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The Role of Community Engagement in the Educational Success of Underrepresented Students

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Part I: Underrepresented Students in Community Engagement: Approaches and Impacts

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Community Engagement and the Educational Success of Underrepresented Students

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Abstract

This article introduces a special of issue of the *Journal of Higher Education Outreach and Engagement* focused on a 5-year research project examining the impact of community engagement on the educational success of underrepresented students. A research team from six universities was supported with a multiyear grant from the U.S. Department of Education, Fund for the Improvement of Postsecondary Education (FIPSE) program. This research project is one of the few multi-institutional, multiyear investigations to compare the similarities and differences of outcomes across different types of community engagement practices and institutional and community settings, one of the few research projects on community engagement outcomes focused on the experiences of underrepresented students, and one of only a handful of community engagement–focused studies to use propensity score matching to address the persistent criticism in community engagement research regarding the lack of attention to group equivalence between treatment and comparison groups.

Keywords: community engagement, underrepresented students, sense of belonging, service-learning, retention and persistence

In 2014, a group of eight program directors who lead various types of higher education community engagement activities at six universities formed a research team to better understand the strengths and limitations of various approaches to student community engagement. Specifically, the team sought to study the ways in which different approaches to community engagement programming (academically embedded service-learning, cocurricular service experiences, sustained service experiences, service-based internships, student-initiated community engagement, near-peer mentoring) impact the educational success of participating students, and in particular, underrepresented students (i.e., students of color, Pell eligible, and/or first-generation college enrollees). In all, 14 different campus-supported community engagement programs were identified to be developed, implemented, and/or evaluated for the research project. These 14 programs, situated at six universities, became the basis for a series of research investigations that were supported over 5 years by the U.S. Department of Education, under the Fund for the Improvement of Postsecondary Education (FIPSE) program. The findings from some of these investigations are presented in this special journal issue focused on the role of community engagement in advancing the educational success of underrepresented students.

This research project is one of the few multi-institutional, multiyear investigations that compare the similarities and differences of outcomes across different types of community engagement practices *and* across different types of institutional and community settings. It is also one of the few research projects on community engagement outcomes focused on the experiences of underrepresented students, and one of only a small handful of community engagement–focused studies to use propensity score matching to address the persistent criticism in community engagement research regarding the lack of attention to group equivalence between treatment and comparison groups.

The six sites who participated in the study are all public research universities, but vary in (a) selectivity, (b) proportions of enrolled underrepresented students, (c) whether students largely live on or near campus rather than commute from home or still live in their home communities, (d) geographic region of the United States, (e) degree of urbanicity, (f) types of community engagement programs offered; and (g) levels of institutional commitment and support for student community engagement. The overarching research project sought to capitalize on this institutional diversity and build a deeper understanding of how different contexts and approaches to community engagement programming affect the outcomes of participating students. Are there commonalities in findings regarding student educational outcomes across the different approaches to community engagement programming? Are particular approaches to community engagement more effective in promoting educational outcomes for students, especially underrepresented students? Does institutional setting matter in the kinds of outcomes that manifest for community engagement participants?

The leaders and directors of community engagement programs at the six university sites—City University of New York; University of California, Santa Cruz; University of Georgia; University of Illinois–Chicago; University of Memphis; and University of Minnesota—were invited to engage the students of their programs in a series of quantitative and qualitative studies to examine how community engagement involvement during college years affects the students' academic progress, retention, degree completion, and other educational outcomes. Since underrepresented students are most at risk of not persisting in and not graduating from college, a key focus of the overall research project was to study the effects of these diverse community engagement programs on underrepresented students (Kezar & Kitchen, 2020).

The articles in this special issue present some of the key findings from students' participation in the different community engagement programs. This introductory article opens this special issue with an overview of the overall project, the project's conceptual roots and the primary research questions it sought to investigate, and a description of the different types of community engagement programs that were investigated. In this introductory article, we also describe some of the lessons learned regarding conducting a multi-institutional, multiyear research study on community engagement, and we introduce and provide context for the articles that follow.

Underrepresented Students and Community Engagement

Higher education today faces a distinctive array of interrelated challenges. First, for some time, higher education has acknowledged the imperative to effectively educate a greater proportion of the population for a rapidly evolving, more globally connected workforce that requires a combination of advanced, specialized yet transferable skills obtained through education beyond high school, coupled with a broad range of soft skills, such as leadership, decision making, teamwork, and problem solving (e.g., Barton, 2006; Duderstadt, 2000; McGunagle & Zizka, 2020). Second, changing student demographics means that higher education institutions (HEIs) are educating more diverse student bodies, including greater proportions of underserved, underrepresented, and nontraditional students (e.g., students of color, first-generation college students, students with diverse aspirations for educational attainment, students from low-income families; Fry & Cilluffo, 2019). Third, college students increasingly are coming from metropolitan areas. The 2020 census data revealed 6.4% growth in the nation's urban population, with 80% of people in the United States now living in urban/metropolitan areas (U.S. Census Bureau, 2022). In recent years, the percentage of adults with at least a bachelor's degree living in urban areas is outpacing the percentage residing in rural and nonmetropolitan communities, further widening the rural–urban education gap (Davis et al., 2022). Even as the rural workforce has become more diverse in recent years, urban areas also maintain greater racial and ethnic diversity and higher education levels, resulting in higher pay and earning potential in metro job markets (USDA, 2023). Fourth, costs of postsecondary education continue to rise, creating greater economic divides and, at many HEIs, particularly residential campuses, resulting in student cultures that are increasingly defined by affluence and privilege. Fifth, the academic standards that must be attained by students are rising, exposing differences in qualities of K-12 educational experiences and providing

advantages to students whose K–12 education is focused on preparation for postsecondary success (Price, 2021). Additionally, bachelor's degree completion of dependent students from the highest income quartile (59%) is nearly four times that of students in the lowest quartile (15%; Pell Institute & PennAHEAD, 2022), illustrating the challenges facing students from lower-income backgrounds as they navigate higher education. Clearly, higher education has yet to create and implement systemic interventions and support mechanisms that adequately address the needs of nontraditional and underserved students.

The challenges described above have increased the salience of the cultural differences that exist within and across HEIs as well as students' communities and backgrounds. For many underrepresented students and students from low-income and culturally diverse communities, their communities and experiences are not well-matched to the communities of affluence and privilege that dominate many HEIs (Chang et al., 2020; Lee & Harris, 2020; Lohfink & Paulsen, 2005; Manning, 2000). Like most students, underrepresented students arrive at college with a strong desire to learn skills that will fulfill their hopes and dreams for their future and the future of their communities. They also bring with them good understanding of the challenges their communities confront, and they aspire to use higher education as a means to better their lives and the conditions of their communities. Yet all too often, they find that the college experience immerses them in an unfamiliar culture and a new environment that is or may appear isolated from the societal and cultural issues about which they care most (Karp, 1986; Langhout et al., 2009; Lee & Harris, 2020; Walpole, 2003). As Banks (2007), Lee and Harris (2020), and others have suggested, this culture clash and cultural divide lessens the capacity of students from underserved communities to develop a sense of belonging and engagement that is critical to persistence and success. It also inadvertently may stifle their interest in exploring new topics and areas of study, steering them to those few disciplines and major fields with which they are already familiar (Banks, 2007; Lee & Harris, 2020).

Findings from studies point to the heightened cultural, social, financial, and academic challenges students from underrepresented backgrounds face that often inhibit their capacity to engage with higher education, to develop a sense of belonging as a postsecondary student, and to persist in completing their degrees (Chang et al., 2020; Ives & Castillo-Montoya, 2020). Although many of the challenges are influenced by forces external to higher education, we believe that colleges and universities should be proactive in addressing and mitigating these challenges by creating meaningful and intentional connections with local and broader communities. We believe not only that HEIs can be more effective in helping all students bridge the cultural campus–community divide by building and engaging more deeply in partnerships with a broad array of communities, but also that such bridging is especially important for students from historically underrepresented backgrounds. We also believe that HEIs need to be seen as places that address issues important to all students so that every student can envision their dreams and aspirations of making the world better and can see higher education as a place to fulfill those dreams.

Much has been written about the value of participation in community-based learning and broader community engagement for advancing students' educational, personal, social, and career outcomes (e.g., Alexander et al., 2020; Bringle et al., 2010; Celio et al., 2011; Eyler & Giles, 1999; Schulzetenberg et al., 2020; Song et al., 2018; Soria et al., 2019). This literature also points to how, through such practices, HEIs can offer learning opportunities that allow students to bridge the campus–community cultural divide (Barnes et al., 2009; Kerrigan et al., 2015; Weerts & Sandmann, 2008). However, we are concerned that higher education community engagement efforts are not adequately serving the most challenged communities and the students who come from them. Therefore, our multi-institutional project sought to enhance the educational experience and attainment of students from challenged communities by strengthening campus–community engagement efforts through the application of a systems approach to community engagement program implementation and impact analysis. Specifically, our partnership research project examined relationships among the *institutional, programmatic, and partnership dimensions* of campus–community engagement to assess the best practices (and poor practices) for an array of existing community engagement programs on our campuses that

currently involve students from low-income and underrepresented populations in community engagement activities in a variety of communities. These activities are designed to enhance participating students' sense of belonging, engagement (affinity) with the institution of higher education, continued enrollment (retention), and academic persistence. Although studies and evaluations of these efforts have demonstrated success in producing positive student outcomes, the success has not been universal across programs. In addition, there has not been adequate focus on the particular ways that different community engagement experiences impact students from underrepresented communities. Consequently, we worked to determine which programmatic conditions and components are the best predictors of securing positive outcomes for student participants.

Research Questions

Guided by a logic model that describes the relationships between and across the three dimensions (institutional, programmatic, and partnership), we worked to identify and implement universal and contextual factors that influence the success of community-based learning efforts, implicitly testing a multidimensional model designed to guide institutions of higher education in securing high-quality, high-impact community engagement efforts, with a focus on underrepresented and low-income students from challenged and underserved communities. For the purposes of this study, we used the federal definition of underrepresented students, which encompasses students who are first-generation postsecondary students, students of color, and/or low income (as measured by Pell eligibility, per guidelines provided by the U.S. Department of Education). The term "community engagement" refers to a wide range of experiences and programmatic approaches in which students actively engage in educational activities that involve some type of service to, in, and/or with a community. Across the various investigations of this research project, we examined the outcomes of students engaged in six types of community engagement approaches: credit-bearing academic service-learning courses; cocurricular service-learning; community-based internship; extended community engagement experiences; student-initiated community engagement; and near-peer mentoring. We measured students' educational success through standardized quantitative metrics, including grade point average, credits earned, persistence in postsecondary education, and degree completion. As is discussed in the student-authored article in Part 3 of this special issue (Do et al., 2023), these measures of educational success do not necessarily align with what students consider indicators of "educational success." We also conducted a series of qualitative investigations to provide further information on the programmatic factors and students' perspectives that may have influenced the observed outcomes.

The investigations of our multiyear research project were guided by the following overarching research questions:

- Is there a relationship between the involvement of underrepresented students in community engagement experiences and their educational success?
- Are there differences between the educational success of underrepresented students who conduct community engagement and comparable underrepresented students who do not participate in community engagement?
- Are there differences among the different types of community engagement experiences (service-learning, community-based internship, etc.) in their relationship to the educational success of underrepresented students? Are particular approaches to community engagement more effective in advancing the educational success of underrepresented students?

These questions framed the set of 14 investigations that were situated across the six university sites. As is reflected in the articles of this special issue, the particular sets of investigations at each of the six sites were further guided by more specific research questions tailored to the specific community engagement program type(s) and student populations studied.

Guiding Theories and Conceptual Frameworks

Across our studies, we considered the following set of theories and conceptual frameworks that offer insights into the

complex experiences of higher education students.

Family Income and College Success

Higher education scholars have highlighted the "hidden" status of low-income students and the particular challenges that low-income students face (e.g., Soria & Stebleton, 2013). When compared to students from higher income families, students from lower income families have been found to have a lower sense of belonging and adjustment and tend to do less well in their postsecondary studies (e.g., Lehmann, 2007; Ostrove & Long, 2007; Soria et al., 2019). In addition, lower income students are more likely to be negatively impacted by interpersonal, institutional, and macro-level classism on their campus, which is associated with lower levels of sense of belonging and, in turn, more intentions of dropping out of college (Langhout et al., 2009; Wilson, 2016). Regarding postsecondary students in the United States, more research is needed to understand more fully the effective strategies for improving underrepresented students' sense of belonging. In the U.K., findings from several research studies suggest that the creation of a university infrastructure that brings together first-generation college students and does not isolate them from their cultural communities can improve students' sense of belonging (Borrego, 2008; Soto, 2008). To this end, we hypothesized that university-sponsored community engagement experiences in which lower income students have opportunities to engage with and give back to the communities they are from will enhance their sense of belonging and, in turn, increase their likelihood to stay enrolled.

Sense of Belonging

Belonging has been identified as a human motivation considered universal, with implications beyond immediate functioning, affecting behavior in many situations, and with a variety of emotional consequences (Baumeister & Leary, 1995; Gopalan & Brady, 2020; Strayhorn, 2019). It is viewed as necessary for effective functioning regardless of cultural or environmental background. The need for belonging first surfaced in Maslow's (1943) theory of motivation as one of five fundamental motivations: physiological, safety, belonging, esteem, and self-actualization. Maslow argued that without a sense of belonging, individuals will not strive for confidence, achievement, and competency, and that a lack of belonging creates the foundation for maladjustment, including anxiety and depression. When belonging is satisfied, individuals are more resilient.

Through the years, perspectives on how to enhance students' sense of belonging have shifted. During the 1990s, Baumeister and Leary (1995) argued that humans are motivated to form and sustain a minimum number of enduring, positive, and meaningful relationships. They suggested that belonging can be fulfilled by any relationships perceived to be stable and likely to continue into the future. In turn, a lack of sense of belonging is most frequently manifested as social exclusion and rejection. The connection between sense of belonging and negative affect is empirically supported, with a robust number of studies finding connections between a lack of belonging and loneliness (Mellor et al., 2008; Stevens et al., 2006), as well as between social exclusion and anxiety (Baumeister & Tice, 1990), lower self-esteem (Zadro et al., 2004), poorer memory (Gardner et al., 2000), and physical pain (Williams et al., 2000).

Bennett and Okinaka (1990) found that institutional belonging (commitment to one's college) is a stronger predictor of retention than academic performance. More recent studies have found that constructivist and experiential pedagogies that actively engage students in service-learning and research activities with their peers can foster the development of meaningful and lasting bonds, fulfilling students' need for belonging (Eyler & Giles, 1999; Greenberg, 1997; Scales et al., 2006; Soria et al., 2019). In light of this research, we hypothesized that providing underrepresented students opportunities to engage in constructivist learning experiences in the communities they are from can help them partner and form bonds with peers and others who are partners in their community-engaged work.

Culture of Affluence and College Culture Shock

Elite and selective HEIs, in particular, are increasingly manifesting a culture of affluence (Cushman, 2007; Torres, 2009). HEIs, especially the most selective institutions, have a history of catering to students who possess high levels of social and cultural capital (Bourdieu, 1986; Pascarella et al., 2004). In addition to the stress of moving

away from home and building a sense of belonging within a new environment, even the highest achieving underrepresented students can find themselves feeling isolated and are most at risk of falling behind academically as they struggle to learn and adapt to an unfamiliar campus culture (Blosser, 2020; Torres, 2009). Study findings have revealed that underrepresented students disproportionately lack high levels of valued cultural capital, such as proper use of particular language discourse, graduation from elite high schools, expensive and upscale clothing, and various social capital indicators (membership in student organizations, professional network connections used for personal and profession advancement, etc.; Pascarella et al., 2004). First-generation students, for example, have been found more likely to have a job and work more hours than non-first-generation students, making it harder for them to find time and opportunities to create a sense of belonging within the more affluent culture of their higher education institution (e.g., Billson & Terry, 1982; Pascarella et al., 2004; Perna et al., 2007; Pratt et al., 2019). Pulliam and Gonzalez (2021) suggested that high-achieving ethnic and racial minority students are often burdened by an imposter syndrome that can impact their sense of academic self-efficacy, engagement, and overall mental health, which in turn can detract from their willingness to persist in college. In this research, we hypothesized that providing underrepresented students opportunities to engage with the communities they are from can help them feel less isolated and can enhance their capacity to build networks with peers and others.

Experiential and Community-Engaged Learning

Tinto (1993) has argued that college students who are more academically and socially engaged in college and communities are more likely to persist in college. His position has been supported by research showing that engagement and experiences are key to persistence (e.g., Pascarella & Terenzini, 2005; Tinto, 2003). Interventions that increase students' personal engagement in learning should help increase persistence of students at greatest risk of dropping out of school. Several studies have found that participation in community engagement experiences, especially when integrated with academic coursework, can enhance students' social responsibility (Eyler & Giles, 1999), deepen understanding of diversity and cultural competence (Simons & Cleary, 2006), increase students' citizenship and civic skills (Celio et al., 2011), and strengthen their sense of community and belonging (Astin & Sax, 1998). For instance, Bringle et al. (2010) found that when comparing service-learning participants' (n = 534) and non-service-learning participants' (n = 271) intentions to reenroll at and graduate from their institution, enrollment in a service-learning course was positively related to students' intentions to continue at the same campus between the first and second year of their studies.

Findings from several studies described below suggest that certain programmatic characteristics (meaningful learning activities, opportunities for reflection, etc.) of community-based learning experiences can strengthen students' academic engagement, sense of belonging, and persistence. Among the various forms of student–community engagement experiences (community-based research, volunteering, internships, community service, etc.), the pedagogy of service-learning appears to be supported by the most robust and the strongest empirical evidence (e.g., Marcus et al., 1993). This pedagogy focuses on engaging students in applying academic knowledge from classroom experiences to address authentic societal issues in ways that meet a community need. Celio et al. (2011) conducted a meta-analysis of 62 studies of service-learning involving 11,837 students that found statistically significant differences across five outcome areas between students participating in service-learning and students in comparison groups. In all five outcome areas—attitudes toward school and learning, academic performance, attitudes toward self, civic engagement, and social skills—service-learning students had significantly larger gains, with mean effect sizes ranging from 0.27 to 0.43. These researchers also found that linking community experiences to the curriculum, student involvement and voice in the development of the experiences, community involvement in the development of the program, and reflection were associated with the most positive outcomes. Other meta-analyses of experimental and quasi-experimental studies of service-learning have found similar differences between students who participate in service-learning and control and comparison groups (Novak et al., 2007; Warren, 2012; Yorio & Ye, 2012).

Research on service-learning has also demonstrated that service-learning is related to increased multicultural competence (Einfeld & Collins, 2008) and decreased ethnocentrism (Borden, 2007). Einfeld and Collins (2008) examined the relationship between students' participation in a service-learning program and students' sense of social justice, multicultural competence, and civic engagement. Among positive outcomes, students developed multicultural skills such as empathy, patience, attachment, reciprocity, trust, and respect. Borden (2007) administered an ethnocentrism scale at the beginning and end of a class in which students engaged in service-learning. Students reported a significant decrease in ethnocentrism from the beginning to the end of the semester, and analyses of students' written reflections indicated that service-learning played a significant role in the reduction of ethnocentrism. These results support the use of service-learning to increase students' intercultural competence. Building on these various research findings, we hypothesized that pedagogies such as service-learning, undergraduate research opportunities, volunteering, and other community-based learning experiences may increase underrepresented students' engagement and investment in learning (Celio et al., 2011; Eyler & Giles, 1999; Gallini & Moely, 2003; Greenberg, 1997; Scales et al., 2006; Yorio & Ye, 2012) as well as their college commitment (Astin et al., 2000; Song et al., 2018; Strom & Savage, 2014), which have been found to be associated with student college persistence (Pascarella & Terenzini, 2005).

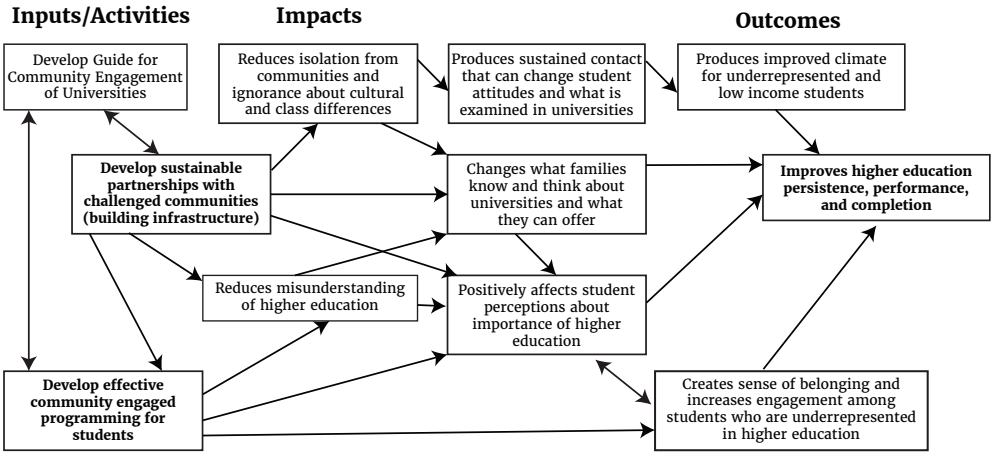
Overall, the focus and approach to our study draws from a range of research literatures which suggest that increasing the engagement of underrepresented and underserved low-income students in challenged communities provides an opportunity to connect their college experiences to their lives, thus promoting greater academic engagement and sense of belonging, which in turn promotes student persistence and retention.

Logic Model

Drawing from these theories and conceptual framework, we developed a logic model to describe how we hypothesize the relationships among the inputs, activities, impacts, and outcomes of community engagement programming (see Figure 1).

On our six campuses, we worked with our campuses' community engagement programs, developed partnerships with programs that allowed them to be fully evaluated, and, in some cases, built new student community engagement programs. Our logic model hypothesized that, if implemented effectively, our programs should demonstrate that underrepresented students who participate in community engagement are more likely to have higher levels of higher education persistence, completion, and academic performance than comparable students who are not engaged in community engagement. In addition, by focusing on the inclusion of effective best practices drawn from the community engagement literature, our research also sought to build a better understanding of the relationship (if any) between programmatic approaches to community engagement (i.e., sustained community engagement experiences, academic service-learning, service-based internships, cocurricular community engagement) and particular student outcomes. In the end, for various reasons, we were not

Figure 1. Process Model for Community Engagement and Student Success



very successful in assessing the relationship of programming with students' sense of belonging and academic engagement as we had hoped. However, research investigations did produce useful findings regarding the relationship between underrepresented students' participation in particular types of community engagement programs and their academic persistence, performance, and completion.

Project Design

At the six participating universities, we examined the extent to which community-based learning experiences at our institutions were fulfilling their promise in advancing the educational success of underrepresented students. We found prior evidence of success for some of the programs and their participating students, but such results have not been universal. The approach we applied was largely to focus on and enhance existing community engagement programming, intending to leave sustainable programming in place while incorporating more systematic inquiries designed to increase understanding of both the outcomes that the programs produce for underrepresented students and the factors (institutional, programmatic, and partnership) that contribute to those outcomes. All six participating universities are public research universities; however, they are situated in very different regions of the United States and are diverse in context, ranging from largely residential campuses that draw students from across the country, to campuses that largely draw commuter students from the local (urban) communities. In addition to representing differing types of research institutions with differing approaches to community engagement programming, the eight research project leads from the six universities represent a range of disciplines, including psychology, political science, education, urban planning and public policy, as well as representatives from higher education administration. The range of disciplines ensured that the approaches would not be limited by disciplinary orientations. In addition, this disciplinary diversity allowed us to vary our methods across sites as appropriate to the focus of each institution, but always with a perspective of valuing mixed methods, especially for the cross-institutional insights that were collectively produced. As is demonstrated in the articles in this special issue, this approach was instrumental in providing evidence of community engagement program effectiveness that cuts across types of programmatic approaches and contexts, while also providing insights regarding programmatic aspects that were found to be more site and program specific.

Throughout the 5 years of the project, we collected data and evaluated successes of our programs on multiple cohorts of students at our respective campuses, combining archival and new data to provide a broad picture of effectiveness. The process unfolded uniquely at each campus due to each institution's various histories, differential administrative support for community engagement, variance in mission priorities, differing student populations, and the diverse programmatic and pedagogical approaches applied to community engagement. Given these differences, we did not attempt a priori to identify specific designs to use. Rather, each campus's research lead(s) developed their own approach consistent with their institution's history and goals, keeping in line with the principles, theories, and prior research described above. Although it meant that we did not perform a multisite exact replication, the work could be viewed as six conceptual replications of the principles underlying the project, uniquely tailored to each institution. As well as focusing on interinstitutional differences in settings and student populations, the multiyear nature of the research project allowed us to examine intrainstitutional designs over time, either through lagged implementation, experimental/quasi-experimental designs, or through propensity score matching (see, e.g., Maruyama et al., 2023, this issue), such that our institutions could implement innovative practices with some of our students, with other students available for comparison. In addition, during annual meetings of project leads held at the different campuses involved in the research project, we were able to share effective practices and research approaches and forge beneficial relationships to strengthen our collective community engagement and service-learning programs. Finally, in assessing student outcomes, throughout the project we envisioned treating institutions as single cases for multiyear single subject designs (using archival data to provide multiple baselines). Over the course of the research project, we completed 14 investigations, some of which are presented and described in this special issue.

Outcomes

For the quantitative analyses, the dependent measures we included across the campus investigations were campus climate, student sense of belonging, student academic engagement and persistence (reenrollment), academic performance, and completion. To ensure access to information on institutional enrollment, performance, and graduation, which allowed us to track retention, level of success, and completion without missing data, each of the participating institutions supported the time of a person from the institutional research (IR) office to assist with the deidentification of student data used in our studies. It is important to note that although the student outcome data we needed (demographics of student cohorts, persistence data, graduation data, etc.) were available at all our participating institutions, the method of accessing those data and the researchers' access to the data varied.

Signature Programs

Each of the six participating universities has a robust and intentional campus–community engagement agenda that is supported by the institution's leadership (e.g., president, provost, senior academic leader). Each campus promotes embedding student community engagement and other campus–community partnership work more fully into the academic fabric of the institution. Each participating institution is committed to offering robust community engagement opportunities that meet the needs of its diverse student population, as is evidenced by the inclusion of community engagement priorities and goals in institutional strategic plans; the allocation of significant resources toward the advancement of a robust, campuswide community engagement agenda; the presence of senior administration positions dedicated to securing the institution's status as a community-engaged university; involvement of analysts from the campus's institutional research office measuring the success of the institution's community engagement agenda; inclusion of community-based learning and other community engagement opportunities in student recruitment materials; the inclusion and valuing of community-engaged scholarship in the institutional faculty promotion and tenure documents; and a formalized commitment to participatory approaches to community engagement, which honors and embraces the knowledge, expertise, and experience of community partners. Each campus has the goal of further institutionalizing community engagement programming. This research project provided an opportunity to contribute to the community engagement and broader higher education literature by studying the experiences of a diverse group of engaged institutions that are using community engagement to address needs of their underrepresented students.

From among the many community-based learning programs operating at each institution, our research team members identified a set of signature community-based learning and engagement initiatives operating at their sites. Each researcher identified the program(s) or initiative(s) on their respective campus that best represented an exemplary and/or unique approach to involving students from underserved and underrepresented communities in high-quality community engagement experiences. Each approach also had to have a positive and strong reputation for demonstrated success at its respective institution.

The following six signature community engagement approaches were the focus of the various research investigations conducted for this project:

- *academic (credit-bearing) service-learning courses* (University of Minnesota; University of Illinois–Chicago; University of California, Santa Cruz; University of Georgia)
- *cocurricular service-learning* (University of Minnesota; University of Illinois–Chicago)
- *community-based internship* (University of Minnesota; University of Illinois–Chicago)
- *extended community engagement experiences* (University of Minnesota; University of Illinois–Chicago)
- *student-initiated community engagement* (University of Memphis; University of Georgia)
- *near-peer mentoring* (City University of New York, Graduate Center)

Some of these programs were part of several different investigations over the 5 years of the research project.

