized that bias could relate to the country of origin of authors, reviewers, or both. The data for the analysis consisted of 3444 manuscripts linked to 10 countries around the globe. Analysis of reviewer scores showed that reviewers coming from the U.S. were significantly more likely to assign high priority to manuscripts, while reviewers from Japan, the United Kingdom, and Australia were significantly more likely to assign low priority scores. Authored manuscripts originating from the Netherlands, the United Kingdom, and the United States received significantly higher priority ratings, while authored manuscripts originating from Italy, Sweden, and “other countries” (a combination of countries where the number of authored manuscripts was too low to allow countries to be represented independently) scored significantly lower than average.

Because these ratings were merely suggestive of bias, the researchers differentiated reviewer-manuscript interactions in which the reviewer and author came from the same, and from different, countries. This analysis of “matched” and “non-matched” reviewer-manuscript interactions showed that manuscripts received significantly higher scores when reviewers and authors came from the same country. Opthof et al. (2002) also found a number of country-specific patterns. British and French reviewers, for example, assign significantly higher ratings to manuscripts from their own country compared with ratings from other countries. The overall patterns support a claim that geographical bias plays a role in the peer review process. This research suggests that part of the bias may stem from varying national and/or cultural standards that differentiate the practice of peer review. Still other research has produced results that fail to support or only moderately support claims of geographical bias (Primack & Marrs, 2008; Primack et al., 2009). The mixed results reflect the nascence of geography as an object of research on social particularism.

Any existence, however, of institutional, gender, and geographic bias prompts questions about whether and how reviewers are able to identify authors or their institutions in blind peer review. In blind review, author and institutional identity are

not supposed to be disclosed to reviewers. To better understand just how blind, blind peer review actually is, we turn lastly to research on author identification in the evaluation of scholarship.

Author Identification

While it is generally thought that double-blind review limits opportunities for social particularism because characteristics of authors are unknown to reviewers (Ware & Monkman, 2008), research lends only limited support of this view (see also Alam et al., 2011; Smith, Nixon, Bueschen, Venable, & Henry, 2002). Double-blind peer review may not eliminate social particularism because reviewers are able to identify authors or institutions even after names are redacted from manuscripts. A series of studies that examine reviewers’ ability to identify authors and institutions help to understand the effectiveness of anonymization.

Several survey studies have indicated that reviewers often believe they can identify the authors of manuscripts. The studies show that between 50 and 80 % of reviewers (in psychology and physics) think they knew author identity (Adair, Carlton, & Sherman, 1981; Bradley, 1981; Ceci & Peters, 1984). There is little reason to suspect that reviewers in other fields would see themselves as less capable in this regard.

But research on the *accurate* identification of authors indicate that rates of success are lower but strikingly notable. The surveying of reviewers in the process of review has constituted the primary means by which researchers have investigated author and institutional identification. The earliest work on author identification, an analysis of 115 reviewers at the *Journal of Social Service Research*, found that one-third of reviewers were able to identify the authors of manuscripts they reviewed (Rosenblatt & Kirk, 1981). Building on this first round of research, Ceci and Peters (1984) conducted a similar study at six psychology journals that represented a broad range of specialties in the discipline. Of 146 reviewers participating in the study, 36 % accurately identified an author or co-author of the papers they reviewed.

Yankauer (1991) provided a questionnaire to reviewers at the *American Journal of Public Health* and found that 312 reviewers estimated that they could identify authors in 47 % of the cases; they were accurate 83 % of the time. In social services (Rosenblatt & Kirk, 1981), psychology (Ceci & Peters, 1984), medicine (Fisher, Freidman, & Strauss, 1994; McNutt, Evans, Fletcher, & Fletcher, 1990; Moosy & Moosy, 1985), and economics (Blank, 1991), studies have found reviewers are able to accurately identify authors more than one-third of the time (Weller, 2001). Further, Moosy and Moosy (1985) found that reviewers accurately identified 34 % of author institutions. This degree of failure of blind peer review to operate *as blind* is antithetical to the goal of disinterestedness. Author characteristics that are functionally irrelevant to merit are more readily considered in the assessment of manuscripts.

Simple editorial failures and author behavior have been flagged in research as among the key factors that make author and institutional identification possible. Self-citation in manuscripts has been credited as arguably the greatest giveaway. In Yankauer's (1991) study, author identification originated from self-citation 62 % of the time; personal knowledge of the research under review accounted for the balance. At the six psychology journals they studied, Ceci and Peters (1984) discovered that oversights in the editorial offices most often contributed to author identification. For example, some manuscripts were sent out containing title pages and acknowledgements to colleagues. When Ceci and Peters (1984) removed these cases from their analysis, author identification by reviewers dropped from 36 to 25 %, the lower figure still non-trivial.

Formal policies pertaining to the anonymization of authors are included in many, but not all, journals; it is widely treated as a professional norm that authors are to observe. Disclosure of identifying information is apparent even at journals with strict policies about anonymization. Editors at two radiology journals with double-blinded peer review policies analyzed 880 manuscripts without knowledge of authors' identity and institution and found that 34 % of the manuscripts (300) contained identifying information (Katz et al., 2002). Of the 300 manuscripts, the editors accurately identified the authors or institutions in 221 (74 %) of the cases, or 25 % of the overall manuscripts considered.

The source of identification is found in other behaviors. Authors include their initials in the body of the text; authors reference their own research; institutional identities are included in figures or in the text. Manuscripts have even been known to contain an author's name as a "key word" in the front matter of the submission. Thus, even when authors are presented with formal norms, if not also explicit directions, cues that signal author or institutional identity nevertheless end up in a substantial number of manuscripts operating under blind review.

Observations of author identification may be rendered in light of broader issues in the social organization of peer review. We earlier characterized the system of peer review as "strained" by virtue of the proliferation of journals and corresponding calls to participate in reviewing processes. The high and increasing volume of submissions likely creates conditions for error. Violations of policy would arguably decrease were editors and journal staff better positioned to vet the large number of submissions. A possible remedy is to increase the size of journal staff, including the number of editors at given journals. A version of this innovation has already occurred, wherein select journals now utilize a team of "area" or specialty deputy editors to aid in the processing of submissions. Still, this may serve as only a partial remedy to ensuring that blind review is, in fact, blind.

Some scholars may be punished for revealing their identity in manuscripts (e.g., a rejection on the basis of institutional bias against non-elite universities; a bias against younger scholars or graduate student authors; a desk-rejection). But bias can, of course, be expressed in negative and positive outcomes. That is, we have observed that the pressure to publish, not only at junior but also at senior levels, is now greater than ever. These conditions could create incentives to purposefully sig-

nal author identity; authors can believe that their reputation or their affiliation will work on behalf of a positive outcome. Thus, changing publication norms condition publication behavior, a part of which may inadvertently include an intensification of professional deviance. The practice of “blinding” is highly imperfect. The proliferation of publishing will likely make the occurrence of error more frequent. Thus the ground grows more fertile for bias. The explanation of these and related dysfunctional patterns discussed throughout the present section help to account for how the “sacred ideals” of peer review give way to “profane realities.”

Broad Patterns and Directions for Future Research

In this chapter we assembled the central lines of research on peer review in science and scholarship. Our goal has been not only to take stock of what is known about peer review, but to also situate this body of knowledge sociologically and point to gaps that future research can address profitably. Three domains of work have been examined. First, we examined the objectives of peer review by discussing how it emerged, its relationship to the communication of knowledge and to the reward system of scholarship. Second, we examined how peer review is itself socially organized by accounting for its expansion and differentiation, its labor process, and its “invisible interaction.” Third, we made apparent and examined dysfunctions that have arisen in contemporary peer review, including its reliability, the several forms of biases that work against its functional purposes, and a capacity to identify authors when most peer review processes are premised on being blind.

From the details of the research explored, broad patterns can be identified.

- The communication system of science is strained, and this strain is conducive to dysfunction, manifest, among many ways, in the time editors and reviewers dedicate to the evaluation of research, the quality of reviews, and the time it takes to complete reviews.
- There exists systemic disagreement among reviewers about the outcome of manuscripts under review. Generally, the peer review process of modern science and scholarship is unreliable, though this pattern may differ among fields of varying consensus.
- Although studies have yielded competing results on specific forms of bias (e.g., gender as opposed to institution), there is an undeniable presence of cognitive and social particularism in the operation of peer review. Richard Horton, editor of *The Lancet*, summarized the situation in stark terms:

Editors and scientists alike insist on the pivotal importance of peer review. We portray peer review to the public as a quasi-sacred process that helps make science our most objective truth teller. But we know that the system of peer review is biased, unjust, unaccountable, incomplete, easily fixed, often insulting, usually ignorant, occasionally foolish, and frequently wrong (Horton, 2000, p. 149).

Extant research tends to provide support for many of these claims. But the body of research also makes clear that critics should be cautious about exaggerating the deleterious effects of peer review (Hargens and Herting 1991). We consider five gaps in research that identify ways to strengthen future research and extend knowledge about peer review in publication processes. In turn, the filling of these gaps may improve the practice of peer review.

First, there is need for methodological innovation. A major issue turns on the fact that only journal editors have complete information about the inner workings of peer review. This fact accounts for why a large portion of research is produced in the form of *post facto* reports by editors, of journal specific analyses, and of commentaries on peer review that rely more on illustrative cases than on data collected systematically for the purpose of addressing a research question. Some of the most groundbreaking research has been innovative because of the gains it realized through the use of deception. By fabricating papers, or by varying their characteristics across reviewers, Epstein (1990), Mahoney (1977), Peters and Ceci (1982), and Sokal (1996) enabled a more direct perspective into the operation of reliability and bias than inferred from, for example, inter-rater reliability scores or percentages of papers published by authors at elite versus non-elite universities. But with these innovations, and some of the unsavory findings on peer review that they exposed, came resistance, controversy, charges of misconduct, and movements to censure authors.

An important step forward methodologically consists of incorporating a fuller range of mechanisms in analyses. Taking the research on bias as an example, much of the work simply examines published research and reports differences in the representation of authors by gender, institutional affiliation, and nationality as supportive evidence. Several key mechanisms are missing to determine actual bias. Proxies that account for reviewer quality, time invested in the review, author characteristics, and manuscript characteristics would focus the lens on the existence of bias.

What is more, methodological progress ought to include more systematic analysis of rejected manuscripts. “Rejection without revision” constitutes the outcome of the majority of manuscript submissions, and thus research incorporating this category of outcomes is vital to understanding peer review processes comprehensively (Strang & Siler, 2015). Adopting mechanisms flagged above would cast light on the processes that send manuscripts in one direction as opposed to another—be it in first, second, or subsequent rounds of review, at one or more outlets.

A second gap exposes what comparatively little we know about peer review of publication in the humanities. Almost all of the peer review research draws upon data from the social, medical, and natural sciences. Substantial portions of academic faculty are based in the humanities (Schuster and Finkelstein 2006). Peer review is no less crucial to the building of these fields. Shatz (2004) has argued that the absence of research on peer review in the humanities is a result of disparate epistemological orientations to truth. According to this view, perceptions of truth vary more in the humanities than in the sciences, and thus it is more problematic to study peer review. Nevertheless, merit is demonstrated by evidence and argument, in comparative literature as in physics. Research on peer review in the humanities represents a virtually unexplored area of inquiry.

Third, there is a paucity of research on the peer review of books. Books are central to the production of knowledge in the humanities, the social sciences, and professional fields such as education and social work. To date, Powell’s (1985) ethnography of scholarly publishing houses provides the most recent, systematic examination of decision-making in book publishing. A student of Coser, Powell’s book is derivative of his advisor’s master work on the same subject (Coser et al., 1982).

Other perspectives on the peer review of books can be gleaned from commentaries by university and commercial press editors (Appel 1994; Rowson 1994; Thatcher 1994), but these contributions say more about the coordinating roles of editors than about mechanisms of evaluation. The peer review of books is distinctive from journal publishing in several ways, chief among them the probability of manuscript evaluation. A majority of journal articles are initially rejected but ultimately accepted elsewhere. In book publishing, fields exhibit highly stringent standards for which houses count as high quality. This leaves authors of book manuscripts with comparatively fewer publication options. Because press editors receive high volumes of manuscripts, social networks between editors and authors take on a critical role (Powell, 1985). Relationships matter, and they matter more in publishing books than articles (where they are not supposed to matter at all). Editors seek to retain their “star” authors, meaning cumulative factors such as visibility and past accomplishments may operate alongside merit in the evaluation of manuscripts by well-established academics. The book world has changed dramatically since Powell’s and Coser’s key works. As at journals, competition for book publication has intensified. But where there is little question about the future of article publication, there are many questions about the future of academic monographs. Their future hinges on securing profitable manuscripts. How do editors get their books? How do they decide which to publish? On what conditions do they secure one type of reviewer as opposed to another? Why is there more editorial patience to receive the revisions on some work and not others? What are editors looking for, today, in reviews? These, and related questions, plow new ground in the world of peer review and book publishing.

A fourth gap that merits scholarly attention consists of cross-disciplinary analysis of peer review processes. We are in short supply of data on how peer review operates comparatively across fields. Instead, assumptions are made about peer review across sets of fields based on restrictive samples. Field consensus offers an analytic means to embark on such comparison (Braxton & Hargens, 1996). Is peer review systematically different in psychology than sociology, in educational psychology than leadership and policy studies? We have become comfortable in saying, often emphatically, that fields are different (Becher and Trowler 2001). Why should we be catholic about peer review? The opening section of this chapter underscored the normative premise that peer review is universalistic, not only in the criteria to be used to judge contributions, but also in its operation across what may be quite different worlds of science and scholarship. Comparative work would situate peer review processes in a matrix of consensus, codification, and the production of knowledge across fields.

Finally, it is worthwhile to investigate the ways by which outlet hierarchies might condition reviews. One might speculate that lower quality outlets generate comparatively lower quality reviews, and vice versa at higher quality outlets. Powell (1985) has shown that standards of quality are applied differentially. “Authors were called upon to uphold the standards that they themselves had helped establish” (Powell, 1985, p. 156). This suggests that standards are learned, and presumes that only after publishing in high status outlets are scholars able to legitimately conduct reviews for such outlets.

The more general implication is that the standards applied by reviewers vary by outlet status. This constitutes its own form of particularism; where there is particularism, there are significant implications for the production and functioning of science and scholarship. A study in the field of ecology demonstrated that as scientists publish in high impact journals, they more often recommend rejection (Aarssen et al., 2009). In filling this gap, researchers can show how processes of peer review—varied as they may be across outlets of publication—create subcultures of quality. These micro-worlds impinge directly on, indeed create, the stocks of knowledge that define fields. If the stocks vary in value, we may be called once more to question the application of merit on the one hand, and the incidence of bias on the other.

Since its inception in the mid-1600s, but especially across its subsequent maturation in the twentieth and twenty-first centuries, we have learned that the questioning of process differentiates the sacred ideals from the profane realities of peer review. Peer review operates as both the “linchpin of science” and a “lightning rod” for scientists, given both its centrality to, and deep imperfections in, constituting academic work. To these ends, peer review implicates—by a propagating sequence of linkages—the authenticity of larger structures in which academe is organized. If so much depends on peer review, and if its operation is so riddled particularistically, then as much can purportedly be said of academic reward systems and the academic profession itself. Systems of reward and professional organization are, of their own accord, fundamental to academe. They, too, are predicated in cognitive rationalism. We expect rewards to be fair, and professions, upstanding. But therein lie propagated disjunctures between ideals and realities. Macro systems of reward and professions cannot perform universalistically and meritocratically when reviews of scholarly and scientific performance are so compromised in their micro dynamics. The study of peer review thus makes clear that there is much at stake. The present review has identified areas of peer review processes in critical need of attention. The substance and order of all of academic life will be its beneficiary.

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Chapter 11

Geospatial Analysis in Higher Education Research

Nicholas W. Hillman

Like many working class communities across the country, Elkhart, Indiana, was hit especially hard during the Great Recession. Elkhart is a rust belt community located in the northernmost part of the state on the border of Michigan. Elkhart county is home to over 200,000 citizens, making it the sixth-largest county in the state (U.S. Census Bureau, 2016a). The labor force is comprised mainly of manufacturing and construction jobs, so when the economy slowed down during the Great Recession, plants began to close and mass layoffs ensued, resulting in the state's highest unemployment rate and one of the highest in the nation – peaking at 20 % (Bureau of Labor Statistics, 2016). These layoffs were not for short durations of time – people were often out of work for more than six months and many even longer (Katz, 2014).

With thousands of displaced workers living in Elkhart County, this is a prime time for people to go back to college. People who are out of work now have more time to invest in education and those who were previously on the margins of going to college would be likely to now enroll because their opportunity cost is lowered. However, this did not occur in Elkhart County: colleges located in the county increased their enrollments by only 140 total students during the Great Recession. How could this occur? Why would a county with such deep unemployment not experience a large increase in college enrollments? Researchers can answer these questions from a number of angles, but this chapter focuses on one in particular – *geography*.

Geography is an often overlooked factor shaping educational opportunity in the United States, yet it is one of the strongest forces affecting whether and where students attend college. Most students stay relatively close to home when they attend college; in fact, more than half of all college students enroll within just 20 miles of

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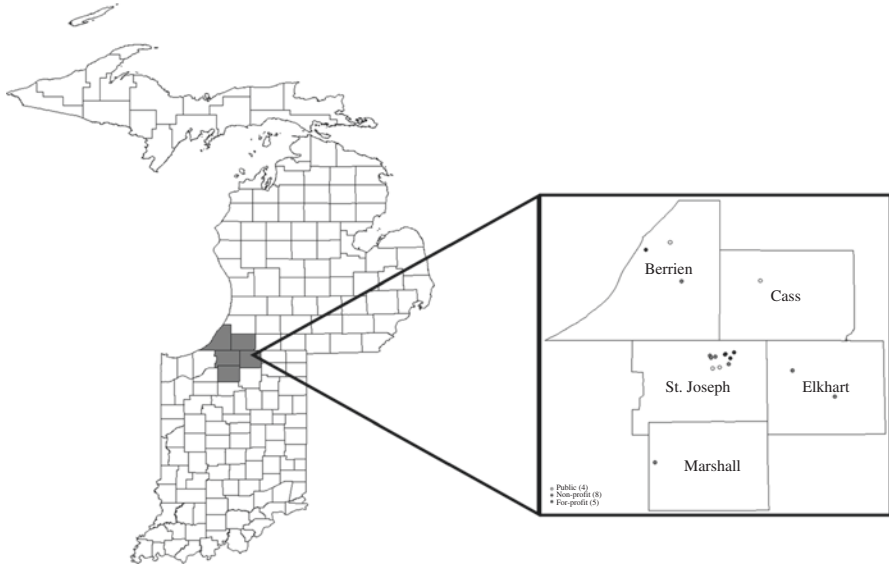


Fig. 11.1 Dot map of the South Bend-Mishawaka-Elkhart common statistical area

their permanent home address (Sponsler & Hillman, 2016). The image of a highly-mobile college student who conducts a national or even statewide search for college is the exception to the rule. It would be unlikely for a working class family living in Elkhart County to uproot and move long distances simply to attend college. This is the case nationwide, where today’s college students are place-bound and for a number of reasons need to choose a college that is in close proximity to home and work.

Figure 11.1 displays where colleges are located in Elkhart and its neighboring counties. These five counties are not arbitrarily selected for this example; rather they have a “high degree of social and economic integration” and are part of a common statistical area where people cross over county and state lines on a daily basis (U.S. Office of Management and Budget, 2015). Clustering counties together in this way can help us observe a more complete picture of the geography of college opportunity in Elkhart. These five counties are commonly referred to as “Michiana” because they include areas both in Michigan and Indiana. Michiana contains a total of 17 colleges and universities reported in the U.S. Department of Education’s Integrated Postsecondary Education Data System (IPEDS), including four public, eight private non-profits, and five private for-profit institutions.

Together, these institutions enroll approximately 53,000 total students with just over half (52 %) enrolled in the public sector. The largest institutions are the University of Notre Dame and Indiana University-South Bend (IUSB), which are both located in the area’s largest county: St. Joseph County. Since most of the area’s colleges are located in St. Joseph County, it is perhaps not surprising that the majority (63 %) of Michiana’s college students are also enrolled in St. Joseph County. In both cases, St. Joseph County is the central place that attracts students from the

Michiana area. If a displaced worker living in Elkhart County wanted to enroll in a local college to retrain for the labor force, she would likely need to commute to St. Joseph County. But the distance between the population centers of these two counties is 21 miles, or a 30-min drive and there is no public transportation connecting the two communities. A displaced worker may find it difficult to afford the gasoline, car maintenance, and lost time by driving from home and school. Alternatively, Elkhart residents could choose to go across the state line to a nearby college in Michigan, but in addition to the same transportation barriers they would also face higher tuition charges because they would be charged out-of-state rates.

This example of Elkhart County and the Michiana geographic area illustrates a number of important features of local higher education marketplaces that can affect whether and where students attend college. It shows how the local supply of colleges (i.e., number, selectivity, sector, etc.) can affect educational opportunities. It demonstrates how distance from home to school can affect student enrollment demand, with further distances being associated with a lower likelihood of enrolling. It illustrates discontinuities that are created by state boundaries, where students on one side of a state line are charged different tuition rates than those living on the other side of the line. This chapter will explore such issues and examine how geography and place can be further integrated into higher education research. In so doing, higher education research can expand the way it engages with geography, both conceptually and empirically.

This chapter introduces readers to important research studies, data sources, and analytical techniques in order to integrate geography more in higher education scholarship. The example of Elkhart County and Michiana will be referenced occasionally, but new examples will also be introduced to illustrate key points. Also highlighted will be the ways similar phenomenon occur in communities across the country because the topics addressed in this chapter are not limited to this single rust-belt community. Similar geospatial patterns emerge across the country with each community having its own unique higher education marketplace that can be better understood employing a geospatial lens.

Goals of This Chapter

The primary goal of this chapter is to encourage researchers to find new and creative ways of applying geospatial analysis in higher education research. It provides a review of the existing research that has engaged with geospatial analysis and it outlines promising areas for further research. Even if readers do not plan to use geospatial analysis in their work, this chapter is written to introduce readers to key geographic concepts and strategies that could prove fruitful in advancing our understanding of college access and inequality. For researchers interested in incorporating geospatial analysis into their work, the chapter identifies existing data sources and software packages for conducting geospatial analysis. Also discussed are promising methods and empirical challenges often encountered when conducting

geospatial analysis. The chapter is not intended to be an exhaustive or advanced treatment of geospatial analysis; rather, it offers an introduction to key concepts, data sources, and research strategies to expose and encourage readers to pursue geospatial analysis in higher education research.

In addition, the content herein will engage federal and state policies by discussing how geography interacts with various policy decisions. For example, the federal government has recently invested in a number of efforts designed to improve consumer information so students can make better decisions about where to enroll in postsecondary education. Embedded in the policy logic is the belief that students “shop around” for college and decide where to enroll based on their assessment of information such as tuition levels, graduation rates, financial aid availability, and job-placement rates. The College Scorecard, Financial Aid Shopping Sheet, Postsecondary Institution Rating System (PIRS) and College Navigator are examples of ongoing federal efforts to improve consumer information in the college marketplace. While students may use this information during their choice-making process, knowing that a college hundreds of miles away offers a better academic fit or more generous financial aid may be of little use to place-bound students. Even a perfectly informed student, living somewhere like Elkhart County, may have constrained choices if they are place-bound. Reflecting on these policy topics from a geospatial perspective may help advance public policy efforts to reverse educational inequality and to identify differences that exist in the postsecondary marketplace.

Geospatial analysis can be applied in many areas of higher education research, particularly around the topic of college choice. We still have much to learn about the extent to which proximity to college shapes students’ decisions to prepare for, apply, enroll, and persist to degree completion. But geospatial analysis should extend far beyond this often studied area of inquiry. It can also help the field develop new questions, and answers, about local higher education markets and how colleges in the same market compete for students, set their prices, respond to local labor market demands, and create spillovers to their local communities. Geospatial analysis can also be useful for designing quasi-experimental studies to evaluate the impacts of policy interventions and even for merging higher education data with other georeferenced data sources that have yet to be fully explored. Applying a geospatial lens may help researchers find new ways of thinking about colleges as part of their local “built environment,” where critical geography and theories of spatial inequality can offer new lines of inquiry for the field. Geospatial analysis can even deliver more user-friendly data visualizations to help researchers explain complex educational phenomenon, or be used to detect patterns in data that may have otherwise been overlooked. There are several reasons why integrating geospatial analysis more closely into the field of higher education is important, and this chapter’s main goal is to provide examples and identify promising strategies to help advance this line of inquiry.

What Is Geospatial Analysis?

The term “geospatial analysis” is becoming increasingly popular in social science research, driven in large part by the growing number of software platforms and geocoded data available for research. But geospatial analysis has been around for a long time; some believe its origins began in 1855 when John Snow created the famous Broad Street Map that linked London’s fatal cholera outbreak to contaminated water supplies (Snow, 1855). Prior to Snow’s map, people did not know what caused cholera to spread and some hypothesized it was an airborne illness. To test his hypothesis that water and not air was spreading the disease, Snow first created a street map of the most afflicted neighborhood and then documented the number of cholera outbreaks for each home address. He then layered the location of water pumps to this map and was able to use statistical analysis to demonstrate that the outbreaks clustered non-randomly around certain water pumps that were subsequently found to be the source of the cholera problem.

The idea of layering social data (e.g., cholera cases) with geographic data (e.g., street maps) is now ubiquitous, with Google Maps and various social media platforms integrating maps and data on social activity. Internet access allows people to easily view the location of a particular place and its surrounding areas, traffic and weather patterns, time it will take to get to a location, and even recommendations for other activities or points of interest located nearby. Layering geographic data in this way has clear benefits for consumers, but in the case of Snow’s maps it also served a public health purpose and provided insights into how people interact with their local environment.

For this chapter, geospatial analysis focuses on the various ways in which human behaviors shape, and are shaped by, their geographic environment. More specifically, geospatial analysis includes the statistical analysis of geographically-referenced data (Murayama, 2012). Common geographical references include street addresses, ZIP codes, Federal Information Processing Standards (FIPS) codes for counties or states, as well as latitude and longitude. When researchers include georeferenced data in a statistical analysis, then they are stepping into the realm of geospatial analysis. They can then estimate whether the distance between points is a significant predictor of a particular outcome, or they can examine whether patterns found in one geographic area differ significantly from the patterns observed in another area. They can also use georeferenced data to produce maps that are either static or interactive that can be used as a communication tool for sharing research findings.

Geospatial analysis is a subfield within the social sciences that, at its core, seeks to understand how human behavior interacts with its geographic environment. Geospatial analysis and human geography more broadly can be found across a wide range of academic disciplines and is not constrained to the field of geography. The “Chicago School” of sociology has a tradition tied directly to geography, where scholars study urban environments to understand how the social structures of a particular community shape individual and group behaviors (Fyfe & Kenny, 2005).

Sociologists and anthropologists may also engage with geography to understand why neighborhoods are segregated or how the location of industries shape people's life chances (D. Massey, 2005; D. S. Massey & Denton, 1988). Demographers examine population mobility and density to understand how people move across different regions of the country (Rosenbaum, Reynolds, & DeLuca, 2002; Molloy, Smith, & Wozniak, 2011). Epidemiologists use geography to document and anticipate how viruses or other public health problems spread throughout communities (Elliott, 2000; Meade, 2010). Economists have used geography to model natural experiments, where policy changes affecting one geographic region (but not another) can help explain the impacts of a particular policy decision (Card & Krueger, 2000; Dynarski, 2002).

Incorporating geospatial analysis into higher education can be helpful in conducting research and developing theories, but it can also aid in communicating research findings. By incorporating maps and geospatial analysis into higher education research, the field can become even more interdisciplinary in ways that push both theory and research design. There are several more ways to engage with geospatial analysis and this chapter offers an introduction to promising approaches.

How Geography Shapes Higher Education Markets

Geography and “place” have always been relevant to higher education in the United States. From the development of Land-Grant colleges and the creation of a dual system of segregated higher education of the nineteenth century to the expansion of community colleges in the twentieth century, the site selection and location of colleges has been a subject of both policy and scholarly attention. This section highlights some of the key moments in that history, emphasizing how the supply of colleges has changed over time and the way geography shapes students' demand for college. By discussing the location of colleges and how proximity shapes students' choices, we can gain greater insight into the marketplace of higher education. If every community had an equal mix of colleges in terms of quality, accessibility, and affordability, then geography would not bear on this marketplace. There would be little to no geographic friction because prospective students would have equal opportunity structures nearby.

However, states developed their public higher education systems very unevenly over time, with those that were newly admitted to the Union in the nineteenth Century being more likely to have larger public systems than the eastern states of the colonial era (Goldin & Katz, 1998). Similarly, the vestiges of segregation and Jim Crow policies of the South through the early twentieth century created dual and unequal public higher education systems that states are still remediating today (Gasman & Hilton, 2012). These historical differences matter because they helped shape today's higher education marketplace where each state has a differing mix of public two-year and four-year colleges operating alongside private non-profit and

for-profit colleges. As a result, states will likely face their own unique circumstances and challenges related to geography depending on their own historical context.

The Supply of Colleges

Table 11.1 displays the number of public, non-profit, and for-profit colleges in the United States and the share of students enrolled in each sector. Whereas the majority of colleges are private, the majority of students enrolled in college attend public institutions. Community colleges enroll more students than public four-year colleges, suggesting that geography may play a more important role in public institutions given that the former were constructed to serve their local community's educational and workforce needs.

This is not to say geography is irrelevant to private colleges; it certainly matters, especially for minority serving institutions. But private institutions are more likely to offer exclusively online education and to recruit from broader geographic regions than are public institutions. For example, seven percent of public college students enroll exclusively online whereas 13 and 29 % of private non-profit and for-profit students (respectively) enroll exclusively online. Technology may be a useful supplement to in-person learning, but research to date shows enrolling exclusively online has more negative than positive outcomes (Alpert, Couch, & Harmon, 2016; Bettinger, Fox, Loeb, & Taylor, 2015; Bulman & Fairlie, 2016; Figlio, Rush, & Yin, 2013). Despite recent growth in distance education (particularly within for-profit colleges), the location of colleges relative to population centers is fundamental to understanding the higher education marketplace.

One of the key moments in expanding the supply of higher education came via the 1862 and 1890 Morrill Acts. The first Act granted states 30,000 acres of federal public land for each representative and senator, so long as the state created “at least one college where the leading object shall be... to promote the liberal and professional education of the industrial classes in the secular pursuits and professions of life”

Table 11.1 Number of U.S. colleges and 12-month and exclusively online enrollment (in millions), by sector

	Public		Private		Total
	Four-year	Two-year	Non-profit	For-profit	
Number of colleges	689 (15 %)	934 (20 %)	1652 (35 %)	1451 (31 %)	4726 (100 %)
12-month enrollment (mil.)	9.7 (35 %)	10.1 (37 %)	4.8 (17 %)	2.9 (10 %)	27.5 (100 %)
Exclusively online enrollment (mil.)	0.7 (24 %)	0.7 (24 %)	0.6 (21 %)	0.8 (30 %)	2.8 (100 %)

Source: U.S. Department of Education (2015). *Digest of Education Statistics*, Tables 308.10, 311.15, and 317.10

Note: Row percentages in parentheses

(Key, 1996). Prior to these Acts, the federal government would routinely and strategically sell land as a way to generate revenue, but the Morrill Land Grant Acts granted land with the expectation that the creation of a university would generate economic spillovers that ultimately would achieve the same end. Research would eventually document these spillovers, where county-level population density and labor productivity increased significantly after creating these universities (Liu, 2015).

One of the earliest reports on the supply of colleges and their ties to economic activity came in 1917 with the Commission on the Distribution of Colleges. Due in large part to the expansion of railroads that occurred during the latter part of the nineteenth century, the commission argued that colleges should be closely tied to economic activity that takes place along railways. As the railway expanded, so did the number of colleges and universities and the Commission ultimately recommended that “new institutions should always be located on the main lines of travel, near centers of population” (Thomas, Hughes, & McConaughy, 1921). This rationale and the idea of using colleges to stimulate local economic development was common in the late nineteenth and early twentieth centuries during periods of westward expansion, industrialization, and migration (Brown, 1995).

The idea that colleges can generate regional or even statewide or national economic spillovers is a longstanding argument for the public support of higher education. This economic rationale dates as far back as the European Middle Ages. Europe’s first university, University of Bologna, was created in 1088 and another 50 European universities emerged over the next 400 years of the Middle Ages (Cantoni & Yuchtman, 2014). The establishment and growth of medieval universities was both a cause and consequence of commercial activity, where universities attracted people to move (or stay) in a particular city while they also produced new human capital for cities to grow (De Long & Shleifer, 1993; North & Thomas, 1973). Using Germany as a case study, Cantoni and Yuchtman (2014) find that specialized training in law that occurred in German universities helped establish new markets in cities located near the university. The economic spillover of having a highly trained workforce was that cities near universities were able to flourish economically because “legally-trained administrators and judges reduced the cost of establishing markets for cities and territories” (Cantoni & Yuchtman, 2014, p. 878).

More recently, a similar economic rationale has been applied to the expansion of American community colleges. In the late 1960s, there was just over 600 community colleges nationwide, but within a decade that number grew to over 900 (U.S. Department of Education, 2016). Doyle and Gorbunov (2011) examined why this growth occurred, hypothesizing it could be a function of economic demand, social stratification, political ideology, or existing structures of the state’s higher education marketplace (i.e., organizational ecology). The authors conclude that community colleges expanded primarily because of economic demands, which is consistent with prior examples of economic spillovers. They also found the existing number and mix of colleges in a given state shapes whether to establish new community colleges – those with more four-year colleges experienced slower growth in their community college systems.

But the location of colleges is not merely an extension of economic reasoning. It also interacts with race and class in important ways. Southern states denied educational opportunities to Black people through Jim Crow policies that have legacies today where public Historically Black Colleges and Universities are still remediating the vestiges of segregation (Gasman & Hilton, 2012). And when states have created new public colleges and universities, they have done so in uneven ways that may actually reinforce inequality by locating well-resourced colleges near white neighborhoods and locating poorly-resourced ones near communities of color (Briscoe & De Oliver, 2006; Green, 2010). These are examples of what Massey (2005) calls the “spatial division of labor” and why Soja (2010) argues geography cannot be disentangled from politics of public policymaking. Geographical differences in the supply of colleges are outcomes of both political and economic processes.

Student Enrollment Demand

When students decide where to attend college, geography plays an important but under-examined role. College choice theories have long included geography as a factor shaping students’ enrollment decisions, where Manski (1983), Hossler and Gallagher (1987), Cabrera and La Nasa (2000), and Perna (2006) all include some measure of distance or location in their theoretical models. These theories explain that students’ choices are subject to what geographers call “friction of place” where the further one lives from a college and the mix of colleges located nearby will shape students’ enrollment decisions. This friction can occur in any stage of the college choice process – it can affect students’ predispositions, search process, and ultimately their choice if they are admitted to multiple institutions.

Students are more likely to cast a wide net when searching for colleges, but as the time to enroll approaches prospective students tend to narrow their lists down to colleges located closer to home (Astin, 1980). While this pattern generally holds today, some argue that geography now plays a weaker role on student choices because transportation costs and rapid growth in technological innovation make it easier and more affordable to be mobile (Hoxby, 1997; Long, 2004). From this perspective, the college-choice process may be more about helping students find a college that is well-matched to their academic performance, with some arguing that students should apply to and enroll in the most selective college possible. When students attend a less-selective institution than they could be admitted to, their “undermatch” can have material consequences by reducing their likelihood of graduating and by increasing the net price students pay (Howell & Pender, 2016; Hoxby & Avery, 2013).

Over 40 % of undergraduates enroll in a less-selective college than what they could have been admitted to, indicating a large degree of “undermatch” taking place in the higher education marketplace (Smith, Pender, & Howell, 2013). To have all students make optimal choices based on undermatching theories would require

Table 11.2 Undergraduate distance from home address to college

	Public		Private		Total
	Two-year	Four-year	Non-profit	For-profit	
Number of miles (mean)	32	84	252	283	106
Number of miles (median)	8	18	43	18	13
Percent enrolled < 20 miles away	78 %	52 %	38 %	51 %	61 %

Source: U.S. Department of Education (2016). National Postsecondary Student Aid Survey: 2012. National Center for Education Statistics: Washington, DC

Note: Data uses excludes students enrolled exclusively online (ALTONLN2)

nearly half of all undergraduates to sort into different colleges. There are promising strategies to help students find better college matches, including waiving college application fees, encouraging more students to take the SAT or ACT exam, and delivering personalized guidance in the college-choice process (Avery, Howell, & Page, 2014; Bettinger & Baker, 2014; Castleman, Page, & Schooley, 2014; Smith, 2014). However, many students need to stay close to home because of familial or work responsibilities that may make it difficult to “shop around” for a better college match. Today’s college students are increasingly “non-traditional” and the friction of place may matter even more for students with family or work responsibilities. For these students, the proximity to college – and not information about how well matched they are – may be the most important factor in deciding whether or where to attend. Turley (2009) argues that existing college choice theories are not sufficiently nuanced for these students and that researchers should “stop treating the college choice process as though it were independent of location and start situating this process within the geographic context in which it occurs” (p. 126). Because of this, geography can help us build on theories of college choice that examine how distance and proximity to college shape educational destinations.

Table 11.2 uses 2012 National Postsecondary Student Aid Study data to show the mean and median distance between the student’s permanent home address and their college location. The first row indicates the mean distance for each sector, where those attending public two-year and four-year colleges live 32 and 84 miles away, respectively. Students enrolled in the private sector enroll much further away, and the mean distance for all undergraduates is approximately 106 miles. Outliers and large values can skew these means upward, so the second row shows median distances and reveals even more interesting patterns regarding how far students travel to college. Using medians reveals that college enrollment decisions are even more localized than we might think: the median distance between home and college is only 13 miles. In fact, approximately 61 % of undergraduates enroll in a college less than 20 miles away (third row in this table). Theories of college student choice and models of student enrollment demand should continue to engage with geography because for many students, choices occur in local (not national) marketplaces.

Supply and Demand in Higher Education Markets

From medieval universities to the modern community college, geography has played a fundamental role in shaping educational opportunity and the life chances of people living near colleges. These outcomes are shaped both by the supply of colleges and students' demand for a college education. Traditional college choice theories focus on the process of selecting a college where students first develop predispositions, then search for a college, and finally make a choice after weighing the perceived and real costs and benefits (Cabrera & La Nasa, 2000). But college choice is also a function of geography because the location of colleges may carry more weight in the choice-making process, particularly for students who need to stay close to home for college. In this case, students may develop college-going predispositions and conduct a well-informed search, yet still have their choices constrained by what is available nearby.

On the supply side, simply having a college nearby can induce more students to enroll and can result in raising local educational attainment levels (Card, 1993; Kling, 2001; Rouse, 1995). On the demand side, the monetary and non-monetary costs associated with enrolling are reduced for students which makes it more likely for prospective students to invest in human capital (Griffith & Rothstein, 2009; Turley, 2009). When researchers incorporate geography into their studies, it is possible to discover new ways of understanding and explaining the evolving nature of the higher education marketplace. Students living in a particular geographic area will have different opportunity structures than those in other areas. Similarly, students will be affected differently by geography and place when some need to stay close to home, whereas others may travel far distances for college. These topics will be explored in the following section, but the main purpose is that by integrating geography into higher education research, we not only learn about how distance shapes behaviors but we also learn about variations in local higher education marketplaces.

Geospatial Analysis in Higher Education

There are four primary ways researchers integrate geography into the field of higher education: descriptive maps, quasi-experimental design, distance elasticity, and geostatistics. This section offers a brief introduction to these research strategies by providing examples of how researchers have employed the techniques in their work and by demonstrating the underlying intuition behind each technique. In so doing, this section illustrates innovative ways to engage with geography in higher education research while offering ideas for researchers to incorporate geospatial analysis into their work. This discussion is not comprehensive, so additional literature is suggested for those who want to explore the topic in more detail.

Descriptive Maps

Choropleth Maps

Among the more common types of maps applied in higher education research is the choropleth (or area) map. This thematic map uses colors to represent a particular value or feature of a given area and can be an effective visualization tool summarizing how geographic areas vary from each other. For example, states differ with respect to which political party is in control of the governor's office and a choropleth map can quickly display which states are led by Democrats or Republicans by simply coloring them blue or red (respectively). These maps can also be useful for describing how state policies spread across the country. Because states are "laboratories of democracy," one state might adopt a particular policy and eventually others will follow if the policy is perceived to be politically viable (Shipan & Volden, 2008). In higher education research, these maps are used to document how the finance policies such as college savings accounts, merit-based financial aid programs, and performance-based funding diffuse across state lines over time (Cohen-Vogel, Ingle, Levine, & Spence, 2007; Doyle, McLendon, & Hearn, 2010; Hillman, Tandberg, & Gross, 2014; Lacy & Tandberg, 2014).

Researchers can also use these maps to indicate how counties or other geographic regions vary on a particular measure. For example, to document the degree of racial segregation that occurs within the state of Texas, Cortes (2010) uses county-level choropleth maps to show how the state's Hispanic population is concentrated in southwestern counties, whereas the Black population is concentrated in the east. Choropleth maps are also used to document the number of colleges in a particular commuting zone (Hillman, 2016) or the number of colleges adopting the Common Application (Smith, 2014).

In each of these cases, readers are able to quickly see how geography can shape educational opportunity and where prospective students have more college choices nearby. Cortes' (2010) maps show that most of the state's universities are concentrated in the central and southern areas of the state – far away from where the state's minority populations live – which suggests banning affirmative action would only reinforce structural inequalities that already exist in the state. Hillman's (2016) maps show clusters of counties that have few or no colleges nearby, whereas Smith's (2014) maps show that colleges adopting the Common Application are clustered around the East Coast. In each example, these maps effectively display that the market structure for higher education differs across some geographic space (the country) and that not all communities have equal opportunities nearby.

Figure 11.2 provides an example of a choropleth map showing educational attainment levels of each Michiana county. Lighter shades represent higher educational attainment, darker shades represent lower educational attainment; readers can quickly see that St. Joseph and Berrien Counties have the highest attainment levels. Not only does Elkhart County have a small number of colleges (Fig. 11.1), but they also have a high share of residents with no formal education beyond high school.



Fig. 11.2 Share of Michiana county-level adult population with a high school diploma or less

There are many plausible explanations about why these counties differ in terms of educational attainment, so choropleth maps can be useful tools for investigating these explanations and documenting the extent to which areas vary from one another.

Dot Maps

When researchers want to plot a specific place on a map, like the location of a college in Fig. 11.1, they may prefer to use dot maps. This visualization can help readers quickly identify how close or far a college is from another college, or how far it is from different communities within a particular geographic region. For example, De Oliver (1998) uses dot maps to illustrate how the location of the new University of Texas-San Antonio campus reinforces existing neighborhood segregation. When the state established this new university in 1969, it was unclear whether the campus would be built in the city center or in the suburban fringe. But when state officials decided to build the new campus in the northwest fringe of the city, rather than the urban core, working class and Latino residents of the city’s south side contested the decision on grounds that it imposed additional costs on urban residents who would likely be unable to get back and forth to the new campus.

Jepsen and Montgomery (2009) use dot maps to show where community colleges are located around Baltimore, Maryland, finding that adult students are discouraged to enroll in college due to distance and transportation barriers. Their analysis found that just 2 miles of additional travel time between home and college can discourage students from enrolling. By showing the location of colleges relative to major highways and population centers, the study helps readers interpret the results and understand why working adults might be discouraged from enrolling even when there are several community colleges located in the greater Baltimore area. Similarly, Liu (2015) plots the location of the different types of Land Grant Colleges and Universities across the United States to estimate the spillover effects they have for their regional economy. Brewer et al. (2016) use dot maps to locate Tribal Colleges and Universities and to explain how federal land policies both compelled and restrained tribal governments to engage in agricultural development. Dot maps can be effective tools in displaying where colleges are located relative to other important sociodemographic indicators such as population centers, public transportation, and even other colleges and universities.

González Canché (2014) uses dot maps to show where colleges are located across the country, which in turn allowed him to examine how neighboring colleges might affect the tuition charged in a local area. The study found non-resident tuition prices are converging along geographic lines, where colleges set non-resident tuition prices according to the prices neighboring institutions charge. Using a geospatial lens, González Canché is able to reveal that colleges both compete against and are influenced by their neighbors. College pricing models are shaped by their local marketplace, where the amount charged to non-residents is conditioned by what nearby colleges charge. More specifically, being located near broad-access colleges tends to allow colleges to charge higher non-resident tuition whereas being neighbors with selective research universities may reduce the amount of non-resident tuition a college can charge. Thinking about pricing policy as a function of local market conditions, rather than by political or governance decisions, allows researchers to explore how spatial trends bear on a wide range of educational outcomes.

Heat Maps

Sometimes neither a choropleth nor dot map will visualize what the researcher needs to communicate, so heat maps can be useful alternatives. This type of map is similar to a dot map, but instead of simply displaying a point on a map it shows how densely a particular variable clusters around each point. This density is often color coded similar to choropleth maps, where the highest-density areas are shaded differently than lower-density areas. This strategy helps researchers identify geographically clustered areas and the extent to which these clusters are statistically different from others. If one geographic area has a greater density or frequency of “hot spots” than another, then these patterns may not be due to random noise in the data. These patterns can be either first-order (environmental) processes where one variable causes the clustering to occur, or they can be second-order (interaction) processes

where the presence of a point increases the likelihood of observing another point (De Smith, Goodchild, & Longley, 2015).

Hites, et al. (2013) provides one of the only examples of heat maps in higher education literature. The analysis shows “hot spots” of crime on a college campus, coded by the street address where the crime occurred and the time of day and type of incident (e.g., violent crime, property crime, or other crime). Using geospatial analysis, the research team was able to discover patterns that not only helped document where events occurred, but information that was also useful for campus administrators interested in preventing, prioritizing, and responding to crime activities on campus. This study illustrates a first-order geographic process and demonstrates how geospatial analysis can be useful in both diagnosing and responding to problems related to campus safety. Maps can be powerful communication tools to help frame or contextualize a problem and, in turn, can be useful for mobilizing policy responses and interventions.

Quasi-Experimental Design

Many quantitative studies use survey or administrative data that are generated through observational (rather than experimental) processes. As a result of using observational data, researchers are unable to randomly assign individuals into “treatment” or “control” groups. This often results in studies that suffer from self-selection bias, where it is difficult to disentangle correlation from causation. When researchers want to draw causal inference but cannot randomly assign subjects into treatment and control groups, they must rely on alternative quasi-experimental strategies (Angrist & Pischke, 2015; DesJardins & Flaster, 2013).

Distance and geographic boundaries can be particularly useful variables in quasi-experimental designs, namely in the application of instrumental variables, difference-in-differences, and regression discontinuity methods. The distance between home and college is often used as an instrumental variable, geographic differences in policies can be used in difference-in-difference analysis, and people who live on one side of a political or geographic boundary may be able to be used as treatments and counterfactuals in regression discontinuity studies. Each of these three examples are discussed in more detail below, with the central point being that geography extends far beyond maps and can be a useful tool for gaining insights into causal mechanisms driving educational outcomes.

Instrumental Variables

When researchers use observational data to answer causal questions, their models may suffer from endogeneity problems where the key variable of interest is correlated with the model’s error term. This can result in omitted variable bias, where we cannot determine whether the outcome is caused by the key variable or whether something

missing from the model is driving the results. Instrumental variables can be a useful tool for addressing this problem, but only when researchers can find instruments that minimally meet the following two conditions. The instrument must be highly correlated with the problematic endogenous variable. Next, it should only correlate with the outcome through this endogenous variable, after holding all else constant in the (first stage) of the model. When these conditions are met, the instrument can address the endogeneity problem thereby allow researchers to make more rigorous statements about cause and effect [instrumental variable techniques are discussed in more detail in Bielby, House, Flaster, and DesJardins' (2013) Handbook chapter].