In this issue, we present the findings from

one investigation conducted at each of the six participating universities and include a set of other articles that examine other key issues regarding the study of community engagement experiences of underrepresented students. The goal of this special issue is to provide readers with a sense of the breadth of the investigations and approaches that were part of the overall research project, as well as to offer suggestions for advancing and improving research focused on examining the impacts of community engagement on underrepresented students.

Overview of the Special Issue

This special issue is divided into three parts. The first part presents findings from investigations that examined the impacts of various community engagement programs on the educational success of underrepresented students. Profiled in this part are research studies from the University of Minnesota, City University of New York–Graduate Center (CUNY), University of Illinois–Chicago, and the University of California, Santa Cruz. The University of Minnesota study focuses on the practice of academic (credit-bearing) service-learning and explores whether enrollment in service-learning courses is related to 4-year retention and graduation outcomes for students who are either low-income or first-generation postsecondary attendees, and those students who are both low-income and first-generation (Hufnagle et al., 2023). The University of California, Santa Cruz article also examines the effects of the pedagogy of service-learning, this time exploring different typologies of service-learning practice and their outcomes for participating students enrolled at a Hispanic-Serving Institution (Langhout et al., 2023). In contrast, the CUNY article examines the effects of a near-peer community engagement program—a program in which CUNY students mentor students in local high schools and two-year colleges through college application, enrollment, and retention milestones—on CUNY students who serve as near-peer mentors, the majority of whom are from underrepresented backgrounds (McCallen et al., 2023). The last article in this first part, from the University of Illinois–Chicago, presents the findings of a multifaceted study that compared the impacts of four different types of community engagement experiences—co-curricular service-learning, community-based internship, academic (credit-bearing) service-learning, and extended community engagement—on students' grade point averages, credits earned, persistence, and degree completion (Duarte et al., 2023).

Whereas the articles in Part 1 of the special issue focus on the approaches and impacts of community engagement as they pertain to advancing the educational success of underrepresented students, the three articles in Part 2 focus on providing insights into the use of programmatic features, challenges, lingering questions, and effective practices for advancing community engagement programming in ways that further institutional support for underrepresented students. Specifically, these articles foreground the importance of valuing the voice and active participation of underrepresented students in the development of programs designed to enhance their success. The first article presents a case study of the University of Memphis's Tigers First program, a Student-Initiated Retention Project in which underrepresented students at the institution engaged in collective action to create a student advocacy organization focused on promoting policies, programs, and support for students from underserved communities (Davenport et al., 2023). The article highlights the importance of maintaining attentiveness to cultural capital and the imperative of actively involving underrepresented students in the development of institutional policies and programs that affect them. The second article, from the University of Georgia, focuses on a Student-Initiated Retention Project called Georgia Daze, a community engagement initiative that focuses on growing and retaining Black students at the university (Quarles et al., 2023). The authors of the article describe how the student members of Georgia Daze participate in high school outreach, field programming, and on-campus engagement to achieve the project's goals. Along with offering a set of lessons learned, the article includes details regarding how the Georgia Daze project is structured, the ways the university supports this student-led organization, and its impact on yield and retention. The third article is authored by underrepresented students themselves, who argue that the dominant literature and higher education leaders' definitions of educational success for underrepresented students do not necessarily reflect how the students themselves define such success (Do et al., 2023). The article presents important insights into the importance

of student voice and perspective on community engagement in the development of underrepresented educational experiences.

The four articles contained in Part 3 of this special issue explore new horizons in the research and practice of community engagement programming. Maruyama et al. (2023) explore how the use of propensity score matching (PSM) can improve the quality of research on community engagement by providing a means to assess group equivalence when comparing results of treatment and comparison groups in nonrandomized studies. Building on this approach and studies employing PSM in Part 1 (See Duarte et al., 2023; Hufnagle et al., 2023; McCallen et al., 2023), Soria et al. (2023) provide an example of how PSM can be used to facilitate comparison among samples from multiple institutions. Engaging a sample of more than 27,000 students from 70 HEIs, the authors use PSM to match students who participated in community service with students from similar backgrounds who did not engage in service, in order to examine whether the effects of community service on postsecondary students' social change behaviors and social generativity are conditional upon students' demographic characteristics. Along with presenting the findings of their study, the authors describe the advantages and offer cautions in using propensity score matching. The final two articles in this part focus on the results of a multiyear effort to establish a standardized, quantitative measure for assessing the quality of service-learning courses (Matthews et al., 2023). The resulting instrument (Service-Learning Quality Assessment Tool, or SLQAT) is a quantitative diagnostic composed of 28 "essential elements" known to promote positive student outcomes in postsecondary service-learning. The authors describe how to apply the tool to courses and offer suggestions for using the tool for research and for course development purposes. The final article of the special issue is a presentation of the complete SLQAT instrument (Furco et al., 2023).

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Benefits of Service-Learning on Students' Achievement and Degree Attainment Outcomes: An Investigation of Potential Differential Effects for Low-Income and First-Generation Students

Ashley S. Hufnagle, Yu-Chi Wang, Krista M. Soria, Geoffrey Maruyama, and Andrew Furco

Abstract

Previous researchers have demonstrated a positive association between enrolling in service-learning courses and achievement and graduation outcomes for college students. Less is known about whether results associated with service-learning hold for students from underrepresented backgrounds. Using propensity score matching, we explored whether enrollment in service-learning courses is related to 4-year retention and graduation outcomes of students who are low-income, first-generation college attendees, and who are both low-income and first-generation college attendees. We found positive relationships of service-learning course enrollment with higher achievement and higher odds of retention for students in the low-income category and the first-generation category. We also found a positive relationship between service-learning course enrollment and persistence for students who were both low-income and first-generation status. Implications of service-learning as a potential way of supporting the success of first-generation and low-income students are discussed.

Keywords: service-learning courses, graduation rates, persistence, retention, grade point average, research university

Scholars have provided ample documentation for the various individual benefits of college degree completion, including higher wages, increased job security, greater life expectancy, and better health. Indisputable societal benefits from having more individuals with college credentials include lower crime rates, increased rates of philanthropy and volunteerism, and higher civic engagement (Trostel, 2015). Recent shifts in workforce demands have made attainment of a college degree increasingly valuable: 2.8 million of the 2.9 million jobs with high salaries, benefits, paid time off, and health insurance created during the post-recession recovery went to employees with a bachelor's degree (Jones & Berger, 2019). The societal importance of postsecondary degree completion has caught the attention of national and state policymakers, who have advocated for increased college degree attainment among U.S. citizens. For instance, the Lumina Foundation (2017) established a national goal to have 60% of adults earning degrees or certificates by 2025, and state-level policymakers in 43 states have established goals for postsecondary degree attainment (Jones & Berger, 2019).

Looming against the backdrop of the national calls for increased degree completion rates are significant and persistent disparities in the degree completion rates of low-income and first-generation college students. For instance, students who receive Pell grants (federal grants awarded

to students from families with lower incomes) are more likely than their peers to drop out of public, private nonprofit, and private for-profit 4-year institutions without earning a degree within 8 years of enrollment (National Center for Education Statistics, 2018). Only 37.7% of first-time, full-time Pell grant recipients completed a 4-year degree within 8 years, compared to 54.5% of students who did not receive a Pell grant (Yuen, 2019). First-generation students—those who are the first in their families to attend college—also have lower degree completion rates at 4-year colleges (65%) than students whose parents have a bachelor's degree (83%; Cataldi et al., 2018).

To help reduce the college degree attainment gap between low-income and first-generation students and their peers, institutions often provide programmatic opportunities to students, such as specialized intensive advising programs (Engle & Tinto, 2008; Swecker et al., 2014) or summer bridge programs (Engle & Tinto, 2008; Suzuki et al., 2012; Townsend & Sloan, 2016). Others have explored whether other high-impact educational practices, such as learning communities, writing-intensive courses, and e-portfolios, may benefit first-generation or low-income students (Conefrey, 2018). Kuh (2008) suggested that such high-impact educational practices improve student outcomes because they require students to dedicate significant time and effort toward purposeful tasks, increase students' interactions with faculty and peers, increase students' experiences with diversity by putting students in contact with others who are different from them, provide students with opportunities to receive frequent feedback on their performance, and provide students with deep, meaningful experiences on and off campus. High-impact educational practices can produce positive outcomes for low-income and first-generation students, who are less likely to seek out those experiences. Nevertheless, to date few scholars (e.g., Bringle et al., 2010) have explored whether a particular high-impact practice—enrollment in a service-learning course—is associated with low-income and first-generation students' success.

This article explores the relationship between enrollment in a service-learning course and beneficial academic outcomes for first-generation and low-income students, specifically focused on 4th-year cumulative grade point average, persistence, and graduation within 4 years. We explore whether service-learning courses have differential effects on students' academic outcomes based upon their family income (Pell grant recipient status) and parents' educational attainment (i.e., whether their parents attended college or not).

Conceptual Framework

Bean and Eaton's (2001) psychological model of college student retention provides a broad conceptual framework for this study. This psychological model of retention indicates that students' entry characteristics upon arrival to campus influence their initial institutional and environmental interactions. Institutional interactions then spur recursive psychological processes that lead to intermediate outcomes of social and academic integration. Students' perceived level of academic and social integration then sets the stage for the attitudes, intentions, and behaviors that ultimately determine students' persistence and retention outcomes.

Specifically, students enter institutions of higher education with psychological attributes shaped by their unique lived experiences, abilities, and self-assessments (Bean & Eaton, 2001). Bean and Eaton suggested that paramount among the psychological factors that students possess when entering college are assessments of their academic self-efficacy (e.g., "Do I feel confident that I have what it takes to perform well academically here?"; Bandura, 1997), normative beliefs (e.g., "Do the important people in my life think that attending college or attending this institution, in particular, is a good idea?"), and past behaviors (e.g., "Have I had academic and social experiences that have prepared me to succeed in college?").

After arrival to campus, Bean and Eaton (2001) identified three psychological levers (students' self-efficacy assessments; coping behaviors; and locus of control, one component of Weiner's (1986) larger theory of attribution), upon which we hope to draw, that if present or enhanced may lead to improvements in students' academic and social integration. These levers represent a student psychological profile of high perceived self-efficacy, awareness of a wide range of coping behaviors and which work best for them, and the ability to identify the aspects of their college experience that they have control over. Institutional efforts can

open productive pathways for influencing students' self-assessments, behaviors, and attributions, and thus offer potential entry points for setting into action the overarching process of improved student retention (Bean & Eaton, 2001).

As students interact with the institution and its representatives in various academic, institutional, and social realms while continuing to interact with others outside the institution, they engage in continual refinement of their self-assessments in light of their experiences. Positive feedback from their environment and institution can motivate them to engage in adaptive strategies, making them feel more comfortable and further aiding in their integration. Ultimately, this improved sense of integration leads to a more specific set of attitudes: institutional fit ("I fit in at this school") and institutional loyalty ("I feel I made the right choice to come here" and "Being at *this* school is important to me"), which correspondingly increase students' retention (Bean & Eaton, 2001). We propose that service-learning courses represent one type of practice that institutions can intentionally implement to set this larger retention process into motion.

Research on Service-Learning Courses and Students' Success

Service-learning courses have both theoretical and empirical support for being effective. Service-learning courses are theorized to positively impact students' academic outcomes by enhancing their academic skills (Yeh, 2010), increasing interactions with faculty and classmates (Eyler & Giles, 1999; Hatcher & Oblander, 1998; Keup, 2005–2006; Sax & Astin, 1997), and bolstering students' self-efficacy (Hatcher & Oblander, 1998; Yeh, 2010). Consistent with these theories, scholars have produced a wealth of information on the benefits of SL courses on college students' success. Enrollment in service-learning courses has been linked to students' intention to return (Gallini & Moely, 2003; Keup, 2005–2006), retention (Bringle et al., 2010), grade point average (Astin et al., 2000), and intention to graduate (Bringle et al., 2010). A few qualitative studies have also investigated students' participation in service-learning courses, what skills they perceived they gained from their experience, and their resulting intentions to return to their university and graduate (Lee, 2005; Yeh, 2010). Complementing the quantitative research, these latter studies found that service-learning experiences were perceived differently by students of different social classes. Regardless of personal backgrounds, however, students who completed a service-learning experience possessed a heightened sense of civic responsibility (Lee, 2005). Yeh (2010) also found that students self-reported service-learning as vital to their college experience.

Taken collectively, Lee and Yeh's qualitative research has identified four major themes that may help explain the impact and outcomes of service-learning participation. Students reported that participating in service-learning (1) built skills and improved their interpersonal understanding, (2) developed resilience, (3) helped them find personal meaning, and (4) developed their "critical consciousness."

However, the substantial research evidence described here on the efficacy and importance of service-learning has provided little evidence on the question of whether enrollment in service-learning has a similar relationship with students' graduation and achievement (measured here as grade point average) for students who are low-income *and* first-generation status. As noted earlier, this research helps address that shortcoming of the literature.

Methodology

Participants and Context

We collected institutional data from the 2013 cohort of first-year, non-transfer students (N = 5,541) at a large, public research university in the Midwest. The university is an original Carnegie engaged institution and has a campuswide center that provides resources and professional development for faculty to aid in transforming their courses into service-learning as well as general oversight of implementation of service-learning practices.

Institutional Review Board approval for human participants was secured prior to data collection. Of this cohort, 49.4% had enrolled in at least one service-learning course during their 4 years in college. We reduced the full cohort sample of participants after utilizing propensity score matching procedures (described in more detail below) to match students who enrolled in a service-learning course (n =

2,734) and students who did not ever throughout their college years enroll in a service-learning course (n = 2,807). The demographic breakdown of the final matched sample is reported in Table 1.

We separated students into four separate categories: (1) Neither Pell eligible nor first-generation students: 3,506 (63.27% of the dataset); (2) Pell eligible but not first generation (Pell only): 728 (13.14%); first generation but not Pell eligible (first generation only): 612 (11%); or both first generation and Pell eligible: 695 (12.54%). We ran propensity score matching separately for each of these groups so that students were exact matched within categories (e.g., students who were both Pell eligible and first generation who were enrolled in a service-learning course were matched with similar students who were also both Pell eligible and first generation who were not enrolled in a service-learning course).

Table 1. Demographic Information for Matched Sample (N = 5,541)

Variable	*n*	%	Treatment *n*	Control *n*
Gender				
Male	2,626	47.4	1,113	1,513
Female	2,915	52.6	1,621	1,294
Race/ethnicity				
American Indian	52	0.9	29	27
Asian	615	11.0	352	263
Black	216	3.8	163	53
Hawaiian	24	0.4	11	13
Hispanic	165	3.0	89	76
International	282	5.1	107	175
White	4,176	75.3	1,981	2,195
Unknown	5	0.1	0	5
Variable	***M***	***SD***	***M (SD)***	***M (SD)***
Age	18.1	0.5	18.1 (.4)	18.1 (.5)
Total transfer credits	15.4	15.2	12.4 (13.7)	18.2 (16.2)
Composite ACT score	28.1	8.0	25.08 (7.4)	26.2 (9.12)
AP credits	11.0	12.9	8.8 (11.41)	13.2 (14.0)

Number of Students in Each Low-Income/First-Generation Status Combination Category After Stratification (N = 5,541)

Variable	*n*	%*
Neither Pell recipient nor first generation	3,506	63.27
Pell grant recipient only	728	13.14
First-generation status only	612	11.00
Both Pell recipient and first-generation status	695	12.54

Note: For 5 students in this data set, the variable Race was unknown, and these students could not be exact matched.
* Percentage totals less than 100 due to rounding.

Within each category, we "full matched" students based on the following covariates: international student status (dummy coded as yes/no); age; total transfer credits; AP credits; composite ACT score; honors college status (yes/no); dummy-coded (yes/no) versions of each non-White race/ethnicity identity category (specifically, American Indian or Native American, Asian, Black, Hispanic, Hawaiian or Pacific Islander); and dummy-coded (yes/no) versions of students' college of enrollment (Human Development, Liberal Arts, Design, Business/Management, Agriculture, Biological Sciences, Engineering). This final covariate of students' college of enrollment allowed us to account for service-learning participation requirements in particular colleges.

Within the four categories, in some instances covariates had no variability. The "both Pell and first generation" and "first generation only" groups did not contain any honors college students. Additionally, in the "both" category, there were no international students. Looking at the standardized differences (differences between the two groups divided by the standard deviation of the control group) across the covariates, propensity score matching was needed, as many of the differences between groups were well above .25. For each of the four categories, we compared optimal full, optimal pair, nearest neighbor with replacement, and nearest neighbor without replacement styles of matching to select the matching option that worked best across all four categories. Full matching was the best method across all four categories.

Measures

Covariates

We selected as covariates (called conditioning variables in PSM) in our propensity score matching procedure measures that have been theoretically or empirically related to either the outcome or treatment variables (Stuart, 2010). These variables included previously identified predictors of students' enrollment in a service-learning course, of participation in community service, and of retention/graduation (Astin & Sax, 1998; Cruce & Moore, 2007; Lester et al., 2013; Marks & Jones, 2004; Mitchell et al., 2017; Nuñez, 2009; Serow & Dreyden, 1990).

As covariates, we included students' cumulative precollege credits earned in high school, composite ACT score (as a measure of past achievement), total transfer credits, and cumulative AP credits. We converted SAT scores to ACT scores when ACT scores were missing. We also included students' biological sex (male or female), age at admission, and dichotomous variables (yes/no) for race (Asian, American Indian or Native American, Hispanic, Hawaiian or Pacific Islander, Black) and international student status. Given variability in service-learning course options and students' enrollment in service-learning courses within seven large first-year-student-admitting colleges, we included students' college of enrollment as a dummy-coded covariate (e.g., College of Biological Sciences, College of Liberal Arts).

We also included participation in specific university programs aimed at retention: Trio Student Support Services (a federal grant program for first-generation and low-income students) and the President's Emerging Scholars program (aimed at improving retention rates of students at risk of dropping out). Additional variables we included were whether students were members of the university's honors college (0 = no, 1 = yes) or involved in a community engagement program (0 = no, 1 = yes). Finally, we included whether students lived on campus (0 = no, 1 = yes), participated in a living learning community as a freshman (0 = no, 1 = yes), were a student athlete (0 = no, 1= yes), and participated in a first-year seminar (0 = no, 1 = yes). Taken together, these variables control for a number of other types of campus engagement, providing a more sensitive test of the impacts of service-learning.

Independent Variable

We used institutional data of students' registration in classes to capture whether students had ever enrolled in a service-learning course (0 = no, 1 = yes).

Dependent Variables

As having all students graduate in a 4-year time frame is set as an ideal by educators, administrators, and policymakers alike, our outcome variable of interest was students' graduation status (more specifically, whether they had withdrawn, were still enrolled, or had graduated) by the end of their 4th year in college. We also investigated students' achievement, as measured by 4th-year cumulative grade point average, because grade point average is a reliable

predictor of engagement and graduation (Kuh et al., 2006).

Data Analyses

We used propensity score matching techniques to create a matched comparison group of students who never participated in service-learning across their college years. This comparison group allowed us to assess the effects of participation in service-learning while controlling for background and other variables previously found to be related to academic outcomes. To the extent that groups differ on variables aside from the treatment, those variables, if uncontrolled, could lead to misinterpretation of findings. The purpose of propensity score matching is to reduce selection bias by controlling for extraneous variables in quasi-experimental studies and, therefore, strengthen causal arguments.

We first utilized Johnson's (2018) R program functions, which call upon MatchIt (Ho et al., 2011), Optmatch (Hansen & Klopfer, 2006), and Matching (Sekhon, 2011) packages to compute propensity scores (in this case, the estimated probability that students enroll in a service-learning course) for individual students. Next, we stratified the data such that students were matched with comparison others within their low-income/first-generation status category ("neither Pell grant recipient nor first-generation student," "first-generation student only," "Pell grant recipient and first-generation student," and "Pell grant recipient only"). We then used optimal full matching on the remaining covariates so that students who enrolled in a service-learning course were fully matched with students who never enrolled in a service-learning course. Students were matched within each of the four low-income/first-generation status categories based on propensity scores. We discarded individuals who had propensity scores that fell outside the range of propensity scores that included students in both groups, in order to avoid inclusion of individuals so unique that no reasonable comparisons could be made to them from the other condition (e.g., Thoemmes, 2012). This process resulted in a matched data set of comparable treatment (enrolled in a service-learning course) and comparison (never enrolled in a service-learning course) students.

We examined whether the matching procedures balanced the distributions of covariates in the treatment and control groups by first reviewing the standardized mean differences before and after matching (the mean differences between the two groups divided by the standard deviation of the control group). We detected no large imbalances (standard deviation difference above .25) after matching in each analysis, meeting the threshold suggested by Rosenbaum and Rubin (1985) for valid use of PSM techniques. We also examined the overall imbalance test (Hansen & Bowers, 2008) and found that no variable showed imbalance large enough after matching to warrant its inclusion in the analyses comparing service-learning students with peers who did not participate in service-learning (the criterion for inclusion is having a standardized difference between groups exceeding .05). Our visual inspections of histograms of propensity scores pre- and post-matching showed that the magnitude of standardized differences was substantially reduced, and histograms of standardized differences of all terms pre- and post-matching suggested that the standardized differences post-matching were centered on zero and that no systematic differences existed after matching (Thoemmes, 2012). These findings show that PSM decreased differences for any covariates on which treatment and control groups differed markedly compared to before matching procedures were implemented. Decreasing differences lessens the likelihood that those variables could explain differences found between students enrolled versus not enrolled in service-learning.

To control for the remaining differences between groups after matching that exceeded .05 standard deviations (*SD*), we included the following variables in our analyses looking at the effects of service-learning: For the Pell only group, we controlled for American Indian (*SD* = 0.068), Hawaiian (*SD* = 0. 07), and the College of Biological Sciences (*SD* = 0.065); for the first-generation only group, we controlled for the College of Agriculture (*SD* = 0.09), Composite ACT score (*SD* = 0.05), and International Student Status (*SD* = 0.07); for the both Pell and first-generation group, we controlled for the College of Biological Sciences (*SD* = 0.09); and for the neither Pell nor first-generation group, we controlled for the College of Biological Sciences (*SD* = 0.09).

To investigate differences in achievement, we conducted a regression analysis to predict the 4th-year cumulative grade point average of students who had enrolled

in a service-learning course versus their matched peers who had never enrolled in a service-learning course within each of the four low-income/first-generation status combination categories. We used a multinomial logistic regression to predict the odds of students' persistence (i.e., continued enrollment in college) over withdrawing and the odds of graduating in 4 years over withdrawing, based on whether they were enrolled in a service-learning course during their time in college (Schulzetenberg et al., 2020). We split the file into the four low-income/first-generation status combination categories ("neither Pell grant recipient nor first-generation student," "first-generation student only," "Pell grant recipient and first-generation student," and "Pell grant recipient only") to examine the differential effects of enrollment in a service-learning course on those groups. We used *p*-values ($p < .05$) as our cutoff for statistical significance in our analyses.

Results

First, we conducted a regression analysis to predict students' average cumulative college grade point average within each of the low-income/first-generation status combination categories, controlling for the covariates that still had slight variability (0.05–0.25 standardized differences) after matching, as noted above. Next, we used multinomial regression to predict students' odds of persistence over withdrawal and odds of graduation over withdrawal in 4 years, again controlling for the covariates that still had slight variability (0.05–0.25 standardized differences) after matching in each category. Below we summarize the results for the four groups.

Neither Pell Nor First Generation

We optimal full matched students who participated in service-learning courses who were neither Pell nor first generation with students who did not participate in service-learning and were neither Pell nor first generation. After matching, these students did not differ significantly (i.e., greater than .05 standardized differences) on the covariates, so we proceeded with the regression analysis for grade point average and the multinomial regression analyses for persistence and graduation. Within this category, students who participated in service-learning courses had, on average, a .08 higher grade point average than those who never participated in service-learning courses (B =.08, β =.138, t = 4.07, $p < .001$). They also had significantly greater odds of continuing to be enrolled over withdrawing (persistence: $e^{\beta} = 1.76$, $p < .001$) and of graduating over withdrawing (graduation: e^{β} =1.86, p <.001) at the 4-year mark.

Pell Only

Controlling for whether the student was enrolled in the College of Biological Sciences (B = .16, SE = .08) and whether the student was American Indian (B = .03, SE = .18) or Hawaiian or Pacific Islander (B = .03, SE = .35), students who were Pell grant recipients who participated in a service-learning course had, on average, a .098 higher final grade point average than those who were Pell grant recipients but did not participate in a service-learning course (B = .098, β = .16, SE = .045, t = 2.18, $p < .03$). Those in this category who participated in service-learning were also more likely to have persisted over withdrawing, when controlling for American Indian, College of Biological Sciences, and Hawaiian ($e^{\beta} = 2.52$, $p < .001$). Pell-only students' odds of graduating at the 4-year mark was marginally significant ($p < .07$).

First Generation Only

Service-learning participation had a marginally significant relationship with first-generation students' grade point averages, after controlling for being in the College of Agriculture, international student status, and composite ACT score (B = .115, β = .091, SE = .05, t = 1.772, p = .077). Students in this category who participated in service-learning also had significantly greater odds of persisting over withdrawing at the 4-year mark (persistence, $e^{\beta} = 2.236$, p = .013).

Both Pell and First Generation

After controlling for being enrolled in the College of Biological Sciences, there was no significant relation of service-learning participation with grade point average for students who were both Pell-eligible and first-generation status (B = .07, β = .11, SE = .05, t = 1.406, p = .16). However, students who were both first generation and Pell grant recipients did have greater odds of persisting over withdrawing at the 4-year mark (persistence, $e^{\beta} = 2.773$, $p < .004$).

Collectively, the results suggest that for all four groups, students who enrolled in a service-learning course during their col-

lege career had significantly greater odds of representing at least one of our outcomes of interest (achievement as measured by grade point average, continued enrollment/persistence in college, graduation in 4 years). Overall, the variance in grade point average accounted for by enrollment in a service-learning course was 1–2%.

Discussion

Improving degree attainment rates among low-income and first-generation students has been established as a national imperative. In response, researchers have sought evidence-based pedagogical practices that may impact students' retention/persistence in college and, ultimately, improve students' odds of graduation. Although researchers have documented the benefits that service-learning can have on retention across the college years, very few studies have attempted to parse out whether there are differential effects of service-learning participation on 4-year graduation or persistence outcomes for first-generation students or students from low-income families. This study addressed that shortcoming, investigating whether enrollment in a service-learning course had different relationships with academic outcomes for first-generation students, low-income students (operationalized as Pell grant recipients), or students who fell into both demographic categories.

Results from this study demonstrate a positive relationship, either statistical significance or marginal significance, of service-learning participation with achievement (as measured by 4th-year cumulative grade point average) for students in both the Pell only and first generation only categories compared to their matched peers who did not participate in a service-learning course. Additionally, students who enrolled in service-learning courses (across all four categories) had significantly greater odds of persistence (over withdrawal) at the 4-year mark compared to their matched peers. For students in the Pell only category, the odds of graduation (over withdrawal) also approached significance.

The benefits of enrollment in service-learning courses (on all three outcomes of interest: achievement, odds of persistence, and odds of graduation) were also present for non-first-generation and non-Pell students, replicating prior research (e.g., Song et al., 2017) and supporting the positive impacts of service-learning courses on all students' academic outcomes.

The results of this study extend prior research on the effectiveness of service-learning courses for underrepresented, low-income, and first-generation students. Collectively, the pattern of results found in this study suggests that enrollment in a service-learning course may offer benefits, regardless of students' low-income/first-generation status combination category, but particularly for improving students' odds of persistence/continued enrollment in college.

Higher education practitioners seeking to ameliorate patterns of inequality in degree completion rates may find service-learning courses to be a potential universally useful pedagogical mechanism for improving the odds of students' success. Although some may argue that the modest effect sizes diminish meaningfulness of the findings, even modest effects can impact retention and graduation rates of underrepresented students. For grade point average, modest effects can be the difference between being on academic probation or not, which may subsequently result in dropping out and not graduating.

Further, positive effects of service-learning appeared even after controlling for a range of background variables in the PSM analyses, including prior achievement, demographic variables, college of enrollment (and, implicitly, major field types), and other campus engagement measures. Positive relations of enrollment in a service-learning course with persistence remained even after controlling for measures such as participation in programs specifically aimed at boosting retention for underrepresented students. This finding suggests that enrollment in service-learning courses may have the potential to positively impact these groups of students above and beyond programs with similar goals that are already being implemented, and over and above any variability in service-learning that is shared with any of the covariates, for their relations with academic outcomes are already removed.

Because the unique variance in outcomes accounted for by service-learning courses was modest, service-learning should be viewed as beneficial but not a cure-all fix. At the same time, however, encouraging students to take service-learning courses may offer supplementary benefits to the current constellation of practices and resources

aimed to engage and support low-income and first-generation university students.

Our results are also consistent with Bean and Eaton's (2001) psychological model of student retention, offering empirical evidence for connections between service-learning courses and students' retention and graduation outcomes. Although we did not specifically measure any of the psychological processes outlined in Bean and Eaton's theory, thinking about how an institutional practice like service-learning may operate within this larger conceptual framework of retention may allow us to hypothesize why we see this pattern of results demonstrating the impact of service-learning on students' retention outcomes. Specifically, service-learning courses may potentially be impactful because of the psychological (e.g., sense of belonging), social (engaging in activities that have direct community benefits), and academic benefits derived from such courses, which can in turn increase students' academic integration. Future research is necessary to test this process-based explanation. Among academic benefits, service-learning courses have been associated with increases in students' problem-solving skills (Greenberg, 1997), improved cognitive development (Giles & Eyler, 1994), better academic performance, and more time spent studying (Sax & Astin, 1997). Through service-learning, students may well gain skills to more effectively cope, cultivate an internal locus of control, and boost their sense of academic and social self-efficacy in the university environment, all of which increase their academic integration and, consequently, their long-term academic outcomes (Bean & Eaton, 2001).

This study also contributes to the field by implementing a more rigorous methodological and statistical approach, propensity score matching, to address this research question. Randomized control trials, although considered the gold standard for estimating the effects of interventions on outcomes, are not possible when students select their own college experiences. In nonrandomized studies, treatment selection (in this study, enrollment in a service-learning course) is often related to student characteristics (such as demographics or past achievement). As a result, baseline characteristics of treated subjects often differ systematically from those of untreated subjects (Austin, 2011). Therefore, when estimating the relation of treatment (enrollment and presumed participation in a service-learning course) with outcomes, one must account for systematic differences in baseline characteristics between treated and untreated students. By matching students on propensity scores measuring the likelihood of enrolling in service-learning courses based on included covariates at baseline, we were able to design and analyze a nonrandomized study in a way that mimics if not captures some elements of a randomized control trial (Austin, 2011). Analyzing these data in this fashion allowed us to make more precise comparisons by reducing the potential bias of confounding variables (in this case, our included covariates), and helps to strengthen arguments in support of potentially causal relationships. Further, utilizing propensity score matching may provide more equivalent comparison groups, as randomization does not guarantee equivalency.

Additionally, there is growing interest in using archival data to estimate the relations of educational interventions and programming with student outcomes (Austin, 2011). The current study harnessed institutional record data to investigate the relations of service-learning participation with students' achievement and graduation outcomes. Future studies of service-learning may benefit from this expanded use of archival institutional data.

Limitations

Despite the benefits of propensity score matching, it is still a quasi-experimental method, so we cannot make definitive causal claims or generalize outside this population (e.g., Maruyama & Ryan, 2014). Although we controlled for a variety of covariates that we theoretically and practically believed would be related to student outcomes and potentially to participating in service-learning, there are likely other variables that we could not or did not measure. For example, even though we were able to control for some motivational and engagement variables, students who choose to participate in service-learning may have personality or motivational differences related to self-selection (such as their unique sense of agency) that could have resulted in differences in outcomes independent of participation in service-learning (Muturi et al., 2013).

Although Pell grant recipient status is a consistently used indicator of low income

status, it is not a perfect measure of low socioeconomic status, both because a significant percentage of college students do not complete the Free Application for Federal Student Aid (FAFSA) each year (Delisle, 2017; National College Access Network, 2018) and because the category does not distinguish between different levels of economic disadvantage. Completing the FAFSA is not only a time-consuming process that presumes some degree of financial knowledge (although it is currently being made simpler), but it may also raise additional barriers for people who do not have U.S. citizenship or do not read English fluently. Further, receiving a Pell grant is a binary variable; we did not capture income variation within this group of low-income students. Such variation could significantly affect students' experiences, so ideally future research will have the capacity to address the potential variation within Pell grant recipients rather than treating them as a uniform group.

Importantly, our broad-scale analyses grouped together all service-learning courses. We did not have access to specifics about effectiveness in implementation of high-quality service-learning practices for individual courses. Therefore, our findings represent an aggregate perspective with variability within both the service-learning and non-service-learning courses with respect to educational approaches. Although our institution is recognized as providing effective service-learning experiences and provides support to faculty in implementing those practices, there nevertheless is uncontrolled variability in quality across different courses in their capacity to successfully implement high-quality service-learning practices. Given our findings, we anticipate that we might have found even stronger effects if we had been able to focus on only service-learning courses that met criteria for high-quality implementation of service-learning practices.

Additionally, now that we have found support for the idea that service-learning courses benefit students' outcomes, future research can extend our findings by using models that track change over time (such as latent growth curve models; Singer & Willett, 2003) to begin to identify when during the college years a service-learning course might most benefit students across these four low-income/first-generation categories.

Conclusion

Due to the host of benefits that result from attaining a college degree, boosting graduation rates for first-generation students and students from low-income backgrounds has been set as a national priority (Jones & Berger, 2019; Lumina Foundation, 2017). Overall, our results found that low-income and first-generation students enrolled in service-learning courses showed higher achievement as well as greater persistence/retention outcomes compared to their peers. Improving the odds that first-generation and low-income students persist (over withdraw) at the 4-year mark represents a productive step toward achieving the overarching goal of boosting graduation rates for all students. Students are likely to reap benefits of a degree even if their timeline to graduation is greater than 4 years.

This pattern of findings appeared even in the context of a very broad perspective across many service-learning courses offered in diverse fields. We hope that others will "drill down" and look at how specific elements of service-learning in specific course types can affect outcomes. A recently developed tool, the Service-Learning Quality Assessment Tool (SLQAT), may offer a way to make these more nuanced analyses feasible (Furco et al., 2023).

Although service-learning courses alone are not enough to ameliorate the educational attainment gap, our results suggest service-learning's potential utility for helping to boost the achievement and degree attainment outcomes for low-income and first-generation students. Given the benefits of service-learning for students' long-term academic outcomes, we are hopeful that offering and promoting service-learning courses to first-generation students and those from lower income backgrounds may improve their academic successes, providing greater access to an entry point along a potential pathway to greater career success and, ultimately, a more equitable society at large.

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How a Community Engagement Model of Near-Peer Counseling Impacts Student Mentors' College Outcomes

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Abstract

This study examines how a community engagement model of near-peer counseling impacts counselors' own college success as underrepresented students in higher education, here defined as one-year persistence in college. Near-peer mentors participated in a program provided by College Access: Research and Action (CARA), which trains young people to support peers in their home communities at New York City public high schools and City University of New York (CUNY) 2-year colleges through critical college application, enrollment, and retention milestones. Aggregated across 4 years of data, our results indicate CARA near-peer counselors are nearly twice as likely to persist in college ($p < .001$) as peers with similar demographic and academic characteristics not participating in CARA. Findings are replicated for students of color (2.09 times higher, $p < .001$) and economically disadvantaged students (1.78 times higher, $p = .003$). Implications for peer mentor program development through public university–community partnerships are discussed.

Keywords: peer mentoring, college success, social capital, cultural capital, community engagement

In fall 2019, roughly 20 million students enrolled in the postsecondary system (NCES, 2019a), yet only 59.7% of those at 4-year colleges (NCES, 2019b) and 31.6% of those at 2-year colleges (NCES, 2019c) graduated "on time" (defined as up to 150% of the normal time to completion). There are also notable racial and socioeconomic disparities in degree attainment. By age 25, 22.5% percent of African Americans and 15.5% of Latinos in the United States have earned a bachelor's degree or higher, compared to 36.2% of Whites and 53.9% of Asian Americans (Ryan & Bauman, 2016). There are similar income-based disparities in degree attainment: By age 24, only 13% of people from low-income backgrounds have earned a bachelor's degree, compared to 62% of their high-income peers (Cahalan et al., 2019). Given the relationship between degree attainment, economic well-being (Abel & Deitz, 2014), and psychosocial adjustment (Hout, 2012), it is crucial that program and policy interventions address these attainment gaps by supporting students of color and economically disadvantaged students through the path to degree attainment.

In the current study, we quantitatively track the impact of a college access and success program housed at the City University of New York (CUNY), focused on training largely low-income first-generation college students of color in a community engagement experience in which they serve as near-peer college counselors (mentors) to students from similar backgrounds in New York City public high schools or CUNY 2-year colleges. This near-peer mentorship program, developed by College Access: Research and Action (CARA), honors the wisdom, experience, and impact of near-peer mentors, and functions as a culturally responsive model of community–campus civic engagement by, and for, underrepresented students pursuing public higher

education in New York City. The analysis we present in this article focuses on the impact of a community engagement model of near-peer mentoring on mentors' own college outcomes.

Social and Cultural Capital in Higher Education

One explanation for the low rates of degree attainment are disparities in access to people and opportunities that build students' social and cultural capital, particularly within institutions that uphold dominant cultural norms, such as schools (Stanton-Salazar, 1997). Social capital theory (Bourdieu, 1986) posits that people have varying levels of social capital stemming from their access to resources (both actual and potential) that are linked to membership in a group. It is well known that students of privilege enjoy significant support in their college application process, ranging from tutoring to personal essay coaches. Some also enjoy legacy status or, as more recently demonstrated, parents donating substantially to colleges in exchange for admittance (Thelin, 2019).

Cultural capital has similarly been found to contribute to inequalities in access to higher education. The term "cultural capital" refers to individuals' skills, knowledge, and competencies acquired from their environment (e.g., parents, schools) that promote education and social mobility (Bourdieu, 1984; Lareau & Weininger, 2003), thus providing advantages to those who possess this resource. Cultural capital has been found to contribute to both first-generation and non-first-generation students' enrollment in 4-year colleges (Dumais & Ward, 2010) and first-to-second-year persistence of all college students (Wells, 2008a).

Social and cultural capital are shared resources in some families and not in others, and lower levels of these forms of privilege can impede college success. Students with lower social and cultural capital may struggle with tasks related to the application or enrollment process or may encounter obstacles that they cannot navigate alone on the path to college graduation. We know that first-generation students, students of color, students from poverty, and immigrant youth have fewer college-going supports within their families than more privileged peers, and are therefore more reliant on their schools to provide college-going resources (Farmer-Hinton, 2008). Within marginalized communities, Yosso (2005) argued, forms of cultural capital are nurtured that promote social mobility, such as aspirational capital (the capacity to maintain optimism and motivation in the face of real and perceived barriers), navigational capital (skills of moving through and coping with social institutions), and resistant capital (the attitudes developed through oppositional behavior to challenge inequality). Therefore, social interventions aimed at increasing the mobility of underrepresented students must draw on the resources of communities to address gaps in accessing dominant cultural and social capital within institutions.

Benefits of Mentoring

Mentoring is one way to share social and cultural capital to support the development of skills related to postsecondary access and success. Within schools, adults who have mentoring relationships with underrepresented students are theorized by Stanton-Salazar (1997) as institutional agents: adults who transmit, or negotiate the transmission of, specific forms of cultural and social capital called institutional support. Institutional support includes the ways institutional agents influence the students they have relationships with, such as through role modeling, providing guidance and advice, and helping students gain access to societal gatekeepers. Institutional agents also help students understand specialized funds of knowledge, such as knowledge about college choices, majors, and financial aid. These supports, in turn, enable underrepresented young people to successfully navigate mainstream spheres and the stresses of this navigation process in ways that advance their economic and political position (Stanton-Salazar, 1997).

Nonparental adult mentoring of young people has become a widespread social intervention in the United States, and research has documented the positive effects of mentoring relationships for youth, particularly when relationship development is a key component of the program model (Rhodes & DuBois, 2008). Research has also looked more specifically at the effect of mentor and mentee social or racial background on mentee outcomes, with mixed results. In a study with a small sample and correlational design, Thompson et al. (2013) found that adolescents (aged 13–18) from lower income families in a school-based mentoring program benefited more than peers from

higher income families. However, in a meta-analysis of adult–youth mentoring program effects reported across 70 outcome studies, Raposa et al. (2019) found overall modest effects for the effectiveness of mentoring programs, but no effects as a function of youth race/ethnicity and adult mentor race/ethnicity.

Although adult–youth mentoring remains the most common program model and area of research inquiry, an increasingly popular approach is near-peer mentoring, which provides students with the opportunity to be "mentored while mentoring" (Anderson et al., 2015, p. 117). Near-peer mentors are typically slightly older students who are matched with younger students and serve as mentors for these students. Near-peer mentors also receive mentoring from adult professionals in the form of training, supervision, and professional development. In this way, near-peer mentoring allows students to experience the benefits of being mentored as well as the benefits of mentoring. Near-peer mentoring within marginalized communities has the additional benefit of enabling intergenerational transmission of forms of capital developed in opposition to social and institutional norms (Stanton-Salazar, 1997; Yosso, 2005). Such capital may be especially valuable in the context of student community engagement models of mentoring in educational settings, where older students supporting younger students while simultaneously being mentored themselves by community role models ensures knowledge and skills necessary for navigating the processes of social mobility flow through the institutions in ways that ensure students have access to these resources.

Enhancement of Learning

As near-peer mentors work closely with mentees and support them in developing necessary skills, one of the indirect benefits they experience is an enhancement of their knowledge regarding a topic. Mentors often report that the experience of mentoring provided them with an opportunity to further develop their knowledge and practice the skills they are teaching (Dennison, 2010; Eby & Lockwood, 2005; Naeger et al., 2013). The mentoring process may also encourage mentors to learn material at a deeper level (Gilles & Wilson, 2004) and foster the development of problem-solving skills (Singh et al., 2014). Thus, near-peer mentoring may be effective in supporting both mentors and mentees in succeeding academically.

Emotional Benefits

In addition to academic benefits, peer mentors also experience emotional benefits. For example, near-peer mentors in medical school settings reported that mentoring fostered their sense of confidence and responsibility (Dennison, 2010; Singh et al., 2014). This effect is widespread: A nationally representative study of high school students reported that students who participated in service activities, regardless of the type of activity, showed 15% fewer behavioral problems compared to peers who did not participate in service activities (Schmidt et al., 2007). Peer mentors also report they experience emotional rewards associated with helping others (Dennison, 2010) and find the experience of mentoring personally gratifying (Eby & Lockwood, 2005). The emotional benefits of near-peer mentoring may be attributed to the development of close, personal relationships (Eby & Lockwood, 2005) that, in turn, foster the development of social–emotional skills that positively contribute to students' academic outcomes (Oscar & Ross, 2016).

Professional Development

The process of mentoring is in itself a form of professional development, as mentoring requires familiarity with a topic as well as an understanding of the larger context of one's work (Gilles & Wilson, 2004), both of which require mentors to reflect on their knowledge and role responsibilities. As a result, mentors often report that the experience of mentoring contributes to their own professional development. Given that mentors often work with younger or less experienced mentees, they take on a leadership role within this relationship. This role contributes to mentors' reports of increases in their confidence in their leadership ability as well as new opportunities for leadership within and outside the organization (Gilles & Wilson, 2004). Acting as a mentor may also help mentors hone existing skills by providing opportunities to practice these skills. For example, near-peer mentors report improvement in their teaching skills resulting from their role as mentors (Naeger et al., 2013; Singh et al., 2014).

Community Engagement

Another approach to supporting students on the path to degree completion is involvement in community engagement activities through campus–community partnerships,

"based on the belief that engagement with the community, a practice that had long been viewed as a supplement to the academy's core work, flourishes and succeeds when it is integrated into the academic fabric of the institution" (Furco, 2010, p. 380). These campus–community engagements may take the form of, for example, community-based learning through internships, academic service-learning, and community-based or participatory action research (Furco, 2010).

Participation in community engagement activities in academic settings has been demonstrated to benefit students' academic development such that students enrolled in a service-learning course perform better on assessments of learning than peers enrolled in the same course without a service-learning component (Strage, 2000). The academic benefits of community engagement may extend beyond courses with service-learning embedded: Participation in civic activities such as community service positively influenced students' grades, writing skills, and critical thinking skills (Vogelgesang & Astin, 2000). In addition to academic development, community engagement plays an important role in students' psychosocial development. Zeldin (2004) summarized the research on civic engagement and antisocial behavior, which has found that more civically engaged youth are less likely to display violent or delinquent behaviors. Students who participate in community service and/or service-learning courses also demonstrate enhanced interpersonal skills, leadership ability, and civic self-efficacy (Vogelgesang & Astin, 2000). A meta-analysis of 62 studies examining service-learning effects on student outcomes confirms the positive impact of this model on academic performance and social domains such as attitudes toward self, attitudes toward school and learning, civic engagement, and social skills (Celio et al., 2011). The authors' analysis further indicates that incorporating specific service-learning program practices, such as voice and community involvement, increases the magnitude of effects on student outcomes.

The Current Study

A growing body of literature highlights the positive contributions of community-engaged mentoring for social–emotional, cognitive, and identity development in mentees (for a review, see Rhodes et al., 2006). Less work, however, examines how mentoring influences mentors' own development, especially in the case of near-peer mentoring where the mentor is a young adult. The current study aims to address this gap by examining the impact of serving as a near-peer mentor on college students' academic development. Specifically, we examine the effect of participating in a near-peer community engagement counseling program delivered by College Access: Research and Action (CARA) that (1) provides college students with culturally responsive training to build their college knowledge, counseling competencies, and higher order college readiness skills and (2) creates the opportunity to transmit this social and cultural capital through working with the high school seniors, first-year community college students, and school staff in the underserved communities where they attended high school or currently attend college.

We consider near-peer mentoring to be an opportunity for community engagement, "giving back" to one's community, as well as an opportunity to strengthen one's academic skills and acquire university-specific cultural knowledge (Lareau, 2015). Our hypothesis is that near-peer counselors trained and supported by CARA, who are largely underrepresented students themselves, experience benefits through receiving formal college counseling training and serving as near-peer mentors that make them more college ready, particularly in terms of building the capital necessary to successfully navigate the college environment.

Our study seeks to answer the following research questions:

1. How does serving as a near-peer counselor through CARA's College Bridge or College Allies program impact mentors' own college success outcomes at CUNY as compared to propensity-matched comparison groups of students?
2. In what ways do these effects differ for subgroups of students who are at higher risk for poor college outcomes, specifically Black and Latino/a students and low-income students?

Near-Peer Mentoring: CARA's Community Engagement Model

CARA is an organization based at the City University of New York (CUNY) Graduate Center that conducts programs, engages

in research, and advocates for policies to ensure equitable postsecondary access and success in New York City. CARA's peer leadership program model supports near-peer counselors, who are predominantly low-income first-generation college students of color, to work within their communities in New York City public high schools or on campuses at CUNY 2-year colleges to bolster the college access and success of a student population that also consists primarily of low-income first-generation college students of color.

CARA provides near-peer counselors with over 70 hours of training where they develop the skills and knowledge to support students through critical application, enrollment, and retention milestones. Near-peer counselors work directly with students to provide college counseling to develop postsecondary navigation skills and ensure students enroll in college and integrate into their campus. Near-peer counselors are also positioned to serve as credible messengers who deliver resources most adults in the school or university communities where they work cannot provide, such as sharing students' background characteristics in terms of race/ethnicity, social class, or native language; being able to communicate in ways that are familiar to young people (i.e., social media, text message); and having up-to-date information twinned with knowledge of how to navigate college application, transition, and enrollment through their firsthand experience of doing so as current college students (Bloom & Chajet, 2020).

CARA's College Bridge program specifically addresses the gap in college guidance by training current college students, called Bridge Coaches, to support high school students, particularly during their senior year and the summer before they matriculate into college. Each participating high school embeds a Bridge Coach, usually an alumnus of their school, into their college office under the supervision of the college counselor. With comprehensive training, Bridge Coaches develop a range of skills and content knowledge that they then use, alongside their unique near-to-peer perspective, to provide 400 hours of individualized support to students over the course of their senior year and the summer before college.

CARA's College Allies program specifically addresses college retention by training college students to support their peers through the obstacles to graduation. CARA provides Peer Leaders training where they develop the skills and knowledge to support students through critical retention tasks (such as financial aid renewal), help them to develop campus navigation skills, and ensure that they integrate into their campus community. Peer Leaders provide over 320 hours of one-on-one support to students over the course of the academic year, in addition to working in partnership with campus-based staff to establish the structures and culture needed to make a peer-to-peer community engagement program effective and sustainable.

Institutional Context

CUNY is the primary institutional context for our study, as the near-peer counselors included in our sample are current CUNY 2-year or 4-year college students. CUNY is also the most common postsecondary destination for the high school students served by College Bridge near-peer counselors (78% attended an NYC public high school; CUNY Office of Institutional Research and Assessment, 2016), and all of the students served by College Allies near-peer counselors are current 2-year CUNY college students.

CUNY is a public university comprising 24 colleges and graduate schools spanning New York City's five boroughs: Manhattan, Queens, Brooklyn, Staten Island, and the Bronx. It is the largest urban university in the United States, enrolling over 200,000 undergraduates each year. CUNY's mission centers on being responsive to the needs of its urban setting and promoting upward mobility of its diverse population of students. More than 40% of CUNY undergraduates are born outside the United States (with family heritage linked to over 205 countries), 44% are first-generation Americans, 44.8% are first generation in college, 31.9% identify as Latino/a, and 26% are Black (CUNY Office of Institutional Research and Assessment, 2019).

CUNY reflects the national landscape of higher education institutions that serve the "new majority" of students who are first generation in college, low income, and/or students of color. At the CUNY 4-year colleges, the one-year retention rate is 86.9%, and the 6-year completion rate averages 54.8% (CUNY Office of Institutional Research and Assessment, 2016), with approximate national figures showing an 83% one-year retention rate at 4-year public institutions

(National Student Clearinghouse Research Center, 2018) and a 59% 6-year completion rate (National Center for Education Statistics, 2017). At the 2-year colleges, the one-year retention rate is 66%, and the 3-year completion rate averages 17.7% (CUNY Office of Institutional Research and Assessment, 2016), whereas national figures show a 62% one-year retention rate at 2-year public institutions (National Student Clearinghouse Research Center, 2018) and a 29% 3-year completion rate (National Center for Education Statistics, 2017).

Method

Data Source

Administrative records from CUNY were the data source for our study. To protect confidential student data, only staff in the CUNY Office of Research, Evaluation, and Program Support (REPS) had access to data with student identifiers present. For purposes of the study, REPS assigned a study identification number to each student in the intervention and comparison groups, and only REPS and CARA researchers had access to the list that linked study identification numbers, student names, and university student identification numbers. REPS used students' identifying information to match students with their academic records in a university-wide database maintained by the CUNY Office of Research and Assessment. Student identifying information was removed from the data sets CARA research staff managed for the purposes of analysis. Prior to commencing data collection procedures, CUNY institutional review board (IRB) approval for conducting research with human subjects was obtained.

Our study includes four waves of administrative data, following intervention and comparison groups in the 2014–2015, 2015–2016, 2016–2017, and 2017–2018 academic years. All students who enrolled at CUNY colleges and participated in CARA's College Bridge or College Allies programs as near-peer counselors were eligible to participate in the study. The intervention group was therefore composed of CUNY college students who were trained and conducted community engagement as near-peer counselors at a CUNY 2-year college or at their NYC alumni public high school between 2014–2015 and 2017–2018. All members of the intervention groups (mentors) consented to participate. However, not all participants' identifying information (on average, 10% across all waves of data) was successfully matched to their CUNY academic record, and therefore these consenting intervention participants do not appear in the study sample.

Measures

One-Year Persistence

Students were considered as persisting if they were enrolled at any CUNY college during two consecutive fall semesters and had not yet earned a degree. One-year persistence was a binary variable indicating whether a student persisted (1) or did not (0).

Covariates

Students' self-reported gender, race/ethnicity, and age at point of entry into CUNY were included as covariates. Socioeconomic status was measured as a binary variable indicating Pell/TAP/APTS eligibility (1) and not eligible for Pell/TAP/APTS (0). Variables representing the students' term of entry into CUNY, college of enrollment, degree pursued, participation in SEEK/CD/ASAP (higher education opportunity programs), cumulative credits earned prior to the start of the intervention, the College Admission Average (a standardized high school GPA), and initial remedial status upon entry to CUNY were also drawn from the administrative data and used as covariates. Covariates were selected to account for student-level sociodemographic characteristics and academic achievement prior to community engagement as a near-peer mentor.

Analytic Method

Propensity Score Matching (PSM)

The comparison group was determined using quasi-experimental PSM methods and consisted of CUNY students who shared background characteristics similar to those of the intervention group but did not participate in the intervention through training and working as near-peer counselors in the CARA College Bridge or College Allies programs. Student-level characteristics were used in the PSM procedure to estimate a propensity score for each case that represented students' probability of one-year persistence. Specifically, the following covariates were used to estimate propensity scores for both students who participated in CARA and those who did not: gender, race/ethnicity, term of entry into CUNY, college

of enrollment, degree pursued, participation in SEEK/CD/ASAP, age at point of entry into CUNY, socioeconomic status (as indicated by Pell/TAP/APTS eligibility), cumulative credits earned prior to the start of the intervention, the College Admission Average (a standardized high school GPA), and initial remedial status upon entry to CUNY.

Next, we simulated a natural experiment by individually matching CARA-trained near-peer counselors to six students from the pool of nonparticipating students based on their propensity scores using a nearest neighbor matching method with replacement. The matching process was conducted separately for each wave of near-peer counselors, based on their student record from the fall semester they participated in the program. Post-PSM examination of balancing diagnostics indicated that CARA near-peer leaders and the comparison group were well-matched. Standardized mean differences were examined between groups on all matching variables, with standardized mean differences <.10 indicating insignificant difference between groups (Austin, 2011). Standardized mean differences between the CARA sample and comparison group ranged from .05 to .09, indicating that the groups were sufficiently matched.

Estimation of Treatment Effects

Since administrative records were used for the data sample, approximately 20% of data were missing. Only participants with nonmissing data were included in analyses. After PSM was used to construct the intervention and comparison groups, chi-square and odds ratio analyses were conducted to compare the persistence outcomes within each wave of near-peer counselors and their matched counterparts, as well as aggregated across all waves of participants. Subgroup analyses were also conducted for Pell/TAP recipients and for Black and Latino/a participants.

Results

Population Descriptives

We analyzed outcomes for CARA peer leaders and their propensity-matched comparisons aggregated across the four waves of participants (N = 1,534). Table 1 displays participants' and comparisons' demographic and academic characteristics for the full sample and each of the four waves of data collection. Population characteristics described here reflect the full sample.