An example will illustrate how distance has been used as an instrument in higher education research. Researchers and policymakers often want to know if students who transfer from community college to four-year institutions are as likely to graduate as those who start at four-year colleges (Reynolds & DesJardins, 2009). If they are, then the transfer function of community colleges could provide students with a viable pathway to the bachelor's degree. Because students self-select into college (i.e., are not randomly assigned), instruments can be used to address this endogeneity problem. Long and Kurlaender (2009) use distance as an instrument because a student's decision to start at a community college is highly correlated with this variable – the closer one lives to a community college, the more likely they are to attend such an institution. This correlation should have no bearing on the student's eventual bachelor's degree attainment, except through their decision to start at a community college.

By using distance as an instrument, Long and Kurlaender (2009) found that starting at a community college causes students to take longer to earn their bachelor's degree. This “community college penalty” is likely driven by the transfer function of colleges more than students' self-selection into college, suggesting policy and practices related to transfer articulation may actually slow down or even discourage bachelor's degree completion. But distance can be used in many other contexts where self-selection can bias the study's results. For example, the economic returns to a college education may be both a function of the student's self-selection into a particular college (i.e., motivation, ability, preferences, etc.) and/or due to the college itself (Carneiro, Heckman, & Vytlačil, 2011; Doyle & Skinner, 2016; Long, 2008). A similar challenge presents itself when measuring the civic returns to college, where the outcome could be driven by either self-selection or by the way colleges prepare students for civic life (Dee, 2004). Researchers interested in using distance as an instrument should become familiar with the longstanding debate about the strengths and weakness of using geography, including Card's (2001) review and analysis.

Difference-in-Differences

Often times in higher education research it is either impossible or impractical to randomly assign subjects into treatment and control groups. For example, it is impossible to randomly assign states to adopt certain policies and it is impractical

for states to randomly choose counties when deciding where to build new colleges or universities. Because of this, researchers often look for “natural experiments” where a state or locality adopts a new policy that serves as a plausible source of exogenous variation. This variation is useful for causal inference because it allows researchers to classify states and localities that adopted the policy into a treatment group, whereas those not adopting the policy are included in the control group. By following the trends in both groups before and after the policy change, researchers are able to detect whether there are differences in outcomes for these two groups after the policy change. Such natural experiments can replicate random assignment under certain circumstances, which will be briefly discussed below. Those interested in a more complete discussion of this research technique should see Angrist and Pischke (2015) or St. Clair and Cook (2015) for helpful introductions.

Studies have exploited differences in geography and policy adoption in a number of ways. One of the most common applications is in studies estimating the enrollment effects of state merit-based financial aid (Dynarski, 2002, 2008, Sjoquist & Winters, 2012, 2015; Zhang, 2011; Zhang & Ness, 2010). Merit-based aid programs became popular in the early 1990s and expanded rapidly throughout that decade and into the 2000s (Doyle, 2006). In these studies, states that adopted merit-based aid policies are the “treatment” group and those not adopting are the “control.” By following both groups over time, researchers are able to detect whether outcomes for the treated group change after policy implementation. This research design rests on the assumption that the control group would have followed the same patterns as the treatment group after the policy change occurs. Because the control group never adopted the policy, it serves as the counterfactual for the treatment group – it represents what would have likely happened, after controlling for observables, had a state never adopted the policy [see Flaster & DesJardins (2014) for an accessible introduction to the concept of counterfactuals].

By comparing treated states/localities to non-treated ones, researchers can exploit geographic differences as an identification strategy. When states adopt new policies, like performance-based funding (Hillman et al., 2014; Hillman, Tandberg, & Fryar, 2015) or affirmative action bans (Backes, 2012; Garces, 2013; Hinrichs, 2012), this creates natural experiments based on geographic boundaries where difference-in-differences can be employed. But states do not have to serve as the only unit of analysis – policy changes often occur at the local level where counties within states experience significant policy changes that can be used to draw causal inference.

For example, Denning (2016) exploits variation in community college taxing districts, where 22 Texas municipalities joined community college taxing districts since 1995. Individuals who live outside a district are charged tuition that on average is 63 % higher than in-district rates; the annexations brought new municipalities into the district, resulting in an increase in the number of individuals now eligible for in-district tuition. The study found that reducing tuition in annexed districts expanded college access: a \$1000 decrease in tuition induced a 5.1%age point increase in enrollment. Similarly, Carruthers and Fox (2016) examine the effect of the Knox Achievers programs, which provides targeted advising and free in-state

community college tuition and fees to all Knox County high school graduates starting in 2009. They compare educational outcomes (e.g., high school graduation, college enrollment, and college credits completed) of Knox County high school graduates against similar high school graduates from nearby counties. The study finds increased college enrollment rates for Knox County students (and for lower-income students in particular), though it may have shifted high-achieving and higher-income Knox County students away from four-year colleges and into community colleges. The Knox Achievers program is one of many “promise programs” existing throughout the country, so similar studies could be replicated in other geographic regions (LeGower & Walsh, 2014). These have already occurred in at least 25 other communities across the country, notably in Kalamazoo (Andrews, DesJardins, & Ranchhod, 2010; Bartik, Hershbein, & Lachowska, 2015) where the program has yielded positive effects and in Pittsburgh where the effects are more mixed (Bozick, Gonzalez, & Engberg, 2015). In each of these studies, geographic and political boundaries are used as ways to identify treatment and control groups.

Geographic Regression Discontinuity

Regression discontinuity (RD) is an increasingly popular quasi-experimental technique because it, like the others, can replicate random assignment with observational data (McCall & Bielby, 2012; Flaster & DesJardins, 2014). Under this design, researchers take advantage of pre-determined eligibility thresholds that assign people into either treatment or control groups (U.S. Department of Education, 2010). For example, a state may require students to earn at least a 3.0 high school grade point average or reach a certain standardized test score in order to be eligible for student financial aid. A student who meets these criteria will receive the aid and is assigned to the “treatment” groups; those who fall just short do not receive the aid and are in the “control” groups. Because the state (and not the student) determined the eligibility threshold to assign students, those just below and above the cut-point are as good as random right at the cut point. Students on either side of the threshold are likely to share similar observable (e.g., test scores, grades) and unobservable characteristics (e.g., motivation, ability, etc.) that in turn make it possible to replicate random assignment.

Instead of using test scores or grade point averages as cut-points, researchers can use geographic borders and political boundaries to assign observations into treatment and control groups. People who live on one side of a border are likely to be similar to those living just on the other side, but the treated group will be eligible for benefits (or interventions) that are unavailable to the control group. For example, someone living on the Indiana side of Elkhart County can pay in-state tuition to the state’s public colleges whereas people just a few miles away on the Michigan side of the state line pay out-of-state rates. The state line serves as a forcing variable, allowing researchers to estimate the causal effect of a particular intervention like how enrollment changes when tuition rises.

To my knowledge, only one published study employs geographic regression discontinuity in higher education. Heaton, Hunt, MacDonald, and Saunders (2015) use the jurisdictional boundaries of University of Chicago's campus police department to estimate whether campus police reduce crime and violence. Campus police have full police powers granted by state governments although they are employed by the campus they serve; therefore, campus police jurisdiction and patrol zones are limited to the boundaries of a particular campus. In practice, however, campus police often work closely with the city's police department to patrol zones next to campus (Peak, Barthe, & Garcia, 2008). This results in some city blocks being patrolled solely by campus police, whereas other blocks are patrolled jointly with the Chicago Police Department, (CPD) creating geographic variation drawn along jurisdictional boundaries. In this study, researchers compare crime rates just outside the campus police patrol zone (i.e., in CPD's jurisdiction) to those just within the campus patrol zone and found CPD blocks have significantly higher crime rates than campus. Using 8 years of crime data, the authors conclude campus police are more effective at law enforcement because they patrolled similar blocks and had lower crime rates (Heaton et al., 2015).

Distance Elasticity

A longstanding area of research in higher education focuses on how students respond to changes in tuition prices. In this literature, researchers consistently find that a \$1000 increase in price is associated with about a 5 % decline in enrollment (Deming & Dynarski, 2010; Heller, 1997; Leslie & Brinkman, 1987). The negative relationship between enrollment and price is consistent with microeconomic theory, though we should not constrain our thinking to only monetary prices when applying this model. After all, demand curves are downward sloping for human capital investment due to the law of diminishing returns and substitution effects (Paulsen & Toutkoushian, 2008). Instead of thinking of consumption being determined by price, we can think of consumption also being determined by distance. That is, the further away one is from college, the less likely they are to enroll, similar to the way high prices discourage students from enrolling.

Whereas most students' enrollment demand falls as the distance to college rises, some students actually prefer to travel far distances to attend college. From this perspective, demand is actually "u-shaped," where demand first falls with distance but then begins to rise as the distance between home and college increases. This pattern is consistent with patterns found with Veblen goods, or luxury items whose consumption actually increases when the expense (in this case, distance) rises. Students who have strong preferences to move away from home or those who choose to enroll out-of-state are likely to be less elastic with respect to distance. Traditional-aged students from more privileged backgrounds are likely to travel the furthest to attend college, whereas students of color, working class students, and those who have familial obligations tend to stay closer to home (Niu, 2014; Desmond

& Turley, 2009). For example, Niu found that White students were consistently more likely than Black and Hispanic students to send SAT scores to more colleges (a proxy for applying to college) and to enroll out of state. Similar differences emerged with respect to income, where higher income students were more likely than lower-income students to send more scores and eventually enroll out of state. Even after controlling for socioeconomic and academic characteristics, Desmond and Turley (2009) find that Hispanic students in Texas are less likely to leave home to attend college due in large part to familial obligations. Further research is necessary to understand how family obligations, academic preparation, and socioeconomic status interact with the decision to stay close to home, but geography of opportunity likely bears on these choices (Ovink & Kalogrides, 2015).

Geostatistics

This section reviews some basic statistical approaches that can be applied to georeferenced data, including: gravity models, dissimilarity index, entropy index, and spatial error regression models. This is not an exhaustive list of geostatistics, yet it should contain promising avenues for higher education researchers interested in applying basic geospatial statistics in their research. Researchers may be interested in other important geostatistical techniques including point pattern analysis to detect whether points are randomly disbursed in a specific geographic area. This technique would allow researchers to identify the extent to which other (i.e., non-geographic) variables might predict the dispersion of various points. Researchers may also find more advanced topics like spatial interpolation and kriging useful if they are interested in using spatially-weighted data to predict unobserved outcomes. There are many statistical techniques researchers might find interesting and useful, but this chapter focuses on a few key introductory techniques. For more information on advanced geostatistical methods, see Baddeley, Rubak, and Turner (2015), Bivand, Pebesma, and Gómez-Rubio (2013) and Chun and Griffith (2013).

Gravity Model

Researchers are often interested in studying the migration patterns of students or knowing the extent to which a college attracts students from a particular catchment area. Some colleges will attract students from a larger catchment area whereas others are relatively small; similarly, some states are net importers of students whereas others are net exporters. This relationship depends on students' own elasticity of demand, but is also a function of the potential pool of students who are located nearby. Gravity models allow us to think about enrollment patterns in the aggregate (rather than at the individual level) where some colleges or states/regions exert a force that pulls students in. In most cases, this force will diminish with distance, where further away colleges or states/region exert weaker force than those that are

nearby to students. This is analogous to Newton's law of gravity, where larger bodies exert more force on smaller ones and the distance between them mediates their influence.

When applying gravity models to higher education, we can examine the movement of people from two places and observe the bond (i.e., gravitational force) between these places. One of the earliest applications of the gravity model was Stewart's (1941) examination into the catchment area of Harvard, Yale, Princeton, and Vassar. Wanting to know whether these colleges truly drew from a national pool of applicants, Stewart identified the home state of each undergraduate and measured both the total state population and the state's distance from each of the four colleges. Stewart found that enrollments were proportional to the state's population (i.e., smaller states sent fewer students) but that there was distance decay, where states from further away had lower representation at each of the study institutions. This was one of the first studies to show that distance and enrollment are dependent interrelated.

The basic formula is below where the force of a particular college or geographic region (F) is a function of both the population of two areas and the distance between these places:

$$F_{ij} = k \frac{P_i P_j}{d_{ij}} \quad (11.1)$$

Here, P represents the total population within two geographic areas, i and j . The denominator in Eq. 11.1, d_{ij} , is the linear distance between the two geographic areas; it is possible to change the functional form of the denominator if we believe distance decay is nonlinear. Similar to Newton's law of gravity, k is the unobserved gravitational constant. This equation helps us see that the number of students enrolled in a particular college is directly proportional to the college's own population area and the population area of another institution, but inversely proportional to the distance between them (Kariel, 1968).

The gravity model has been applied and extended in higher education over time (Schofer, 1975). McConnell (1965) identifies the population center of each Ohio county and measures its distance to Bowling Green State University in order to find how closely geography is correlated to enrollment decisions. McConnell found similar results as Stewart (1941) where larger counties were associated with larger enrollments and there was an inverse relationship between distance and enrollments for more distant counties. Gravitation models have been employed for several other colleges including: Western Washington State College (Kariel, 1968), West Virginia University (Ali, 2003), University System of Georgia (Alm & Winters, 2009), Widener University (Leppel, 1993), and Washington State public four-year colleges (Ullis & Knowles, 1975). Each study extends the basic gravity model and applies different measures of geographic distance, yet each study finds enrollment declines as distance rises, though the strength of this relationship varies from case to case.

These studies also show that simply comparing the raw number of students from a particular state or region does not tell the full picture of geographic diversity of student enrollments. The full picture that gravity models help explain is that every region has its own “potential” with respect to the number of prospective students who might be inclined to enroll in a given institution. Gravity models can reveal that a particular county may have several potential students nearby, but few enroll, meaning the college is not meeting its enrollment potential.

Dissimilarity and Entropy Indices

In addition to assessing the extent to which a college draws students from nearby areas, researchers may also be interested in knowing whether the demographic profile of a given college is representative of the college’s local or regional demographics. A college that enrolls a very homogenous group of students may have a racial/ethnic mix of students that is dissimilar than its metropolitan or even state demographics. There are several ways to quantify and map these differences that draw largely from sociologists interest in residential segregation (Massey & Denton, 1988; Reardon & Firebaugh, 2002).

This line of inquiry is uncommon in higher education research, though it could become increasingly important considering the changing demographics of the United States where the majority of children born today are non-white (U.S. Census Bureau, 2012). It is important for colleges to reflect these changing demographic patterns in their geographic region: a college located in a community that is not diverse would likely struggle to diversify its enrollments; alternatively, those located in highly diverse areas may want to have a student body reflective of this diversity. Researchers have long examined the geography of school segregation in K-12 education (Card & Rothstein, 2007; Dobbie & Fryer, 2011; Theil & Finizza, 1971). However, this line of inquiry has not been extended into higher education to the same degree, but holds promise with respect to identifying the causes and consequences of segregation among colleges and universities.

One way to examine geographic segregation is by using an index of dissimilarity, which is a standardized measure of evenness ranging from 0 (perfect evenness) to 1.0 (maximum separation) that is commonly used in measuring residential segregation (Massey, Rothwell, & Domina, 2009). When geographic areas become increasingly segregated, the dissimilarity index can tell us what proportion of a particular group would need to change in order to achieve perfect evenness. Massey et al. (2009) give an example of black-white segregation, where a dissimilarity index of 0.60 indicates that 60 % of the geographic area’s black population would have to exchange places with the area’s white population in order to achieve no segregation. The following formula is used to create the index:

$$D = \frac{1}{2} \sum_{i=1}^n \left[\left| \frac{w_i}{w_T} - \frac{b_i}{b_T} \right| \right] \quad (11.2)$$

Table 11.3 Index of dissimilarity illustration Dane County, Wisconsin

	White	Black	$\frac{w_i}{w_T}$	$\frac{b_i}{b_T}$	$\left \frac{w_i}{w_T} - \frac{b_i}{b_T} \right $	D
University of Wisconsin-Madison	23,301	662	0.28	0.12	0.16	
Dane County (18–24 year olds)	58,516	4856	0.72	0.88	0.16	
Total	81,817	5518			0.33	0.16

Source: Enrollment data is from the U.S. Department of Education’s IPEDS 2014 fall enrollment survey and county population estimates are from U.S. Census Bureau Bridged-Race Population Estimates <http://wonder.cdc.gov/bridged-race-v2014.html>

where w and b in Eq. 11.2 represent the White and Black population, respectively, within a geographic subunit (i) and across the geographic area’s total population (T). The absolute value of this difference is summed for the total number of subunits and then multiplied by half in order to standardize the score. Table 11.3 illustrates how this could be used by researchers, where it compares enrollment data for White and Black undergraduates against Dane County’s White and Black population between the ages of 18 and 24. The purpose is to illustrate the concept, so this example should be viewed as a proof of concept where the sum of each group’s absolute values equal 0.33. This is then multiplied by half, resulting in a dissimilarity index of 0.16, suggesting that 16 % of Dane County’s Black young adult population would have to exchange places with the University of Wisconsin’s White undergraduate students in order to have the university be reflective of the local demographic profile of Dane County.

A different measure of local population distributions is the entropy index, which measures the extent to which multiple racial/ethnic groups are evenly distributed within a particular geographic area (Iceland, 2004). This technique does not allow us to examine segregation in the way a dissimilarity index does, though it can be a useful unifying measure of diversity to assess how diverse a college is relative to the diversity of a given geographic area. The entropy index (E) for a geographic unit (i) is defined in Eq. 11.3:

$$E_i = \sum_{k=1}^k P_i \log \left(\frac{1}{P_i} \right) \tag{11.3}$$

where P_i measures the proportion of a geographic unit’s population that is of a particular racial/ethnic group (k).

Using the Dane County example, the maximum entropy score is $\log(k)$, so in this case the maximum is 0.69 because there are only two groups being compared ($\log(2) = 0.69$). Higher entropy scores signify greater diversity whereas lower scores signify less diversity: the university’s entropy score (0.13) is lower than the county’s (0.27), indicating the university is less diverse than the county. It is possible to add more than two racial/ethnic groups, but for simplicity this table only compares Black and White populations. By adding more racial/ethnic groups to the example, the entropy index will change and will provide a unifying variable for total diversity.

The entropy index can also be weighted and standardized to fall between the values of 0 and 1, where 1 indicates totally equal representation between all geographic areas and 0 indicates totally unequal representation. A different index called Thiel's H is often implemented to compare multiple geographic areas, though researchers have developed several extensions to this and other indices [see Reardon and Firebaugh (2002) and Massey and Denton (1988) for examples].

In Franklin's (2013) study, each college was assigned an entropy index based on the equation above. The index was then used in a regression model as the dependent variable, where a series of controls were added to assess the extent to which institutional and regional variables were associated with having a higher or lower entropy index. Results showed that religiously-affiliated, highly selective, and smaller colleges tend to have lower entropy indexes (i.e., were less diverse). Alternatively, public colleges and those located in counties with more diversity among its young population tend to be more diverse. This study suggests institutional policies and practices such as admissions and enrollment management are stronger predictors of a college's diversity than are local demographics. Unless colleges can "import" diversity from other geographic areas, institutions that are located in racially/ethnically homogenous geographic areas will likely struggle to become more diverse.

Spatial Error Regression Models

Ordinary least squares regression assumes that the error terms in a given statistical model are independent and identically distributed ("iid") from one another. Consequently, residual values should be uncorrelated with one another and have constant variance (Baum, 2006). When this independence assumption holds, efficient standard errors result; but violating this assumption can result in artificially low standard errors that increase the chances of Type I errors. Researchers are often introduced to this autocorrelation problem when using time-series regression where a previous year's data is correlated with the following year's data or in multilevel modeling where nested groups are correlated with one another. But autocorrelation does not have to be temporal; rather, it can be spatial where clustering patterns occur relative to geographic areas and the proximity of one point to another (Ward & Gleditsch 2008).

The standard ordinary least squares equation below (Eq. 11.4) does not account for this spatial dependence in the error term:

$$y_i = \alpha_0 + \beta_i X_i + \varepsilon_i \quad (11.4)$$

where y is the outcome for each observation (i), α is the intercept, and X is a variable with β measuring its slope coefficient; the error terms are assumed to be iid and normally distributed.

After running the regression, it is possible to estimate Moran's I statistic to examine whether the residuals in the OLS equation are spatially correlated. The statistic's null hypothesis is that residuals are randomly distributed where each

observation is uncorrelated with its nearest neighbors. Moran's I uses a weighted index of each location relative to other locations to determine whether each observation is correlated to its neighbors (Ward & Gleditsch, 2008):

$$I = \left(\frac{n}{\sum_i \sum_j w_{ij}} \right) \frac{\sum_i \sum_j w_{ij} (y_i - \bar{y})(y_j - \bar{y})}{\sum_i (y_i - \bar{y})^2} \quad (11.5)$$

The formula in Eq. 11.5 is similar to the Pearson's correlation where values range between -1 and 1 . Values closer to 1 are geographically located close to other high values and are thus positively correlated, whereas values closer to -1 are located closer to other low values and are negatively correlated. A value of zero indicates no spatial dependence, implying the data does not violate the iid assumption and there is no spatial pattern. Moran's I statistic does not have to be used for detecting spatial correlation in the error term, it can also be used to measure spatial correlation between observations which can be useful in spatially lagged models (Ward & Gleditsch, 2008).

If Moran's I is statistically significant, then researchers might consider implementing a spatial error regression model that extends the OLS model (Eq. 11.4) by decomposing the error term into two parts:

$$y_i = \alpha_0 + \beta_i X_i + \lambda w_i \xi_i + \varepsilon_i \quad (11.6)$$

where ε satisfies the iid assumptions discussed above. Equation 11.6 adds λ to Eq. 11.4, which measures how closely each error (ξ) is correlated with other connected locations (w) for each observation (i). When error terms are spatially correlated or if there is reason for researchers to believe spatial dependence is problematic in the error term, then they can employ the spatial error model. Spatial dependence can also be handled via spatially lagged models discussed in more detail in Ward and Gleditsch (2008); for applications of this technique in higher education, see McMillen, Singell and Waddell (2007) and González Canché (2014).

Georeferenced Data Sources in Higher Education

This section provides an overview of geographically referenced (georeferenced) data that can be useful for conducting higher education research. When a dataset provides such information as latitude and longitude, county and state FIPS codes, or even the metro/micropolitan statistical area, zip code, or location of a high school, then it is possible for researchers to use these variables to merge with other useful datasets. For example, when Hillman and Orians (2013) examined the relationship between local labor market conditions and community college enrollment levels, they merged IPEDS data with U.S. Bureau of Labor Statistics (BLS) and Bureau of

Economic Analysis (BEA) data based on each college's metro/micropolitan statistical area. In so doing, they discovered that as local unemployment rates rose by 1 % point, enrollments rose between 1 and 3 %. Georeferenced data allows researchers to link education datasets with other datasets outside the field, such as political science, economics, sociology, public health, and others to gain a fuller view of the environment in which educational phenomenon occur.

Products like IPEDS and other survey or administrative datasets available from the National Center for Education Statistics (NCES) provide useful georeferenced variables. This section describes several of the more commonly used georeferenced data available from federal agencies and it directs readers to the websites and agencies where this data is made publically available. After providing an overview of the federal data landscape, the section discusses the hierarchical nature of georeferenced data and explains how national, state, and local data can be merged with common federal higher education datasets.

Hierarchy of Georeferenced Data

Figure 11.3 provides an overview of the hierarchy of geographic data, where national data is the highest level of aggregation for which statistics are produced and Census blocks are the lowest. Every 10 years, the U.S. Census Bureau conducts the national census to collect the official population counts for the entire country. In off census years, Census operates the Annual Community Survey (ACS) to provide updated information on a range of social and economic indicators. While the decennial census provides more detailed data than the ACS, both are useful and can provide at a minimum county-level population estimates. The decennial census provides population estimates as far down as each neighborhood block (discussed below). Figure 11.3 and the following discussion focuses on areal measures of geography, or “regional data that is attributed to some geographic area,” as opposed to point measures that are “geolocated individual locations for observations” (Ward & Gleditsch 2008). Areal measures include places such as states, counties, and census blocks, whereas point measures include measures such as latitude and longitude.