Approximately two thirds of CARA community engagement near-peer counselors in the sample are pursuing associate's degrees at CUNY 2-year colleges and one third are pursuing bachelor's degrees at CUNY 4-year colleges. Half the sample is Hispanic or Latino/a and approximately a third identifies as Black. Almost 70% of the full sample of CARA participants are women, and the majority are low-income based on receipt of financial aid (82% Pell grant recipients and 76% TAP recipients). Almost half have taken at least one remedial course (in any subject), and 14% participated in a federal opportunity program (SEEK/CD participant). The mean age of CARA participants is 20.6, the mean GPA is 3.1, and the average number of credits earned when participants began their near-peer counselor position was 27.8. Given that propensity matching procedures ensure the comparison group is similar to the intervention group, the comparison demographics and academic characteristics are similar for the full sample as well as for each wave of data collection.

Intervention Effects

Aggregated across 4 years of data collected, one-year persistence rates at CUNY among near-peer counselors (Table 2) was 10.96 percentage points higher than matched comparisons (p < .001), and these students were 1.94 times more likely to persist. Findings are replicated for aggregate results for subgroups as well. Among Black and Latino/a CARA participants (Table 3), one-year persistence was 12.01 percentage points higher than matched comparisons (p < .001), which corresponds to a 2.09 times higher likelihood of persisting. For Pell/TAP recipients who participated in CARA (Table 4), one-year persistence was 8.94 percentage points higher than matched comparisons (p < .01), reflecting a 1.78 times higher likelihood of persisting.

Discussion

In describing a university campus engaged with community, Furco (2010) wrote that it

> not only serves the public and provides outreach to the community by honouring the assets, skills and expertise of the community partners, but it incorporates the partnership work in ways that advance the institution's teaching and research

Table 1. Intervention and Comparison Group Characteristics

	Full Sample		2014-2015 Wave		2015-2016 Wave		2016-2017 Wave		2017-2018 Wave	
	CARA	Comparison	CARA	Comparison	CARA	Comparison	CARA	Comparison	CARA	Comparison
	n (%)	*n* (%)	*n* (%)	*n* (%)	*n* (%)	*n* (%)	*n* (%)	*n* (%)	*n* (%)	*n* (%)
2-year CUNY college	140 (73)	946 (71)	32 (78)	189 (77)	51 (72)	291 (70)	36 (69)	221 (71)	41 (66)	250 (67)
4-year CUNY college	54 (28)	394 (29)	9 (22)	57 (23)	21 (30)	124 (30)	16 (31)	91 (29)	21 (34)	122 (33)
White	13 (7)	82 (6)	2 (5)	7 (3)	4 (6)	29 (7)	3 (6)	15 (5)	5 (8)	31 (8)
Black	61 (32)	400 (30)	18 (44)	123 (50)	18 (25)	95 (23)	18 (35)	95 (30)	14 (23)	88 (24)
Hispanic/Latino	97 (50)	711 (53)	19 (46)	99 (40)	41 (58)	239 (57)	25 (48)	172 (55)	33 (53)	205 (55)
Asian or Pacific Islander	22 (11)	148 (11)	2 (5)	17 (7)	8 (11)	53 (13)	6 (12)	30 (10)	10 (16)	48 (13)
Female	132 (68)	956 (71)	32 (78)	192 (78)	45 (63)	266 (64)	37 (71)	225 (72)	43 (69)	276 (74)
Pell recipient	159 (82)	1,081 (81)	29 (71)	167 (68)	61 (86)	352 (85)	43 (83)	253 (81)	52 (84)	313 (84)
TAP recipient	146 (76)	976 (73)	26 (63)	163 (66)	58 (82)	339 (81)	37 (71)	210 (67)	46 (74)	268 (72)
SEEK/CD	27 (14)	175 (13)	6 (15)	31 (13)	8 (11)	47 (11)	11 (21)	52 (17)	8 (13)	46 (12)
Remedial enrollment	86 (45)	616 (46)	19 (46)	102 (41)	37 (52)	236 (57)	18 (35)	112 (36)	31 (50)	167 (45)
	M (SD)	*M (SD)*	*M (SD)*	*M (SD)*	*M (SD)*	*M (SD)*	*M (SD)*	*M (SD)*	*M (SD)*	*M (SD)*
Age	20.6 (3.6)	20.8 (2.8)	20.4 (2.0)	20.6 (2.3)	20.3 (2.5)	20.4 (2.3)	20.8 (3.2)	20.7 (2.7)	21.0 (4.8)	21.1 (3.6)
GPA at start of term	3.1 (0.6)	2.8 (0.7)	3.2 (0.6)	2.7 (0.8)	3.1 (0.6)	2.8 (0.7)	3.0 (0.6)	2.9 (0.6)	3.1 (0.6)	2.8 (0.7)
Credits earned before start of term	27.8 (25.6)	30.2 (29.7)	24.7 (23.0)	24.9 (24.5)	30 (27.2)	30.6 (27.4)	28.0 (21.8)	29.0 (31.6)	35.1 (27.1)	34.3 (33)
Total *N*	193	1,341	41	246	71	416	52	312	62	372

Note. Some percentages do not total 100 due to rounding.

Table 2. Cross-Tabulation and Odds Ratios for One-Year Persistence of Intervention Participants and Comparisons

Persistence	CARA Peer Leaders *N* (%)	Propensity-Matched Group *N* (%)	Difference %	X^2	*p*	Odds Ratio (95% CI)
2014-2015 Wave						
Retained Fall 2015	36 (87.7)	168 (68.29)	+19.51	3.18	.074	3.34 (1.24, 11.30)
Not retained Fall 2015	5 (12.20)	78 (31.71)				
Total	41	246				
2015-2016 Wave						
Retained Fall 2016	60 (84.51)	326 (78.37)	+6.14	1.39	.238	1.51 (0.74, 3.31)
Not retained Fall 2016	11 (15.49)	90 (21.63)				
Total	71	416				
2016-2017 Wave						
Retained Fall 2017	45 (86.54)	228 (73.08)	+13.46	4.31	.038	2.37 (1.01, 6.45)
Not retained Fall 2017	7 (13.46)	84 (26.92)				
Total	52	312				
2017-2018 Wave						
Retained Fall 2018	49 (79.03)	262 (70.43)	+8.60	1.94	.164	1.58 (0.80, 3.31)
Not retained Fall 2018	13 (20.97)	110 (29.57)				
Total	62	372				
All Waves						
Retained	190 (84.07)	984 (73.11)	+10.96	12.31	<.001	1.94 (1.32, 2.91)
Not retained	36 (15.93)	362 (26.89)				
Total	226	1,346				

> goals . . . it sees its direct engagement with the public as a vehicle for conducting more significant research, more effective teaching and more impactful outreach and service. (p. 388)

Through this lens, we argue near-peer mentoring has a double impact. First, near-peer mentoring provides an opportunity for community engagement through community-based peer counseling in an institutional setting; by doing this, it creates an opening to involve young people in the solutions to unequal college access and success within their communities. Second, near-peer mentoring has the potential to promote one's own social and cultural capital in ways that lead to successful navigation of processes that encourage college-going, while simultaneously enabling the sharing of these resources with near-peers in ways that are distinct from adults.

The near-peer counselors in our study exemplify the opportunities that are created through campus–community partnership, and their success contributes to the field's knowledge of how the benefits of this type of partnership can accrue to the university through positive effects on student near-peer counselors themselves. Aggregated across 4 years of CUNY administrative data collected, our results indicate CARA near-peer counselors are nearly twice as likely to persist in college as peers who do not participate in CARA but have similar demographic and academic characteristics, with subgroup analyses replicating these effects for students of color and economically disadvantaged students.

Our findings are consistent with previous research reporting that students possessing higher levels of social and cultural capital are more likely to persist at both 2-year and 4-year colleges (Wells, 2008a, 2008b), suggesting that serving as a near-peer counselor contributes to students' development of these forms of capital. Our results also

Table 3. Cross-Tabulation and Odds Ratios for One-Year Persistence of Intervention Participants and Comparisons

Persistence	Black and Latino/a *N* (%)	Propensity-Matched Group *N* (%)	Difference %	X^2	*p*	Odds Ratio (95% CI)
2014–2015 Wave						
Retained Fall 2015	34 (91.89)	154 (69.37)	+22.52	8.08	.005	5.00 (1.49, 26.21)
Not retained Fall 2015	3 (8.11)	68 (30.63)				
Total	37	222				
2015–2016 Wave						
Retained Fall 2016	52 (88.14)	258 (77.25)	+10.89	3.57	.059	2.19 (0.93, 5.94)
Not retained Fall 2016	7 (11.86)	76 (22.75)				
Total	59	334				
2016–2017 Wave						
Retained Fall 2017	36 (83.72)	195 (73.03)	+10.69	2.23	.136	1.90 (0.79, 5.28)
Not retained Fall 2017	7 (16.28)	72 (26.97)				
Total	43	267				
2017–2018 Wave						
Retained Fall 2018	36 (76.60)	207 (70.65)	+5.95	0.70	.402	1.36 (0.64, 3.10)
Not retained Fall 2018	11 (23.40)	86 (29.35)				
Total	47	293				
All Waves						
Retained	158 (84.95)	814 (72.94)	+12.01	12.15	<.001	2.09 (1.36, 3.32)
Not Retained	28 (15.05)	302 (27.06)				
Total	186	1,116				

reflect findings that participation in community engagement activities in academic settings promotes students' academic development (Celio et al., 2011; Strage, 2000) and further indicate that serving as a near-peer mentor increases students' likelihood of persisting in college after controlling for relevant academic variables.

We posit the model of near-peer mentoring provided through CARA is distinct in how it positions near-peer counselors to combine their role as an institutional agent (who transmits specialized social and cultural knowledge about college access) with their role as a protective agent, an individual located in family- or community-based networks who provides emotional support and other resources specific to coping with social marginalization (Stanton-Salazar, 1997). By being protective agents trained to deliver institutional supports typically available only through adults, near-peer counselors occupy a unique role in broadening postsecondary access and success.

A primary way near-peer counselors contribute to an institution's capacity to promote equity is that near-peer counselors often more easily build trust with vulnerable students, especially those who may not see themselves as college-goers. For example, an undocumented near-peer counselor may become their school's expert on how to apply for college scholarships as an undocumented student, how to seek out "docu-friendly" campuses, or how to navigate the application to receive financial aid that recently became available to undocumented students in New York State. The near-peer counselor may also serve as a college role model for undocumented students and others who face financial, legal, or identity-related challenges to accessing college, and simultaneously provide students with direct emotional support and tailored guidance to address these challenges.

Table 4. Cross-Tabulation and Odds Ratios for One-Year Persistence of Pell/TAP Recipient Intervention Participants and Comparisons

Persistence	Pell/TAP N (%)	Propensity-Matched Group *N* (%)	Difference %	X^2	*p*	Odds Ratio (95% CI)
2014–2015 Wave						
Retained Fall 2015	27 (87.1)	139 (72.77)	+14.33	2.90	.089	2.53 (0.82, 10.37)
Not retained Fall 2015	4 (12.9)	52 (27.23)				
Total	31	191				
2015–2016 Wave						
Retained Fall 2016	56 (87.5)	302 (80.53)	+19.52	1.76	.184	1.69 (0.76, 4.29)
Not retained Fall 2016	8 (12.5)	73 (19.47)				
Total	64	375				
2016–2017 Wave						
Retained Fall 2017	39 (86.67)	209 (76.56)	+10.11	2.30	.129	1.99 (0.79, 6.00)
Not retained Fall 2017	6 (13.33)	64 (23.44)				
Total	45	273				
2017–2018 Wave						
Retained Fall 2018	42 (79.25)	238 (72.34)	+6.91	1.11	.292	1.46 (0.70, 3.28)
Not retained Fall 2018	11 (20.75)	91 (27.66)				
Total	53	329				
All Waves						
Retained	164 (84.97)	888 (76.03)	+8.94	7.55	.006	1.78 (1.16, 2.81)
Not Retained	29 (15.03)	280 (23.97)				
Total	193	1,168				

As this example demonstrates, near-peer counselors trained by CARA engage deeply with specialized knowledge and continuously enact this knowledge in a professional capacity through working with near-peers. We believe near-peer counselors' experience of authentic mentoring relationships within institutional settings located in the underrepresented communities to which they belong is central to explaining the positive program effects discussed in this article. Near-peer counselors amass the skills and knowledge necessary to be successful in college, but they also solidify a college-going identity for themselves and learn how to be advocates for their own success and that of their community in dominant educational institutions.

Limitations

These findings should be considered in the context of this study's limitations. First, it is important to note that institutional factors may influence students' persistence in college. CUNY is an institution with a mission of being responsive to the needs of its urban setting and promoting upward mobility of its diverse population of students; thus CUNY may be particularly well-positioned to support low-income students, first-generation college students, and students of color on the path to graduation. Effects of serving as a near-peer mentor may differ at institutions operating in different contexts.

From a methodological perspective, our analyses included only participants with

complete data and did not include any indicators of students' first-generation status or participation in other community engagement programs because these variables were not available in the data set, thus we were not able to examine the effects of serving as a near-peer mentor on first-generation students or to ensure that the propensity-matched comparison students had not participated in other types of community engagement experiences. Finally, the data used in this study did not include direct measures of students' social and cultural capital; rather, participating in CARA programming was considered a source of social and cultural capital for all near-peer mentors based on our understanding of the content and skills delivered through the program.

Implications and Future Directions

Our study provides evidence that underrepresented college students' participation in community engagement in the form of near-peer mentoring may be one way to increase social and cultural capital among students served by near-peer counselors while simultaneously enhancing college success among mentors themselves. Further, we show how a community engagement model of near-peer mentoring amplifies navigational, aspirational, and oppositional forms of cultural capital (Yosso, 2005) in ways that can position these resources as assets to underserved students and the higher education institutions they attend. The potential double impact of near-peer mentoring discussed in this article may be useful for making the case to invest institutional resources in designing and implementing near-peer mentoring programs through campus–community partnerships at the secondary and postsecondary levels. It may also encourage programs focused on college access and success to consider how involving and training underrepresented college students in the design and delivery of program interventions can enhance positive outcomes in both underserved communities served and among the student–mentors themselves.

In future research, we plan to build on this study by (1) examining later college success outcomes of near-peer counselors at CUNY, including vertical transfer and degree attainment, and (2) conducting inquiry into qualitative data collected with near-peer counselors from the College Bridge program to further examine the specific forms of institutional support near-peer counselors provide and the potential differential impact of this support on high school seniors' postsecondary pathways.

Author Note

This manuscript was written during the 2018–2019 academic year and uses data collected from 2014 to 2018. Recent trends in college enrollment and emerging research about higher education are not accounted for in this article.

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Effects of Service-Learning and Community Engagement Programs on the Academic Outcomes of Underrepresented Undergraduate Students

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Abstract

This study examines the effects of service-learning and community engagement programs on the academic outcomes of undergraduate students, focusing on underrepresented students. Prior studies documented the positive impact of community engagement on students' academic engagement, sense of belonging, and persistence, especially for underrepresented students. We explore the effects of four service-learning and community engagement programs on students' persistence (GPA, credits earned, retention) and college completion at the University of Illinois Chicago. We use propensity score matching to compare outcome variables of the treatment and control groups. We found varying degrees of statistically significant academic outcomes across the four programs (trending positive overall). To complement the quantitative findings, we carried out focus groups with each program. We found that for underrepresented students, service-learning and community engagement activities, especially when mentorship is involved, offer connections with their communities that help improve their academic engagement, sense of belonging, and persistence.

Keywords: service-learning, community engagement, underrepresented students, academic outcomes

Universities face a growing challenge of meeting the educational needs of a wide variety of learners, including underrepresented students and students from low-income and culturally diverse communities. For many of those students, their communities and experiences are not well matched to the communities of affluence and privilege that are present at many universities (Manning, 2000; Martin Lohfink & Paulsen, 2005). Manning suggested that underrepresented students, like all students, arrive at college with a strong desire to learn the skills that could fulfill their future hopes and dreams, and advance the future of their communities. Underrepresented students also bring with them a good understanding of the challenges their communities confront, and they aspire to use higher education as a tool to improve their lives and the conditions of their communities (Karp, 1986). However, the college experience immerses underrepresented students within a new environment that is, or may appear, isolated from the societal and cultural issues they care most about (Karp, 1986; Langhout et al., 2007, 2009; Walpole, 2003). This clash impacts these students' capacity to develop a sense of belonging and engagement to the university, which is critical to college persistence and success (Banks, 2007; Ostrove & Long, 2007).

We hypothesize that if colleges and universities were perceived as places that address issues important to their students, underrepresented students would view universities as the places to fulfill their dreams and aspirations of improving the world and their communities. Furthermore, we support the

literature that asserts that by engaging college students in community-based learning and broader community engagement efforts, universities can help students, especially underrepresented students, to bridge cultural divides between campus and community while providing skills to improve their academic achievements (Astin & Sax, 1998; Celio et al., 2011; Eyler & Giles, 1999; Tinto, 1993, 1997). This study is part of a research project funded by the 2014 First in the World (FITW) Program. The broader project targeted students at six research universities to measure the effect of service-learning (SL) and community engagement (CE) programs on the academic outcomes of undergraduate students and underrepresented students. At the University of Illinois Chicago (UIC), we assessed four different service-learning or community engagement programs to answer the following question: What is the overall effect of underrepresented students' involvement in SL/CE activities on persistence (GPA, credits earned, retention) and college completion in comparison to the students that do not participate in these types of programs?

Underrepresented Students' Challenges and Opportunities to Improve Academic Outcomes

Improving academic outcomes of underrepresented students in college has been a recurrent concern for researchers as well as educators and institutions (Alicea-Planas, 2017; Immerwahr, 2000; Kinzie et al., 2008; Maruyama et al., 2018; Song et al., 2017). Some studies have identified challenges faced by diverse groups of underrepresented students. Others focus on understanding paths for academic improvement, such as service-learning and community engagement initiatives, and campus–community partnerships that provide meaningful opportunities to increase both academic and civic outcomes.

Challenges faced by underrepresented students are well-known to researchers, educators, and institutions. Recurrent accounts refer to parents' fears that their children will lose their links to their communities and families; students' expectations and struggles to balance social, family, and community life with academic demands; and students' financial burdens of attending college and fear of debt. Several authors have discussed how the cultural divide between the live-in campus and the community is wider for underrepresented groups (Aries & Seider, 2005; Banks, 2007; Barnes et al., 2009; Langhout et al., 2007, 2009; Pelco et al., 2014). This divide has been evident for first-generation students who struggle both academically and psychologically in this new environment (Billson & Terry, 1982; Davis, 2010; Pascarella et al., 2004; Pelco et al., 2014) and whose parents lack higher education experiences relevant to their struggles. More specifically, the lack of experiences with college culture and the lack of understanding of the functioning of higher education landscapes make it difficult for students to navigate the educational system (Davis, 2010; Martin Lohfink & Paulsen, 2005; Pelco et al., 2014).

For underrepresented students, college can be an opportunity to learn things that will help them change the world and improve their life conditions and those of their communities (Manning, 2000). However, they do not always find or see the connection between their college experience and the real-life issues and problems they and their communities face (Karp, 1986). Instead, they find a culture of privilege (Aries & Seider, 2005) that makes them feel isolated (Langhout et al., 2007, 2009; Torres, 2009; Walpole, 2003), influencing their sense of belonging and increasing their likelihood of dropping out of college (Langhout et al., 2009; Ostrove & Long, 2007; Watt & Badger, 2009). This cultural clash also imposes new social and financial demands that students struggle to balance. For example, studies have found that first-generation students are more likely to work and to spend many more hours working (Billson & Terry, 1982; Pascarella et al., 2004; Pelco et al., 2014) than their non-first-generation peers. These financial struggles add to the fear that both parents and students share about debt and the cost of attending college (Boatman & Evans, 2017; Callender & Mason, 2017). This fear, according to Burdman (2005), decreased the chance of attending and completing college.

These accounts illustrate some of the cultural, social, financial, and academic challenges that students face during their college experience. These challenges can lessen students' capacity to engage with their academic work, to develop a sense of belonging as a college student, and, ultimately, to persist in completing their degrees. The mismatch between a student's background and that assumed within higher education

institutions is likely to make underrepresented students' adjustment across different environments more difficult. In recent years, institutions of higher education have sought to bridge the campus–community cultural divide by investing in and attending to community engagement programs, pedagogies, and partnerships (Jay, 2008; Ngai et al., 2018; Schulzetenberg et al., 2020; Soria & Mitchell, 2018). Because the community–higher education divide is most pronounced for underrepresented students, it is important to examine the ways in which community-based learning opportunities enhance those students' capacity to succeed in higher education studies.

Traditional models of outreach, where experts from higher education go to the community to solve its problems, raise questions (Bridger & Alter, 2006). Particularly concerning is the efficacy of traditional outreach programs in improving academic and civic outcomes (Billig et al., 2005; Fleck et al., 2017; Ngai et al., 2018). These questions have led to more engaged approaches of service-learning in which community assets, experiences, and expertise are joined with those of higher education to codevelop and coproduce collective outcomes (Fleck et al., 2017; Sandy & Holland, 2006; Shor et al., 2017). According to Furco (2010), these models embrace public engagement initiatives to truly integrate community into academic functions and students' college experience. By doing so, they provide opportunities that offer greater meaning and connect students' personal and societal interests with their college experiences (Ngai et al., 2018; Pelco et al., 2014). This shift is especially critical for effective work in low-income, challenged communities where the cultural divide between the campus and the community is the widest (Barnes et al., 2009; Harkavy & Puckett, 1991a, 1991b).

Several studies have found that participation in community engagement experiences, especially when integrated with academic coursework, can enhance students' social responsibility (Ash et al., 2005; Eyler & Giles, 1999; Ngai et al., 2018; Song et al., 2017), deepen their understanding of diversity and cultural competence (Simons & Cleary, 2006), increase their citizenship and civic skills (Celio et al., 2011), and strengthen their sense of community and belonging (Astin & Sax, 1998). Furthermore, these treatments increase persistence of students at greatest risk of dropping out of school and help increase underrepresented students' sense of belonging (Eyler & Giles, 1999; Scales et al., 2006) and college commitment (Astin et al., 2000), which have been found to be associated with student college persistence (Pascarella et al., 2004). Other research has demonstrated that service-learning is related to increased multicultural competence (Einfeld & Collins, 2008) and decreased ethnocentrism (Borden, 2007). Among positive outcomes, students developed multicultural skills such as empathy, patience, attachment, reciprocity, trust, and respect.

Literature on student–community engagement, student development, and campus–community partnership suggests that engagement of underrepresented and underserved low-income students in challenged communities provides an opportunity to link their college experiences with their lives (Fleck et al., 2017; Manning, 2000; Maruyama et al., 2018; Ngai et al., 2018; Pawley, 2013; Shor et al., 2017). These links further impact a student's sense of belonging, which leads to retention (Langhout et al., 2009; Mishra, 2020; Watt & Badger, 2009). Finally, commitment from the universities to engage challenged communities should provide a strong message to communities about the role and responsibilities of universities, and help people outside universities to better understand what universities do (Furco, 2010; Sandy & Holland, 2006).

With this study, we hope to add to the literature on service-learning and community engagement by examining the relationship of service participation and academic outcomes of undergraduate underrepresented students in four different SL/CE programs. Additionally, this article offers a qualitative account of students' perspective on the impact of SL/CE on their own college experience.

Setting

The study evaluated four different university programs to explore the notion of university–community engagement and the programs' impacts on underrepresented students' educational success. At UIC, the following categories are defined as underrepresented students: (1) African American, (2) Hispanic, (3) Native, (4) first-generation college student (i.e., neither parent with college experience), (5) low income (i.e., Pell grant eligible), and (6) students

Table 1. Summary of Program Characteristics

Program	Honors College (HC)	Urban Public Policy Fellowship Program (UPPF)	CE Component BA in Urban Studies (UP)	La Casa Student Housing and Resource Center (LC)
Type of SL/CE	Cocurricular service-learning (CSL)	Community-based internship (CBI)	Academic (credit-bearing) SL (ASL)	Extended community engagement (ECE)
Targets underrepresented students	No	Yes	No	No
Component	Honors credits	Internship experience	Internship experience	Community service
Requirement	Optional	Required	Required	Optional
Year in college	Sophomore & junior	Upperclassman	Sophomore & junior	Anytime
Relation with UIC	Internal	Internal	Internal	External

with disabilities. Three programs are part of the "internal" diversity programming: the Service-Learning Component at the UIC Honors College (HC); the Urban Public Policy Fellowship Program (UPPF); and the Community Engagement Component in the BA in Urban Studies (UP). The fourth case is an "external" case: La Casa Student Housing and Resource Center (LC), where UIC students attend together with students from other colleges and universities in Chicago. This program was run by The Resurrection Project (TRP), a community partner of the Great Cities Institute (GCI) and other units within UIC.

These four programs, each with a community engagement component, have different programmatic characteristics, such as type of SL/CE, target population, and moment of engagement. In the case of UIC, each program corresponds with a specific type of SL/CE that could potentially lead to differential outcomes. Table 1 summarizes the characteristics of the programs evaluated at UIC.

The types of SL/CE correspond with the following types of treatments identified in the analysis across different programs in all six universities that were part of a multisite larger study, Students' Success Through Community Engagement:

1. Cocurricular service-learning (CSL): Students provide a service to the community in a setting where learning is not linked to or integrated with the objectives of any academic credit-bearing courses in which a student is enrolled.
2. Community-based internship (CBI): Students participate in community-based activities that blend workforce development and the advancement of societal issues. Activities are not integrated with their credit-bearing courses. Internships may be paid or unpaid.
3. Academic (credit-bearing) service-learning (ASL): Students provide a service to the community that is linked to and integrated with academic learning objectives of a credit-bearing course in which they are enrolled.
4. Extended community engagement (ECE): Students participate in a variety of community engagement experiences. These activities have an organizational structure that intentionally links the experiences together to provide a set of opportunities.

Methods

To examine the effect of SL/CE programs on the academic outcomes of undergraduate students (GPA, credits earned, retention), this study compares academic outcomes of students who participated in any of the four

programs evaluated at UIC with other UIC students who did not participate in those programs. To complement the quantitative findings, we collected qualitative data through focus groups, to gain insights into underrepresented students' experiences during their time at UIC regarding barriers, supports, and strategies for reaching graduation.

We used existing quantitative data on background and outcome variables, which were collected with the participation of the four programs as well as the collaboration of the Office of Institutional Research (OIR) at UIC. All data sets were properly deidentified before sharing with the research team. Outcome variables (retention, persistence, and graduation rates) were assessed through students' academic records. Retention and persistence were measured as continued enrollment term-by-term, return after stopping out, full-time and part-time status, remedial course taking, credit completion, moving toward graduation/completion, and relation to state formulas for progress. Graduation rates were measured as graduation/completion, 2-year degrees and certificates, 4-year degrees, and time-to-completion rates.

Eligibility as part of the treatment groups was dependent on students' association to the programs under study. Only students over 18 years old were eligible to take part in the treatment or comparison groups. For the Honors College, we selected only specific freshman cohorts that allowed us to group students to the same academic year and where no participants had previous secondary education credits. Another caveat specific to the Honors College program was that both treatment and comparison groups belonged exclusively to the Honors College. For the other three programs (UPPF, UP, and La Casa), the treatment groups were participants of the program and the comparison groups were selected from the overall university population. As we describe below, comparison groups were selected through propensity score matching (PSM) techniques. This procedure yielded a single score that represented the combination of background variables for each participant in the treatment group and the comparison group.

We used the same logical model for studying all four programs; however, the propensity score–based matching process and the structure of the cohorts in each program led to methodological variances in the quantitative analysis. A summary of the research design for the four programs is presented in Table 2.