The areal measures outlined in Fig. 11.3 can be organized into either legal/administrative entities or statistical entities (U.S. Census Bureau, 1994). States and counties are legal/administrative entities that have their own governing authority, taxing and voting districts, and a range of other governmental functions (e.g., post offices, schools, fire departments, etc.) outlined in laws or administrative codes. Cities, tribal lands, and other incorporated communities are examples of legal/administrative entities that are either embedded within or independent from those listed herein. Statistical entities are alternative ways to measure “local” areas, but statistical areas do not have legal or administrative authority as do states, counties, and cities. For example, micropolitan and metropolitan statistical areas, Census regions/divisions, Census tracts/blocks are all statistical entities and offer alternative ways to cluster geographic areas together.

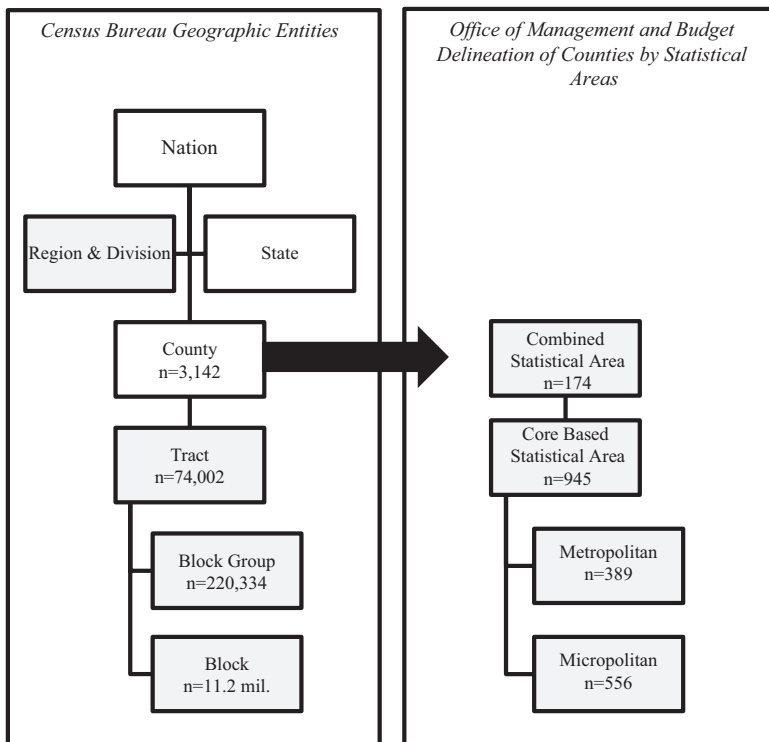


Fig. 11.3 Hierarchy of georeferenced entities

States and Regions

The Census Bureau divides all 50 states into four mutually-exclusive regions: Northeast, Midwest, South, and West. Within each region, states are further divided into at least two smaller “divisions” with the exception of the South region, which has three divisions. Census regions and divisions can provide guidance for researchers interested in state-level studies, where a particular state can be compared to others within the same region or division because they are likely to share similar geographic or demographic features as one another.

An alternative way to categorize states is by linking each to their interstate higher education compact (see Table 11.4). These compacts are clusters of states that collaborate with neighboring states on a variety of initiatives including tuition reciprocity agreements, leadership and policy development, and collective purchasing to gain economies of scale. The four compacts engage in intergovernmental relationships that derive their authority from state statutes, so these compacts are more similar to legal/administrative entities than statistical entities and offer a useful way to classify states in meaningful ways.

Table 11.4 Interstate regional compacts in higher education

Midwestern Higher Education Compact	New England Board of Higher Education	Southern Regional Education Board	Western Interstate Commission for Higher Education
Illinois	Connecticut	Alabama	Alaska
Indiana	Maine	Arkansas	Arizona
Iowa	Massachusetts	Delaware	California
Kansas	New Hampshire	Florida	Colorado
Michigan	Rhode Island	Georgia	Hawaii
Minnesota	Vermont	Kentucky	Idaho
Missouri		Louisiana	Montana
Nebraska		Maryland	Nevada
North Dakota		Mississippi	New Mexico
Ohio		North Carolina	North Dakota
South Dakota		Oklahoma	Oregon
Wisconsin		South Carolina	South Dakota
		Tennessee	Utah
		Texas	Washington
		Virginia	Wyoming
		West Virginia	

Note: n = 49 because Pennsylvania is not included in a regional compact

Counties

There are 3412 counties in the United States, and like states they have their own legal and administrative authority. Counties have their own governing bodies and taxing authority and they provide a wide array of services to local residents that vary both between and within states. They are often subdivided into smaller incorporated areas, consolidated cities, school districts, and other special purpose districts that operate their own services and have legal and administrative authority within and sometimes across a given county (U.S. Census Bureau, 1994). In higher education, 25 states support their community colleges through local property taxes that are assessed at the county or district level (Martorell, McCall, & McFarlin, 2014; Mullin, Baime, & Honeyman, 2015). Counties may also be used to determine a community colleges' service region, in-district and out-of-district tuition rates, or eligibility for educational benefits via local "promise programs" (LeGower & Walsh, 2014).

Blocks and Tracts

When the Census Bureau samples individuals, the smallest geographic entity assigned to an individual is their block. Blocks are defined according to visible features such as roads, railroad tracks, or rivers and by invisible features such as townships, school districts, or county lines. Due to being the smallest geographic entity,

there are 11.2 million blocks across the country. These blocks are aggregated into larger block groups ($n = 220,334$) and then block groups are aggregated into census tracts ($n = 74,002$). Blocks and tracts offer more “localized” measures of geography than counties or states, though sometimes they may offer too small of an area depending on the research questions at hand. Census tracts optimally have populations of 4000 people, though their sizes range between 1200 and 8000 (U.S. Census Bureau, 2016b).

Combined Statistical Areas

Because people live and work in places that often cross over county or state lines, it can be helpful to cluster counties into larger areas that share common economic activity. The U.S. Office of Management and Budget (2015) creates these county clusters based on commuting patterns between people’s homes and employment addresses. These clusters are organized into micropolitan ($n = 556$) and metropolitan ($n = 389$) statistical areas that, together, account for 1825 of the nation’s counties and 94 % of the total U.S. population (U.S. Census Bureau, 2016c). A metropolitan statistical area must have “at least one urbanized area of 50,000 or more population, plus adjacent territory that has a high degree of social and economic integration with the core as measured by commuting ties” (U.S. Office of Management and Budget, 2015, p. 2). Micropolitan areas follow the same definition but the core area’s population must be fewer than 50,000 and greater than 10,000. In both cases, these statistical areas incorporate whole counties and a county cannot belong to both a metro and a micro area; they are mutually exclusive.

Micropolitan and metropolitan areas are collectively referred to as Core Based Statistical Areas (CBSAs), and can even be clustered into larger geographic entities called Combined Statistical Areas (CSAs). There are 945 total CBSAs, but many of these micro/metropolitan areas share common borders and cluster with each other, resulting in 174 CSAs nationwide. A CSA must include multiple CBSAs, resulting in larger geographic areas that include multiple metropolitan and micropolitan statistical areas. Researchers in higher education may prefer to use CBSAs over counties because they account for local commuting patterns; CBSAs may also be preferable over CSAs because they offer a more localized measure of labor markets.

Commuting Zones and PUMAs

Not included in Fig. 11.3, but still relevant for measuring statistical areas, is the U.S. Department of Agriculture’s Commuting Zone (CZ) measure. By definition, CBSAs exclude rural counties and the CZ includes them in their definition as an alternative to micro/metropolitan areas. First created in 1980, the U.S. Department of Agriculture created CZs as a way to measure rural economic activity by using Census journey-to-work data to measure county-to-county flows of commuters

(Tolbert & Sizer, 1996). Similar to CBSAs, the rationale behind creating CZs is to account for commuting patterns across state and county lines in order to measure local economic activity. Unlike CBSAs, CZs are not defined by population size but by the extent to which counties cluster together according to their amount of shared economic activity. Higher education researchers have used CZs to measure local higher education and labor markets (Hillman, 2016; Kienzl, Alfonso, & Melguizo, 2007), and they are increasingly used in economic research on intergenerational mobility (Autor & Dorn, 2013; Chetty, Hendren, Kline, & Saez, 2014).

Similar to commuting zones, the Census Bureau provides Public Use Micro Area (PUMA) data that covers the entirety of the United States (U.S. Census Bureau, 2016d). However, PUMAs do not cross over state lines, they must contain at least 100,000 people, and they are delineated by census tract as well as county. These criteria make PUMAs distinct from both commuting zones and combined statistical areas because they can include tract-level data. This delineation allows researchers to construct alternative measures of local geography that map closely with metropolitan statistical areas. The U.S. Census Bureau administers its American Community Survey (ACS) to households within each PUMA, so researchers may be able to link PUMA-level ACS data with other georeferenced census tract or county level data.

Federal Data Sources

U.S. Department of Education

Perhaps the most commonly used federal higher education datasets include NCES' IPEDS data and the suite of nationally-representative student surveys including National Postsecondary Student Aid Study (NPSAS), Beginning Postsecondary Students (BPS), and Baccalaureate and Beyond (B&B). The primary difference between these data sources is the unit of analysis. IPEDS provides aggregate campus-level data on such factors as admissions, enrollment profile, finances, financial aid, and completions. IPEDS provides useful information on the performance of colleges and universities over time; for more information on which colleges report to IPEDS and how this data is used in other products (e.g., Delta Cost Project) see Jaquette and Parra (2014). Unlike IPEDS, the national surveys use students as the unit of analysis where cross-sections of undergraduate and graduate students are sampled every 4 years in the NPSAS survey. The BPS survey follows NPSAS freshmen for 6 years after their initial enrollment, whereas B&B follows NPSAS graduating seniors for 10 years after earning their baccalaureate degree. Other NCES student surveys include High School and Beyond (HSB) and its predecessor longitudinal surveys, National Educational Longitudinal Survey (NELS) and Education Longitudinal Survey (ELS). The Common Core of Data (CCD) provides school-level data on the enrollment and finances of public K-12 schools. Across each data source, it is possible to use georeferenced data such as ZIP codes, state or county

codes, and latitude/longitude to link students, their high school, or individual colleges together. Doing so can capture a more complete measure of local economic, social, and demographic environments.

U.S. Census Bureau

The Census Bureau provides a full list of all 50 states and 3142 counties according to their unique Federal Information Processing Standard (FIPS) codes. These codes are fundamental for conducting geospatial analysis and for merging georeferenced data at either the state or county level. States have two-digit FIPS codes and counties have three-digit codes, so the combination of state-county FIPS codes provides unique identifiers for each county in the country. For example, Indiana's state FIPS code is 18 and Elkhart County's county FIPS is 039, so the state-county FIPS for Elkhart County, Indiana, is 18,039. IPEDS provides these five-digit state-county FIPS codes that can then be merged with additional county-level data. However, only 1315 counties have degree-granting colleges receiving federal student aid, meaning IPEDS accounts for only about 40 % of the total number of counties in the U.S., so it is important to have the full universe of counties available for merging with other federal datasets so as to avoid sampling bias.

The Census Bureau also provides free and publically accessible base maps (called "shapefiles") that allow researchers to overlay georeferenced data onto customizable maps. These maps include counties, like Figs. 11.1 and 11.2, though they also include a number of other legal/administrative and statistical entities including: Congressional and state legislative districts, metro/micropolitan statistical areas, American Indian Areas, as well as ZIP codes and even Census tracts and blocks. Appendix A provides Stata commands and a brief narrative for using shapefiles to produce maps used in this chapter. Researchers using other statistical packages can also use these shapefiles and some are built into software programs so users may not need to download these files. In addition to providing identification codes and maps, the Census includes local population estimates, Small Area Income and Poverty Estimates (SAIPE), and county-level data on a range of topics that can be found in the American Fact Finder database.

Other Federal Data

The U.S. Department of Education and Census Bureau provide a wide array of georeferenced data, yet researchers may find the following sources useful for merging additional county-level data or latitude/longitude data with higher education data. The U.S. Department of Labor's Bureau of Labor Statistics (BLS), in collaboration with the Census Bureau, produces monthly and annual Local Area Unemployment Statistics (LAUS) that provide data on both the size of the county's civilian labor force and the number unemployed. The U.S. Department of Commerce's Bureau of Economic Analysis provides CBSA and county-level data on a range of economic

indicators including: gross domestic product, personal income, earnings and employment by industry, and total population.

To access annual county-level population estimates according to race/ethnicity, age, and gender, the Centers for Disease Control and Prevention's (CDC) National Center for Health Statistics provides "Bridge-Race Population Estimates" tables. The U.S. Department of Agriculture's (USDA) Economic Research Service office provides county-level data on a number of environmental measuring that could serve as instrumental variables or controls in statistical models, including: oil and gas production, farmland, The USDA also uses county FIPS codes to classify rural-urban commuting areas and commuting zones that can provide additional geographic context to the surrounding community of colleges or places prospective college students live. Rather than accessing each individual administrative agency to download county-level data, the Robert Wood Johnson Foundation and University of Wisconsin Population Health Institute produce the County Health Rankings publicly accessible database that includes a wide range of county-level social, economic, and public health indicators. These draw from both federal and private data sources that link to county-level data on such topics as income inequality, housing and transit, poverty rates, and public health.

Latitude and Longitude

Figure 11.3 focused on areal measures of geography, though georeferenced data also comes in latitude and longitude. Every point location on a map has a corresponding latitude and longitude, so knowing these two points allows researchers to locate particular observations and link them to legal/administrative and statistical entities. It also allows researchers to measure the linear or networked distance between two points. Linear, or geodesic, data is commonly applied in research, where the distance between one point (e.g., student's home address) is measured "as the crow flies" to another point (e.g., student's college). Networked distance would account for the roads and traffic flows between the two points, where distance is routed through a series of networks. Measuring networked distance opens up new ways of thinking about proximity that incorporate time and traffic patterns and can give a more nuanced view of the proximity between two points. Regardless of whether distance is measured linearly or via networks, latitude and longitude are useful georeferenced data points to facilitate the integration of geography even further into higher education research. If a researcher only has the latitude and longitude of a particular college, they can use Roth's crosswalk to link it to counties or ZIP codes (Roth, 2016a, 2016b). In Stata, the command "geodist" can also measure the linear and curved (because the earth is spherical) distance between points.

Summary

There are several data sources in higher education and across the federal government that can be merged together according to areal or point measures of geography. Knowing a college or student's zip code, county code, CBSA, or latitude and longitude enables researchers to link higher education databases to a wide array of other government and private data. By merging datasets on georeferenced data outlined in this section, it is possible to implement some of the analytical techniques described in the earlier part of the chapter. Researchers can use georeferenced data to produce data visualizations such as choropleth, dot, and heat maps to communicate research findings. Similarly, georeferenced data can be useful for conducting quasi-experimental research where the distance between points and areal locations can be used as either instruments, thresholds, or counterfactuals for improving causal estimation in the field of higher education. Distance measures can even be used in elasticity studies to assess how the friction of place might shape students' enrollment decisions. And of course, geostatistics require researchers to utilize georeferenced data sources that may only be available by merging datasets.

There are a number of software packages available for creating maps and conducting geospatial analysis. The most common is Arc/GIS, a platform that provides built-in data and analytical options specifically designed for geographic analysis. There are also free software programs publicly available such as R, Tableau Public, and QGIS that provide a robust range of options for geospatial analysis. These software packages, and R in particular, have the capability of not only producing maps and conducting geospatial analysis, they are also well-suited to creating interactive data tools.

Arc/GIS and R stand out as the leading software programs in terms of the range of geospatial functionality they provide. Researchers can build static and interactive maps, conduct geostatistical analysis, and manage georeferenced data systems in these software programs. Tableau Public and QGIS are more useful as data visualization than as tools to conduct data analysis tools, so researchers may find their functionality to be sufficient if the goal is to communicate findings through visual displays. Stata may be a middle ground between all of these, where it provides a robust set of geospatial commands via *spatreg*, *spmap*, and *spatwmat*; however, to date the software does not have a function for making maps interactive online like R or Arc/GIS does. These packages are useful tools but the list should not be treated as comprehensive in terms of this type of functionality. Arnold and Tilton (2015), Pisati (2004, 2008), Bivand, Pebesma, and Gómez-Rubio (2013), and De Smith, Goodchild, and Longley (2015) provide helpful introductions to some of these as well as other software programs. Regardless of which software program one uses, the information contained in this section should help researchers identify and conceptualize ways to integrate existing georeferenced data sources that hold promise in higher education research.

Extending the Use of Geography in Higher Education Research

Even during a period of great technological advances with distance learning and online delivery of education, “place” still matters. In fact, place may matter even more today for two reasons. First, early evidence suggests that enrolling exclusively online produces negative educational effects for students, yet face-to-face or blended learning hold more promise (Alpert et al., 2016; Bettinger et al., 2015; Bulman & Fairlie, 2016; Figlio et al., 2013). Even if high-quality education were available online, many rural and economically depressed communities do not have high speed internet or have limited access to computers, making it even more challenging to believe distance education is a solution to the geography problem (Pick, Sarkar, & Johnson, 2015; Strover, 2014). Second, as the cost of attending college continues to rise, students may find it more affordable to stay close to home as a cost-saving strategy. According to the Higher Education Research Institute’s (2015) annual survey of college freshmen, nearly 20 % of the 2015 incoming class said attending college close to home is “very important.” This figure is higher for students attending public colleges and universities and Historically Black College and Universities. While we do not know the extent to which students choose colleges close to home solely because of rising costs, it is telling that the share of incoming freshmen reporting living near home was “very important” has actually risen since the 1980s (Chronicle of Higher Education, 2016). For these reasons, Turley’s (2009, p. 126) advice that we “should stop treating the college-choice process as though it were independent of location and start situating this process within the geographic context in which it occurs.”

Geography is an enduring topic and one of growing interest among researchers and policymakers interested in affecting educational opportunity and outcomes. Outside of higher education, research on income inequality and social mobility demonstrates that geography has a strong effect on shaping children’s life chances (Chetty et al., 2014). Research in public health, nutrition, social services, transportation, and a number of other public services has long examined how the physical and geographic features of communities (i.e., the “built environment”) shapes behaviors and social interactions (Kennedy, 2004; Massey, 2005; Soja, 2010; Walker, Keane, & Burke, 2010). And within education, researchers have examined the role of neighborhoods, the location of schools, and how environmental contexts shape students’ educational trajectories (Burke, Greene, & McKenna, 2016; Miller, 2012; Tate, 2008). This chapter highlights several examples where higher education research applies geospatial techniques, and it hopefully opens avenues for new areas of research to build upon, extend, and critique the way in which higher education scholarship engages with place. Given the advances in data and software systems that make mapping and geospatial analysis more accessible, researchers may find this chapter to be a helpful introduction for conducting geospatial analysis.

Further Research

Geography can afford researchers a framework from which to conceptualize and analyze various phenomena within the field of higher education. This chapter presented a number of studies that utilize geospatial analysis, showing how geospatial analysis can be useful in visualizing data, improving internal validity of statistical models, conceptualizing the role that place plays in college opportunity, and considering colleges as part of a community's built environment. While there are a number of other ways researchers can engage with geography, below are three general areas that are of great promise for advancing theory, generating new knowledge, and informing public policy.

Geography of Opportunity

Traditional college choice theories focus on temporal stages, a sequence of events that must be achieved prior to advancing to the next sequence of events in the college-going process. Students must first develop predispositions toward college, where they develop aspirations, take courses that prepare them for college, talk with counselors about what is needed for entry into college, and several other milestones. Next, they will search for potential colleges that offer an academic or social environment where they perceive they will fit in; after narrowing the list of schools, students will gather information about these schools from a variety of sources. Finally, after advancing through these processes, students will apply, be admitted to, consider the costs and benefits of attending, and then register and enroll in a post-secondary institution. This is an oversimplification of the traditional college choice process that is commonly used today when discussing student's "match" and the process of transitioning from high school to college (Bowen, Chingos, & McPherson, 2009; Cabrera & La Nasa, 2000; Hossler & Gallagher, 1987).

While instructive, particularly for high school students seeking to attend four-year colleges full-time, if we focus solely on the *process of opportunity* then we will believe the reason students do not attend college is presumably due to informational barriers or failures to make the "right steps" along the way. For a student who needs to stay close to home for familial, cultural, or economic reasons, they may choose a college close to home regardless of whether they have achieved all the milestones outlined under the traditional choice-making process. Because of this reason, it is important to also consider the *geography of opportunity* that prioritizes the importance of place while describing the variations that occur across the country in terms of the accessibility of local colleges. Doing so can extend theories of college choice in new and useful ways.

The number, location, and selectivity of colleges across the country are very uneven where areas with low educational attainment levels and those with large Hispanic populations tend to have the fewest colleges nearby (Hillman, 2016). The example of Elkhart County stands out as an "education desert" where residents of

the county have few public options nearby; they must travel to their neighboring county or across state lines to attend a public institution. Although local community colleges offer some satellite campuses not reported in the federal IPEDS database, colleges are concentrated in St. Joseph County. The only public four-year institution in the metropolitan statistical area is Indiana University-South Bend, a moderately selective institution that admitted 73 % of applicants in the fall of 2014, suggesting it may not be broadly accessible to members of the metro area. More research on the ways local areas vary with respect to the structure of higher education marketplaces is a promising area for further research that can help build new theories of college choice that are more applicable to today's "post-traditional" college student. In so doing, researchers may also employ critical geography in ways that explain and offers solutions for why college opportunity structures differ so widely from place to place.

State Policy and Borders

State borders can provide researchers with sharp discontinuities for designing geographic regression discontinuities and even for determining counterfactuals in the difference-in-difference framework. In either case, further research should continue to examine areas located just on opposite sides of state or national borders to help make stronger inferences with respect to a number of important policy topics. For example, it could be possible to examine students living just on one side of the Michigan border to observably similar students on the Indiana side to see whether changes in tuition have differential effects on their enrollment decisions. These effects would likely differ in areas that have tuition reciprocity agreements where residents on either side of the state line can pay in-state rates. Similarly, if a college on one side of the state line was subject to a statewide policy such as performance based funding, perhaps colleges just on the other side of the line not subjected to the policy would serve as a useful counterfactual. These examples show how borders can be useful for examining state policy effects while contributing to the generation of new knowledge around student and organizational behavior.

Michiana also illustrates a cross-border area where the five counties shown in Fig. 11.1 cluster into a common statistical area that spans both Michigan and Indiana. There are many commuting zones and CBSAs that cut across state lines, as shown in Fig. 11.4. Further research could extend the research of Sponsler, Kienzl, and Wesaw (2010) that found state financial aid programs, credit transfer agreements, tuition policy, and student mobility were greatly affected in metropolitan areas that cut across state lines. Figure 11.4 shows counties (clustered by commuting zones) that cross over state lines. Approximately 48 million adults over the age of 25 live in these counties, and there are 429 public four-year and two-year colleges operating in these communities. These numbers are non-trivial as they account for approximately 25 % of the nation's adult population and the same share of the nation's public colleges and universities.