Data Collection, Cohorts, and Groups

Group 1: Cocurricular Service-Learning (CSL)—Honors College

For the Honors College, a CSL program type, we collected academic data (GPA, credits

Table 2. Summary of Research Design

Type of SL/CE	1. CSL	2. CBI	3. ASL	4. ECE
Program	Honors College (HC)	Urban Public Policy Fellowship Program (UPPF)	CE Component BA in Urban Studies (UP)	La Casa Student Housing and Resource Center (LC)
Design	QED-PSM Full-matching	QED-PSM Optimal Pair	QED-PSM Nearest neighbor	QED-PSM Optimal pair
Sample	Only freshmen matched	All UPPF students	Only students enrolled in the Bachelor in Urban Studies degree	UIC students at LC
Cohorts	2013–2016	2015–2017	2012–2018	2012–2018
Frequency	Yearly	Yearly	Semester	Yearly
Treatment	Service as honors credit	All UPPF students	Students registered in UP 491	UIC students at LC
Comparison	HC students not in service	Other UIC students	Other UIC students	Other UIC students

earned, enrollment, and graduation) on four cohorts of freshman students: 2013, 2014, 2015, and 2016. The treatment group included all students enrolled in the Honors College as freshmen for the cohorts under study that participated in any SL/CE activity as honors units. The comparison group was selected from all other Honors College freshmen in the same cohort that did not take any SL/CE activity as honors units. Students were excluded from the study if, as a member of a comparison group, they later enrolled in any of the other three treatments under study at UIC. To accurately determine the relation of SL/CE with students' outcomes, we also excluded students who dropped out during or before their fourth semester of college. This procedure allowed us to compare students with equal chances of participating in SL/CE within the Honors College program.

Academic data were collected for each student, in both treatment and comparison groups, at two time points: at the end of spring semester 2017 and 2018. The analysis of the impact of SL/CE activities on academic outcomes differs for each cohort based on the availability of data. For the 2013 and 2014 cohorts we conducted analysis on persistence and graduation outcomes, but for the 2015 and 2016 cohorts only persistence outcomes were analyzed. A detailed description of the analyzed variables for each cohort is available in the Appendix.

Group 2: Community-Based Internship (CBI)—Urban Public Policy Fellowship Program

For the Urban Public Policy Fellowship Program, a CBI program type, students who are accepted can participate in the program for only one year. For this reason, we separated the treatment by cohorts, including in the treatment group all students who enrolled in the program in 2015, 2016, and 2017. In the absence of being able to randomly assign students to a condition, we conducted propensity score matching to select the comparison group from a larger pool of other UIC students. To prevent participation in more than one treatment group, UPPF students were excluded from the study if they later enrolled in any of the other treatments that were part of the study.

Group 3: Academic Service-Learning (ASL)—BA in Urban Studies

For the CE Component BA in Urban Studies, an ASL program type, the treatment group included students enrolled in the UP program from fall 2015 to spring 2018, in either fall, spring, or summer semester, and who registered the UP491/US491 course as part of their UP credits. As with UPPF, we selected comparison groups from a pool of other UIC students who did not participate in this program. Since students could apply to and enroll at the UP program at any point during their enrollment at UIC, this initiative had potential for participant crossover. When this occurred, the student was eliminated from both the comparison and the treatment groups to avoid participation in more than one treatment group. Another potential for crossover was that students could register twice for UP491/US491 credits. All students were studied for at least one semester depending on an individual's stage of their academic program.

Group 4: Extended Community Engagement (ECE)—La Casa

For La Casa Student Housing and Resource Center, an ECE type of program, we collected background and outcome data on all UIC students who participated in the program between fall 2012 and spring 2018 semesters. All UIC students who had entered the La Casa program since its opening in fall 2012 were eligible for participation in the study. As with UPPF and UP, the comparison group was selected from a pool of other UIC students with similar background variables and similar college trajectories who never participated in the La Casa program. Students could join the La Casa program at any time during their college experience and remain in the program as long as they wanted until graduation. They could also leave the program and rejoin later in their college experience. To simplify the comparison condition, we counted students who joined La Casa for a second or third time only once. As with UP, when crossover occurred, the student was eliminated from both the treatment and the comparison groups to prevent participation in more than one treatment group.

For UPPF, UP, and La Casa, academic data (GPA, credits earned, enrollment, and graduation) were collected for each student, in both treatment and comparison groups, at one point in time, at the end of spring semester 2018. For all these programs, outcome measures on graduation varied depending on an individual's academic year and the entire length of the study in each case.

Sampling and Matching

CSL Program Type

In HC, the target sample represented all the students served by the CSL program, and both treatment and control groups were established at the level of individual students. The propensity score matching process created a matched comparison group for each cohort of the treatment. To create the matched groups, we produced a logistic regression model predicting service from a set of covariates (i.e., Pell eligibility, first generation, age, female, ACT scores, ethnic group, and citizenship status) identified in the literature as important to both service participation and academic achievement (Maruyama et al., 2018; Song et al., 2017; York, 2016). Following the estimation of propensity scores for individuals, treatment participants were paired one-to-one with comparison participants with similar propensity scores. This pairing used a nearest neighbor algorithm and a caliper of 0.2 (Cochran & Rubin, 1973). The caliper constrains pairing possible matches to potential participants who have a propensity score within 0.2 from one another. This matching resulted in a subset of comparable matched students for the outcome analyses. The final sample is summarized in Table 3.

Within this data set, 60% of students in the HC identified as female. The ethnic group most represented was Asian (31%), followed closely by Hispanic (27%) and White (23%). As of 2018, the average age of students in the data set was 21.

CBI, ASL, and ECE Program Types

For the other three program types (CBI, ASL, and ECE), the target sample also represented all the students served by each program, and we conducted propensity score matching to create a matched comparison group for each treatment group. For each program we attempted to find matches between each treatment target sample and a total of 47,538 other UIC students. Because of the large potential comparison pool, we decided to use a ratio of 2:1 comparison to treatment. According to Austin's (2011) analysis of many-to-one matches, 1:1 or 2:1 seemed to be the best practice. We used exact matching on ethnicity, citizenship status, first semester of enrollment, Pell eligibility during first college semester, sex, honors status, and transfer status. Then we examined the quality of matches using optimal full, optimal pair, nearest neighbor with replacement, and nearest neighbor without replacement propensity score matching techniques for previous GPA and age variables. For the previous GPA variable, we mean-centered all high school and transfer GPAs. Looking at the aggregate matches, nearest neighbor without replacement matching provided the lowest standard deviation differences between the treatment and control, compared to the other matching techniques. The final sample for each program is summarized in Table 4.

A total of 67 students participated in the CBI (UPPF) program during the three cohorts studied: 2015–2016 (22), 2016–2017 (26), and 2017–2018 (18); these figures represent elimination of one participant from the treatment pool since they did not have a good match with the control group. The remaining 66 participants were largely from underrepresented populations. In terms of race/ethnicity, 50% self-identified as Black or African American, 45.4% as Hispanic, and less than 2% each for Asian and multiracial.

Table 3. Sample Size of Matched Groups for the CSL Program Type (HC)

Cohort	Original sample		Matched groups		Underrepresented after matching	
	Treatment	Comparison	Treatment	Comparison	Treatment	Comparison
2013	185	170	142	142	111	110
2014	191	167	152	152	91	89
2015	168	181	142	142	82	77
2016	78	254	75	75	36	37
Total	**622**	**772**	**511**	**511**	**320**	**313**

Table 4. Treatment and Control Groups for Overall Students and Underrepresented Students Only in the CBI (UPPF), ASL (UP), and ECE (La Casa) Program Types

Program	Overall						Underrepresented					
	Treatment		Control		Total		Treatment		Control		Total	
CBI (UPPF)	66*	33.3%	132	66.7%	198	100%	64	33.3%	128	66.7%	192	100%
ASL (UP)	45**	33.3%	90	66.7%	135	100%	27	33.3%	54	66.7%	81	100%
ECE (La Casa)	48	33.3%	96	66.7%	144	100%	43	33.3%	86	66.7%	129	100%

Note. *A total of 67 students participated in the CBI program; however, one student was dropped from the treatment group since the propensity score matching did not generate a good match with the control group, leaving 66 students in the treatment group.
**A total of 55 students participated in the ASL program. Six cases were dropped from the analysis due to missing data, and four cases were removed since the propensity score matching did not produce good matches with the control group, leaving 45 students in the treatment group.

The students were mostly U.S. citizens (approximately 91%), 62.1% were Pell eligible during their first semester of enrollment, and 31.8% were first-generation college students. After matching, the mean-centered previous GPA decreased from .44 to .013 standard deviations while age decreased from .11 to .04. Because these standard deviation differences are all below 0.05, we do not need to include them as covariates in the outcome analysis. The standard deviation difference between propensity scores was approximately 0.05 and the graphs were fairly well matched.

For ASL (UP), the 55 students that registered in the UP491/US491 course as part of their academic service-learning credits during 2012–2018 were included in the treatment group. Six students were removed because of missing data, leaving 49 students for the analysis. These 49 participants were approximately 51% White, 30.6% Hispanic, 4% Asian, 6% Black/African American, and 8% unknown. We found 53% of the participants were Pell eligible during their first semester and 4% were first-generation college students. About 98% of the students were U.S. citizens. The students entered UIC between 2008–2014 or 2016–2017. After matching, four participants were dropped from the analysis due to poor matches. The mean-centered previous GPA decreased from .23 to .095 standard deviations while age decreased from .63 to .015. Because these standard deviation differences are all below 0.25, this balance is acceptable for using propensity score matching, but previous GPA needs to be included as a covariate in the outcome analysis, as the standardized difference was greater than .05 (What Works Clearinghouse, 2016). The standard deviation difference between propensity scores was approximately 0.01, and a visual assessment showed that the graphs overlapped well.

Qualitative Analysis of All Programs

To complement the quantitative findings, we collected new qualitative data on process variables through focus groups. The focus groups had a twofold purpose: (1) to explore how underrepresented undergraduate students defined educational success for themselves as college students, and what they believed contributed to or hindered that success and (2) to examine to what extent underrepresented students perceived that involvement in community engagement and service-learning contributed to their success.

For each program under study, we carried out one focus group that lasted about two hours and consisted of two activities: an individual mapping exercise and a debate about each participant map. We asked students to describe or draw their college

journey in terms of the barriers they have experienced, the aspects that supported them and facilitators that helped them in their college journey, and creative strategies they developed for getting through college. Participants in the focus groups were underrepresented undergraduate students, over 18 years old, and attending any of the four programs under study. Although each focus group was intended to have eight to 20 students, one of them ended up being a dialogue with only one student who responded to the recruitment.

Outcomes Assessed and Findings

The analysis of the impact of SL/CE activities on academic outcomes includes results on GPA, credits earned, enrollment, and graduation. These results differ for each SL/CE studied and for each program cohort based on the availability of data, on each individual's academic year, and on the entire length of the study in each program. Results are presented for all samples in each type of SL/CE studied as well as for a subset of underrepresented students (as defined by UIC), which allowed us to compare the impact of SL/CE for this specific group of students. Given the number of cohorts analyzed for the CSL program, results for this program are separated into the four cohorts studied. For the other three program types—CBI, ASL, and ECE—all cohorts are presented together, always displaying the comparison between the full sample and the subset of underrepresented students, but analysis across programs was not a part of this study.

Cocurricular Service-Learning: Honors College

At UIC, the Honors College presents itself as an option for undergraduate students who seek additional academic challenge and extracurricular opportunities. Student service, internships, and professional development are considered types of honors activities. However, they are not part of the honors core courses. Although they count as honors units, they may not count as credit hours. Typically, HC students register for these types of activities in their sophomore and junior years of college. The service component provides services to both the academic and outside community. It corresponds with the definition of a cocurricular service-learning program because these activities are not necessarily linked or integrated with the objectives of academic credit-bearing courses. However, HC encourages students to register for courses that both are credit-bearing and incorporate service activities such as tutoring, teaching, and mentoring.

The participants for all the cohorts in the overall student group totaled 511, with the matched comparison group totaling 511. The total number of underrepresented students in all the treatment cohorts was 320, with 313 total underrepresented students in the matched comparison cohorts (see Table 3).

GPA and Credits Completed (CSL)

Overall Students. The means for GPA scores and credits earned overall were higher in the treatment groups (service-learning) than in the matched comparison groups (no-service) for the overall students (see Table 5). Mean GPA scores were greater for the treatment groups in the 2013 cohort (.35 difference), the 2014 cohort (.37 difference), the 2015 cohort (.30 difference), and the 2016 cohort (.13 difference). The means for credits earned were higher in the 2013 cohort (5 credits), the 2014 cohort (9 credits), the 2015 cohort (7 credits), and the 2016 cohort (3.9 credits).

Underrepresented Students. Means for GPA scores were also greater for the treatment group when considering only underrepresented students (see Table 5). Mean GPA scores for underrepresented students were greater for the treatment group in the 2013 cohort (.36 difference), the 2014 cohort (.43 difference), the 2015 cohort (.42 difference), and the 2016 cohort (.18 difference). Mean credits earned by underrepresented students in the treatment group were greater than those of the matched comparison group in the 2013 cohort (6 credits), the 2014 cohort (14 credits), the 2015 cohort (6.8 credits), and the 2016 cohort (4.5 credits).

The regression analysis results with the matched groups found a positive and statistically significant relationship between service-learning participation and cumulative GPAs in three of the four cohorts, and credits earned in three of the four cohorts for the overall students in the CSL program (see Table 6). Service-learning had a positive and statistically significant relationship to GPAs in the 2013 cohort ($p < .001$, $b = .32$), the 2014 cohort ($p < .001$, $b = .36$), and the 2015 cohort ($p < .001$, $b = .29$). The 2016 cohort trended in the same direction, but without statistical significance ($p = .078$, $b = .12$). When considering only underrepre-

Table 5. Means and Standard Deviations for GPA and Credits Outcomes in the CSL Program Type (HC)

Cohort	Academic outcomes	Overall students						Underrepresented students					
		Service-learning			No-service			Service-learning			No-service		
		n	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*
2013	GPA	185	3.58	0.41	170	3.23	0.62	151	3.57	0.41	133	3.21	0.59
	Credits	185	116	22	170	111	25.7	151	118	21.3	133	112	25
2014	GPA	191	3.62	0.32	167	3.25	0.59	112	3.6	0.35	101	3.17	0.63
	Credits	191	115	14.2	167	106	12.6	112	118	12.6	101	104	27.6
2015	GPA	168	3.64	0.3	181	3.34	0.6	106	3.63	0.3	89	3.21	0.6
	Credits	168	93	11.2	181	86	19.8	106	93.1	10.3	89	86.3	17.8
2016	GPA	78	3.59	0.43	254	3.46	0.46	39	3.52	0.39	136	3.34	0.49
	Credits	78	65.1	8.18	254	61.2	7.55	39	63.9	6.28	136	59.4	7.03

Note. Students who dropped out during or before their fourth semester in college were excluded from analysis. For the 2016 cohort, this means that all students in the analysis were enrolled as of spring 2018.

sented students, the relationship between service-learning and cumulative GPAs is statistically significant for the 2013 cohort ($p < .001$, $b = .33$), the 2014 cohort ($p < .001$, $b = .42$), the 2015 cohort ($p < .001$, $b = .44$), and the 2016 cohort ($p = .045$, $b = .22$).

There is a positive relationship between service-learning and cumulative units earned for the overall students in the 2014 cohort ($p < .001$, $b = 8.48$), the 2015 cohort ($p < .001$, $b = 6.35$), and the 2016 cohort ($p < .001$, $b = 3.27$). The results for the 2013 cohort are in the same direction but not statistically significant ($p = .194$, $b = 3.69$). When considering only underrepresented students, the results were consistent with overall students, where the relationship between service-learning and cumulative units earned was statistically significant in the 2014 cohort ($p < .001$, $b = 12.01$), the 2015 cohort ($p = .002$, $b = 7.40$), and the 2016 cohort ($p = .001$, $b = 5.43$). Results for the 2013 cohort were not statistically significant, but trended in the same direction ($p = .157$, $b = 4.55$).

Retention and Graduation (CSL)

Analyses were conducted within each cohort of students, and outcomes were collected in spring 2018. The enrollment/graduated variable represents students either enrolled or graduated as of spring 2018 for each cohort (Table 7). The mean for either continued enrollment or graduation completion was greater in the treatment group than in the matched comparison group for the overall students in the 2013 cohort (6 percentage points), the 2014 cohort (6.7 percentage points), and the 2015 cohort (5.7 percentage points). For the 2016 cohort, there were no students who dropped out of the CSL program as of the 2018 data collection period. The research design only includes collection of graduation completion rates for the 2013 and 2014 cohorts. The mean graduation rate was greater for the treatment group than for than the matched comparison group for overall students in the 2013 cohort (8.5 percentage points) and the 2014 cohort (14.2 percentage points). When considering only underrepresented students, the mean for continued enrollment or graduation was greater for the treatment group than for than the matched comparison group in the 2013 cohort (5.7 percentage points), the 2014 cohort (12.2 percentage points), and the 2015 cohort (6.2 percentage points). For the 2016 cohort, there were no underrepresented students that dropped out of the Honors College program as of the 2018 data collection period. For the graduation completion rate of underrepresented students, the graduation rate was greater for the treatment group than for the matched comparison group in the 2013 cohort (4.5 percentage points) and the 2014 cohort (17.8 percentage points).

Table 6. Relationships Between SL Participation and Cumulative GPAs and Credits Earned in the CSL Program Type (HC) by End of Spring 2018

Year	Cumulative GPA								Cumulative units earned							
	Overall students				Underrepresented students				Overall students				Underrepresented students			
	b	*SE*	*p*	R^2	*b*	*SE*	*p*	R^2	*b*	*SE*	*p*	R^2	*b*	*SE*	*p*	R^2
2013	0.32	0.06	.000	0.08	0.33	0.06	.000	0.09	3.69	2.91	.194	0.00	4.55	3.20	.157	0.01
2014	0.36	0.05	.000	0.21	0.42	0.07	.000	0.21	8.48	2.15	.000	0.04	12.01	3.10	.000	0.06
2015	0.29	0.05	.000	0.09	0.44	0.07	.000	0.17	6.35	1.88	.000	0.03	7.40	2.40	.002	0.06
2016	0.12	0.07	.078	0.10	0.22	0.11	.045	0.04	3.27	1.23	.000	0.14	5.43	1.63	.001	0.13

Table 7. Means for Retention and Graduation Outcomes in the CSL Program Type (HC)

Cohort	Academic outcomes	Overall students				Underrepresented students			
		Service-learning		No-service		Service-learning		No-service	
		n	*M*	*n*	*M*	*n*	*M*	*n*	*M*
2013	Enrollment/ graduated	185	91.9%	170	85.9%	151	91.4%	133	85.7%
	Graduation	185	90.3%	170	81.8%	151	85.7%	133	81.2%
2014	Enrollment/ graduated	191	95.3%	167	88.6%	112	97.3%	101	85.1%
	Graduation	191	80.1%	167	65.9%	112	81.2%	101	63.4%
2015	Enrollment/ graduated	168	95.8%	181	90.1%	106	97.2%	89	91.0%
2016	Enrollment/ graduated	78	100.0%	254	100.0%	39	100.0%	136	100.0%

Note. Students who dropped out during or before their fourth semester in college were excluded from analysis. For the 2016 cohort, this means that all students in the analysis were enrolled as of spring 2018.

Odds ratios were used to test the strength or weakness of the relationship between service-learning and retention/graduation and graduation. The relationship between service-learning and graduation and retention was assessed only for the 2013, 2014, and 2015 cohorts. Table 8 shows the relationship between service-learning and graduation or retention was not statistically significant for the overall students in all the cohorts. For underrepresented students, the relationship between service-learning and graduation or retention was statistically significant for only the 2014 cohort (OR = 6.79, p = .01).

Graduation rates were measured only for the 2013 and 2014 cohorts. There is a positive relationship between service-learning and graduation for the overall students in the 2013 (OR = 1.98, p = .05) and 2014 (OR = 2.07, p = .006) cohorts. For underrepresented students, the relationship between service-learning and graduation rates is statistically significant for the 2014 cohort (OR = .027, p = .004).

Community-Based Internship: Urban Public Policy Fellowship Program (UPPF)

The Urban Public Policy Fellowship (UPPF) program is a nondegree, noncredit leadership development program intended to expose underrepresented students to policy issues. It is administered by Policy and Civic Engagement (IPCE) in partnership with the Latin American Recruitment and Educational Services program (LARES) and the African American Academic Network (AAAN), two support programs of UIC. The program pairs students with partner organizations who can provide them with insight into public policy making and practice. It requires a commitment of 11.5 hours per week: 8 hours in the internship site and 3.5 hours dedicated to academic components of the program. This program corresponds with the definition of community-based internship because students participate in community-based activities that blend workforce development, but these activities are not integrated with credit-bearing curricula. However, UPPF has an academic component that is central to its structure and goals. At UPPF, internships are paid, reflecting the program's aim of linking overall academic performance with job opportunities for underrepresented students.

For this program, we analyzed final GPA and final credits separately using t-tests. Both GPA ($t(195) = 5.66$, $p < .0001$, $g = .705$) and credits completed ($t(167.37) = 4.65$, $p < .0001$, $g = .635$) were significantly greater in the participants than in the comparison group. We conducted a chi-square test to confirm that the variables were associated

Table 8. Relationships Between Service-Learning and Retention and Graduation Rates in the CSL Program Type (HC)

Year	Retention/graduation								Graduation							
	Overall students				Underrepresented students				Overall students				Underrepresented students			
	b	*SE*	*p*	*OR*	*b*	*SE*	*p*	*OR*	*b*	*SE*	*p*	*OR*	*b*	*SE*	*p*	*OR*
2013	0.53	0.39	.17	1.70	0.51	0.43	.240	1.66	0.68	0.35	.050	1.98	0.74	0.40	.060	2.09
2014	0.84	0.47	.07	2.32	1.91	0.78	.010	6.79	0.72	0.26	.006	2.07	1.01	0.35	.004	0.27
2015*	0.82	0.50	.10	2.27	1.52	0.80	.058	4.60	—	—	—	—	—	—	—	—

Note. Covariates that presented a SD mean difference of above 0.05 were included as control variables in the different regression models (i.e., 2013—Pell and first generation; 2014—ACT, Black, age, and Pell; 2015—Black; 2016—ACT, Black, citizen, ethnic other, first generation, Pell, and female).
*Graduation rates were not measured for the 2015 cohort.

($X^2(1) = 24.5$, $p < .0001$). Then we conducted a logistic regression for the graduation rates and found a significantly higher graduation rate for participants over comparison students ($OR = 5.54$, $p < .001$). The means and standard deviations of the participants and comparison groups for GPA, credits, and graduation rates are noted in Table 9.

Table 9 also shows the results for the subset of underrepresented students. We used exact matching on most of the background variables and found that the covariate balances for this subset showed the same patterns as those for the whole set. A total of 64 participants were underrepresented with respect to race and ethnicity, first-generation status, and/or Pell eligibility. This subset showed the same statistically significant differences between GPA ($t(189) = 5.72$, $p < .001$, $g = .72$) and credits earned ($t(164) = 4.79$, $p < .001$, $g = .66$). Using a chi-square test, the researchers also found an association between graduation rates and service-learning participation ($X^2(1) = 24.5$, $p < .001$). The researchers then conducted a logistic regression, which showed that underrepresented students in the treatment group had statistically significant higher graduation rates ($OR = 6.04$, $t(191) = 5.5$, $p < .001$).

Academic (Credit-Bearing) Service-Learning: Community Engagement Component in the BA in Urban Studies (UP)

The Bachelor of Urban Studies is a pre-professional program where students gain knowledge and understanding of cities with an opportunity for specialization in particular issues affecting cities. This program offers two specific programmatic elements of community engagement experiences: the capstone project and the internships. These two components of the academic program are designed to connect students with research projects, community engagement, and public events. This program corresponds most closely with the definition of an academic (credit-bearing) service-learning/community engagement program because students' service to the community is linked to and integrated with academic learning objectives, and students earn academic credit while enrolled in this course. However, students participating in this course can engage in a wide variety of community engagement experiences that could also align with other types of programs.

For this program, we analyzed the final GPA and final credits separately, controlling for previous GPA on both (see Table 10). We found that the GPA mean ($b = .59$, $t(132) = 4.13$, $p < .001$) was greater for the treatment group than for the comparison group and statistically significant. Credits were not significantly greater for the treatment group ($b = 7.9$, $t(132) = 1.14$, $p > .25$) than for the comparison group. After conducting a logistic regression, controlling for age, we found a greater and statistically significant graduation rate for the treatment group than for the comparison students ($OR = 2.94$, $p = .03$).

We separated subsets of participants and the comparison group based on underrepresented status (see also Table 10) and found that a total of 31 students were underrepresented with respect to race/ethnicity, first-generation status, and/or Pell eligibility. Checking the balances of the covariates, we found that all covariates were less than .25 standardized differences apart, but that both previous GPA and age were greater than .05 standardized differences. We therefore in-

Table 9. Means and Standard Deviations for Academic Outcomes for Students in the CBI (UPPF) Program Type

Academic outcomes	Overall students						Underrepresented students					
	Treatment			Matched control			Treatment			Matched control		
	n	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*
GPA	66	3.31	.54***	132	2.69	1	64	3.3	.54***	128	2.66	1
Credits	66	97.52	32.28***	132	72	43.3	64	98.9	31.8***	128	72.38	43.5
Graduated	66	78.8%	41%***	132	40%	49%	64	78.1%	42%***	128	39%	49%

Note. ***The relationship is statistically significant at the .001 level.

Table 10. Means and Standard Deviations for Academic Outcomes for Students in the ASL (UP) Program Type

Academic outcomes	Overall students						Underrepresented students					
	Treatment			Matched control			Treatment			Matched control		
	n	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*
GPA	45	3.326	.61***	90	2.76	0.8	27	3.28	.76***	54	2.54	0.99
Credits	45	77.22	34	90	70.57	41.9	27	77.26	36.1	54	65.11	41.9
Graduated	45	84%	37%*	90	68%	47%	27	74%	45%	54	57.4%	50%

*The relationship is statistically significant at the .05 level.
***The relationship is statistically significant at the .001 level.

cluded those components in the regression analysis. Controlling for previous GPA and age, GPA was also greater for participating underrepresented students (b = .725, $t(77)$ = 3.38, p = .001), and credits for participating underrepresented students remained greater but not statistically significant (b = 11.4, $t(77)$ = 1.27, p > .2). Graduation was greater but not statistically significant for underrepresented participants (OR = 2.38, p = .12).

Extended Community Engagement: La Casa Student Housing and Resource Center (LC)

La Casa Student Housing was an initiative of The Resurrection Project (TRP), a community organization based in the Pilsen neighborhood of Chicago. This experimental program targeted low-income commuter students who did not have the same networking opportunities as students living on or near campus. This new model, envisioned as a community-based college dormitory where students receive support they need during their college journey, started operating in 2012 when TRP developed the project via state grant and private donations. However, after 7 years in operation, the housing portion of the program was closed due to lack of funding. As residents of La Casa, students were expected to take part in leadership roles and be active participants in the community and to participate in the different activities that make the program a living–learning community initiative. La Casa also offered a scholarship program that required students to complete at least 20 hours of volunteer service per term, or 40 hours throughout the year. This program is considered an Extended Community Engagement (ECE) program type because students in La Casa engaged in a wide variety of community engagement experiences not necessarily related to their academic experience. Although the overall objective of the program was to promote academic improvement and ensure college completion, the service and community engagement components were designed to promote dedication to social responsibility and citizenship and were more related to each student's own personal journey in college.

For the La Casa program we conducted an optimal pair matching technique to match the treatment group and comparison group and ran separate regression analyses on the final GPA (b = .06, $t(142)$ = .38, p > .7) and the final credits (b = 10.6, $t(142)$ = 1.5, p = .13). The researchers conducted a logistic regression for the graduation rates (OR = 1.43, p > .3). The treatment group had greater GPAs, credits earned, and graduation rates; however, none of the results were statistically significant (see Table 11).

When separating out the underrepresented students, we found that the covariate balances for this subset showed similar patterns (see Table 11). However, the previous GPA was .05 to .25 standardized differences apart, and the researchers controlled for this in the outcome analyses. The researchers found that the treatment group had greater GPAs (b = .21, $t(135)$ = 2.5, p = .8), credits earned (b = 11.17, $t(135)$ = 1.6, p = .118), and graduation rates (OR = 1.44, p = .32) than the comparison group, but none were statistically significant.