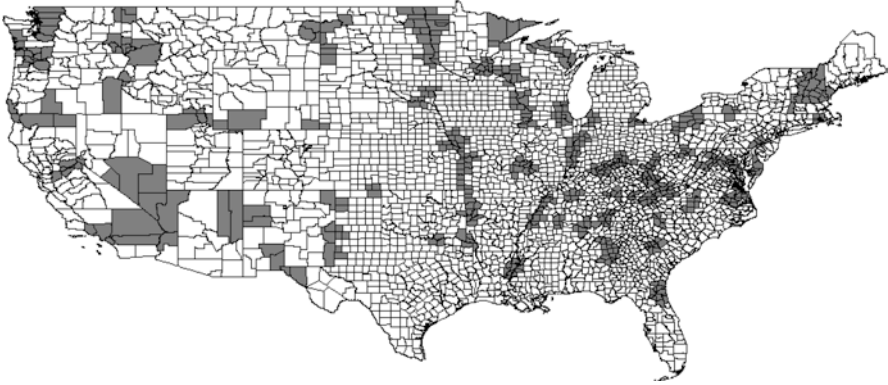


Fig. 11.4 Counties located in commuting zones that cross state borders

Local Higher Education Markets

Colleges and universities are located near each other and that proximity likely affects each institution's behavior. Neighboring colleges may be more inclined to have transfer articulation agreements, partnerships with similar local high schools or businesses, or even compete with each other over pricing and enrollments. Outside of a few examples [e.g., González Canché (2014); McMillen, Singell, & Waddell (2007); Rephann (2007)], these local market contexts are not commonly studied yet they hold promise for advancing new knowledge about the role geography can play in better understanding and improving these marketplaces. For example, among the 17 colleges operating in the Michiana market, what academic programs are available at the various institutions? How representative of the local demographic profile is each institution? Are they competing for the same pool of local high school graduates or adult students? There are many questions that could be answered by examining local higher education markets, and a geospatial lens can help advance understanding in that area.

In addition to understanding how colleges operate within local higher education marketplaces, further research could examine the extent to which students are mobile across various local areas. When examining student mobility, research often focuses on interstate movement and the predictors of attending college out-of-state (González Canché, 2014; Jaquette & Curs, 2015; Niu, 2014). Intrastate mobility is also an important research question for understanding student mobility and for policymakers interested in the extent to which students are attending their nearby institutions. It is plausible that college choice theory differs for intrastate versus interstate mobility, and there could even be important lessons to be learned about how the built environment (e.g., transportation, K-12 schools, etc.) and local socioeconomic indicators (e.g., poverty, tax base, etc.) explain variation in terms of where students attend college and what resources are available in their local public institutions. There are many avenues one could take to explore the local higher education marketplace and a geospatial lens will likely be a helpful way to frame further research in this area.

Conclusion

Geography affects many aspects of higher education, ranging from how students make choices to the site selection of new colleges. Place has been a longstanding topic of interest in higher education, yet is also a topic that has received less attention in the higher education research community than in other disciplines. This chapter presented several examples where geography and a geospatial lens has informed higher education research, and it hopefully offers points of departure for researchers to expand, extend, and critique how geography is currently used in the field. The vignette of Elkhart County and the surrounding area can be applied anywhere across the country, from Tribal lands to the Black Belt of Alabama, because the location of colleges matters for educational opportunity. Even in areas that have many colleges nearby, a student who needs to stay close to home may not have options due to the college's selectivity, program offerings, or affordability. Considering the number of students enrolled today who are working adults and the future of higher education that will be much more diverse, the need to understand the geography of opportunity is becoming even more pressing.

Geography can be destiny for students, where opportunities may be widely available in some communities and few (or nonexistent) in others. When this occurs, it only makes existing educational inequalities more difficult to reverse, so applying a geographic lens to higher education research can help us not only arrive at new understandings about how colleges and students respond to their local opportunity structures, but also to finding innovative ways to reverse inequalities. Designing more rigorous studies and advancing new theories that attend to the issues presented in this paper can help our scholarly community understand the causes and consequences of geographic inequality. But more importantly, applying a geospatial lens to higher education may help us find new solutions to longstanding problems that only now can become clear thanks to new ways of thinking, research strategies, and data sources available for conducting research in this area.

Appendix A

Stata commands to create maps found in this chapter.

```
// Download shape files to working directory from the following
// Census
// website https://www.census.gov/geo/maps-data/data/cbf/cbf_counties.html

// Install geospatial commands: ssc install spmap; ssc install shp2dta

// Set working directory
// cd "C:\Users\Maps"
```



```

// Convert shape file to Stata using shp2dta command
shp2dta using cb_2015_us_county_500k, data(US_data)
  coor(US_coordinates) genid(id)
use US_data.dta, clear
destring GEOID STATEFP, replace

// Merge additional county-level data
merge 1:1 GEOID using "C:\Users\Maps\ed_attain.dta"
drop _merge
replace hs_less = hs_less/100
format %5.0g hs_less

merge 1:1 GEOID using "C:\Users\Maps\county_center.dta"
drop _merge

// Creating "Michiana" dummy variable to shade state map
gen michiana = 0
replacemichiana=1 if inlist(GEOID,18039,18141,18099,26021,26027)
label define michiana_label 0 "Not Michiana" 1 "Michiana"
label values michiana michiana_label

// Base map of Michigan and Indiana with "Michiana" coded (Fig. 11.1)
spmap michiana if (STATEFP==18|STATEFP==26) using US_coordinates.dta,
  id(id) clnumber(2) legenda(off) fcolor(white gray)

// County map of Michiana with point location of colleges (Fig. 11.1)
spmap if michiana==1 using US_coordinates.dta, id(id)
  clnumber(3)
legstyle(2) point(data("IPEDS.dta")select(keep if inlist(GEOID,18039,18141,18099,26021,26027)) x(lon) y(lat) by(sector2)
  fcolor(white gray black) ocolor(black ..) size(*0.8) legenda(on)
  legcount) label(x(intptlong)y(intptlat) label(NAME)select(keep if inlist(GEOID,18039,18141,18099,26021,26027)))

// County map of Michigan with educational attainment (Fig. 11.2)
spmap hs_less if michiana==1 using US_coordinates.dta, id(id)
  clnumber(3) legstyle(2) label(x(intptlong)y(intptlat) label(NAME)
  select(keep if michiana==1)) legtitle("Pct H.S. diploma or less")

// County map of cross-border commuting zones (Fig. 11.4). Not
shown are steps
to identify cross-border commuting zones and the variable
"singlestate," which are available upon request.
spmap singlestate if (state~="AK" & state~="HI") using US_coordinates.dta, fcolor(white gray) id(id) clnumber(3) legenda(off)

```

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Chapter 12

Towards a New Understanding of Labor Market Alignment

Jennifer Lenahan Cleary, Monica Reid Kerrigan, and Michelle Van Noy

Introduction

Higher education's role in preparing students for the workforce is a mounting concern among policymakers and the public at large. The majority of Americans view a college education as essential to getting a good job (Gallup-Purdue Index, 2014), recognizing that the wage premium for a college degree has risen in recent decades (Autor, 2014; Baum, Ma, & Payea, 2013; Pew Research Center, 2014). At the same time, press reports have highlighted the struggles recent college graduates have had finding well-paid jobs that use their education (Arum & Roksa, 2014). These concerns about post-graduates' employment are particularly troubling given the rising price of college and high levels of student debt (Fry, 2014; Lee, 2013). In addition, employers report difficulties finding enough skilled workers among college graduates, reflecting potential, though debatable, skills shortages in certain fields (Beaudry, Green, & Sand, 2013; Holzer, 2013; Rich, 2010; Sherrill, 2013; Weaver & Osterman, 2013).

Given this context, recent federal policy developments demonstrate a commitment to ensuring the nation's postsecondary systems are connected to the needs of the labor market. Vice President Biden clearly articulated the importance of ensuring that education is jobs-driven to create a better match between graduates' training and the needs of employers (Biden, 2014). Likewise, the Workforce Innovation and Opportunities Act emphasizes the importance of engagement between education and employers ("Workforce Innovation Opportunity Act," 2014). These recent

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policy developments add to growing policy attention at the federal level and among states about how higher education prepares its graduates for employment (National Governors Association, 2013; US Department of Labor, 2014).

At the same time, conversations and research within the higher education community have focused increasingly on student success, as measured by student outcomes (Witham & Bensimon, 2012). Concerns about whether students complete a degree or credential and how quickly and efficiently they do so now dominate post-secondary research. This conversation, which is focused on the “completion agenda,” has not been connected to the concurrent discussions about labor market alignment (i.e., what happens after completion). Few discussions of how workforce development and/or career readiness relate to student success exist (see D’Amico, 2016; Myran & Ivery, 2013). This disconnect raises questions about what policy-makers and other stakeholders mean when they call for higher education to align with the labor market. In addition, questions about the function of higher education and its role in preparing students to join the workforce emerge.

In light of these questions and with research and policy on both issues accumulating in the absence of an understanding of how they connect, we provide a preliminary conceptualization of the role higher education plays in labor market alignment (LMA). We also offer a critique of the current discourse that suggests LMA is a straightforward and one-dimensional process with clear, agreed upon goals. Instead, we argue that the alignment of higher education with the labor market is best conceptualized as an organizational learning process that a range of actors engage in as a process of goal negotiation with the purpose of improving students’ post-graduation workforce success and achieving myriad goals congruent with the unique institutional missions and needs of various educational sectors and employers. Our focus on the specific role of higher education in alignment discussions and our broad approach are unique; others (Carnevale, 2010; Perna, 2013) have separately considered policy and practices to support alignment and may call for a balance between “postsecondary education’s growing economic role and its traditional cultural and political independence from economic forces” (Carnevale, Smith, & Strohl, 2010, p. 119) but none consider the diversity of American postsecondary education models or the active participation of all higher education institutions in the alignment process.

To make our argument, this chapter is organized into eight sections. The first section draws upon literature on the history of LMA in higher education, providing an overview of the role that LMA has played in higher education over time. Next, we discuss the key drivers of LMA, including the influence of neoliberal political thought, the economic pressures that change external demands on higher education, and concerns about the supply of skilled labor. In the third section, LMA is situated within a number of sometimes competing theories from the scholarly literature. The fourth section provides a new framework for understanding LMA that is based in organizational learning theory and, unlike prior work, accounts for the balancing of competing interests that is a key feature of LMA efforts. The fifth section explores current approaches to LMA in higher education in more depth, while the sixth section more uses organizational learning theory to discuss the myriad approaches to

LMA that currently exist and the importance of eschewing a one-size-fits-all approach. In the seventh section, we identify and explore unanswered questions about how to measure LMA and in the final section we provide readers with a summary and identify needed research on this new conceptualization of LMA.

History of LMA in Higher Education

Labor market alignment has a long history in higher education. Literature on workforce and economic development, career pathways, work-based learning, vocational education, labor markets, higher education institutions, student employment outcomes, student career choice and career development, and several others offer myriad examples that can be described under the umbrella of higher education LMA. In this section, we draw from some of these streams, though others are discussed throughout the chapter in other contexts, to provide a broad overview of how LMA has been addressed in the context of the American higher education system. We do not explore the various federal programs that are focused solely on job training and workforce development if they are not explicitly tied to public education.

Workforce development, or the educational preparation of workers for occupations, permeates the history of American colleges and universities (D'Amico, 2016). It became an earnest pursuit, however, beginning in the nineteenth century. While higher education in the United States has its roots in preparing the elite classes with the moral, intellectual, and civic learning required to become good citizens and civic leaders, the founding of institutions such as West Point (1802) and Rensselaer Polytechnic (1824), signaled the emergence of a more vocationally-oriented college. In 1862, Congress created the Morrill Act to create land grant universities in states to address the educational needs of state agricultural and industrial interests. However, these colleges, many of which became the state universities we know today, continued to operate with a largely liberal arts curriculum that had been shaped by the older versions of the university system, making them difficult to distinguish from other types of colleges. Around the same time, “multipurpose” colleges that trained women to be teachers and others to enter jobs in science, agriculture, and other industries began to emerge, setting the stage for colleges that focused on aligning their curriculum with the needs of a range of local employers (Grubb & Lazerson, 2012).

In the late nineteenth and early twentieth centuries, more higher education institutions began to establish direct links with particular occupations through optional professional education. Programs for doctors, lawyers and others surfaced, and over time employers began to see these degrees as requirements rather than optional learning (Kett, 1994). Whereas in the past, employers saw little value in relying on higher education to train workers (Grubb & Lazerson, 2012), this shift toward required professional education established a clearer place for universities in serving the workforce education needs of the labor market. The broad movement toward providing specific education for occupations is known in the research literature as

vocationalism (Kliebard, 1999; Lazerson & Grubb, 1974). Vocationalism also refers broadly to the idea that the purpose of education is to ensure students are prepared for work (Kliebard, 1999).

In the 1950's, policymakers began to push for increased focus on providing publicly-funded occupational training through community colleges as a means to promote economic development and attract businesses (Brint & Jerome, 1989; Dougherty, 1994). More recently, for-profit colleges, such as the University of Phoenix and DeVry, have developed to take advantage of employer-provided tuition reimbursement and other types of financial aid, while community colleges have developed robust noncredit and customized training programs to serve occupational needs in addition to an array of occupational majors offered for credit (Iloh & Tierney, 2013; Jacobs & Dougherty, 2006).

Although federal support for college programs designed to prepare students for employment existed in the early twentieth century (Cohen & Brawer, 2013), the Vocational Education Act, passed in 1963, and subsequent amendments and appropriations, resulted in broader aid to schools; this support developed vocational options in postsecondary education in ways previously unrecognized. One of the most notable examples of federal support for vocational education is the Carl D. Perkins Vocational Education and Technology Act, first authorized in 1984, the purpose of which was to improve the quality of vocational education in support of the economy. It has significant influence on alignment with higher education because of the substantial funding (over \$1 billion) and its stipulation that programs of study must connect academic and technical curricula across secondary and post-secondary education, thereby explicitly highlighting the role of colleges in preparing students for the labor market. The latest reauthorization in 2006 specified support for career pathways, which link educational coursework from as far back as elementary school through college to particular occupations or clusters of occupations.

Beginning with a report from the Secretary's Commission on Achieving Necessary Skills (1991), known as the SCANS report, numerous public reports have asserted that most, if not all, workers now need higher order thinking skills. These include problem solving and critical thinking skills, as well as technical skills and "soft skills" in communication and teamwork, to succeed in *most* jobs. Employers across the economic spectrum are seeking workers who have these new, foundational "Twenty-first Century skills." Reacting to such findings, policy reports such as *Measuring Up On College-Level Learning* (Ewell & Miller, 2005) and the 1998 report from the Boyer Commission on Educating Undergraduates in the Research University (Boyer, 1998), call for broad reforms in education that build students capacity to learn effectively through critical thinking and problem solving. Like the SCANS report, they urge higher education to integrate the teaching of "Twenty-first Century skills" into all curricula. Postsecondary institutions, they argue, need to find ways to ensure all graduates obtain the core skills needed to succeed in today's global, technologically advanced labor market. More recently, efforts such as the Hewlett Foundation's Deeper Learning initiative (Hewlett Foundation, 2014) and the Lumina Foundation's broad competency based Degree

Qualifications Profile initiative also emphasize broad rather than specific vocational education approaches in higher education (Adelman, Ewell, Gaston, & Schneider, 2011; Conley & Gaston, 2013).

Policies around the school-to-work transition sought to establish systems within education to prepare students for careers. In 1994, Congress passed the School-to-Work Opportunities Act (STWOA) to “clarify the connection between school and work and in response to the perception that Americans too often entered the workforce without the basic skills they needed” (Javian, 2004); it provided funding that supported the integration of job training for the workplace into the classroom. While much of STWOA focused on secondary schools, some STWOA approaches, such as programs offered through Tech Prep, included options for dual enrollment that created pathways from high schools to community colleges in occupationally focused areas. STWOA provided a notable emphasis on developing systems to support the transition to work. However, these systems have not been directly addressed at a broad scale since that time.

In the immediate aftermath of STWOA, policy focus shifted to a “College for All” approach (Rosenbaum & Jones, 2000). Rather than focus on helping secondary students explore careers and develop skills and experiences to transition to the workplace, policy focus has been on promoting college attendance. Since the 1990s, with wages falling and employment prospects narrowing for high school graduates (p. 359), coupled with a rise in the “college premium”, policymakers have paid increasing attention to encouraging more students to enroll in college; thus, fewer students directly transition from high school to work, so the current locus of understanding this transition must be on the college to career transition. As Carnevale (2010) noted, “school to work has been supplanted by school to college” (p. 6). Students increasingly seek to enroll in college immediately after high school, regardless of their academic preparation and often without an understanding of their career goals. Given this shift from school-to-work to school-to-college, the challenge of transitioning students from education to jobs has functionally been transferred from high school to colleges.

More recently, for many reasons further discussed below, the public is increasingly focused on the role of higher education in preparing students for jobs. A number of reports urge colleges and universities to focus on preparing students for specific jobs, or industries. In a report by the Council of Economic Advisers (2010), the authors point to growth projections in healthcare, construction, and manufacturing and call on postsecondary educational institutions, especially community colleges to be “responsive to the needs of the labor market” as a way to assist unemployed workers to reconnect to the economy and to spur economic recovery overall. Today, many policy stakeholders are promoting “Career Pathways” programs. A Report from The Alliance for Quality Career Pathways (CLASP, 2013) states that career pathways are “well-articulated sequences of quality education and training offerings and supportive services that enable educationally underprepared youth and adults to advance over time to successively higher levels of education and employment in a given industry sector or occupation” (p. 1). As Newman and Winston (2016) argue, America has an increasing need to consider strengthening its

infrastructure to prepare students for employment in middle skill jobs, rather than pushing all students to pursue four-year college degrees.

Yet, currently there remains a lack of consensus in higher education about the role of colleges and universities in preparing students for work. Vocationalism, while prevalent in higher education, is by no means universal. In 2011, nearly 50 % of all college presidents reported that providing the “skills, knowledge, and training” needed for work was the most important goal for colleges. Not surprisingly, though, presidents from two-year and for-profit colleges were more likely to emphasize workforce preparation over other missions. Over two-thirds of community college and for-profit college presidents stressed workforce preparation first, while only 30 % of four-year college presidents cited this as their primary mission over intellectual and personal development (Parker et al., 2011). Indeed, there appears to be “no collective voice from within [higher education] that would define what teaching seeks to achieve and how to evaluate and improve its effectiveness.” (Zemsky, 2012, p. 1) Furthermore, as Barghaus, Bradlow, McMaken, and Rikoon (2013) note, there is little consensus on what it means for our schools to “prepare and make students ready” to enter the workforce. Their “survey of extant literature suggests that there is no general agreement on (a) what it means for a student to be ready; (b) what skills are required for readiness, recognizing that the literature tends to separate skills into generic and specific (Bennett, Dunne, & Carre, 1999); (c) the best practices to get students ready; and (d) the outcomes that would indicate a successful workforce readiness program” (p. 37).

Despite a long history of grappling with the issue of workforce development, higher education continues to struggle with whether or how to implement it. Tensions continue within and among institutions regarding how to best achieve workforce preparation and how to balance these aims with the enduring tradition of providing a liberal education for intellectual and personal growth and general civic preparation. On the other hand, the persistence of attempts in higher education to better serve students as they transition from college to work through some type of LMA effort demonstrates the continued value that higher education leaders, policy-makers, and the public place on the importance of helping students succeed in multiple areas of their lives after college, including work. As we explore later in this chapter, the varied and shifting LMA approaches that emerge from this desire to help students is a result of complex negotiations between competing stakeholders.

Key Drivers of LMA in Higher Education

A wide range of social problems give rise to policymakers’ calls for LMA, including unemployment and underemployment of college graduates, rising student debt, and perceptions of lagging business and national competitiveness. One’s fundamental understanding of the drivers of these problems, however, can shed light on how a variety of perspectives and policies on LMA have developed. There are several key trends and social and political movements that have influenced the evolution of

labor market alignment and the political dialogue on the role higher education should play in the labor market. We explore three of these trends: neoliberalism, economic pressures driving change in higher education, and concerns about the supply and demand for skilled labor in the job market.

The Influence of Neoliberalism

The re-emergence of nineteenth century neoliberalist political philosophies in the 1980s and 1990s reinforced the development of LMA policies and approaches. A neoliberal perspective on education suggests that a free market approach to education provides fair and equitable competition with little interference from the federal government (Apple, 2001); colleges and universities are subject to and improved by the invisible hand of the market. Government's limited involvement is only in creating the structures and policies to allow a market to function; in this way, government supports business and national economic interests (Ayers, 2005). Education becomes an extension of the government because policies act through education rather than directly from government intervention; in his analysis of community college mission, Ayers (2005) suggests that "government becomes responsible for unemployment only through its involvement in education [and education becomes an] arm of economic policy and other responsibilities traditionally associated with postsecondary education such as intellectual and social development become secondary" (p. 537). The market is viewed as a context for rational choices with a dependence on evidence through performance indicators and increasing standardization (Apple, 2001).

While higher education has long been connected to preparing people for work in some form, human capital theory provided a strong economic justification for neoliberal LMA policies. Human capital theory, which we will discuss in more detail later in this paper, views education as designed to convey skills and abilities needed by workers in society and holds that those workers with higher levels of educational attainment typically have greater skills and abilities and thus deserve—and obtain—higher economic rewards (Becker, 1993; Mincer, 1958; Schultz, 1961). Through this perspective, when people obtain more education, they gain more skills and therefore receive higher wages. At the same time, those new skills have spillover benefits to employers and the wider community. Through this lens, higher education can be seen as an economic panacea of sorts, providing the foundation for neoliberal LMA policies.

Although human capital theory provides evidence of economic returns to education, it does not, in and of itself, justify the prioritization of economic goals in higher education over other types of goals, such as social equity, and intellectual and civic development. Neoliberalism, however, places a clear priority on promoting economic goals over other goals. In doing so, it provides a strong base from which policymakers and others can support LMA policies, which are intended to improve economic outcomes for participants in the economy.

Critics of neoliberal policies in higher education, however, point out the trade-offs society faces when a human capital perspective becomes the dominant force in higher education. Human capital theory suggests that education is valued because of its return on investment—its development of human capital—and not for its social role in an egalitarian society (Ayers, 2005). Thus, neoliberalism's embrace of the human capital perspective alters the meaning of education "so that it serves the interests of those in the upper social strata" (Ayers, 2005, p. 528). The critics of the neoliberal perspective argue that economic policies that promote a market perspective, in which entrepreneurs are valued, reinforce existing hierarchical social structures that the upper class is able to navigate. As such, education no longer fills goals of general citizenship or social mobility (Labaree, 2003). As higher education moves towards vocationalization, critics argue, civic education and other important goals of education are lost.

Understanding these sharply conflicting perspectives on higher education's role vis a vis the economy, it is easy to understand why LMA can be a controversial subject in higher education. The positioning of the neoliberal and critical arguments conjures fundamental questions about whether higher education can balance civic and equity missions while also addressing the economic demands of students and businesses. As we shall explore in more depth later in this chapter, we believe that there are ways to find balance in these sometimes conflicting missions, allowing colleges to assist students to succeed in many ways, including economically, after graduation.

Economic Pressures on Higher Education

As a reflection of these neoliberal trends, today, a number of evolving indicators suggest that social expectations about a college education are shifting. Students, parents, and other private and public funders of higher education increasingly expect that a college degree will lead to a well-paying job (Mourshed, Farrell, & Barton, 2012; Pew Research Center, 2014). At the same time, many employers have reduced the amount of training for entry-level workers while raising expectations that students will develop more work readiness skills while in school (Bishop, 1994; Cappelli, 1999, 2011, 2012; Reich, 1992; Ruby, 2013; Tejada, 2000). Marshall and Tucker (1992) note that most criticisms of education in the U.S. focus on low academic attainment and the resulting effects on economic competitiveness, which is a growing concern for employers and policymakers in our global economy. These changes have resulted in a rising tide of discourse calling for LMA, which is pushing colleges and universities to adapt in order to accommodate the economic needs of students, employers, and communities.

At the same time, students, parents, and other private and public funders of higher education increasingly expect that a college degree will lead to a well-paying job (Mourshed et al., 2012; Pew Research Center, 2014). The premium to college wages has grown in recent years (Baum et al., 2013; Pew Research Center, 2014).

This finding adds to well established evidence of the economic benefits of higher education. College graduates on average have higher lifetime earnings (Angrist & Chen, 2011; Carnevale, Rose, & Cheah, 2011; Oreopoulos & Petronijevic, 2013) and lower unemployment rates compared to those with no college degree (Abel, Deitz, & Su, 2014; Stone, Van Horn, & Zukin, 2012). However, some research suggests that despite the strong returns to a college education, the employment prospects of college graduates are somewhat diminished as students face difficult transitions to the workforce (Abel et al., 2014; Stone et al., 2012).