Comparative Qualitative Analysis

During the interaction with students across

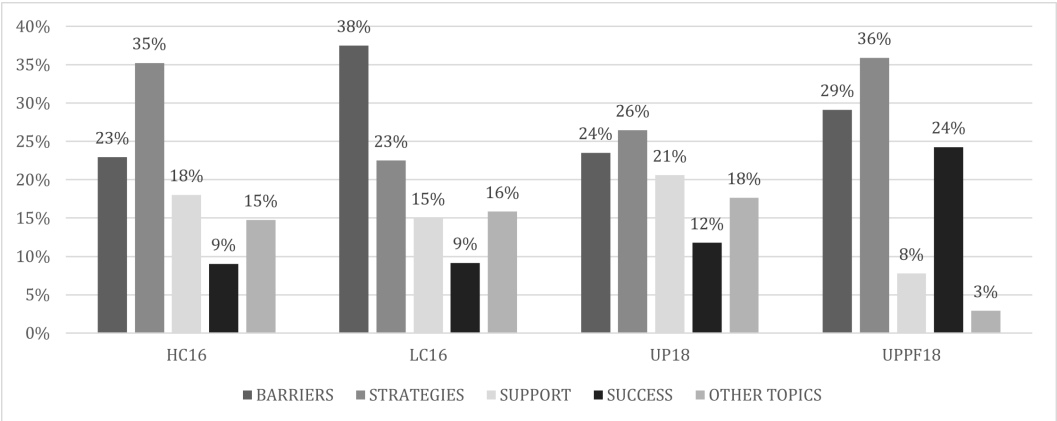
Table 11. Means and Standard Deviations for Academic Outcomes for Students in the ECE (La Casa) Program Type

Academic outcomes	Overall students						Underrepresented students					
	Treatment			Matched control			Treatment			Matched control		
	n	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*
GPA	48	2.725	0.84	96	2.66	0.96	43	2.72	0.86	86	2.7	0.93
Credits	48	66.23	38.19	96	55.63	39.75	43	66.9	38.6	86	55.9	39.5
Graduated	48	41.7%	49.8%	96	33%	47.4%	43	43%	50%	86	35%	48%

the focus group, several topics emerged as part of their college experience. We coded a total of 379 segments addressing the themes we discussed in each focus group: (1) student's understanding of success, (2) barriers to success, (3) strategies to overcome barriers, (4) support, and (5) other topics. Although barriers and strategies were the most discussed themes across the four program types, the magnitude of segments by theme in each program provided interesting insights (see Figure 1). For example, although the 2016 focus groups with CSL (Honors College) and ECE (La Casa) had a similar number of total coded segments, 122 and 120 respectively, ECE students discussed barriers more (38%) than CSL students (23%).

Across the four qualitative themes, we identified a total of 52 codes. The most recurrent codes were support networks and institutional resources, with 49 and 41 occurrences respectively. These two topics were discussed most often, as a lack of access to institutional resources and lack of support were largely identified as barriers. The third most recurrent topic across all focus groups was money (28 occurrences), which was also perceived as a barrier to success. However, money was not only associated with financial resources to pay for college education; rather, it was perceived as a determining factor of the entire college experience. For example, some students expressed the need to prioritize their jobs over their academic performance and even more over service-learning and community engagement opportunities. Other students could not afford to live on campus and ended up making long commutes that compromised their academic performance and even their health. This issue was particularly discussed during the ECE (La Casa) focus groups, where students stated that this affordable housing program made a huge difference in their college experience.

Figure 1. Focus Group Topic Frequency



Several of the 52 codes referred to aspects of student identity that affected participants' college journey. For example, self-confidence and self-doubt were the most discussed in this area, with the former being perceived as a strategy for success and the latter as a barrier. In other discussions, identity was perceived to link participation in community engagement to issues of representation, belonging, and cultural capital. As expressed by a student participating in the ECE program type, "I really understood the importance of community service and I began establishing my identity, figuring out who I was being a Mexican American in Chicago" (ECE focus group, spring 2016).

Besides self-authorship and identity construction, students across the four focus groups expressed that they felt that their participation in service-learning and community engagement initiatives allowed them to create meaningful connections with the world and to give back to their communities. This effect was emphasized by one CSL (Honors College) student, who stated, "While I was thinking about myself, I was thinking about the people who aren't in this room, the people who are not in the Honors College. Most of my undocumented friends, who are like struggling to pay for school" (CSL focus group, spring 2016). Students also said that these experiences boosted their critical engagement and activism, and cultivated a stronger commitment to social change and social justice.

Although the core of the evaluation was quantitative, looking at the findings via the topics that emerged from the qualitative data collection and analysis allowed us to explore how community engagement and service-learning also impact students' perceptions not only on their academic performance and college persistence, but also on the experience of their college journey. These findings provided important insights about students' college experiences from their individual perspectives, the way they perceive barriers, and the strategies they develop to connect personal and community values with academics and a foreign environment. Making such connections proved to be particularly important for underrepresented students facing a cultural clash when attending college. These students repeatedly referred to the relevance of connection with their communities for improving their academic performance and understanding of success during these focus groups.

Discussion and Conclusions

Table 12 summarizes the outcomes for all students in the treatment and comparison groups. Taken broadly, we find that the overall students' involvement in SL/CE activities has a positive impact on their persistence as measured by GPA and credits earned. This conclusion is consistent with findings from different studies that have shown the positive impact of SL on students' academic performance (Ash et al., 2005; Celio et al., 2011; Jay, 2008; Markus et al., 1993; Ngai et al., 2018; Schulzetenberg et al., 2020) as well as in civic and social justice engagement (Einfeld & Collins, 2008; Soria & Mitchell, 2018; Wang & Rodgers, 2006). Students' involvement in SL/CE activities also had a positive impact on graduation rates, with the ECE program type being the exception.

When considering only underrepresented students (Table 13), we found that their involvement in SL/CE activities also had a positive impact on their persistence as measured by GPA and credits earned with mixed results on graduation rates. The effects of SL/CE on persistence and graduation showed that for underrepresented students, trends were similar to those of the overall student population. These findings are important because they add evidence to a body of literature that addresses the critical role of SL/CE for underrepresented students (Kinzie et al., 2008; Maruyama et al., 2018; Song et al., 2017; York, 2016) and indicates that these experiences not only help them improve their academic performance, but also help them find larger meaning in their college education by connecting it with their social change aspirations.

Persistence Toward Graduation by Program Type

CSL Program

For all students, three of the four cohorts (2013, 2014, and 2015) participating in the CSL program had more persistence as measured by GPA than the comparison group (see Table 12). Similarly, three of four cohorts (2014, 2015, and 2016) showed more persistence as measured by credits earned than those who did not participate in this type of program. The results on graduation rates showed higher graduation rates for the treatment group for the 2013 and 2014 cohorts. In examining the findings for the CSL program, we cannot isolate for personal

Table 12. Overview of Statistical Findings (Entire Sample—Overall Students)

SL/CE program type and cohort	Assessed outcomes			
	GPA	**Credits**	**Enrolled or graduate**	**Graduation rate**
CSL HC (2013)	*p* < .001*** TG *M* = GPA 3.58 CG *M* = GPA 3.23 D = 0.35	*p* = .194 TG *M* = 116 credits CG *M* = 111 credits D = 5	*p* = .17 TG *M* = 91.9% CG *M* = 85.9% D = 6%	*p* = .05* TG *M* = 90.3% CG *M* = 81.8% D = 8.5%
CSL HC (2014)	*p* < .001*** TG *M* = GPA 3.62 CG *M* = GPA 3.25 D = 0.37	*p* < .001*** TG *M* = 115 credits CG *M* = 106 credits D = 9	*p* = .07 TG *M* = 95.3% CG *M* = 88.6% D = 6.7%	*p* < .01** TG *M* = 80.1% CG *M* = 65.9% D = 14.2%
CSL HC (2015)	*p* < .001*** TG *M* = GPA 3.64 CG *M* = GPA 3.34 D = 0.3	*p* < .001*** TG *M* = 93 credits CG *M* = 86 credits D = 7	*p* = .10 TG *M* = 95.8% CG *M* = 90.1% D = 5.7%	N/A
CSL HC (2016)	*p* = .078 TG *M* = GPA 3.59 CG *M* = GPA 3.46 D = 0.13	*p* < .001*** TG *M* = 65.1 credits CG *M* = 61.2 credits D = 3.9	N/A	N/A
CBI UPPF	*p* < .001*** TG *M* = GPA 3.31 CG *M* = GPA 2.69 D = 0.62	*p* < .001*** TG *M* = 97.52 credits CG *M* = 72 credits D = 25.52	N/A	*p* < .001*** TG *M* = 78.8% CG *M* = 40% D = 38.8%
ASL UP	*p* < .001*** TG *M* = GPA 3.33 CG *M* = GPA 2.76 D = 0.57	*p* = .25 TG *M* = 77.22 credits CG *M* = 70.57 credits D = 6.65	N/A	*p* < .05* TG *M* = 84% CG *M* = 68% D = 16%
ECE LC	*p* = .7 TG *M* = GPA 2.73 CG *M* = GPA 2.66 D = 0.07	*p* = .13 TG *M* = 66.2 credits CG *M* = 55.63 credits D = 10.57	N/A	*p* = .3 TG *M* = 41.7% CG *M* = 33% D = 8.7%

Note. TG *M* is the treatment group mean. CG *M* is the comparison group mean. D is the difference between treatment and comparison group means.
*The relationship is statistically significant at the .05 level.
**The relationship is statistically significant at the .01 level.
***The relationship is statistically significant at the .001 level.

Table 13. Overview of Statistical Findings (Underrepresented Students Only)

SL/CE program type and cohort	Assessed outcomes			
	GPA	**Credits**	**Enrolled or graduate**	**Graduation rate**
CSL HC (2013)	*p* < .001*** TG *M* = 3.57 CG *M* = 3.21 D = 0.36	*p* = .157 TG *M* = 118 credits CG *M* = 112 credits D = 6	*p* = .24 TG *M* = 91.4% CG *M* = 85.7% D = 5.7%	*p* = .06 TG *M* = 85.7% CG *M* = 81.2% D = 4.5%
CSL HC (2014)	*p* < .001*** TG *M* = 3.60 CG *M* = 3.17 D = 0.43	*p* < .001*** TG *M* = 118 credits CG *M* = 104 credits D = 14	*p* < .01** TG *M* = 97.3% CG *M* = 85.1% D = 12.2%	*p* < .01** TG *M* = 81.2% CG *M* = 63.4% D = 17.8%
CSL HC (2015)	*p* < .001*** TG *M* = 3.63 CG *M* = 3.21 D = 0.42	*p* < .01** TG *M* = 93.1 credits CG *M* = 86.3 credits D = 6.8	*p* < .058 TG *M* = 97.2% CG *M* = 91% D = 6.2%	N/A
CSL HC (2016)	*p* < .05* TG *M* = 3.52 CG *M* = 3.34 D = 0.18	*p* < .001*** TG *M* = 63.9 credits CG *M* = 59.4 credits D = 4.5	N/A	N/A
CBI UPPF	*p* < .001*** TG *M* = 3.30 CG *M* = 2.66 D = 0.64	*p* < .001*** TG *M* = 98.9 credits CG *M* = 72.38 credits D = 26.52	N/A	*p* < .001*** TG *M* = 78.1% CG *M* = 39% D =39.1%
ASL UP	*p* < .001*** TG *M* = 3.28 CG *M* = 2.54 D = 0.74	*p* < .2 TG *M* = 77.3 credits CG *M* = 65.11 credits D = 12.19	N/A	*p* < .12 TG *M* = 74% CG *M* = 57.4% D = 16.6%
ECE LC	*p* < .8 TG *M* = 2.72 CG *M* = 2.70 D = 0.02	*p* < .118 TG *M* = 66.9 credits CG *M* = 55.9 credits D = 11	N/A	*p* < .32 TG *M* = 43% CG *M* = 35% D = 8%

Note. TG *M* is the treatment group mean. CG *M* is the comparison group mean. D is the difference between treatment and comparison group means.
*The relationship is statistically significant at the .05 level.
**The relationship is statistically significant at the .01 level.
***The relationship is statistically significant at the .001 level.

motivation. It is possible that because the CSL service-learning type at UIC is part of an Honors College program, participants are high-achieving students and more motivated to participate in community engagement initiatives and in their academic performance goals overall.

When considering only underrepresented students in the CSL program, all four cohorts saw more persistence as measured by GPA for the treatment group. When examining only underrepresented students, three (2014, 2015, 2016) of four cohorts saw more persistence as measured by credits earned. The underrepresented students had mixed results for graduation, with the treatment group in the 2014 cohort, but not the 2013 cohort, showing a statistically significant higher graduation rate.

CBI Program

Students that participated in the CBI program demonstrated more persistence than the comparison group as measured by GPA and credits earned. The type of SL/CE also showed higher graduation rates for participants than for the comparison group. When considering only underrepresented students, findings were similar to those for the overall student population, where the treatment group had more persistence than the comparison group as measured by GPA, credit hours earned, and graduation rates.

ASL Program

All students involved in the ASL program type showed more persistence as measured by GPA, as well as graduation rate, than their counterparts in the comparison group. Unlike students in the CSL and CBI program types, differences in persistence as measured by credits earned were not statistically significant. When considering only underrepresented students for this ASL type of program, the treatment group had more persistence as measured by GPA. However, differences in graduation rates were not statistically significant. Differences in credit hours earned, as with all students, were also not statistically significant.

ESE Program

The findings for the ESE program type showed that those who participated in the program had slightly better GPAs, credits earned, and graduation rates than other UIC students included in the comparison group, but the results were not statistically significant. Outcomes on persistence and graduation rates for underrepresented students were also not statistically significant for this type of program. ESE was the only program type that did not show increased levels of persistence and graduation rates, which may point to the significance of some elements in other programs, such as mentorship, support systems, and the level of structure that were not explicit in this type of program. Those program elements may factor in students' sense of belonging, which influences their college journey.

Lessons Learned

This evidence suggests that the cocurricular service-learning, offered by HC, and the community-based internship, offered by UPPF, are the types of programs that play an important role in helping students improve their academic performance, and UIC should continue to provide these practices for its students. Furthermore, the cocurricular service-learning types of programs may benefit from making SL/CE a more integral part of their curriculum. Both the cocurricular service-learning and the community-based internship program types offered financial support in the form of scholarship and/or paid internship opportunities. Such experience may help students begin to understand workplace environments that utilize their academic learning while providing a way to support themselves. The increased mentorship and support systems of both the cocurricular service-learning and the community-based internship types of programs may also help students assess what contributes to or obstructs their academic success. These key program elements are a central aspect in designing new institutional models of student service.

From listening to students' perspectives, we learned that service-learning and community engagement initiatives connect students' academic performance with their sense of belonging and their engagement with their college journey. In this regard, authors such as Alicea-Planas (2017) and Pawley (2013) suggested that understanding the lived experience of students can help expand the focus from modifying students' behaviors to creating institutional structures and channels of communication that could more effectively support underrepresented students in their distinct college journey, and boost their sense of belonging

to their higher education institutions. This support is important because sense of belonging, or lack of it, influences students' motivation and their interest in developing linkages to both the institution and their communities. The importance of these linkages was evident in the recurrent discussion about institutional resources during focus groups; factors such as mentorship, support systems, and paid internships have a strong impact on students' college journey.

Underrepresented students, like all college students, arrive at college with a strong desire to learn the skills that could fulfill their dreams and aspirations of improving the world and their communities. However, the barriers to their journeys endanger their capability to achieve the high academic performance that is perceived as academic success. In most cases, service and community-based learning have provided these students with mechanisms to develop strategies that help them navigate barriers and find their own paths to success, as they understand it. The study of four community engagement and service-learning program types at UIC showed that students participating in all four types of programs experienced a positive effect on traditional academic outcomes such as GPA and graduation, and that the improvement of these outcomes is statistically significant in the CSL, CBI, and ASL programs. Credits earned were statistically significant for the CSL and CBI programs. Further exploring the key aspects of these programs that trigger such effects is central for designing new institutional models of student service-learning and community engagement. Additionally, our interactions with students during the focus group showed us that, beyond the type of program, universities also need to advance in understanding what students believe contributes to or obstructs their academic success to incorporate it in new SL/CE models.

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Appendix. Treatment Groups at Honors College UIC

Cohort	Group description	Outcomes	Time under study
2013	Students in 2013 cohort that register any SL/CE credits on any or both semesters 2014 Students in 2013 cohort that register any SL/CE credits on any or both semesters 2015	Persistence and graduation	4 *plus* years ending spring term 2018
2014	Students in 2014 cohort that register any SL/CE credits on any or both semesters 2015 Students in 2014 cohort that register any SL/CE credits on any or both semesters 2016	Persistence and graduation	4 years ending spring term 2018
2015	Students in 2015 cohort that register any SL/CE credits on any or both semesters 2016 Students in 2015 cohort that register any SL/CE credits on any or both semesters 2017	Persistence (3 years—2 SL/CE)	2 years through the end of spring term 2018
2016	Students in 2016 cohort that register any SL/CE credits on any or both semesters 2017	Persistence (2 years—1 SL/CE)	1 year through the end of spring term 2018

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Not All Service Is the Same: How Service-Learning Typologies Relate to Student Outcomes at a Hispanic-Serving Institution

Regina D. Langhout, Miguel A. Lopezzi, and Yu-Chi Wang

Abstract

This multimethod study used a sample of eight courses and 220 students from a single Hispanic-serving institution (HSI) to ask whether this HSI had distinctive conceptualizations of service-learning or an association between course conceptualizations (operationalized through course materials) and student outcomes. Adapting Britt's (2012) service-learning typologies, we created a rubric to assess whether service-learning course materials reflected a focus on advancing students' personal responsibility, critical citizenship, and/or social justice. Course materials were often rooted in more than one conceptualization. Examining the relationship of course typology to student outcomes, we found that students in courses grounded in critical citizenship and/or social justice orientations had more positive outcomes related to academic engagement, social insights, personal insights (as a trend), and civic responsibility. These results advance theory development in service-learning by suggesting a more nuanced relationship between service-learning courses and student outcomes.

Keywords: service-learning, typologies, Hispanic-serving institutions, student outcomes

Service-learning courses are well-known to be associated with positive undergraduate student outcomes. So many studies have been conducted that at this point there have been four large-scale meta-analyses linking service-learning to student outcomes (Celio et al., 2011; Conway et al., 2009; Warren, 2012; Yorio & Ye, 2012). Relatedly, another meta-analysis examined the associations between experiential learning more broadly and student outcomes (Burch et al., 2019). These meta-analyses produce consistent results. Specifically, students show improvements related to their academic engagement, social insights (their understanding of the social world and how social identities matter with respect to lived experience), personal insights (how they view themselves in relation to others and their social networks), and civic responsibility (how they understand and practice civic engagement; Celio et al., 2011; Conway et al., 2009; Yorio & Ye, 2012). Participation in experiential learning, which includes service-learning and other possibilities like project-based learning, is also related to gains in academics and social insights, and less so into personal insights (Burch et al., 2019).

Despite these consistent results across hundreds of studies, the research largely describes outcomes for students who have taken service-learning courses or not (Warren, 2012; Whitley, 2014). Indeed, most examinations assess whether there are differences in student outcomes for those enrolled versus not enrolled in service-learning coursework. These assessments, however, rarely delve into specifics about the class or how aspects of the class might relate to student outcomes. Moreover, most of this research uses White, middle-class, continuing-generation students as the sample (Mitchell et al., 2012; Pearl & Christensen, 2017), or the study does not provide demographic information, thereby challenging claims of generalizability. For

example, the five meta-analyses (four service-learning and one experiential learning) provided no information about the service-learning courses and no demographic information about the student samples. At other times, scholars assume White, middle-class, young, single, cisgender women are the students (Butin, 2006).

The purpose of this multimethod study is to begin the work of differentiating service-learning courses and how these differences may be related to student outcomes. We reviewed course syllabi and other course materials. We also examined if and how the instructors conceptualized civic engagement via the course materials and whether these conceptualizations were related to outcomes for students who took a service-learning course at a Hispanic-serving institution (HSI). In the literature review, we discuss types of civic engagement and why these types matter at an HSI. Next, we discuss the context of this study and the methods employed, followed by the results and discussion. We also outline implications for service-learning courses.

Types of Civic Engagement in Service-Learning

Although most service-learning courses in the United States have some connection to the participatory democracy and/or liberation traditions of John Dewey and Paulo Freire (Whitley, 2014), service-learning classes can have different goals, which are often implicit and therefore uninterrogated (Britt, 2012). Such characteristics are perhaps unsurprising, given the different and somewhat contradictory foundations of service-learning in the U.S. university, with some connecting it to the National and Community Service Trust Act (1993), rooted in personal responsibility, and others connecting it to Freire, Dewey, and other related schools of thought grounded in social transformation and the development of critical consciousness (Giles & Eyler, 1994; Whitley, 2014).

Differing goals for service-learning can be rooted in different conceptualizations of civic engagement. Accordingly, some service-learning courses may consider service as a tool for charity, or for social justice (Clifford, 2017; Mitchell, 2007; Morton, 1995), and some classes may have components of both (Butin, 2006). In contrast, other instructors may eschew this continuum and view service-learning as a way to increase cultural competence while developing a sense of civic identity (Mitchell, 2015; Vargas & Erba, 2017). Beyond individual faculty, some institutions promote civic engagement and connect these engagement practices to their mission to foster a civic-mindedness in students (Battistoni, 2017). For example, Indiana University–Purdue University Indianapolis has made civic engagement one of its institutional goals (Bringle et al., 2011), and the Center for Service and Learning at this institution is working on the civic-minded graduate initiative to motivate students to learn and engage civically (Steinberg et al., 2011). They define a civic-minded graduate as having the desire and ability to engage in democracy and work with others to improve the world (Bringle et al., 2011). Bringle et al. (2019) suggested that implementing the civic-minded graduate model—which integrates activities that focus on the student's identity, educational, and civic experiences—in service-learning courses creates a more effective pedagogy that results in more positive civic outcomes in students.

Even with this varied service-learning past, and both faculty and institutional ideas regarding the goals of service, most empirical studies of service-learning draw no distinctions and provide no information about the goals of the course (Britt, 2012). These course distinctions are important because when conceptualized as a form of charity, the class may reinforce a deficit-based approach and power hierarchies, but when taught from a social justice lens, the course can work to facilitate transformative social change, or shift the distribution of power within a community (Clifford, 2017; Mitchell, 2007). These distinctive approaches to service have been conceptualized by Westheimer and Kahne (2004a, 2004b) and Morton (1995), as well as others.

Westheimer and Kahne described three ways of understanding citizenship, which has implications for civic engagement practices. The three forms of citizenship are the personally responsible citizen, the participatory citizen, and the justice-oriented citizen (Westheimer & Kahne, 2004a, 2004b). Concerning civic engagement practices, the personally responsible citizen is likely to work in ameliorative ways to help alleviate individual need, without questioning social structures or the distribution of power in a community. For example, this person might

donate to a food drive. The participatory citizen, on the other hand, might engage civically and/or socially to amplify the effect that only one person can have on the issue at hand. This person might, for example, organize a food drive. Finally, the justice-oriented citizen might call attention to why an injustice exists and use a strategy to work toward justice-oriented goals, thereby altering power within a community. This person might study why people are hungry in the first place and then work to address root causes by helping to develop a community garden or organizing for a living wage ordinance in their community. Morton (1995) described similar paradigms, on a continuum from low to high investment in developing community relationships and low to high concerns with systemic or institutional causes, calling them charity, project, and social change.

In examining the differences and relations among typologies of citizenship, we can shift away from a research framework of service-learning versus no service-learning. Instead, we can move our focus toward the goals of the course and how conceptualizations of service can help us provide better support in developing diverse student knowledge of citizenship so that students are supported in being actively engaged in their communities (Bringle et al., 2019; Kahne et al., 2000). This shift in empirical focus is also important for theory development in service-learning, as it helps researchers and practitioners nuance our discussions, and may inform best practices.

Britt (2012) created a framework to assess service-learning pedagogical typologies by reviewing the service-learning literature, including prior conceptualizations by Morton and Westheimer and Kahne. The typology lists six factors to be used to assess the service type of the class: the rationale/goals, foundation, focus, desired outcome, role of service, and the desired development of the student. The rationale outlines the end goals of the course, be it to deeply consider what it means to be in relation to others (participatory or critical citizenship) or to work with others to transform oppressive systems (social justice activism). The foundation is related to the philosophical roots of the course (e.g., pluralistic democracy, antiracism). The focus concerns the domain of action (e.g., values, systems change). The desired outcome is about who or what is supposed to change based on the class (e.g., the student becomes more communitarian, social change). The role of the service interrogates the work of the student (e.g., relational development, behaviors to address oppression). Finally, the development of the student centers the type of identity development the course facilitates (e.g., a civically engaged person, a change agent).

Britt (2012) viewed the forms of service-learning as "distinctive" from one another (p. 81). Critical citizenship and social justice activism are included, paralleling the participatory and justice-oriented citizen (Westheimer & Kahne, 2004a, 2004b). Britt included a third category, skill-set practice and reflexivity, in the framework. We, however, view skill-set practice and reflexivity as separate from a type of service-learning. In our reading, each service-learning class should include skill-set practice and reflexivity. Instead, we understand skill-set practice and reflexivity as aspects of quality, not a distinctive conceptualization of service. We do not think we are alone in this conceptualization (Lorenzo Moledo et al., 2021; Martín García et al., 2018; Matthews et al., 2023).

There was no parallel for the personally responsible citizen in Britt's (2012) conceptualization. Although laudable to assume that no service-learning courses could be conceptualized as fitting into a personally responsible framework, this seems unlikely, given that some U.S. universities implemented service-learning in response to the National and Community Service Trust Act (1993), and most American universities operate in a U.S.-based neoliberal cultural context. Neoliberalism is the belief system that community wellness is best achieved via the free market and competition, which privileges individual choice and individual responsibility over public infrastructure and social welfare. When operating within a neoliberal framework, service-learning curricula are likely to support narratives around charity and individual responsibility, which is a common trope of neoliberalism (Clifford, 2017). Furthermore, scholars have written about service-learning as a pedagogy of whiteness (Mitchell et al., 2012). A pedagogy of whiteness upholds power hierarchies, conceptualizes the student (who is often understood as a White, single, middle-class, cisgender woman) as a "helper" and as dominant, with service understood as "helping" someone who is "at risk."

For these reasons and more, some posit that service-learning conceptualizations are related but distinct, and therefore the courses may combine aspects of differing approaches (Butin, 2006). Moreover, because whiteness and neoliberalism are such strong cultural foundations in the United States, conceptualizations that veer from this framework, such as critical citizenship and social justice, may be less distinctive from each other; their focus is on moving away from whiteness and neoliberal tropes of charity and personal responsibility.