The rising cost of higher education further intensifies the desire to demonstrate strong connections between a college education and a well-paying career. Cutbacks in public funding for higher education and rising tuition have intensified concerns about post-graduation earnings because of higher levels of student debt (Fry, 2014; Lee, 2013). With federal government estimates of student loan debt surpassing one trillion dollars, policy makers and consumers are particularly interested in making sure that a college education remains a good investment leading students to good careers (Chopra, 2013). Even though a college education remains a good investment, despite rising costs, these concerns intensify the pressure on higher education to clearly articulate how college prepares students for the workforce.

Concerns About Labor Supply

The nature of job demand plays an important role in shaping policies and perspectives on LMA. There are competing ideas in the scholarly literature regarding whether there are shortages of skilled workers for some highly skilled jobs, or whether there is, instead, an oversupply of skilled workers relative to employer demand. Further, there are disagreements about what is causing these respective labor supply and demand shortages, which in turn frame stakeholder approaches to LMA. Concerns regarding labor shortages have two main, inter-related branches. First, there is the concern that there will be a shortage of workers for all types of jobs brought about by demographic shifts in the labor market. Second is the concern that there will be a shortage of skilled workers in some types of jobs, generally thought to be caused by inadequacies in the U.S. education pipeline.

One related assumption is that there will be a general tightening in the job market due to broad demographic shifts. As the large population of Baby Boomer workers retires and the labor market experiences slower than usual growth, this theory posits, there will not be enough people in the labor force to fill replacement jobs and drive continued economic growth (Judy & D'Amico, 1997; Lerman & Schmidt, 1999). This view has been widely disseminated in industry and policy circles. According to Richard Freeman's (2006) review of the labor shortage claims, a number of largely non-academic groups and media outlets interpreted labor force projections data from the U.S. Department of Labor to draw these conclusions and to disseminate the ideas widely, including the National Association of Manufacturers, The U.S. Chamber of Commerce, industry trade magazines, Fortune and Time

magazine, and the Aspen Institute. Even following the Great Recession of 2008, some groups continue to warn of an impending general labor shortage. The Conference Board (2015) warns businesses that despite the recent slack in the job market driven by the recession, the underlying demographic trends of looming retirements and slow labor force growth continue to threaten business competitiveness, especially in some states where these demographic changes are expected to be more severe and less mitigated by immigration. Bloomberg reported that businesses should brace for the fact that the, “global pool of young workers ages 15–24 is contracting by about 4 million per year” (Miller & Chandra, 2015).

Despite the fact that these labor shortage theories predict a general shortage of U.S. workers to fill all jobs, many claims about labor shortages focus on difficulties employers report in attracting U.S. workers into jobs in the sciences and engineering (Freeman, 2006) or other industries that require high levels of education or skills (e.g. Eisen, 2003). In this case, the shortages are often attributed to various shortcomings in the U.S. education system (Institute of Medicine, et al., 2007; Government-University-Industry Research Roundtable of the National Academy of Sciences, 2003).

While labor shortage theories are popular in the media and business and policy circles, a growing number of academics are taking issue with them. Richard Freeman (2006) of the National Bureau of Economic Research argues that a general labor shortage is unlikely because (1) the logic underlying labor shortage theories wrongly assumes unflagging levels of GDP growth and does not adequately account for global labor markets; (2) future projections of employer skill demands are currently unreliable; and (3) demographics have not significantly affected the labor market in the past. Salzman & Lowell (2007) also found no evidence of a skilled worker shortage in a range of STEM industries. They noted that rising wages, a traditional economic indicator of labor shortages, have not been seen to a significant degree in STEM occupations. Similarly, Osterman & Weaver (2014) found that firm policies and other mediating factors, not a shortage of skilled labor, led to some employers having hiring difficulties.

Theoretical Perspectives on LMA

As the field of higher education grapples with the meaning of LMA, several existing areas of scholarship provide insights that aid in that understanding. The concept is not a simple one and because of this complexity, we introduce three broad lenses that help illuminate the competing perspectives and goals that simultaneously exist in LMA. These perspective include: human capital theory on the role of education in the economy; signaling, screening, and conflict perspectives on the role of education in the economy; and institutional perspectives on the school-to-work transition.

Human Capital Theory

Human capital theory lays the groundwork for the study of the relationship between higher education and the labor market. It was first introduced in the field of economics in the late 1950s and early 1960s to explain the relationship between education and wages (Becker, 1993; Mincer, 1958; Schultz, 1961). Human capital was originally defined by Becker (1993) as “activities that influence future monetary and psychic income by increasing the resources in people” or investments that “improve skills, knowledge, or health” (Becker, 1993, p. 11). Engel (2000) subsequently offered the following definition: “the stock of knowledge and skills possessed by the labor force that increases its productivity” (Engel, 2000, p. 24). The theory presumes that employers and other aspects of the community also benefit economically from higher education as skilled workers produce more value for employers and society at large.

Much of the study of human capital has focused on education, particularly formal education, largely because of the availability of data on the attainment of educational credentials and earnings. Becker (1993) states that there is a lot of circumstantial evidence for human capital, but “probably the most impressive piece of evidence is that more highly educated and skilled persons almost always tend to earn more than others” (p. 12). According to Schultz (1961), “the investment period of education can be measured by years of schooling, but the periods of on-the-job training, of the search for information, and of other investments are not readily available” (p. 66). In measuring human capital, he discusses the importance of distinguishing “human investments” from “consumption”. Because it is hard to distinguish from consumption when looking at expenditures, he argues for examining economic returns: “While any capacity produced by human investment becomes a part of the human agent and hence cannot be sold; it is nevertheless ‘in touch with the market place’ by affecting the wages and salaries the human agent can earn. The resulting increase in earnings is the yield on the investment.” (p. 8). Thus, the key evidence used to support human capital theory is increasing earnings for increasing amounts of formal education. These earnings, in turn, provide policymakers with the justification for pushing LMA policies as a way to promote economic development that benefits individuals, businesses, and communities.

Human capital theory distinguishes between two main types of education, general and employer-specific or on-the-job training. To distinguish between general formal education and on-the-job training, Becker (1993) defines school as “an institution specializing in the production of training, as distinct from a firm that offers training in conjunction with the production of goods” (p. 51). However, he acknowledges that there may be overlap in their functions: “Schools and firms are often substitute sources of particular skills” (p. 51). General training is viewed as the worker’s responsibility because it yields human capital that could be taken to other firms. In contrast, employer specific training is viewed as the responsibility of the employer because it increases productivity in the employer only and is not transferable.

According to Becker (1993), education and training are “the most important investments in human capital” (p. 17). He argues that the expansion of high school and college education is because of the additional knowledge and information required in technologically advanced economies. He cites Denison’s (1985) analysis that indicates one-quarter of US economic growth from 1929 to 1982 is due to increases in schooling of the average worker. Taking this into account, it is not difficult to see how policy stakeholders could use the basic ideas of human capital theory to justify investments in higher education LMA as a solution to shortages of both skilled labor and labor demand. Human capital theory, after all, suggests that supporting more individuals to complete higher education, a form of LMA, can both raise wages for workers and stimulate economic growth by providing the economy with a better skilled workforce, which has more production power. Fundamentally, human capital theory promotes the connection between higher education and the labor market that underpins many understandings of LMA.

Screening, Signaling & Conflict Perspectives

Screening and signaling theories provide a different perspective on the value of education in the hiring process than human capital theory. Both theories challenge the fundamental basis of human capital theory that educational credentials represent technical skills related to work. Rather, signaling and screening theories posit that instead of representing these skills, educational credentials represent other characteristics that employers value, such as motivation or the ability to learn (Arrow, 1973; Spence, 1973; Stiglitz, 1975). According to signaling theory, because individuals who seek further education have more of these qualities, employers value educational credentials in the hiring process (Spence 1973). Likewise, screening theory argues that educational credentials indicate workers have the qualities that make them valuable workers, as evidenced by the double screening process of selective admissions into college and then graduation from college (Arrow, 1973; Stiglitz, 1975).

Both screening and signaling theories, as well as human capital theory, promote LMA policies, at least at a broad level, such as policies that encourage more students to complete higher education. While the respective theories differ in the underlying meaning of credentials, i.e. technical skills versus personality disposition, they share the idea that education represents valuable skills or abilities in potential workers related to production at work. These perspectives share the assumption that wage returns to workers with college degrees are a result of employers paying more for their higher productivity. The main shortcoming of these perspectives is that they focus on individual workers and their characteristics and do not examine employers’ perspectives to document their reasons for using educational credentials when hiring workers. They do, however, reinforce the idea that employers pay a premium for higher education, which suggests that employers, as well as workers, benefit. It is not difficult to see how policy and education

stakeholders could use any one of these theories to embrace LMA as a means to increase economic prosperity for workers *and* businesses.

However, screening and signaling theories do present some challenges to the concept of LMA. Since they indicate that the qualities of the individual, not the education itself, may be driving the value of credentials, these theories bring into question the long-term effectiveness of policies that increase higher education credential attainment. If the education is simply functioning as a “seal of approval” of inherent qualities, then sending more people to college via policies such as “College for All”, may negate the screening and signaling effects over time.

In addition to screening and signaling theories, conflict perspectives also provide a contrast to the human capital perspective. These perspectives generally argue that rather than develop skills and abilities relevant for work in a meritocratic system, the role of education is to perpetuate social inequality and preserve limited resources for the more powerful in society (Bills, 2004; Collins, 1979). Several sociological theories, including control, cultural capital, and credentialist are forms of the conflict perspective, united by their common examination of the role of education in maintaining power relations in society. They vary in the extent to which they also argue that education generates qualities in individuals related to work.

Bowles and Gintis (1976, 2002) argue that educational practices within schools act as a means of control by socializing students, based on their social class, for their future roles as workers in capitalist society. In this view, education teaches lower class students to be compliant and controllable, not to question authority, and to follow instructions; in contrast, it teaches upper class students to develop independent thoughts, cultivate expressiveness, and be independent and self-directed. Rather than provide technical skills, this perspective views education as providing social dispositions and attitudes for class-based roles in the workplace. Similarly, Bourdieu argues that education is a means of conveying knowledge and dispositions in a class-based system where the education system reflects the knowledge and dispositions of the elite (Bourdieu, 1998). The cultural knowledge or “capital” embodied in the educational system is a valued currency in the competition for status and resources. Education is associated with the development of class-based cultural attitudes and dispositions and selection into institutions based on one’s status. The ultimate result of education is the certification of these cultural attitudes and dispositions through degrees.

The credentialist perspective provides another similar argument that elite groups use educational credentials to maintain status and advantage by requiring credentials for entry into occupations to prevent other groups from entering and competing for jobs (Brown, 1995; Collins, 1979). Collins takes a historical view on the expansion of education credentials, for example, arguing that the primary force behind credential expansion in the US was conflict among ethnic groups (Collins, 1979). It questions the role of educational credentials in the hiring process and critiques them as being poor markers of skill. Rather, it argues that education teaches middle class culture in terms of physical appearance and communication style and conveys cultural attitudes and dispositions needed for elite occupational positions (Brown, 1995, 2001; Collins, 1979).

Institutional Perspectives on the School-to-Work Transition

Education is a social experience that occurs within the context of social structures in institutions. Literature focused on understanding these structures and institutions provides another perspective on higher education and LMA. The transition from school to work is one of many life course transitions where individuals interact with institutions to transverse social roles—in this case to move from being a student to a worker. This transition is not a linear progression of events, since people often have interruptions in their education or attend school part-time while working or find they need to return to school later in their lives for retraining and career changes. By examining the institutional structures in place within institutions, this research seeks to uncover how aspects of LMA occur within the context of organizations, how these are affected by their context, and how these affect individuals (Rosenbaum & Binder, 1997).

An important aspect of this viewpoint is the recognition of institutions and systems as the mechanisms for moving people from the role of student to the role of worker. These systems are based in the national culture and its views of social mobility, linked to larger stratification structures and beliefs. Compared with other countries (e.g., Germany's apprenticeship, dual model, and Japan's model where teachers provide essential links to jobs), the United States lacks a coherent system to move students from school to work. The US system is very open; linkages are not tight in most cases—credentials are general, there are multiple points of entry, and academic performance is often unexamined in the workplace. Community colleges have been noted for their greater focus on preparation for work and tighter connections with the workforce (Grubb, 1996). In a discussion of school-to-work, Rosenbaum notes that the problem of transition is “hard to conceptualize because it involves many complexities” (p. 264); the same is true of labor market alignment with higher education.

The most significant work that directly addresses the institutional mechanisms of LMA in the context of higher education has focused on community colleges. Deil-Amen & Rosenbaum (2004) examine the role of schools—specifically community colleges—in the transition to work. They discuss how the school facilitates the linkage between students and employment- and how their particular institutional practices serve to support this transition. They examine the different practices across schools in how they prepare students for the workforce. Rosenbaum and colleagues conducted research comparing students in sub-baccalaureate programs at community colleges and private “career colleges” (Deil-Amen & Rosenbaum, 2003; Person & Rosenbaum, 2006). Based on their findings, they conclude that community colleges are organized in a way that requires students to possess the social know-how to navigate the college environment. In contrast, they find that private career colleges have institutional structures that reduce the need for social know-how among students. They identify seven strategies that private career colleges use to structure their institutions so as to facilitate student success. These strategies include eliminating bureaucratic hurdles, reducing confusing choices, providing college-initiated

guidance and minimizing the risk of student error, investing in counselors and eliminating poor advice, quickly detecting costly mistakes, and reducing conflicts with outside demands (Deil-Amen & Rosenbaum, 2003).

The U.S. Department of Education's Community College Labor Market Responsiveness Initiative produced several key reports examining the characteristics of responsive community colleges, the key steps to creating a responsive institution, and some key labor market outcomes related to responsiveness (Harmon & MacAllum, 2003a; Jacobson, Yudd, Feldman, & Petta, 2005; MacAllum, Yoder, & Poliakoff, 2004). The characteristics identified include: a comprehensive strategy for responsiveness across all programs at the college; recognition of the importance of aligning with local labor markets and their rapidly changing nature; attempts to meet the needs of a range of constituents; and development of processes that anticipate labor market needs and implement programs quickly (MacAllum et al., 2004). This initiative proposed the following definition for labor market responsiveness in community colleges: "A labor-market-responsive community college delivers programs and services that align with and seek to anticipate the changing dynamics of the labor market it serves. These programs and services address the educational and workforce development needs of both employers and students as part of the college's overall contribution to the social and economic vitality of its community" (MacAllum et al., 2004).

More recently, Adams, Edmonson, and Slate (2013) developed a "Model of Market Responsive Institutions" that further explores characteristics of labor market-aligned community colleges and the internal and external influences affecting how colleges approach alignment. They describe the internal environment of responsive colleges as "creative, responsive, and anticipatory" (p. 531) with structures that allow for changes based on continual changes in their external environment of the labor market. In this framework, the responsiveness is reflected across all functions of the college and actively promoted by college leadership. Importantly, the framework highlights the importance of having a culture that values data and on-going feedback.

Toward a New Vision for Understanding LMA

In this chapter, we propose a way to view LMA that differs sharply from the current policy perspective. Whereas LMA appears in the policy literature as a straightforward, functional process of connecting education and work structures, we propose that LMA is better viewed as a complex and evolving social process that results from the convergence of multiple stakeholders who have conflicting goals. The key difference in these views is that the former leads to the notion that there are commonly accepted goals for LMA and that there is likely one or more "correct" ways of addressing and measuring those goals, whereas the latter view introduces the idea that LMA is a socially constructed set of goals, activities, and outcomes that is dynamic, fluid, and not subject to precise, universal measurements.

The Functionalist Policy Perspective: LMA as Simple Engineering

The current policy literature positions LMA as a simple, linear process that is not particularly complex in its implementation (Cappelli, 2014; Perna, 2013). There is a tendency in policy circles to propose LMA from a fundamentally functionalist perspective. LMA is presented as a simple, one-size-fits-all “engineering solution” (Cappelli, 2014). A number of policy reports, for example, propose that institutions of higher education simply change their majors and enrollment limits to align the type and number of credentialed graduates with the type and number of available jobs (Carnevale, Smith, & Melton, 2011; Carnevale, Smith, & Strohl, 2013; Sparks & Waits, 2011).

This notion of LMA as engineering suggests that if we can only find the right approach, then higher education and the labor market will neatly align, like fitting pipes together. In fact, much of the policy literature also describes LMA in terms of efforts educational institutions should undertake to build “pipelines” of skilled workers, and “career ladders” or “career pathways” for workers to access jobs (Ferguson, 2013; Richburg-Hayes, Armijo, & Merrill, 2013), which further reinforces the view of LMA as a feat of engineering. While the latter term begins to introduce some complexity, overall these analogies imply that LMA is a straightforward task of building structures that connect education and work. In fact, career pathways are defined as “a clear sequence, or pathway, of education coursework and/or training credentials aligned with employer-validated work readiness standards and competencies” (Kozumpli, Nyborg, Garcia, Cantu, & Larsen, 2011).

According to Ruby (2013), this engineering-based approach to building competencies that align with the skill needs of occupations is likely rooted in the practice of “Task Analysis”. This practice emerged from the social efficiency movement of the late 1800s, which was led by Winslow Taylor’s doctrine of scientific management. Ruby suggests that the simplicity of this approach is appealing to policymakers who can then “concern themselves solely with outcomes, leaving aside debates about “process,” how learning should be organized, and the level of “inputs” necessary for learning to occur” (p. 25). From this perspective, pipelines provide easily measurable unfettered access and movement along an educational pathway that joins education and the labor market.

A New Vision for LMA

As discussed above, the dominant view in the policy literature is a functionalist perspective that defines LMA as an inherently simple act of engineering that should result in uniform results with uniform measurements. Empirically, however, LMA is far from simple in its conceptualization and implementation, resulting in a complex array of LMA goals, outcomes and approaches. This complexity results from

the inherent tension between the goals held by the multiple stakeholders that engage in LMA efforts. We propose that specific labor market alignment goals and approaches result from a dynamic process of balancing complex stakeholder needs, economic conditions, and other factors. Further, as we will explore in more depth later in this chapter, the data on labor market supply and demand that the functionalist approaches rely on to match higher education outputs with demand from the labor market are not reliable enough to build the types of “pipelines” and “ladders” policy stakeholders envision.

By reframing LMA as an evolving social process instead of an act of engineering, we can build more room for the acceptance of a wide range of goals, approaches, and measurements of LMA in the public discourse. Rather than seeking uniformity, we can learn to embrace and foster diversity in LMA approaches. This approach holds the promise of better allowing colleges and universities that have a liberal arts or social equity mission to build LMA approaches that balance multiple institutional goals and accommodate the needs of outside stakeholders.

Two Broad Goals of LMA Efforts

At the broadest level, all LMA efforts touch on at least one of two intertwined, but conceptually distinct, goals: “job vacancy” and “skills alignment”. Stakeholders interested in higher education LMA tend to focus on one or both of these two broad goals. Our definition also distills these two broad goals for LMA from the literature—job vacancy alignment and skills alignment. The first goal, which we call *job vacancy alignment*, involves matching the number of graduates from particular programs with the quantitative demand for workers with these credentials. Job vacancy alignment involves “getting the numbers right.” It seeks to answer the question: do the number of graduates match with the number of job openings? For example, several reports suggest that higher education should align with the labor market by increasing the number of college graduates, in general, or in specific areas such as science, (Carnevale et al., 2011, 2010; Githens, Sauer, Crawford, Cumberland, & Wilson, 2014; Herschel & Jones, 2005) technology, engineering, and math (STEM), to meet future national demand for workers (Carnevale et al., 2010; Carnevale, Strohl, & Melton, 2011; Cooper, Adam, & O’Leary, 2012; Wilson, 2014).

The second goal, which we call *skills alignment*, involves aligning the skills, competencies, and credentials offered in higher education with those most in demand in the labor market. Skills alignment is a measure of the extent to which the skills and credentials gained in a program match the needs and preferences of employers. It seeks to answer the question: do the skills graduates possess match with the skills sought for related jobs? A number of reports and initiatives define LMA in these terms, urging colleges to ensure that graduates possess the basic workplace skills and /or the technical competencies employers require, either instead of, or in addition to, ensuring that the right numbers of graduates are available (“Aspen Guide for Using Labor Market Data to Improve Student Success,” 2014;

Associates, 2013; Boyer, 1998; Cleary & Fichtner, 2007; Colby, Sullivan, Sheppard, & Macatangay, 2008; Council, 2014; G. Splitt, 2003; The Secretary's Commission on Achieving Necessary Skills, 1991). Like job vacancy alignment, skills alignment is complex; the skills employers seek may reflect essential requirements for the job while others may reflect preferences that can shift depending on labor market conditions or the preferences of particular employers (Cappelli, 2014).

As the literature reveals, while some stakeholders focus more on building solutions that help students, jobseekers, or workers and others focus more on issues of business growth or national competitiveness, many stakeholders claim that improved alignment of higher education with employer needs will address one or both of these goals at once.

A Dynamic Balance of Multiple Stakeholders' Needs

Achieving the goals of “job vacancy” and “skills” alignment is not a straightforward task given the complex reality of modern higher education. This reality involves balancing the needs of multiple internal and external constituencies, as well as working to accomplish several missions, all within the context of an ever-changing external environment (Adams et al., 2013; Harmon & MacAllum, 2003b; Keith MacAllum, Karla Yoder, & Poliakoff, 2004). The “correct numbers” and “necessary skills” may mean something different for policymakers, students, and employers. For example, employers may have an interest in producing an over-supply of students with particular credentials required for entry-level employment, while students and policymakers may have an interest in closely matching production to demand and including broader skills to allow for career advancement. Defining goals and activities related to alignment involves taking into account the needs of numerous stakeholders, including students, employers, institutions, and others, while dynamically responding to changing labor market conditions.

Students approach higher education with several distinct needs relative to the labor market. Most students, for example, seek to earn a good wage upon completion of their educational program (Botelho & Pinto, 2004; Godofsky, Zudin, & Van Horn, 2011; LaVelle et al., 2015; Pryor et al., 2012). On the other hand, many students also seek to find majors and careers that match their interests and abilities, which, in turn, may or may not align with labor market needs ((Malgwi, Howe, & Burnaby, 2005; Pritchard, Potter, & Saccucci, 2004). However, different types of students also have distinct needs based on their relationship to the labor market. Adult students are more likely than younger students to be interested in education that is more work-relevant (Kasworm, 1990; Knowles, Holton, & Swanson, 2012). Students' needs vary depending on whether they are entering the labor market for the first time, changing their career, seeking to advance within their existing career, and/or combining work and learning. Thus, they vary in the extent to which they seek immediate preparation for the workforce and are prepared to make and follow through on a career decision.

Employers also have distinct needs that reflect their preferences. From a job vacancy perspective, employers may seek to have skilled graduates to fill their open positions. With regard to skills alignment, employers increasingly seek to hire graduates who are ready to work immediately. The concern about preparation for immediate work may entail a narrower education pathway that limits flexibility for students and conflicts with the goal of providing a broad-based education (Cappelli, 2014; Jacobs & Grubb, 2003). Further complicating the issue, not all employers share the same needs, which depend on a variety of factors, including size, sector, and industry, as well as whether the labor market is tight or slack (Cappelli, 2014).

Higher education institutions must balance LMA efforts with other missions and priorities at the system, institutional, and program levels. A key goal of higher education has traditionally been general and civic education, and mission statements vary significantly across institutions. While there is some emerging support for an approach that blends broad-based education with more specific technical skills education, many higher education stakeholders, especially those in the liberal arts, may still view too much specific technical skills education as having the potential to marginalize other goals, including general and civic education (Gallup, 2014; Myers, 2012). In addition, higher education institutions are also concerned about their own financial survival, as they have increasingly been under pressure to generate tuition income as public funding decreases (Desrochers & Hurlburt, 2014).