Service-Learning and Hispanic-Serving Institutions

The typologies of service-learning may be of special interest for HSIs. HSIs are defined as institutions with at least 25% of full-time enrolled students identifying as Latinx. Most HSIs also serve a plurality of other students of color, with a large portion of these students also being first generation and from working-class families (Cuellar, 2012; Garcia & Cuellar, 2018). HSIs have more significant numbers of Latinx students than predominantly White institutions (PWIs). However, service-learning research has historically been performed with mostly White student populations or with student populations where the ethnicity/race of the samples is not specified (Butin, 2006; Mitchell et al., 2012). Creators of service-learning courses thus often have in mind White, middle-class students who often have experienced few of the social issues that their service-learning experience involves (Mitchell & Donahue, 2017). Latinx students or students of color engaging in service-learning courses might have different motivations from their White counterparts. For example, if students with white privilege feel safer and more comfortable in charity types of service-learning (Mitchell et al., 2012), students at institutions with diverse student populations may be motivated by specific types of civic engagement, especially models that are based in social justice. Moreover, students' motivation for engaging in service-learning courses may affect their outcomes (Sze-Yeung Lai & Chi-Leung Hui, 2021). In this study, students who had an intrinsic motivation when participating in service-learning were more likely to engage in future positive civic behaviors. Campuses that serve a critical mass of Latinx students, or a plurality of students of color and first-generation college students, may be especially called to ensure opportunities for civic engagement for social change. Indeed, researchers who focus on HSIs have called for a turn (back) to civic-mindedness and engagement (Garcia, 2018; Garcia & Cuellar, 2018; Hurtado et al., 2012). These calls bring a renewed urgency to previous calls, such as the Wingspread Statement (Brukardt et al., 2004), the Kellogg Commission (1999, 2002), and scholars who call on U.S. educational systems to bring more awareness to "practices in civic education" and increased attention to the "highly unequal access to and opportunity for school-based citizenship education," as these are key areas to sustained democratic engagement (Battistoni, 2013, p. 1136). This call from HSI scholars is for engagement opportunities that shift power within communities and align with social justice (Garcia, 2018; Garcia & Cuellar, 2018; Hurtado et al., 2012). Moreover, these researchers call for scholars to link student support, such as curricula, to academic and civic outcomes. We take up this call in this article.

We pose two research questions. (1) Do service-learning classes at this HSI tend to fall into a single category of service-learning, as might be suggested by Britt (2012), Morton (1995), and Westheimer and Kahne (2004a, 2004b), or do they have characteristics of multiple categories, as might be suggested by Butin (2006)? Relatedly, how might the courses be distributed across the three typologies? (2) Does the service-learning type, as discerned through course materials, relate to student academic engagement, social insights, personal insights, and civic responsibility? This study was exploratory, so we did not generate many hypotheses, although we did anticipate that civic responsibility outcomes would be associated with critical citizenship and social justice typologies because civic engagement moves beyond the individual and seeks community wellness, as does critical citizenship and social justice.

Method

Participants

This broader study included 227 students from seven service-learning courses. All attended an HSI on the West Coast. With respect to gender, 68.3% identified as women, 26.4% as men, 1.3% as nonbinary, gender expansive, or preferred another option, and 4% did not answer the gender question. The largest group of students identified as

Latinx (41.9%), then Asian American (25%), White (23.4%), Black (6.6%), chose not to respond (2.7%), and Native Hawaiian/Pacific Islander (0.4%). Just over half the students were first generation to college (53.5%) and were served by the campus educational opportunity program (EOP; 51.1%). EOP serves first-generation, low-income, and undocumented students. Chi-square tests examining these participant demographics compared to campus demographics revealed that women were overrepresented ($\chi^2(1) = 11.44$, $p < .001$), as were students served by EOP ($\chi^2(1) = 5.29$, $p < .05$). This gender representation is aligned with other studies, which indicate that women are more likely to take service-learning courses (Frederickson, 2000).

For RQ1, we analyzed materials from eight service-learning courses. Syllabi and materials are from six courses where students filled out the questionnaire. Two of the five instructors who provided course syllabi and materials also volunteered materials from one additional course each. RQ1 analysis is therefore based on eight course syllabi and materials. For RQ2, we were unable to obtain one syllabus, for a class where seven students had completed the questionnaire. Therefore, we were able to link six service-learning courses, taught by five instructors, with student outcome data for 220 students.

The final sample used for RQ2 analyses was 220 students from six service-learning courses, as we did not receive course materials for the seventh course.

Design

This HSI achieved its designation in the 2010s. It has a very high undergraduate population and very high research activity, according to its Carnegie classification. The campus is selective and residential, with the majority of students being from outside the county. The surrounding community is much whiter and wealthier than the students. Campus faculty and staff are also majority White (65% ladder rank and 72% lecturers; 58% staff).

This study was reviewed by the University of California, Santa Cruz Institutional Review Board and found to be exempt. All participants were treated in accord with American Psychological Association ethical guidelines. Students were recruited through their service-learning class, which they took in one of four distinct interdisciplinary colleges across the university, meaning the class was open to all students, regardless of major. Each of the colleges was unique in that each subscribed to a distinctive theme. For example, one college's theme reflects power and representation. Classes at this college focus on students' intersectional identities and their relation to their community. In contrast, another college is themed around social justice and community issues. The classes at this college focus on how students can get involved in addressing social injustices affecting their community and society. Since each college has its own theme, each service-learning class at this institution may have a different civic engagement focus and address different social issues. Because of the colleges' willingness to offer classes to all students, regardless of major, the colleges were approached rather than academic departments.

The first author approached these four colleges because they were known for having robust service-learning offerings, and for serving a plurality of students of color and/or first-generation college students. The four colleges were excited to participate and granted access to students in seven classes, which were all of the classes keyed as service-learning by the four colleges at the time these data were collected.

Furthermore, six instructors taught the seven courses, each being part of a different college and having been trained in various academic disciplines. All service-learning classes met the criteria outlined in the National and Community Service Trust Act (1993). For example, students were active in projects that met a community need (e.g., tutoring), the service was connected to course material, and the classroom space required service-related reflection. Students were encouraged to fill out the questionnaire by their instructor during the last week of the quarter. They were given the option of filling it out online or via pen(cil) and paper. The overall response rate was 62%, and individual course response rates ranged from approximately 12.5% to 90%, with a median response rate of 41.4%. Due to variance in questionnaire distribution timing, format, and lack of course roster information, some response rates are approximated by the person who administered the questionnaire in classrooms.

Each service-learning course had a distinctive focus and aim. For instance, a syllabus for a service-learning class taken at the col-

lege with a social justice and community theme described the course as providing opportunities to experience and volunteer for cultural and social justice issues through placing students in nearby schools and nonprofit agencies. Learning outcomes for this class were around helping students understand social problems and how they affect their community. Another course focused on developing citizenship to create space for students to cultivate personal growth. This course's service component was based on poverty issues and aimed to support local unhoused people. Yet another course focused on exposing students to effective activism within a political context. This course aimed to position students to continue their social justice activist role and to be current and future agents of social change. Lastly, a fourth course had a social geography and justice focus. This course aimed to teach students how different places may have distinct meanings, and how their geography may impact intersecting identities, distribution of resources, and society as a whole.

Measures

Service-Learning Typologies

We modified the typologies of service-learning pedagogical frames (Britt, 2012). Specifically, we made slight alterations to the typologies for critical citizenship and social justice activism, and added a column for an individual responsibility typology, which better represents the varied roots of service-learning in the United States. See Table 1 for the typologies rubric. Each of the six factors within the three different typologies was scored from 0 to 3 for level of implementation, with 0 indicating that the factor was not present and 3 indicating an exemplary implementation. The scores for the six factors within each typology were summed to create three aggregate typology scores for each course. These scores were based on the course syllabus and supporting materials provided by the instructors. When we had multiple syllabi or materials for the same course (reflecting slight modifications from different implementations of the course), we assigned a score after considering all relevant materials.

Outcomes

For three outcomes (i.e., academic, social insights, and personal insights), we used scales mostly from Schreiner's Expanded Thriving Quotient (Schreiner et al., 2012). The Thriving Quotient assesses academic, psychological, and social features (Schreiner et al., 2013). The instrument has been refined through assessment with over 25,000 undergraduates from more than 45 universities (Schreiner, 2010; Schreiner et al., 2013). An important aspect of the thriving quotient is that thriving is conceptualized as statelike, meaning it can be facilitated through classes and other institutional structures (Schreiner, 2014). However, it is important to note that the thriving quotient has been used primarily with White students (approximately 75%) and continuing-generation college students (approximately 76%; Schreiner, 2010; Schreiner et al., 2013). The response options follow a Likert-type scale and range from 1 (*strongly disagree*) to 6 (*strongly agree*).

Academics. We used two measures to assess academic engagement, both from the Thriving Quotient. Academic Determination is a five-item scale that assesses motivation, effort, efficacy, and time regulation. A sample item is "I am confident I will reach my educational goals." Cronbach's alpha was .79. Engaged Learning is a four-item scale designed to examine cognitive engagement with classes. A sample question is "I find myself thinking about what I'm learning in class even when I'm not in class." Cronbach's alpha was .82. We classified these as academic outcomes because the scales are explicitly about academic engagement.

Social Insights: Diverse Citizenship. This six-item scale from the Expanded Thriving Quotient examines students' openness to others, and their willingness and desire to be agents of change. Sample items are "It is important to become aware of the perspectives of individuals from different backgrounds" and "I know I can make a difference in my community." Cronbach's alpha was .74. Diverse citizenship is about social insights because it focuses on understanding diversity and social beliefs.

Personal Insights. We assessed personal insights with three scales. The first two are from the Expanded Thriving Quotient. The six-item Social Connectedness scale examines students' connections to their friendship network. A sample statement is "I feel content with the kinds of friendships I currently have." Cronbach's alpha was .83. The second scale, School Continuance, is five items and measures the student's intention to persist until graduation. A sample

Table 1. Service-Learning Typologies Rubric

Component	Personal Responsibility	Critical Citizenship	Social Justice
Rationale/goal/definition[a]	Exploring what it means to act responsibly in a community and to help others who are less fortunate. This goal is to build sympathy.	Using civic values to explore what it means to exist in relation to others in the community; used to raise awareness of and critical thinking about social issues and students' values and moral choices/responsibilities as societal members. This goal is to build empathy.	Working with others to transform systems of oppression used to help students take action to address human needs often related to societal injustices/power imbalances. Seeks to develop critical consciousness of the complexity of social issues.
Foundation[a]	Materials allow liberal notions of community, character education, development of compassion. Students' activities enable them to reflect on themselves and to be in contact with those who are less fortunate. Projects help reduce stereotypes held by students.	Materials allow for learning to happen in the community "at the point where democracy and education intersect." Materials demonstrate that students' service activities become a vehicle through which students investigate their own civic identities.	Involves service-learning pedagogy focused on social justice activism. Materials merge influences of at least one of the following: social movements, community organizing, direct or indirect focus on politically empowering the powerless.
Focus[a]	Materials aim to deepen student relationships with the community and forge new connections that involve developing compassion for others.	Materials aim to deepen student relationships with the community and forge new connections that involve a "sense of caring for others," which may include, but is not limited to, compassion.	Materials help students gain insight into how structural and systemic forces shape and reproduce social issues and begin to assume an activist orientation addressing those issues.
Outcomes/level of change[a]	Materials indicate a focus on increasing volunteerism in charity-based organizations; develops student integrity, honesty, hard work, and compassion.	Materials indicate a focus on developing students as participatory citizens in relation to others in their communities.	Materials indicate that students participate in correcting power imbalances and advocating for marginalized and oppressed groups, and collectively engage in solving social problems at a systemic level.
Role of service[a]	Materials highlight direct contact with individuals who are less fortunate and focus on providing a charitable service (e.g., soup kitchen) or changing the individual (e.g., tutoring).	Materials highlight engaging students in communities to instill a range of values that enable them to be informed and committed citizens in a democratic system.	Materials highlight opportunities to engage in efforts that begin to correct systemic social disparities.
Development of student[a]	The course materials provide a framework for the student as a citizen for being a responsible individual, as an individual in relation to a community.	The course materials provide a framework for the student as a citizen for being an individual in relation to a collective community.	The course materials involve the student as a change agent, encouraging critical consciousness of structural inequalities and marginalization.
Student reflection activities[a]	Course materials provide activities (journals or papers) that engage students in reflection on the service-learning experience. The course also fosters connections between civic values/citizenship and individual responsibility and/or charity and/or compassion.	Course materials provide activities (journals or papers) that engage students in reflection on the service-learning experience. The course also fosters connections between civic values/critical citizenship and course learning goals/objectives.	Course materials provide activities (journals or papers) that engage students in reflection on the service-learning experience. The course also fosters connections between social justice activism and course learning goals/objectives.

Note. Scoring Key: We scored based on four levels of implementation: 0 if the component was absent, 1 if the component was present to some extent, 2 for adequate implementation, and 3 for exemplary implementation.

[a] Similar to the concepts addressed by Kahne et al. (2000) and Britt (2012).

item is "I really enjoy being a student here." Cronbach's alpha was .75. The third measure was the eight-item General Mattering Scale (Tovar et al., 2009), which examines how much the student thinks they matter to and feel seen by the broader campus community. A sample item is "People on campus are generally supportive of my individual needs," and Cronbach's alpha was .88. We classified these three scales as personal insights because the scales assess how the students view themselves in relation to others and their social networks.

Civic Responsibility: Borderlands. This nine-item scale assesses a student's ability to culturally straddle between home and academe and engage in social justice work (Langhout et al., 2022). Items are on a 5-point Likert-type scale, from *never* to *always*, and start with the root phrase, "Since starting college, how often have you . . ." Sample items are "Felt you could be a contributor to the social change you wanted to see?" and "Drawn on your knowledge of your history or cultural strengths in order to create your future?" Cronbach's alpha was .83. We labeled Borderlands as civic responsibility because it assesses one's ability to take—and experience with taking—action in the world.

Data Analytic Procedures

Service-Learning Typologies

The three authors initiated the scoring process by each individually and independently scoring the same course; this course was chosen by one author because a moderate quantity of course materials was available for evaluation, compared to the quantity of course materials available for all evaluated courses. Afterward, as a group, we arrived at final scores through discussion and consensus. After reviewing the one course together, all other courses were randomly assigned to and scored by two of the authors individually, and a final score was assigned again through discussion and consensus between the two scorers. During the discussion, all coders first presented their scores and evidence for those scores; if there were any discrepancies between the coders' scores, the evidence was rereviewed and a final score for each factor was assigned that was agreed upon by both coders. We focused on a consensus-based coding procedure that prioritized iterative discussion, grounded in evidence from course materials, to reach a greater holistic mutual understanding than was possible for any one individual's limited perspective of the materials (e.g., McDonald et al., 2019; Richards & Hemphill, 2017). This process can promote a more valid understanding. Once we finalized the scoring for each course, we reached out to the five instructors, whose course syllabi and materials we were evaluating, to review our scoring, as a member check. We heard back from three instructors who taught five of the eight total courses for which we evaluated materials and syllabi. One agreed with the scoring and the other two provided additional information, after which the two scorers for the relevant course initiated a second round of scoring with all original and new materials and arrived at a new comprehensive final score, again through discussion and consensus. In both of these cases, the additional information led to increased scores, as the supplementary material suggested a greater degree of implementation than was evident in the original materials. Adjusted rubric scoring was reshared with instructors, as a final member check, after which we did not have additional disagreements or other adjustments.

We then created three aggregate typology scores per course by summing the scores for the six factors within each typology, resulting in three scores between 0 and 18. To answer RQ1, we applied a cutoff score of 12 or more (66% of the potential total) for each typology to categorize each course as meeting or not meeting the criteria for each of the three typologies (e.g., if a course had a total score of 12 or higher on the "social justice" typology, then it would meet the criteria for this typology). Absent any other scoring criteria, we rationalized that a score of 66% or higher indicated course materials had sufficient rooting in the specific typology. This was our rationale because a score of 2 for an individual factor was considered adequate per our rubric, and a score of 66% is the equivalent to a score of 2 for each item. Based on these cutoff scores, any course could be classified as zero, one, two, or all three of the typologies.

Outcomes

To assess for missing data patterns, we followed procedures described by Schlomer et al. (2010). These procedures first require assessing the amount of missing data for each scale. In our case, the amount of missing data was minimal. For example, for the academic determination scale, there were three missing data points out of 990. Given the

small amount of missing data, we moved on to the second step, which was to evaluate patterns of missingness via chi-square analyses. We discerned that for at least one scale (Diverse Citizenship), data were missing at random (MAR; Schlomer et al., 2010). Because outcome data were MAR, we were able to compute outcome scale scores using available item analysis, allowing scale scores to be computed if there was no more than one scale item missing for the scales with six or fewer items, and no more than two items missing for the scale with eight items. This procedure is recommended when data are MAR (Parent, 2013). All scales were multivariate normal.

Results

Service-Learning Typologies

Before addressing RQ1 regarding whether service-learning courses tend to fall into more than one category, we first provide some descriptive statistics on the typology scores for the eight courses we evaluated. We provide this information in order to give more context on these courses and the typologies rubric. See Table 2 for this information. First, aggregate scores varied most for Social Justice, with a range of 1–17, followed closely by Personal Responsibility, ranging 1–15, and then Critical Citizenship, ranging 8–18. By looking at the maximum values of the aggregates, we concluded that Critical Citizenship and Social Justice were implemented to a higher degree than was Personal Responsibility. Further, when examining the minimum values, all courses had at least some implementation of Critical Citizenship, which was not the case for Personal Responsibility and Social Justice.

Across the eight courses evaluated, three courses met criteria for Social Justice, seven for Critical Citizenship, and five for Personal Responsibility. Two courses were categorized as Personal Responsibility only, two courses were Critical Citizenship and Personal Responsibility, and three courses were Social Justice and Critical Citizenship. Furthermore, one course did not meet the criteria to be classified as any of the typologies, no courses were Social Justice or Critical Citizenship only, and none of the courses met all three classifications. Thus, to answer RQ1 about whether the service-learning courses at an HSI fall distinctly into one typology, most (seven of eight courses) met criteria for at least one typology, but only two of the eight courses we evaluated fell distinctly into only one typology (i.e., Personal Responsibility). See Table 3 for the course breakdown.

Service-Learning Typologies and Outcomes

In answering RQ2, we explored whether service-learning typologies were related to any of the outcomes. For this analysis, we looked at the six courses for which we had student-level outcome data. Based on the literature, we expected to see differences in outcomes for students who were enrolled in courses that were categorized as critical citizenship and/or social justice compared to those courses that did not meet the criteria for either of these typologies, as both critical citizenship and social justice move away from neoliberal and whiteness frameworks. Because so few courses were categorized as one type of service-learning, and none were Critical Citizenship or Social Justice only, we grouped courses that met the criteria for either Critical Citizenship or Social Justice. As described above in the distribution of the course typologies, this included courses that either had both Personal Responsibility and Critical Citizenship or both Critical Citizenship and Social Justice; no courses were Critical Citizenship only, Social Justice only, or all three. We compared student outcomes for these courses (n = 4) to student outcomes for courses that were classified as either Personal Responsibility only or no typology (n = 2 courses). Because of the nonnormality of errors in these regressions, we conducted the Mann-Whitney U rank test, a nonparametric comparison test

Table 2. Descriptive Statistics of Aggregate Typology Scores

	Minimum	Maximum	Range	Median
Personal Responsibility	1	15	15	12
Critical Citizenship	8	18	11	14
Social Justice	1	17	17	11

Note. N = 8 courses. Minimum possible score: 0, Maximum possible score: 18.

between independent samples, to evaluate whether the outcomes differed between the typologies. Given that the students in the sample came from six different courses, we needed to evaluate the students' outcomes for potential dependency by calculating the intraclass correlation (a measure of the between-course variance compared to the total variance); a larger intraclass correlation denotes greater similarity between than within courses, pointing toward dependency. All outcomes had intraclass correlations less than 10%, supporting the use of student outcomes as independent observations. We excluded observations with missing data on a test-by-test basis.

Due to the exploratory nature of the question, we did not adjust *p*-values (i.e., to control for Type I errors; see Jafari & Ansari-Pour, 2018 for review). Furthermore, we report all findings, including trends, to paint a full picture of this exploratory study in Table 4. The largest effects of Social Justice/Critical Citizenship typology regarding academic outcomes are for engaged learning such that the courses categorized with Social Justice/Critical Citizenship had higher means (M = 4.92, SE = .08) than those courses that were not Social Justice/Critical Citizenship (M = 4.49, SE = .09), U = 4434.5, z = −3.256, p = .001. In all of the outcomes, there are trends of the students in courses categorized as Social Justice or Critical Citizenship having higher scores than those in the courses not categorized as Social Justice or Critical Citizenship.

Discussion

Through an empirical examination, this study moves forward theory development related to service-learning, an area that would benefit from more conceptually rich frameworks (Warren, 2012; Whitley, 2014). Specifically, rather than assessing for differences in outcomes based on whether students took a service-learning course or not, we discerned whether there were distinctive service-learning typologies based on course material and differential outcomes based on these typologies. To engage in this assessment, we first scored course material against a typologies rubric. Through this process, we concluded that little course material followed a "pure" typology (RQ1). Indeed, with respect to course material, more courses were mixed in their typologies than not, and the only typology that had a "pure" type was personal responsibility. Perhaps this is not surprising, given that the dominant cultural paradigm in the United States is one of neoliberalism and whiteness (Clifford, 2017; Mitchell, 2007; Mitchell et al., 2012), which values personal responsibility, even if personal responsibility is losing its centrality in more contemporary and mature forms of service-learning. It may therefore be unsurprising that the distinction between the alternative conceptual frameworks of critical citizenship and social justice were less clear. Because critical citizenship and social justice are less rooted in neoliberalism and whiteness, they may be more distinctive from personal responsibility than they are from each other. Their most salient feature is that they move away from personal responsibility and charity.

It is noteworthy that Personal Responsibility and Critical Citizenship cooccurred in our sample (for two classes), just as Critical Citizenship and Social Justice did (for three classes), but Personal Responsibility and Social Justice did not. If we consider the typologies as a sort of continuum regarding who or what needs to change (individual people for personal responsibility to systems and structures for social justice), perhaps it is unsurprising that Personal Responsibility and Social Justice do not cooccur (e.g., Morton, 1995). These conceptual frameworks may be too distinct from one another to share a focus in this way.

It is also important to note that only two of

Table 3. Course Typology Classifications

Typologies	*n* Courses	*n* Students (%)
None	1	53 (24.1)
Personal Responsibility	1	66 (30)
Personal Responsibility and Critical Citizenship	2	40 (18.2)
Critical Citizenship and Social Justice	2	61 (27.7)

Table 4. Mann-Whitney U Test Results

Outcome	*n*	Not Critical Citizenship/ Social Justice Mean (*SE*)	Critical Citizenship/ Social Justice Mean (*SE*)	*U*	*Z*	*p*	Effect Size (h^2)
Academic							
Engaged Learning	219	4.49 (.09)	4.92 (.08)	4434.5	-3.26	<.01	.05
Academic Determination	210	4.46 (.08)	4.712 (.09)	4452.5	-2.27	.02	.03
Social Insights							
Diverse Citizenship	211	4.84 (.06)	5.07 (.07)	4271	-2.79	.01	.04
Personal Insights							
Mattering	201	3.15 (.09)	3.39 (.08)	4275	-1.76	.08	.02
Social Connectedness	210	3.97 (.11)	4.26 (.97)	4630.5	-1.85	.06	.02
School Continuance	210	4.35 (.09)	4.41 (.07)	5319	-0.28	.78	<.01
Civic Responsibility							
Borderlands	194	3.51 (.06)	3.72 (.07)	3678	-2.46	.01	.03

Notes. *n* = 6 courses. Missing data deleted on a test-by-test basis. *N* = 220 students.

the eight courses fit the typology of Personal Responsibility only. We view this as significant, given this research took place at an HSI and the plurality of students were students of color (especially Latinx students) and/or were first-generation college students. It is important for curricular spaces to be culturally relevant for students of color and first-generation college students, and service-learning courses that are conceptualized as critical citizenship and/or social justice may be one intervention. Further, courses that are more culturally relevant may garner greater student interest, which we know to be related to student outcomes (Moely et al., 2008). Of course, other curricular interventions are also needed.

Our second area of inquiry examined whether different types of service-learning courses were differentially associated with academic, social, personal, and/or civic responsibility outcomes. Because of the lack of empirical distinction between critical citizenship and social justice types, we combined these typologies to assess this question. In this case, we investigated whether an alternative typology—one rooted in the radical historical strand of service-learning—was associated with student outcomes. Results suggested that there were differences based on the course type for most outcomes. Specifically, those who were enrolled in a service-learning course that used materials aligned with Critical Citizenship and/or Social Justice reported higher levels of academic outcomes via engaged learning and academic determination, social insights via diverse citizenship, personal insights via social connectedness (trending difference) and mattering (trending difference), and civic responsibility via Borderlands. There was no difference, however, for school continuance based on the typology of the service-learning materials. Issues of college persistence and how one "fits in" to their university may be broader than one class or pedagogy, or take more time to develop than one quarter.

Two aspects are notable with these results. The first is that the effect sizes for the personal insights variables are the smallest, which is consistent with the meta-analyses examining service-learning and experiential learning (Burch et al., 2019;

Celio et al., 2011; Conway et al., 2009; Yorio & Ye, 2012). Our results of trending differences in personal insights are important to highlight because they mirror the broader literature, especially in consideration of this study being exploratory and conducted with a limited sample of students. Specifically, although the broader service-learning literature suggests that some of the strongest impacts from service-learning participation are in the development of students' personal (i.e., self-efficacy, self-esteem) and social (i.e., relationship with peers) development, these studies report the largest gains for academic outcomes and social insights, with smaller effects for personal insights and civic responsibility. Furthermore, given that Burch et al. (2019) discerned no relationship with personal insights, we report trending differences because in our study, the effect sizes appear roughly equivalent for academic engagement, social insights, and civic responsibility. Because this sample is from an HSI, this pattern of effect sizes is understandable. Indeed, research indicates that Latinx students, as well as students of color (more broadly) and first-generation college students, are more likely to flourish when in an environment that supports who they are and enables a praxis cycle of reflection and socially just action (Garcia & Cuellar, 2018; Hurtado et al., 2012; Langhout et al., 2014; Langhout & Gordon, 2021; Schwartz & Suyemoto, 2013; Watts et al., 2003; Wray-Lake et al., 2017). Therefore, critical citizenship and social justice typologies may facilitate simultaneous reflection, action, and academic growth.

A second noteworthy aspect of these results is that two classes were coded as a combination of Personal Responsibility and Critical Citizenship, which meant these three classes were categorized as meeting the criteria for a Critical Citizenship or Social Justice typology and analyzed accordingly. Despite these courses also meeting the criteria for the Personal Responsibility typology, we see consistent trends for outcomes between students in these courses and courses that were coded as Critical Citizenship and Social Justice. It may be that a class that has a solid rooting in a Critical Citizenship or Social Justice typology provides a strong foundation for positive academic, social, personal, and civic outcomes, even if the course includes more mainstream conceptualizations of service.

These differences in outcomes move us beyond simply investigating whether there are differences for students who take service-learning courses. With inquiries like this one, researchers begin to add nuance to understanding whether processes within service-learning courses matter. Our results indicate that courses that align with more transformational typologies for service, such as Critical Citizenship and Social Justice, are associated with better outcomes for students attending an HSI.

Limitations, Future Directions, and Implications

Like all studies, this one has limitations. First, the study is cross-sectional, so we are unable to know with more certainty whether the differences in outcomes are based solely or primarily on the typology of the service-learning course. Studies using longitudinal designs and that evaluate outcomes for more students are needed. The sample size that we used was limited but appropriate for an exploratory study such as this one, so we reported on not only significant findings but also trends with marginal significance. The trends of personal insights suggest that we as a field need further research with a more robust sample to better understand these relationships within HSI institutions. Second, the sample was from one school only, although students were from different service-learning classes. Future research should assess typologies at other universities and examine whether different typologies are associated with different outcomes. Just as it would be useful to know if courses at other HSIs would yield similar results, it would be just as important to study conceptualizations of service-learning courses at PWIs.