Other external stakeholders have interest in supporting various LMA goals of these primary stakeholders, though they have a less direct interest in it. National, state, and local policymakers, accreditation bodies, and public and private funders often seek to promote particular approaches to LMA that align more closely with the needs of one or more of the primary stakeholders noted above. They may also promote LMA for political reasons such as demonstrating their responsiveness to business (Dougherty & Bakia, 2000). Recent performance funding initiatives in some states tie student employment to institutional funding in an effort to promote alignment (e.g., Dougherty & Reddy, 2011; Dougherty & Reddy, 2013; Kelderman, 2013). Parents, alumni, and donors may also have an interest in promoting particular LMA approaches.

Aggregate labor markets and other dynamic factors provide an important basis for understanding LMA. The characteristics of the global and national economies, as well as regional, state, and local labor market dynamics provide factors for consideration with regard to LMA (Adams et al., 2013; Bosworth, Rogers, Broun, & Zeidenburg, 1997; Harmon & MacAllum, 2003b; MacAllum et al., 2004). Colleges pursuing LMA must consider factors ranging from demographic changes in the workforce to the geographic boundaries of targeted labor markets, which may range from local to international, as well as the degree of economic certainty in target industries given the time horizon for degree completion (Fernandez M & Celina, 2004; Froeschle, 2010). Fast-changing economic conditions and labor markets with new and emerging industries, as well as transitional economies, will require different

approaches to address the uncertainties of these labor markets compared to more stable labor markets. The long time horizon of many academic programs raises the question of whether it is possible to predict demand in a complex, ever-changing global economy.

Toward a New Definition of LMA and a New Role for Postsecondary Education

Based on our review of the literature, we define labor market alignment (LMA) as: All activities—and related outcomes—with the goal of ensuring that higher education institutions graduate the *correct* number of graduates with the *necessary* skills for the job market in a way that supports students' career goals and is consistent with institutional mission, current economic conditions, and the needs of other involved stakeholders.

This definition is broader and more flexible than previous definitions of LMA. It can be applied to different types of institutions and to different levels of implementation. Overall, it is a definition that allows for the presence of competing interests and the resulting development of many different LMA goals and approaches. To do this, our definition encompasses normative ideas about LMA goals. No standards currently define how to assess and achieve the “correct” number of graduates and the “necessary” skills for the job market (Froeschle, 2010), and there is little evidence regarding which approaches work optimally for different stakeholder groups and levels of implementation (Harmon & MacAllum, 2003a).

As a result of using this all-encompassing and norm-neutral definition, LMA can be operationalized in numerous ways depending on the institutional context and program type—from traditional vocational education programs at community colleges, to efforts to reform career services and academic advising at liberal arts colleges and universities, to graduate-level professional education, competency-based education and career pathways initiatives that seek to connect multiple levels of postsecondary education. In the following section, we provide a framework for conceptualizing the diversity of these approaches.

Whereas the current policy literature imposes an array of conflicting solutions on higher education, conceptualizing the LMA process as a social process puts more power in the hands of higher education officials to develop goals and solutions from the ground up, rather than simply defending against calls for change from the outside.

Understanding Existing Alignment Approaches in Higher Education

All areas of higher education, including curricular and co-curricular, can support alignment goals. Multiple areas within higher education can have a role in supporting alignment. Table 12.1 summarizes typical areas—both curricular and

Table 12.1 Higher education areas for alignment, by goal

	Job vacancy alignment	Skills alignment
<i>Curricular</i>		
Program selection and enrollment management	√	
Program content and curriculum development		√
Instructional strategies		√
<i>Co-curricular</i>		
Work-based learning activities		√
Student advisement and support services	√	√

co-curricular—within higher education and whether each area is likely to support job vacancy alignment and /or skills alignment goals. In curricular areas, higher education actors can pursue alignment through program selection and enrollment management, program content and curriculum development, and instructional strategies. In addition to curricular areas, higher education actors may consider how co-curricular activities support alignment goals, including work-based learning activities as well as student advising and support services.

Alignment Approaches by Goal

Program Selection and Enrollment Management

Selecting programs and determining their levels of enrollment based on what is known about labor demand is most directly related to job vacancy alignment. At a minimum, these efforts seek to ensure that the programs offered lead to jobs in demand among employers in the target labor market. Colleges and college systems may also manage enrollment within programs so that the number of graduates matches the job openings for workers in these occupations to ensure that there is not a severe under- or over-supply of graduates with particular credentials (“Aspen Guide for Using Labor Market Data to Improve Student Success,” 2014; Sparks & Waits, 2011; Turner, 2002a; Wilson, 2014). However, the adjustment of degree production based on job openings may take on a different priority depending on the strength of the linkage between the credential and particular occupations, which varies considerably.

Program Content and Curriculum Development

Higher education officials commonly tend to view skills alignment as adjusting program and curriculum content based on labor market needs. This raises a central tension of LMA in balancing the needs of stakeholders in determining labor markets and employers with which to align and whether to pursue a broad or tight approach

to skills alignment. Higher education systems, institutions, and programs vary significantly in how tightly they seek to align their curricular content with the immediate, or technical, or anticipated future needs of employers versus maintaining broader content that supports students' long-term learning goals and overall flexibility in the labor market (Jacobs & Grubb, 2006). For many institutions, general learning outcomes as part of a liberal education are a core goal that may also meet broad employer needs (Association of American Colleges and Universities, 2008; Pellegrino & Hilton, 2014).

Instructional Strategies

Once program content is defined, how institutions convey that content to students is an essential step in achieving alignment. A growing set of initiatives and literature on teaching strategies supports the notion that active and applied learning as well as problem-based learning are effective ways to engage students in deeper learning (Fain, 2013; M. Freeman, deMarrais, Preissle, Roulston, & St. Pierre, 2007; Hewlett Foundation, 2014; Prince, 2004). Reform efforts such as competency-based education, contextualized learning, and accelerated learning models may provide promising approaches to deliver instruction that promotes work readiness (e.g., Cho, Kopko, Jenkins, & Jaggars, 2012; Klein-Collins, 2012, 2013; Perin, 2011).

Work-Based Learning

Work-based learning opportunities have long been viewed as a way to gain learning experience that develops skills relevant in the labor market. They include a range of activities, including internships, co-operative education, apprenticeships, job shadowing, practicums, clinical rotations, on-the-job training, school-based enterprises, business simulations, guest speakers, student competitions, career academies, career days, and school-to-apprentice programs (Alfeld, Charner, Johnson, & Watts, 2013; Bragg & Hamm, 1995; Bragg, Hamm, & Trinkle, 1995; Congress of the United States, 1995; Stasz & Brewer, 1998). Likewise, activities that engage students in real-world projects such as service learning and civic education can provide analogous learning opportunities.

Student Advisement and Support Services

Higher education systems, institutions, and programs can promote LMA through student advising and support services. Most higher education institutions have career services offices that help guide students but some institutions are considering ways to improve these services by re-thinking how they interact with other higher education structures (Chan & Derry, 2013). At the simplest level, institutions and programs provide students with information about labor market demand as part of

traditional career advisement sessions. Alignment activities in this area can also take the form of blending academic and career advising in new ways or they can broaden the reach of career services by having more advising take place at the department level. A number of higher education systems and institutions are also focusing on ways to reach students earlier for career and academic advising, including conducting outreach to high school students and parents, creating for-credit career courses for all first- or second-year students, and sometimes mandatory career development activities for students (Chan & Derry, 2013; Dominus, 2013).

There is no “one-size-fits-all approach.” LMA approaches across these areas vary on a couple of key dimensions. First, LMA approaches vary in how they conceive of the labor market including the geographic boundaries of target labor market(s) (i.e. international, national, regional, state, local); the scope and specificity of targeted industries/jobs (i.e. specific job title, occupation group, all jobs in an industry, etc.); and the scope of targeted employers (one employer vs. multiple employers, diversity of composition of employers). Second, LMA approaches vary in the degree of response to the labor market in terms of the “tightness” of program approaches—that is, how closely programs and services are matched to the skill and job vacancy priorities of employers. For example, some institutions, especially those with a liberal arts mission that are less likely to change curricula and instructional strategies that closely align with employer needs, but rather may rely heavily, even exclusively, on co-curricular activities to achieve their alignment goals. Table 12.2 illustrates a range of possible LMA approaches at different organizational levels with varying approaches based on these dimensions.

Some leading higher education organizations are developing approaches to address the issue of LMA. For example, the American Association of Colleges and Universities’ Liberal Education and America’s Promise initiative is seeking to develop strategies and better articulate ways that liberal education prepares students for the rigors of the twenty first century economy.

Challenges of Alignment

Many Levels of Implementation

While prior alignment frameworks have focused on the institution as the unit for alignment, we recognize that alignment can occur on many levels—from the very macro to the very micro. Thus, the concepts in this framework are intended to apply to these different institution levels including: the system level, including groups of institutions, such as a specific higher education sector or all institutions within a state or a region; an institution, such as a single college or university; a department, including several related programs in an institution; a program of study within an institution; and a class within a program of study within an institution. LMA may be carried out in these various levels simultaneously as actors within each level take

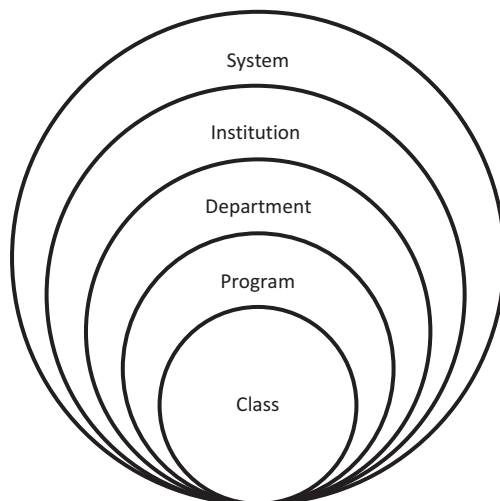
Table 12.2 Examples of LMA approaches

Career pathways system reform at the state level	4-year liberal arts college	University academic department	Community college workforce program	Short-term professional development course
State labor market assessment to determine programs to expand and/or add	Local, regional or national labor market assessment to inform new majors and broad enrollment levels	National or state labor market assessment to determine majors to expand and/or add	State or local labor market assessment to determine specific programs and enrollment levels	Local labor market assessment to determine specific enrollment levels
Employers provide input on occupations, credentials, and broad skills	Employers provide broad input on general skill needs	Employer advisory groups provide high-level input on skill needs and competencies	Employer panels to identify specific skills and competencies for curriculum	Employer panels to identify specific skills for curriculum
Contextualized learning	Problem-based learning and intensive writing	Problem-based learning	Hands-on applied learning	Problem-based learning
Connections to workplace learning fostered	Internships and industry exposure strongly promoted	Internships required strongly promoted	Required internships	Job shadowing experience for all
Stackable credentials	Coordinated academic and career counseling, early and on-going.	Integrated academic and career counseling, mandatory	Coordinated academic and career counseling, early and on-going.	Integrated career advising
Prior learning credit for work and military experience	Optional career course for credit	Mandatory for credit career development course		

action to align educational programs and services with the job vacancy and skill needs of employers. Figure 12.1 illustrates these possible levels of alignment.

Furthermore, this framework is intended to apply to a range of institutional types, including two- and four-year institutions. While these institutions vary in their missions and corresponding mix of programs, the general principles of LMA apply to both. Namely, there are examples of each institutional type taking action and pursuing outcomes related to job vacancy and skills alignment goals. It may also apply to continuing education efforts within these institutions.

Fig. 12.1 Institutional levels for labor market alignment



Little Research on What Works for Whom

Just as we do not know which LMA approaches work best for particular stakeholders, no research is available on which approaches work best for certain groups at different institutional types or levels of implementation. As partnerships develop across levels and institutions, it is also possible that the needs of different groups may further conflict. For example, aligning higher education with the labor market based on statewide labor market information may disadvantage local areas that have different employer demand and worker supply profiles.

LMA as Organizational Learning

The earlier discussion of perspectives on LMA address LMA as a solution and highlight the embedded assumptions about the role and value of education in relation to workforce development. They also highlight the importance of framing LMA as an essentially social process. However they fail to help us conceptually and practically understand how to do LMA. In other words, they have little to do with process. And since they do not address process, they cannot help us deal with such practical issues as how to measure alignment. It is in light of this absence of process that we turn to organizational learning and suggest that it can help higher education leaders, in particular, to reconceptualize LMA as an important strategy for improving student success within postsecondary education and beyond. We draw upon prior research that suggests organizational learning is useful for understanding the theory of action undergirding many educational change and student success efforts. We present two main perspectives of organizational learning, background on what

organizational learning is, and how activities that we have identified as alignment activities can be viewed as organizational learning functions and the benefits of doing so.

Although there are myriad frameworks to integrate the disparate organizational learning and organizational knowledge literatures (Chiva & Alegre, 2005; Fiol & Lyles, 1985; Huber, 1991; Kezar, 2005; Lam, 2000; Örtenblad & Koris, 2014; Popova-Nowak & Cseh, 2015), we begin by drawing upon some of the most recent literature on organizational learning in public services to supplement the scant literature in postsecondary education. We draw specifically on applications of organizational learning in public services because, like higher education, it is particularly susceptible to pressures for learning and innovation because of the accountability expectations of myriad stakeholders and both are characterized by the existence of professional communities that span organizations and are under constant pressures for reform (LaPalombara, 2007; Rashman, Withers, & Hartley, 2009).

Higher education researchers (Jones et al., 2015; Kezar, 2005) agree that organizational learning is useful for understanding the theory of action supporting many change efforts in postsecondary education, although the application of that literature empirically is scant (Dee & Leisyte, 2016; Örtenblad & Koris, 2014). As Jones et al. (2015) explain, understanding the capacity to analyze institutional performance, identify deficiencies, and craft and evaluate solutions is fundamentally about the institutional capacity for organizational learning. By doing so, many have framed organizational learning as an approach to solving problems within higher education, for example, to support organizational change to promote and value diversity (Smith & Parker, 2005) and to achieve equity in educational outcomes (Bauman, 2005). We offer one more area that organizational learning can support: labor market alignment.

An organizational learning framework is well suited to the postsecondary context (Bensimon, Polkinghorne, Bauman, & Vallejo, 2004; Boyce, 2003; Eckel, Green, & Hill, 2001; Smith & Parker, 2005). Colleges and universities are generally viewed as collegial institutions that are highly decentralized, with a professional staff that is interested in learning and improvement. More so than other sectors, the application of organizational learning to higher education is replete with references to organizational learning as a process to improve effectiveness rather than a product to accumulate (Smith & Parker, 2005; Kezar, 2005). Kezar suggests that “higher education may be at an advantage compared to other organizations since fields such as student affairs have tended to favor and foster social and emotional intelligence” (p. 54) and already conducts much of its work in groups and teams, which are well suited to facilitate organizational learning. However, alignment is not just about individual postsecondary institutions; exploring a shared value of organizational learning across postsecondary sectors and across the labor market is challenging and faces much resistance. Choosing to undertake LMA requires attention to resistance that may exist as a result of the previously discussed drivers of LMA.

Two Perspectives on Organizational Learning

We draw upon a number of organizational learning frameworks, paying particular attention to those that distinguish between organizational learning as something to be possessed versus a process. The first perspective on organizational learning, the cognitive-possession perspective, emphasizes the individual (Chiva & Alegre, 2005; Örtenblad & Koris, 2014) and includes cognitive, social, behavioral, and technical components (Rashman et al., 2009). Within this perspective some scholars focus on the role of the individual and individual learning processes to the organization (Friedman, 2001) while others (Argyris & Schon, 1996; March & Olsen, 1975; Simon, 1991) suggest organizational learning is individual learning that is situated within and in interaction with an organizational context. As a possession, such a perspective is congruent with the view that knowledge is a commodity to be gained. Implications of this view include a concern that organizational learning is then a question of how knowledge may be accumulated, stored, and transmitted as needed.

In the alternative perspective, the social-process perspective, learning is not about accumulating knowledge. Borrowing from social learning theory (Lave & Wenger, 1991; Wenger, 1998), learning is a social process of identity development within a community of practice. The social perspective treats learning as inseparable from social interaction and engagement in work practice. Rather than framing organizational learning as a competitive exercise that provides one firm with an advantage over the others in the market resulting from the accumulation of information and resources (Blackler, 1995), organizational learning becomes a social process that individuals engage in through social interaction within an organizational context that is a function of their identity and identity development in that context (Chiva & Alegre, 2005; Gherardi, Nicolini, & Odella, 1998; Rashman et al., 2009).

Integration of Perspectives and Application to LMA

In sum, organizational learning is a dynamic, social, and contextual process that involves sharing and assimilating existing knowledge and creating new knowledge, both of which may be influenced by organizational and environmental cultures, practices, norms, and routines. We see value for understanding LMA in both the cognitive-possession and social-process perspectives. The cognitive-possession perspective is immediately evident in the current literature that applies organizational learning to postsecondary education contexts in which tools are identified, structures created, strategies developed for increasing capital (Borden & Kezar, 2012; Choi & Chandler, 2015; Kezar, 2005). These offer concrete suggestions for tasks and structures that can be leveraged in the process of LMA. However, the social-process perspective is also needed to make sense of the multiple actors and fluid goals inherent in our proposed definition of LMA.

A perspective that recognizes that institutions are socially constructed in communities is useful to our LMA framework that grapples with vastly different organizational types within the education sector and that recognizes the ways in which these educational organizations must interact with other organizations and government agencies. The acknowledgment of the context, i.e., “relationships with other organizations through alliances, joint ventures, and memberships in associations” (Argote, 2013, p. 33), in which organizations exist and organizational learning occurs is particularly important. The idea of relationships with other organizations is particularly relevant for this chapter given the professional communities that span organizational boundaries (Rashman et al., 2009) in the context of labor market alignment with postsecondary education.

Organizational Learning Mechanisms

Across both perspectives, Lipshitz and colleagues’ (Friedman, Lipshitz, & Overmeer, 2001; Lipshitz, Friedman, & Popper, 2007; Popper & Lipshitz, 2000) construct of organizational learning mechanisms (OLMs), provides a useful tool to both identify existing organizational learning activities and to create new structures in support of organizational learning. They define OLMs as “institutionalized structural and procedural arrangements that allow organizations to systematically collect, analyze, store, disseminate, and use information that is relevant to the effectiveness of the organizations” (p. 170). Furthermore, OLMs also aid in efforts to measuring organizational learning. We present examples of OLMs that support LMA grouped into three broad alignment activities: data collection, data incorporation, and relationship building. Each of these concepts is explained in more detail below. Others have addressed the role of data collection and analysis in discussions of labor market responsiveness by emphasizing a culture of inquiry and evidence (Adams et al., 2013), but our framing with a broader theory of organizational learning extends beyond the focus on data, analysis, and decisions to the collaboration and learning across different curricular areas and organizations and the importance of relationship building. After discussing available labor market specific data in the context of data collection, we then explore data incorporation and relationship building, which are more appropriately explored through a learning framework than a decision making framework.

Data Collection

Of all the activities, data collection is the most extensively addressed activity in the organizational learning literature, therefore we focus here on the labor market specific data. Collecting information on the skill and job vacancy needs of employers in the target labor market, as well as on the needs of students and other critical stakeholders, is an essential LMA activity but little is known about how to best

collect and use these data. We explore the varieties of relevant data that exist and the challenges of gathering and using them. In order to align programs and services with labor market demand, systems, institutions, and programs engage in a variety of activities to collect and or validate information on these needs. Much of this data collection, however, is focused on assessing job vacancy and skill demand in target labor markets. Despite its importance, little agreement exists in the literature regarding the best data sources and indicators to use (Barghaus et al., 2013; O'Connor, 2013). As a result, stakeholders implementing alignment activities use a variety of public and private data on labor market demand and supply, as well as focus groups and other forms of qualitative input from employers. Multiple types of data are available for these efforts, including those that are publically available, those that must be purchased, and those that must be collected. Each data collection/validation method has unique opportunities and challenges.

Publicly available data includes data produced by the U.S. Department of Labor Bureau of Labor Statistics, labor market trends data from state departments of labor, and data on graduation rates from state departments of education (Sparks & Waits, 2011; Wilson, 2014). The Occupational Outlook Handbook and O*Net, both produced by the Bureau of Labor Statistics, provide information on skills and credentials required in specific occupations that some alignment stakeholders may use to collect information on skill demand. Traditional labor market data produced by the Bureau of Labor Statistics and states have been faulted for not producing employment trend data that are current enough to assess job vacancy demand, for being of limited use and accessibility to practitioners, or for including job growth projections that often end up being false (Cappelli, 2014; Froeschle, 2010; Van Horn & Corre, 2010). Froeschle has also pointed out that publicly available data, including data on recent graduates, are not sufficient to assess skilled labor supply in an area.

Several companies offer a new source of demand, as well as skills data, known as “real-time jobs data” that are available for purchase. Online job postings are collected, aggregated, de-duplicated, and analyzed to provide a more up-to-the-minute picture of hiring trends and skill requirements for local areas not previously available. A number of community colleges have reported using “real-time jobs data” to align their workforce programs (Altstadt, 2011). Real-time jobs data, while more current than traditional labor market information, relies on proprietary systems to collect and analyze unstructured data. As a result, the data validity and reliability in terms of representativeness of real-time labor market information is not well known (Dorrer & Milfort, 2012).

Employer surveys and direct engagement with employers are other ways to collect information on job vacancy and skill demand in target labor markets. State- and region-wide surveys of employers are a common way to collect labor market information (e.g., Workforce Training and Education Coordination Board, 2013). Direct engagement with employers can range in approach. The Systematic Curriculum and Instructional Development (SCID) and Developing a Curriculum (DACUM) methods provide a structured, in-depth, way to identify and/or validate specific skills and knowledge needed for particular occupations (Ohio State University, 2014). On the other hand, many institutions rely on one-time advisory groups, or other methods

that provide broad feedback but do not generate detailed knowledge (Harmon & McAllum, 2003). Little is known about the effectiveness of various approaches to advisory board and employer outreach, and how this type of feedback can be obtained for programs with more general learning outcomes. Many obstacles also exist for higher education institutions interested in surveying or otherwise engaging with employers, including a lack of capacity or interest among faculty/staff or difficulties getting employers to respond to requests for engagement (Barnow & Spaulding, 2015; Hershbein & Hollenbeck, 2014).

There are no current standards that indicate which data indicators and sources provide the most reliable and valid information for colleges on job vacancy and skill demand. Given the uncertainties of labor market data and the difficulties of employer engagement, multiple data sources may provide the best mechanism to assess demand and supply, and inform program selection and enrollment management (“Aspen Guide for Using Labor Market Data to Improve Student Success,” 2014; Bosworth et al., 1997).

Incorporation Into Curricular and Co-curricular Areas The application of knowledge is a core activity in organizational learning; without a process for applying the collected data, there is no possibility of improved effectiveness (Lipshitz et al., 2007). Incorporating the results of data collection into curricular and co-curricular areas and connecting and re-organizing the delivery of multiple program components is common in colleges and universities, but doing so in a way that leads to organizational change and learning is a challenge. Regardless of the institutional level in which alignment occurs, multiple areas within higher education can have a role in supporting alignment. Table 12.1 summarizes typical areas—both curricular and co-curricular—within higher education and whether each area is likely to support job vacancy alignment and /or skills alignment goals. In curricular areas, higher education actors can pursue alignment through program selection and enrollment management, program content and curriculum development, and instructional strategies. In addition to curricular areas, higher education actors may consider how co-curricular activities support alignment goals, including work-based learning activities as well as student advising and support services. Table 12.2 illustrates a range of possible LMA approaches at different organizational levels with varying approaches based on these dimensions.

Incorporating information into curricular programs is a large and complex area of LMA, as stakeholders can vary widely in the areas they seek to focus their LMA activities. Furthermore, incorporating information varies depending on the institutional level that is the focus of LMA activity—class, program, department, institution, or system. We discuss five possible areas of incorporation in this section: (a) program selection and enrollment management; (b) program content and curriculum development; (c) instructional strategies; (d) work-based learning; and (e) student advisement and support services. Each of these areas offer opportunities to implement OLMs to support the dissemination of information into learning and decision experiences.

Program Selection and Enrollment Management Colleges have processes for adding new programs, eliminating existing programs, and adjusting the enrollment levels. Four-year institutions in some states have begun adding and subtracting programs and adjusting enrollments based on statewide labor market data (Sparks & Waits, 2011). In program reviews, community colleges may document labor market demand for their graduates to justify program renewal. Some college systems also have processes for program approval that involve documenting labor market need. The process for considering how to adjust the selection and enrollment is less clear for programs that are not directly linked to a specific job, including many programs at four-year colleges, particularly those with a liberal arts focus.

Program Content and Curriculum Development Efforts to articulate learning outcomes, such as the Degree Qualifications Framework (DQP), provide a framework to guide institutions in designing programs using agreed-upon general competencies about what students should know and be able to do upon completing a college credential (Adelman et al., 2011). By articulating learning outcomes and developing processes to measure them, these efforts provide an opportunity to consider how these outcomes align with employer needs (Kuh & Ikenberry, 2009). Furthermore the DQP includes a category for program-specific skills which may allow for more specific alignment with labor market needs. Institutions that seek a tight LMA approach may use processes, such as SCID, to incorporate employer skill priorities directly into curricula and assessments (Ohio State University, 2014). Depending on the field, professional organizations and state agencies may provide important structure to guide curriculum alignment activities (Lattuca & Stark, 2009).

Instructional Strategies Data and information collected on student learning needs and employer skill needs can inform how instructional strategies are deployed for job vacancy and skills alignment purposes. Based on program content and curricular development efforts, certain instructional strategies may be more or less relevant. For example, contextualized learning may be most relevant in a tightly aligned workforce program, such as the I-BEST program in Washington State, which prepares low-skilled workers for entry-level career pathways jobs (Wachen, Jenkins, & Van Noy, 2011). Problem-based learning is potentially helpful for students to develop skills and knowledge in a range of disciplines (Dochy, Segers, Bossche, & Gijbels, 2003).

Work-Based Learning Depending on how institutions seek to align with the labor market, different types of work-based learning may be more or less relevant. In particular, the level of intensity of the work-based learning strategy will vary. Many institutions do not have resources to support active work-based learning programs, so creative solutions to this challenge are likely needed to promote employer engagement (Leahey & Chisholm, 2014). The incorporation of work-based learning activities is closely linked to employer engagement efforts and related relationship building activities, discussed further below.

Student Advisement and Support Services Many efforts are underway to convey labor market information to students and help guide their decisions to enter programs and transition into careers. New online e-advising programs at some institutions begin to integrate career and academic advising, though it is not clear to what extent they help students understand and evaluate labor market information (Herndon, 2012). How institutions can best convey this information and how students will use it is still not well understood though evidence is beginning to emerge (e.g., Ruder & Van Noy, 2014). Furthermore, the degree to which online advising systems need to be combined with conventional advising and support is not well known (Karp, 2011; Karp, O’Gara, & Hughes, 2008).

Relationship Management

Relationship building with employers and other stakeholders helps support LMA but little is known about effective ways to engage with employers and keep them involved. The process perspective on organizational learning provides insights on relationship building in support of LMA. OLMs that bring people together facilitate the social interaction that is necessary for learning, contribute to relationship building and the development of social capital. Relationship building, especially with employers, is an important component of higher education LMA (Brewer & Gray, 1997; de Castro & Mechur Karp, 2009; Harmon & MacAllum, 2003a). Employers are more likely to hire workers from a trusted intermediary, and relationships can help college staff to gain access to the information and assistance needed to collect information and incorporate it into curricular and co-curricular areas. Relationship building can be both a by-product of other alignment activities and a standalone activity. For example, relationships with employers can be built organically if a college is using intensive employer contact to collect data on skill and workforce needs. On the other hand, programs that rely on secondary data sources for data collection and that have limited engagement with employers may need to invest more time and effort into building relationships as an additional activity.

Those implementing alignment may also engage in relationship-building activities with other internal and external stakeholders to strengthen connections among program components, such as building in new types of meetings for staff from different areas to interact, or creating activities for staff, faculty, and students to interact. Alignment may also involve multiple partnerships beyond the institution that may include employers. All of these suggestions emphasize LMA as a process that emphasizes the co-constructed goals that higher education and its partners have for student success and the labor market. Relationship building supports the inherently dynamic nature of the labor market and enables stakeholders to deal with change. Finally, relationship building, as a strategy, is not inherent to one organizational level; it is an approach that can be used at the classroom, program, department, organization, and even sector level.

Measuring LMA Efforts

To understand whether higher education institution alignment efforts are making a difference in the success students achieve after college—as well as meeting the needs of employers and local economies—outcome measures are essential. Given the multiple goals and activities related to LMA, identifying clear measures of alignment outcomes is complex. As we have already discussed, there is little agreement on how to define LMA and thus there remain questions about the outcomes that appropriately measure alignment. Despite the complexity in measurement, rather than simply pose more questions that should be answered (Barghaus, Bradlow, McMaken, & Rikoon, 2013; Perna, 2013), we propose preliminary approaches to measurement in an effort to, as Bargaus et al. suggest, help the field decide what may fit best in a given set of circumstances.

In this section, we review existing approaches to measuring LMA outcomes and provide guidance on how to understand these and think about novel approaches to evaluation. Several measures of job vacancy and skills alignment exist, but each has important limitations. Multiple measures of LMA outcome are possible and are currently in use amongst policymakers, funders, and researchers. As suggested by Perna (2013) and others, we explore a range of outcomes and move beyond economic outcomes such as earnings, which are well addressed elsewhere (see D'Amico, 2016 for a summary). We present five measures of alignment outcomes and the alignment goal each most closely reflects: (1) Graduate production compared to job openings; (2) Attainment of credential with labor market value; (3) Graduate earnings, employment, and retention rates; (4) Direct assessment of student/employer perceptions; and (5) Real-time jobs data on turnover. These measures all already exist in one form or another and are focuses primarily at the system and institutional levels of implementation. We then suggest a new consideration rooted in an understanding of LMA as an organizational learning process. Additional measures are also needed at lower levels of measurement such as the class, program, and department levels.

Existing Measures

Graduate Production Compared to Job Opening

Similar to O'Connor's (2013) framework for assessing work-based learning initiatives, we begin with a measure of graduation rates. Graduate production compared to job openings provides a broad measure of job vacancy alignment for geographic regions but suffers from methodological problems. A number of studies compare graduation production from credential-based programs (number of graduates) to the number of jobs created or expected to be created to measure the extent of job vacancy alignment in a labor market (Froeschle, 2010). These studies have

generally been performed at the higher education systems level in several states (e.g., Leigh & Gill, 2007), cities and regions (Stern, 2013; Workforce Training and Education Coordination Board, 2013) and even at the national level (Bardhan, Hicks, & Jaffee, 2011; Carnevale et al., 2013). In addition to providing a performance metric for LMA efforts, this method appears to be used quite often to get a baseline reading on the level of alignment between supply (recent graduates) and demand (job openings) in a labor market in order to inform or advocate for the development of LMA efforts.

There are many weaknesses inherent to this method of determining alignment, which often uses a nationally developed crosswalk of Classification of Instructional Programs (CIP) and Standard Occupational Classifications (SOC) to match graduates to occupations. First, this method assumes that the relationship between credentials and jobs is strong and that recent graduates from the college system being studied make up the only supply of workers, but connections between college majors and content-related jobs are often not direct, especially in the liberal arts. As Froeschle (2010) notes, there are also many other sources of labor supply for which no data are available (past graduates, incumbent in-state workers, in-flows of out-of-state workers) that are not accounted for in this method. In addition, this approach can be too simplistic in that it specifies a causal link between the programs and outcomes. That is, it is not possible to know that a program, institution, or system is truly responding to a labor market need just from seeing a category match in the data; many other factors are at work in the labor market that are not accounted for in this approach, such as changes in demand, that may affect this match.

Attainment of Credential with Labor Market Value

Attainment of credential with labor market value provides an indication of skills alignment at numerous levels but validation of credentials is not universal. Generating credentials with value in the labor market is the stated goal of many current LMA reform efforts. Often, the increase in production of “employer-recognized” credentials is used to measure the level of skills alignment within LMA efforts. But what does “employer recognized” mean? How do we know if the credential has real value in the labor market? Validation of the labor market value of credentials may be approached in several ways. Credentials can be validated by industry in the form of industry certifications where employer standards are adopted by industry associations at a national level (e.g., The Manufacturing & University of Phoenix, 2011). Licensure is also another means to validate learning based on industry standards. Professional accreditation boards certify some college programs and ensure that curricula adhere to industry standards (Crawford & Sheets, 2015). A major challenge in using the number of credentials attained as a measure of skills attainment is that the mechanisms to validate credentials are not well established; many credentials exist without any labor market validation (Crawford & Sheets, 2015). Furthermore, employers’ actual use of credentials in hiring can vary by organization and labor market (Cappelli, 2014; Van Noy & Jacobs, 2012).

Graduate Earnings, Employment, and Retention Rates

Graduate earnings, employment, and retention rates provide a general indication of job vacancy and skills alignment at many levels but are not widely available. The economics literature has had a long history of examining the wage returns to higher education based on human capital theory and O'Connor includes earning power upon college completion as one of her five domains. Many researchers use student employment outcomes data—including job placement, retention, and earnings—to provide an indication of LMA in higher education (Carnevale, Rose, & Cheah, 2011; Jacobson & Mohker, 2009; Jepson, Trotske, & Coomes, 2009; Schneider, 2013; Schneider & Vivari, 2012). Initial placement and wages can indicate both job vacancy and, to a lesser degree, skills alignment. If graduates earn more after completing postsecondary education, then human capital theory infers that students have had the requisite skills (skills alignment) needed by employers (Becker, 1993). Current accountability initiatives, such as the Obama scorecard, use wage data as a measure of graduates' employment outcomes, while US Department of Labor's community college initiatives requires the collection of job placement, retention, and earnings indicators.

There are several benefits and challenges to this commonly used outcomes measurement approach. One of the key advantages is that it provides evidence of change for both students and employers. These indicators can also be applied at the systems, institution, and program levels. However, this approach uses placement and wages as a proxy for both job vacancy and skills alignment, and may not fully represent the motivations underlying student and employer behavior. In addition, these outcomes indicators do not, in and of themselves, allow researchers to determine whether LMA efforts caused the changes. These outcomes represent high-level indicators based on employer behavior, but it is difficult to parse out the degree of job vacancy alignment or the specific ways that skills alignment has occurred or could be improved. Few studies attempt the experimental or quasi-experimental methods needed to do this. To the extent that data on student outcomes may be valuable for LMA planning and advising students, jobseekers and others, another drawback is that these data are not always available in all states or to all institutions and programs in states.

Direct Assessment of Student/Employer Perceptions

Direct assessment of student/employer perceptions provide specific information on job vacancy and skills alignment but are time consuming to collect. Fewer studies directly attempt to measure the extent to which a given program or set of programs aligns with the skill expectations or needs of employers or other stakeholders. Employer or participant satisfaction would be a direct measure of skills alignment; O'Connor suggests student satisfaction is one of five domains in her framework for assessing work-based learning initiatives. To the extent that skills alignment is measured as an outcome, it is often done through surveys of students and or employers

regarding the quality of preparation. Several researchers document mismatches between the skills taught in particular programs and the skills employers require for jobs closely associated with the credential (Alssid, 2014; Colby et al., 2008; Sullivan, Colby, Wegner, Bond, & Lee S, 2007). Others have raised concerns about the validity of perceptions (Soares & Perna, 2014); or variation in perceptions (Van Noy & Jacobs, 2012). Research on skills matching in the labor market addresses the question of whether workers, including college graduates, have skills that are needed in the labor market. This literature raises numerous questions about how skill matching can be properly assessed to determine if worker skills match actual job requirements, and raises many serious methodological concerns that need further research to overcome (Handel, n.d.).

Real-Time Jobs Data on Turnover

Real-time jobs data on turnover provides a new possibility for assessing job vacancy and skills alignment but more information is needed on its use. Data from job postings, also known as “real-time jobs data” offer some additional approaches to measure both job vacancy and skills alignment. Some researchers are using this data to compare skills content in course curricula to skills requested in job ads (Alssid, 2014), while others are using analyses of the length of time that job postings for particular jobs remain posted as a proxy for both job vacancy and skills alignment (Rothwell, 2014). The underlying assumption is that jobs go unfilled because employers are unable to find skilled workers, indicating that existing workers in the occupation do not possess the right skills or enough workers in the occupation do not exist. However, it is not clear that job postings are the best source of data on employer skill needs, and there are other explanations for jobs to remain posted online for long periods besides difficulty filling the position, such as the length of time the employer paid to post the ad. In addition, there is evidence that employer skill requirements change as labor market conditions change (Cappelli, 2014). Overall, real-time jobs data are still under development and more information is needed to fully understand their strengths and weaknesses.

New Measures Informed by Organizational Learning

Using the organizational learning framework, we address the challenge that multiple measures of outcomes are necessary to assess LMA and LMA metrics and targets vary considerably and reflect a balance of interests amongst stakeholders. Given the complexity of LMA and the inherent limitations of each measure, no one measure provides a full understanding of LMA outcomes. In addition to the weaknesses inherent in each of these methods, there is little agreement in the scholarly and policy literature regarding which methods and specific indicators are appropriate for use at the systems, institution, program, and course levels or to assess

different types of institutions with unique missions. As noted above, several studies compare graduate production to current or future job openings to assess LMA at the systems level, but this assumes that all colleges in the system have similar job vacancy alignment goals and approaches. Student employment outcomes have been used to assess LMA at the system, institution, program and course levels, but there is little agreement on how indicators should change based on the implementation level, institutional type, target labor market, or labor market conditions.

LMA metrics and targets vary considerably and reflect a balance of interests amongst stakeholders. Establishing LMA goals and objectives amid varying stakeholder priorities at different levels of LMA across multiple types of postsecondary institutions is complex. Given this complexity, it is not likely that one set of metrics will apply well in all of these circumstances. Furthermore, the lack of consensus about LMA metrics and targets may reflect the lack of consensus regarding the broader goals for LMA. While a large number of LMA stakeholders and actors are involved in implementing LMA approaches, fewer are generally involved in determining and measuring LMA metrics. Some actors, such as policymakers and funders, are most strongly interested in measuring the outcomes of LMA efforts, and may drive the decision-making process about LMA outcomes metrics and targets, to the exclusion of others. Without broad involvement, stakeholders such as higher education institutions, implementing LMA may adopt goals that are inappropriate for their missions and/or role.

Since the outcomes discussed above address one of the criteria scholars have identified for determining whether organizational learning is occurring—whether learning results in the intended outcomes (Lipshitz et al., 2007)—we also offer an organizational learning outcome directly informed by our organizational learning framework that focuses more on the collaboration among sectors to support LMA: the presence and activity level of regional or state level structures that promote engagement of higher education institutions, state policy actors, and intermediaries in alignment discussions that recognize the multifaceted nature of LMA.

New measures that account for the role of organizational learning and the corollary attention to spanning boundaries, evidence of structural and procedural arrangements to support collaboration and learning, and the ability to adapt to dynamic environments are needed. An organizational learning process can help to negotiate conflicting goals among stakeholders and facilitate a goal negotiation process that leads to measures that are meaningful and unique to the specific stakeholders at all organizational levels.

Summary and Future Directions

Current knowledge about LMA exists in a variety of domains, which all contribute important insights. Based on our review, we observe that LMA efforts share broad characteristics in common including goals related to achieving job vacancy and skill alignment outcomes in a target labor market with a target group of employers, and

leveraging organizational learning activities such as data gathering to implement changes in a variety of curricular and co-curricular areas for the purposes of achieving these goals.

With so many LMA policies and efforts already underway, there is an immediate need to take key actions to improve current implementation and accountability efforts. As such we provide some key recommendations to inform current policy and practice.

Recommendations for Policy and Practice

We make the following four recommendations for policy and practice:

1. Recognize that LMA implementation and measurement is complex and thus does not lend itself to a simple “one size fits all” approach.

LMA in higher education may seem like an easy-to-implement policy solution to large economic challenges, such as high unemployment, employer concerns about skills shortages, and high student debt levels. As this chapter demonstrates, however, it is much more complex. The variety of institutional types, levels of implementation, stakeholder perspectives, and a lack of reliable data on supply and demand make LMA an issue without a precise, engineered solution. LMA does not lend itself to a simple, “one size fits all” approach. Rather, it involves the alignment of many actors across multiple institutions and organizational levels in a complex and dynamic process that seeks to balance multiple—and sometimes competing—stakeholder needs amid shifting labor markets and policy environments. LMA efforts share broad characteristics in common, but vary significantly in their goals, implementation and measurement.

2. Recognize the variety of LMA approaches and metrics for different institutional types, levels of implementation, and stakeholder goals.

Community colleges vary significantly from four-year institutions in their educational scope and mission, as well as many other factors, including the incentives they receive to pursue LMA goals. It is not surprising, therefore, that community colleges may require an LMA approach, and a set of outcomes, that is distinctly different from that which administrators at a four-year institution would adopt. Similarly, the activities and outcomes one can expect from a system of institutions may be distinct from those that would be expected at a different level of implementation, such as the institutional or program level. Even within institutional types and units of analysis (levels of implementation) that are compatible, local stakeholder needs and other factors lead to a wide variety of different LMA goals. These unique goals, actors, and implementation settings place boundaries around the specific activities that LMA actors pursue. As a result, there are likely to be sets of LMA activities and outcomes that apply better in some settings than in others.

3. Use multiple metrics to assess LMA policies and promote experimentation with strategies even in the current accountability climate.

Postsecondary institutions are being held accountable to metrics set by external actors. However, without consensus on the specific goals for LMA, or research that clearly links strategies to outcomes, practitioners are at a disadvantage, left to experiment with untested strategies under the pressure of potentially losing funding if certain metrics are not met. Multiple barriers exist to understanding the skill and workforce needs of employers, from problems of data reliability and validity, to shifts in employer needs caused by changing labor market conditions, to a lack of agreement among employers regarding skills standards, priority skill needs, or job vacancy estimates (Cappelli, 2014).

4. Promote dialogue across organizational boundaries to include myriad stakeholder groups to develop a clearer consensus regarding LMA goals, approaches, and metrics for different institutional types and levels of implementation.

Given the range of goals, approaches, and metrics for LMA, it is not surprising that the concept is not well understood or agreed upon amongst stakeholders. This chapter is not meant to advocate for one form of alignment over another, or even to suggest that alignment, in the engineering sense of the word, is an achievable goal. Rather, our hope is to increase awareness of the complexity and difficulty of attempts to align higher education and a dynamic labor market, as well as to provide a new framework that build upon models used in the scholarly literature to describe the many forms of LMA across higher education. Given the language in this framework and its examples of approaches and outcomes, stakeholders may benefit from engaging in discussions to clarify their priorities and identify LMA approaches and metrics that are most appropriate for their needs. Without better dialogue and consensus across the many stakeholder groups involved in supporting and implementing LMA regarding the goals and objectives for LMA in different settings, it will continue to be difficult to reach consensus on appropriate outcomes metrics and methods. Below, we suggest seven areas for future research.

Recommendations for Research

Several gaps remain in our understanding of higher education LMA, which necessitate further research to guide policy and practice with deeper evidence on how to effectively approach and measure LMA. Ultimately this research can promote better policy and practice, leading to improvements in the way higher education prepares students for the workforce.

1. Conduct comprehensive outcomes research tied to activities on job vacancy and skills alignment.

Without rigorous outcomes-based research, it is hard to know if LMA efforts have a meaningful impact for students, employers, and others. There is also no

evidence regarding which approaches, at which levels of implementation, balance the needs of stakeholders and alignment actors well. A comprehensive understanding of higher education LMA must start first with a consideration of the entire set of goals and priorities that programs seek to balance when they start an alignment process. Research is needed to identify particular models of LMA, and their constituent parts, that are linked to multiple outcomes measures. This research would identify the actual mix of program practices that lead to credentials with real value in the labor market as quantified through multiple measures. This type of rigorous research will be complex, reflecting the complex nature of LMA, but is much needed by the field. More evidence on how higher education can address the issue of LMA will help policymakers and practitioners develop strategies that make sense given their unique stakeholders and alignment goals and priorities.

2. Identify alignment approaches that balance well with other core higher education missions, particularly for liberal arts institutions.

Research needs to further examine how institutions have sought to balance the goal of LMA with other institutional goals such as civic education and students' academic advancement goals. Since little work has been done on LMA for liberal arts programs and some of the greatest concerns relate to this population, this is an area that is ripe for new research. How much skills alignment is too much? For which types of students? In which types of labor markets? What skills are the most critical to align closely with to ensure successful outcomes? Helping liberal arts students prepare for careers does not have to be inconsistent with the goal of a liberal arts education. More information on and discussion of potential models might help colleges better integrate these approaches into liberal arts programs.

3. Uncover the organizational learning processes that support alignment implementation in different settings.

The activities related to the implementation of alignment are not well understood. Organizational learning provides a framework to begin to understand these processes. Different types of institutions (i.e., two- and four-year, workforce, and liberal arts) may use different processes as a result of their differing missions, and more understanding of these is necessary. While much work on activities related to labor market responsiveness has been done in community colleges, much less has been done to study LMA in four-year institutions, university graduate and professional programs, and other settings. Even in community colleges, a great deal is not known about specific approaches, such as how college faculty and staff use labor market data and advisory board feedback in program development and reform, or how colleges reconcile conflicting data or interests among parties. Identifying the OLMs that support alignment in different postsecondary sectors is crucial to the effective implementation of LMA.

4. Identify approaches to integrate career preparation for all students.

A major challenge to implementing alignment activities is a lack of understanding around students' needs and how they can be best supported. While students broadly seek education to promote success in the workforce, how to best

guide them toward that goal is not well understood, especially given the unprecedented economic context. Greater general knowledge is needed on students' decision-making processes and how higher education can provide the right supports at the right time to promote students' career preparation. More specific research is needed on how students access and evaluate labor market data and whether particular interventions, such as providing more data, requiring classes on careers, or providing more advising and counseling, may improve students' decision making and ultimate career success.

5. Improve understanding of employer perspectives in engagement and hiring practices.

Employers play an important but often understudied role in LMA. A better understanding of how employers understand and engage with higher education is needed to answer numerous questions. How do they engage with higher education and why? How much should higher education change based on industry versus try to engage and shape industry? How can employer advisory boards be conducted to best support alignment goals? A deeper understanding of the hiring process is needed to answer questions around employer behavior that explains particular outcomes and the role of credentials in hiring. What meaning do employers assign to credentials, and how do they form these meanings? This may be a particular issue in fields with emerging credentials: How do they take on value and meaning among employers?

6. Evaluate and validate several sources of demand- and supply-side data for use in job vacancy and skills alignment.

LMA actors across different organizational levels rely on a range of labor demand and supply indicators from traditional labor market data, "real-time" jobs data, and higher education graduation data sources, among others. However, there is little understanding about which of these indicators, or combinations of indicators, has the best predictive power for the purposes of job vacancy and/or skills alignment. In particular, many alignment actors are moving to use "real-time" jobs data as an indicator of job vacancy and skill demand. However, no research or evaluation has been done on these data to validate their accuracy and utility, or identify their potential limitations. For example, it is possible that certain occupations or regions may have more or less accurate job posting data and this will need to be used with greater caution than data for other occupations or regions. In addition, further research may reveal a method of triangulating data to help LMA actors maintain a grasp on broad trends, to help avoid significant under- and over-supply issues.

7. Explore the structures and processes that support the development of shared meanings and goals across organizational boundaries and among stakeholders with different, and frequently competing, goals.

As we have proposed, an organizational learning perspective on LMA emphasizes the socially constructed meaning of alignment and desired outcomes. As a result, research is needed to understand how to promote a collaborative learning process that spans organizations and sectors while accounting for the fundamentally different paradigms stakeholder hold about the purpose of higher education and how the labor market functions.

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