A third limitation is that we examined course materials only, which may be an incomplete representation of the entire course. We did, however, conduct a member check with each instructor, sharing the scoring rubric with them and asking if they thought we misunderstood any materials. We heard back from three of the five instructors. However, a more comprehensive approach would be to also visit classes and service sites, and interview instructors, site supervisors, and students regarding how they understood the course conceptual framework. This is an area for future research. Relatedly, it may be possible to differentiate courses based on other factors in addition to the typology of the course, such as quality, course credits, time at the service site, and so on. Future research should examine additional

factors that might help us understand what facilitates positive outcomes for students. Future research could also examine whether outcomes differ for students who are first-generation and/or students of color, but rather than from a deficit framework that uses White continuing-generation college students as normative, from a social justice perspective that focuses on how changing university structures and university culture can better support students of color and/or first-generation college students. Furthermore, studies should provide more comprehensive demographic information when possible so that researchers and practitioners have a better sense of who is enrolling in service-learning courses (e.g., EOP students, first-generation college students) and how these student characteristics may be related to relevant outcomes, above and beyond the course aspects discussed in this article. For example, we know from the literature that there are different rates of service-learning participation across different genders (e.g., Frederickson, 2000) and that individuals who prefer certain types of service-learning activities are likely to get more benefit from courses aligned with these interests (Moely et al., 2008).

These results may be especially meaningful for students attending an HSI, the plurality of whom are often students of color and/or first-generation college students. The fact that different outcomes were associated with alternative service-learning typologies is a reminder that not all service is equivalent. Indeed, service-learning courses that are aligned with typologies of neoliberalism and whiteness may not have the same beneficial effects on academic engagement, social and personal insights, and civic responsibility because they do not speak to socially just change. Part of the call by HSI researchers is to focus on civic-mindedness and engagement for socially just change (Garcia, 2018; Garcia & Cuellar, 2018; Hurtado et al., 2012). To take this call seriously, it is important to be deliberate and explicit regarding service opportunities. However, PWIs should also be deliberate and explicit in their service-learning typologies. It would be valuable to investigate whether service-learning courses that are conceptualized as personal responsibility and that are taken by a plurality of White and continuing-generation students may reinforce dominant narratives of power, white supremacy, and neoliberalism, which would be a disservice to the communities in which they engage in service and White students themselves.

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Utilizing Underserved Student Cultural Capital: The Tigers First Student-Initiated Retention Project

Sheron Davenport, Jaclyn Rodriguez, and David Cox

Abstract

Historically, U.S. underserved college students have lower college retention and completion rates. One explanation is a perceived gap between the student experience and college settings. Two main approaches used to address that gap are: colleges created programs to help students adapt to settings, and colleges have made changes in their settings to better serve and support the students. In both cases, colleges served as the agencies defining, designing, and guiding the change. While both approaches contribute to improved completion, a third approach may add another solution, student-initiated retention programming (SIRP). SIRPs are student organized, operated, and sustained efforts to persistence to graduation. Through a SIRP, underserved students can use cultural experiences to frame and deliver retention efforts. Drawing on a case study of Tigers First, a University of Memphis SIRP, this article will identify and describe the conditions and processes leading to the creation of a productive underserved student SIRP.

Keywords: underrepresented students, student-initiated retention program, SIRP, first generation, cultural capital

The level of student persistence to graduation rates in higher education institutions (HEI) has been a growing concern in the United States over the past several decades, especially for underserved students. Historically, students who are the first from their family to attend college, students of color, and students from lower income backgrounds have had even lower college retention and completion rates than the general student population (Terenzini et al., 2001). One explanation for that pattern is a perceived gap between the underserved students and their college settings (Bronfenbrenner, 1979). Broadly, two factors have been identified as sources of that gap. One factor places the source with the background of the students (Astin & Oseguera, 2012). Programming is then designed to help the students change to adapt and fit within their college setting (Tinto, 1993). Another factor places the source with the practices of the HEIs (Pascarella & Terenzini, 2005). In response, the solution is to make changes within HEIs to better accommodate and adapt to the students (Tierney, 1993).

Although programs based on these factors may contribute to improved completion rates, both approaches present limitations. The first factor presumes that the personal and cultural backgrounds of the underserved students are deficient or irrelevant to a successful college experience (Tinto, 1993). Programming aimed at those presumed deficiencies and irrelevant backgrounds ignores and may conflict with the strengths that originate in students' experiences and cultures. The resulting tension may lead them to leave the institution (Tierney, 2000).

The second factor recognizes differences between the norms and beliefs of underserved students and the White, upper income, Eurocentric norms characteristic of many campuses. These differences lead to programming and practices that reflect the expectations of the dominant group while ignoring or dismissing those of minority groups. In response, institutions have sought to develop multicultural structures

and programming aimed at acknowledging those differences (Rendón, 1994). However, with that approach the institutions designing and implementing those changes are the very source of the problem (Freire, 1970). The results are institutional commitments that often do not go beyond symbolic exercises or programming with limited institutional support (Ladson-Billings & Tate, 1995). Again, the effect is that underserved students leave the institution. In both cases, failure to persist is blamed on the student rather than institutional approaches and supports.

A third approach, however, has arisen that provides another means of increasing underserved student college degree persistence and completion. Maldonado et al. (2005) identified this third approach as a student-initiated retention project (SIRP). In SIRPs, students are the source for identifying the need and designing, implementing, and sustaining the programming. A SIRP created by underserved students frames and delivers programming and policies based on their cultural experiences as an asset. SIRPs may lead to including more relevant and effective retention programming, more personally and culturally empowered underserved students, and, ultimately, a changed institution.

Although SIRPs provide another means of addressing underserved student persistence to graduation, organizations of any type do not just appear. Thus we must ask, what conditions and processes are necessary and conducive for the formation of an effective underserved student SIRP? Campuses across the United States vary in mission, culture, and student demographics. Accordingly, the conditions and processes for forming underserved student SIRPs on different campuses may vary (Maldonado et al., 2005). However, the creation of a SIRP at the University of Memphis provides a context for exploring those conditions and processes. A case study of that creation provides the framework for understanding those conditions and processes. As a means of analysis, a case study can produce new insights on an issue that can lead to innovative approaches and actions to address the issue, and new directions for further research (Mills et al., 2010; Swanborn, 2010). Drawing on observations by leaders of programs that contributed to it, insights will be applied in understanding the formation of the University of Memphis SIRP.

Tigers First SIRP: The Campus Context

Tigers First, an underserved student SIRP, was formed as a student organization at the University of Memphis in 2017. The University of Memphis is a public research HEI located in the Southeastern United States. Its enrollment of approximately 22,000 students includes substantial proportions of underserved students: 33% of the students are African American, 17% are members of other minority groups, 34% are eligible for Federal Pell grant aid, and 38% are the first in their family to attend college. Consistent with other HEIs, underserved students have lower persistence and graduation rates than other groups on campus. As a result, attention to underserved student persistence to graduation is a campus priority.

Accordingly, the university has made efforts to close that gap. Programs and institutional changes were adopted aimed at improving underserved student persistence to graduation rates. Despite those efforts, these rates remained below the rates for other groups of students on campus and below university goals. In response, collaboration between two of the campus's existing programs and a U.S. Department of Education (DOE) grant gave rise to the third approach, a SIRP.

These SIRP programs were a U.S. DOE TRIO grant program and a Lumina Foundation and university funded first-generation program called First Scholars. Eligibility for the TRIO program required U.S. citizenship or permanent resident status plus meeting one of three criteria: neither parent has a bachelor's degree; the student's family meets Federal TRIO Program Family Low-Income guidelines; or the student requires special services due to a disability. Eligibility for entry into the First Scholars program included being a first-time, full-time, first-year student for whom neither parent earned more than 2 years of education beyond high school and no postsecondary degree. The student must also perform in the midrange of the university's admission standards and demonstrate financial need. The efforts of both programs provided programming and support for first-generation students and/or low-income, underrepresented students, reflecting the traditional approaches to underserved student persistence to graduation by including enhanced advising and counseling, academic skills

training, tutoring support, plus social and community engagement opportunities. These programs also initiated institutional changes such as living–learning centers and multicultural centers and programming.

The University of Memphis was part of a multiyear, multi-institutional research project led by the University of Minnesota starting in 2014. The First in the World (FITW) grant program sponsored by the U.S. DOE involved research on six campuses on the effects of community engagement and service-learning on underrepresented students. As part of this study, the University of Memphis examined the effects of the TRIO and First Scholars programs, including observation of the support those programs provided to participating students. During this study, students reflected on their special experiences and challenges, and students in the SIRP programs had opportunities to learn from students from other campus settings. Two factors arising from this combination of activities were central to understanding the formation of the SIRP organization. One was recognition of the role of cultural capital in affecting underserved student persistence to graduation. The other was a set of processes that led to translating underserved cultural capital in an active sustainable SIRP.

Tigers First and Cultural Capital: A New Approach to Understanding Underserved Student Persistence to Graduation

The concept of cultural capital as proposed by Bourdieu (1985) refers to the linguistic and cultural understanding and skills that a group of people hold based on their social, economic, and cultural locations in a society. All groups possess cultural capital. Applied to student persistence, all HEI students come to a campus with the cultural capital formed by their backgrounds. However, HEI cultures tend to reflect the White, middle- and upper-class groups that they have traditionally served (Berger, 2000). Those cultures fit with the cultural capital that students from those backgrounds bring to the campus. The students share the same aspirational experiences and the language and social skills common to HEIs. They come from families and networks with past connections to HEIs, which in turn leads to an understanding by those students of the expectations and routines of HEIs (Bourdieu, 1971, 1985). The result is better fit between White, middle- and upper-class students' cultural capital and HEI cultures, leading to higher levels of persistence to graduation.

Most underserved students—as defined by Green (2006)—come to HEIs with different experiences and diverse cultural capital. Real and perceived barriers to their aspirations may differ from those of students from more privileged backgrounds. For example, underserved students may be less familiar with the language and social skills of the dominant HEI culture. Because of their diverse backgrounds, they have different social capital connections from students whose families have experience within HEIs. As a result, they may have less immediate knowledge of how to fit within and navigate the dominant culture of HEIs (Banning, 1989). These differences can lead to lower levels of persistence to graduation.

This lower level of persistence is often viewed as a gap created by a deficiency among underserved students (Berger, 2000) and can lead to programming focused on remediation of those deficiencies through deficit-focused strategies (Tinto, 1993). However, recognition of the cultural capital underserved students bring to a campus as an asset changes this faulty assumption. Acknowledgment and engagement of cultural capital can then become a crucial step for changing the relationship between underserved students and their HEIs in ways that can close the persistence gap (Berger, 2000; Wells, 2008).

Building on Bourdieu's concept, Yosso (2005) identified six forms of cultural capital:

- Aspirational capital—resiliency, the ability to dream and hope for a better future amid real and perceived barriers.
- Linguistic capital—intellectual value and social skills gained through experiencing communication in more than one language.
- Familial capital—resources of communal, cultural, and familial history passed on through the nurturing of cultural knowledge.
- Social capital—instrumental and emotional support through community resources and networks of people.

- Navigational capital—the ability to move through various social institutions and structures that were created without consideration of communities of color.
- Resistant capital—behavior that challenges inequity and fosters knowledge and skills in efforts to move toward collective freedom.

Each of these forms is applicable as a source of underserved students' cultural capital. To begin, their very presence on a campus is evidence of aspirational capital. The students have had to be resilient, have grit and have dreams for a better future despite the barriers that they faced to get there (Reid & Moore, 2008; Stebleton & Soria, 2013; Stephens et al., 2014). The language and speaking styles from underserved students' backgrounds are often different from the language and styles of dominant students on HEI campuses. Although in one form a barrier, the differences can be a source of linguistic capital for underserved students as they become translators and navigators from one culture to another. Rather than family and other precollege relationships being a detriment to persistence as proposed by some (Tinto, 1993), familial and social capital in the form of parents, other family members, schoolteachers and counselors, religious figures, and other mentors are often cited as primary supports by underserved students for choosing to enroll and succeed in a HEI (Goebl, 2015).

Recognition and validation of underserved student cultural capital occurs at the individual and group levels. Recognition at the individual level can be encouraged by opportunities for self-reflection. Validation often comes by reaching out and seeing the same strengths and responses to challenges of other students from the same backgrounds (Irlbeck et al., 2014). For an underserved student, validation of their positive aspirational, linguistic, and familial cultural capital forms an important base of social and navigational capital (Stanton-Salazar, 2001; Stevenson, 1996). That capital can result in more effective links to the college world.

Together, these cultural capital strengths contribute to a group identity. With that identity the group begins to explore actions to address the needs of and opportunities for group members (Delgado-Gaitan, 2001). The result is to increase social and navigational capital. Fully formed and organized, that capital leads underserved student SIRPs to apply their knowledge and skills to address institutional barriers to persistence to graduation, not only for group members but for others who share the characteristics of the group. The result is resistant capital (Solorzano & Yosso, 2002). That capital can be expressed as an effectively functioning underserved student SIRP.

Methodology

The term "case study" has a range of definitions that encompass a technical definition of a phenomenon (Eckstein, 2002), a mode of empirical inquiry (Yin, 2003), and a problem to be studied (Creswell & Creswell, 2017). Additionally, case studies have been defined as research designs (Gerring, 2004) and a method or means of investigation (Merriam, 1988). The researchers align our use of case study with VanWynsberghe and Khan (2007), who propose an encompassing definition that reconciles other definitions: "a transparadigmatic and transdisciplinary heuristic that involves the careful delineation of the phenomena for which evidence is being collected" (p. 80). This definition brings relevance to the case study regardless of the research paradigm or disciplinary orientation. Heuristic means are utilized to reveal the essence of the case through analytic induction.

The researchers adopted a case study methodology concentrating on observations of participant action and interaction. Observation has the potential to identify detailed intricacies that may be left out of self-reports or focus groups. Observation enables the researchers to assess and see what people do rather than what they intend to do or say they will do. Our case study establishes and highlights necessary HEI settings that are conducive to the development of SIRPs.

To gather data, the researchers acted as nonparticipant observers in the initial meeting of students (n = 24) from all participating universities and in the smaller focus group and debriefing of University of Memphis participants (n = 4). Students were asked to reflect on what they experienced as participants in the general focus group. The researchers observed the formation and continuation of the SIRP for approximately two years.

Tigers First: Translating Underserved Student Cultural Capital Into Organizational Capacity

Even when groups have shared interests, collective efforts to advance those interests do not automatically appear (Tosi, 2009). This problem is especially acute for underserved HEI students, who traditionally are less aligned with their college environment (Banning, 1989). Thus, a set of supports and processes connected to the TRIO and First Scholars programs and the FITW grant were important contributors to the creation and success of Tigers First.

One support was a campus environment for which improving persistence to graduation rates was a priority. Advanced education for the state in which the University of Memphis is located is a prime focus of its mission. That means increasing the number of college graduates in a region with a high level of underserved students. Student graduation rates are a part of the university's formula for state funding. That incentive combined with lower persistence to graduation rates of underserved students made providing services to underserved students an even greater priority. The TRIO and First Scholars programs were expressions of that priority.

A second support came from the experience that the leaders of the two underserved student programs, TRIO and First Scholars, brought to their programs. Both were well trained in student affairs theory and practice. Significantly, both directors were also underserved students when they attended a university. That shared background helped them to identify, understand, and appreciate the potential of building and employing the cultural capital their programs' students brought to the campus, and it placed within them a special commitment to help their students succeed.

The development of the SIRP began with a set of activities that led to recognition and validation by the students of elements of their cultural capital. One activity was a part of the FITW grant research. A consultant external to any of the programs and the grant conducted a series of focus groups with the programs' students (Goebl, 2015). The purpose of the focus groups was to elicit self-perceptions of the students' cultural capital and expectations of their college experience. Students were invited to participate via email and met at a neutral and familiar campus location. External leadership for the process enabled students to speak freely about their experiences and perceptions. The students were asked to draw "maps" showing their goals and the supports and barriers they faced and perceived in their journey toward those goals. As a result, each student was able to articulate their aspirational, linguistic, familial, and social capital.

For 80% of the students, graduation and career success were expressed as aspirational goals. Barriers included not having parents who attended college and limited finances. However, to overcome these barriers, a majority of participants demonstrated grit through strategies that included better time management and connecting to others for opportunities to succeed. Linguistic capital and navigational capital was demonstrated by one student's comment: "I learned to communicate properly to become an advocate for myself to administrators who denied me my accommodations." Especially significant were students' acknowledgment of their familial and social cultural capital. Specifically, 75% reported family members as significant sources of support, and 80% identified advisors, mentors, and the TRIO and First Scholars coordinators as key to their attending university and remaining enrolled (Goebl, 2015).

Though early in their academic careers, the students reported understanding the importance of building social capital. Forty percent specifically named building connections and networking on campus as strategies for success (Goebl, 2015). The self-reflection process helped the students recognize their own aspirational, linguistic, familial, and social capital. That recognition provided the framework for another stage in the development of cultural capital, validation of that capital through activities that also expanded the students' social capital.

Validation is important to mobilizing one's cultural capital. One way to achieve this validation is through interaction with others with similar backgrounds and experiences. To this end, the two identified programs provided opportunities for participants to regularly meet and learn together. The TRIO program brought first-generation students together for workshops on college success strategies, cultural events, graduate school tours, and connecting with mentors. Along with attending campus and creative arts events, TRIO students engaged in com-

munity service activities. The community engagement activities involved volunteering at the local food bank, planting trees at a park, speaking with high school students about their college transition, and serving as mentors for incoming first-year students. First Scholar students attended an off-campus retreat prior to enrollment as first-year students and lived together in a living–learning community for the first year of college. They also participated in workshops, attended cultural events, and took part in community service projects like the TRIO program. Their community engagement activities involved developing yearly service projects through partnerships with LeBonheur and St. Jude's Children's Hospitals, the American Red Cross, the Salvation Army, and the University of Memphis Tiger Pantry program to address food insecurities on campus. They also developed programs and events to address the continuation and need for the Deferred Action for Childhood Arrivals (DACA) program and social justice initiatives to address racial inequalities on and off campus. The effect of these interactions was validation of the shared aspirational, linguistic, and familial cultural capital of the students, leading to a group identity and expanded social capital.

At this point the research activities that were part of the FITW grant served as an important catalyst in furthering the students' cultural capital. Students from each of the participating FITW grant campuses were invited to participate in a cross-institution symposium. All the students (n = 24) were part of programs that promoted their engagement in community-based experiential experiences. In this regard, the students in attendance were actively engaging their social and cultural capital in enhancing their college experience. The purpose of the symposium was to develop a broader understanding of underserved students' views of the factors influencing their and their peers' persistence to graduation. As a part of that process students shared and compared their experiences across the campuses (*FITW Student Debriefing Report*, 2016). The symposium was based on applying an asset-based approach in which the voices and perspectives that mattered the most were those of the students.

In sharing their stories, the students discovered differences among the campuses regarding the levels and types of underrepresentation at HEIs. They learned that some of the campuses had large populations of racial and ethnic minorities in contrast to other campuses; some campuses had high numbers of students for whom citizenship was an issue; others were residential versus commuter experiences. Despite these differences, each campus environment had an impact on the underserved students' experiences.

The students also found similarities with their self-described cultural capital and were able to see the ways in which cultural capital was exhibited by their cross-institutional peers. They found in their peers the same grit and shared aspirations and also shared examples of familial capital. They discussed the development of linguistic capital and how they were able to code switch and navigate two worlds. They described forms of social capital on their campuses. In short, the meeting provided opportunities for the students to recognize and validate the cultural capital that each brought to their campus (*FITW Student Debriefing Report*, 2016).

Additionally, the comparisons gave them insights into forms of navigational and resistant capital of underserved students on other campuses through engagement in community outreach and service. As examples, underserved students at one HEI had created and run a program aimed at recruiting and helping precollege underserved students to enroll at the college. At another, underserved students were active in creating and staffing a precollege underserved student college preparation and enrollment program (*FITW Grantee Report*, 2016). These processes led students attending the symposium to see the potential to form and apply community-outreach-focused navigational and resistant capital on their own campuses.

Four University of Memphis students attended the symposium, two from each program studied. The students reported that the meeting increased their awareness of their social and cultural capital; they saw their selection to participate in the symposium as an indicator of their own social capital. As with the other students who attended, they saw the potential for their own and fellow students' navigational and resistant capital. Seeing the examples of underserved students at other campuses initiating and managing programs triggered the thought to do so at the University of Memphis. The questions were what and how?

On their return from the meeting, the Memphis attendees shared their experiences with other participants in the TRIO and First Scholars programs. A series of brainstorming sessions followed about what to do with what they had learned. The question that emerged from the sessions was, "What might we do to take ownership of University policies and programming aimed at improving underserved student persistence to graduation?"

Toward that end, participants in the sessions reviewed data on campus programs and researched alternative programs. The outcome was a recognition that many students on campus shared their backgrounds and challenges. However, because of limits in size of the programs for underserved students, many students who might benefit from the programs were not being served. As Guinier et al. (1997) and Delgado-Gaitan (2001) have observed, seeing the opportunity to help others with shared backgrounds, combined with a recognition of their cultural capital, often leads members of an underserved group to want to give back to those who have not received the same supports. This process occurred with the University of Memphis students. The result was a decision to create a student organization initiated and operated by underserved students to serve as an advocate for programs and policies addressing underserved students' interests, and its creation would be the source for resistant capital. The resulting organization became Tigers First.

Creating Tigers First required completion of several tasks: It needed to articulate a purpose, select a structure to accomplish that purpose, assemble necessary resources, negotiate university processes for establishing a student organization, choose policies and programs for action, and recruit and retain members. This is where the support from university staff was critical to formation of an authentic SIRP. Staff knowledge of processes and resources could at times be helpful in forming and moving the organization forward. However, engagement without a request by students and too much staff involvement could have resulted in a university-led, rather than a student-owned and student-directed, organization.

The TRIO and First Scholars program directors provided a careful balance for support. They recognized that empowering the students meant that students must be the lead for all those tasks. They knew that an underserved student-led group could be more effective in advocating for student interests within the university than they could be as staff members. Instead of being leaders in creating the organization, the directors played the role of advisors and coaches for building the students' navigational capital. Their help was limited to showing the students templates on how to organize, how to navigate university student organization rules, how to plan events, and providing assistance in finding resources; the students created the organization.

Consistent with the mission of the organization, Tigers First used inclusiveness to foster social cultural capital toward building and sustaining the organization. Organization leaders held orientation and training workshops for any students who wished to serve on its executive board and planning committees. These workshops provided space for any underserved student or interested faculty or staff member to network, create policy and program ideas, and develop messaging in support of the organization's purposes. The organization now holds monthly meetings to decide on actions and plan events. Potential on- and off-campus collaborators are invited to the meetings, furthering the organization's social, navigational, and resistant capital.

Tigers First: Exercising Cultural Capital

With Tigers First in place, members turned the organizational capacity of the group to expanding services to underserved students on campus who were not being served. One set of actions were initiatives to expand awareness of the availability of campus supports to meet underserved students' needs. To do so, Tigers First initiated an annual on-campus program providing awareness of campus services. Social gatherings organized around campus events like homecoming, campus orientation, and athletic events brought underserved students together to develop awareness and identity and to inform other underserved students about available campus services. Tigers First partnered with the University's Career Services Office to cohost Design Your Life Workshops aimed at students not already affiliated with other first-gen programs. The workshops helped students identify problem-solving techniques and ways to build a foundation for success through identifying goals and tools for developing their academic and

career plans. Each activity was an extension of member and nonmember social and navigational capital.

Tigers First members' involvement in expanding services to other underserved students had another effect leading to the exercise of resistant capital. Working with other underserved students, Tigers First members developed a broader awareness of other challenges that underserved students face. One example was a growing awareness of the presence and challenges for DACA students at the university. The DACA program defers deportation for individuals who were brought to the United States as children of undocumented parents. Due to Tennessee state policies, DACA students attending the University of Memphis are not eligible for standard financial sources of support or in-state resident tuition rates.

Expressing navigational and resistant capital, Tigers First members initiated two community engagement activities to address these issues. In one, Tigers First members partnered with the University's Office for Institutional Equity, Opportunity Scholars (a first-generation scholarship program for DACA, Temporary Protected Status, and undocumented students), and Equal Chance for Education to create a program titled Immigrant Journeys: America's Story. This community engagement initiative began with a panel of DACA and undocumented immigrant leaders in the Memphis community speaking about their experiences. The panel was filmed, providing a documentary to share those messages with the university's students and the greater Memphis community. For their efforts and the success of the event, Tigers First members were recognized as the Outstanding Departmental Program by the Student Leadership and Involvement Department during the Women's History Month Closing Ceremony.

In the other activity, Tigers First members wanted to continue their message of advocacy and support for the DACA students on campus during U.S. Supreme Court hearings for DACA. Members developed an initiative called the DACA Butterfly Project. Tigers First participants gathered handwritten notes of support for DACA students from the campus and larger community on blank butterfly-shaped cards. They then partnered with Equal Chance for Education, First Scholars, and the Opportunity Scholars Program to spread awareness about the importance of supporting DACA students as they awaited the impending Supreme Court vote to protect or dissolve the DACA program. The results of that vote would have an immediate impact on the more than 76 students at the University of Memphis within the DACA program. Over 500 cards were collected and then displayed on a tree in the middle of campus to show support for DACA students. The cards were then sent to state representatives urging support for the students. The display was featured on multiple regional print and broadcast media, extending the message to broader audiences.

Tigers First: Lessons Learned and Opportunities for Future Research

Lessons Learned

As a SIRP, Tigers First represents an innovative approach to advancing underserved student persistence to HEI graduation. One lesson learned was recognition of the forms of cultural capital that underserved students bring to a campus. That included recognition and validation of the aspirational, linguistic, and familial capital informed by their diverse backgrounds. Recognition and validation involved transformation of understanding at the individual level to social capital at the group level. It then meant applying navigational capital to create an organization capable of exerting resistant capital for advancing underserved student interests.

A second lesson learned was realizing the utility of Yosso's (2005) conceptualization of cultural capital as a guide for action in assisting the development of underserved students' cultural capital. Though Yosso's conceptualization is offered as a framework for identifying the elements of cultural capital, it also provides a guide for action. Programming can be developed to facilitate development of each of the elements. In the case of Tigers First, programming included focus groups and structured activities such as workshops and community engagement that supported the recognition and development of aspirational, familial, linguistic, and social capital. The development of those capacities formed the basis for creating Tigers First, which in turn led to actions informed by navigational and resistant capital.

A third lesson learned was the utility in providing underserved students the op-

portunity to share their experiences with underserved students in other settings. Doing so provided further development and validation for their social capital. Moreover, learning ideas and actions from different contexts broadened underserved students' recognition of opportunities to expand their navigational and resistant capital on their own campuses. Cross-institutional learning can be an important mechanism to trigger ideas for new avenues that underserved students can explore for action and change.

Finally, a fourth lesson learned is the importance of the availability of a particular type of navigational coach. Navigational coaches serve as advisors to help underserved students move through the interstices of HEI bureaucracies in the design of an effective SIRP (Strayhorn, 2015). They must do so in a manner that is culturally sensitive and that supports but does not supplant student self-empowerment (Korotov et al., 2012). That sensitivity is bolstered when coaches have shared experiences with the underserved students they seek to serve.

Directions for Future Research

Tigers First was created in 2017. The aim of Tigers First was to improve the graduation rates of first-generation, low-income family, and minority students at the University of Memphis who were not receiving TRIO or First Scholars programming. As a new organization, Tigers First focused its energy on getting programming under way. Time constraints did not allow researchers to collect data comparing retention rates for Tigers First underserved student program recipients who were receiving TRIO and First Scholars services with those of underserved students who were not receiving TRIO, First Scholars, or Tigers First services. Future research should study the impact and effectiveness of Tigers First and other SIRPS on these rates.

Other possible research directions could look at whether underserved students not receiving TRIO or First Scholars services but participating in Tigers First programming had higher retention rates than underserved students not receiving TRIO, First Scholar, or Tigers First services or programming. A second measure could be the impact of Tigers First programming on underserved student graduation rates. In this case study, time was also a limitation. Six years from enrollment to graduation is a standard measure for graduation rates for public universities (Irwin et al., 2021). Since programming only began in 2017, there has not been sufficient time to measure the effects of Tigers First programming on degree completion.

The purpose of an underserved student SIRP is to provide services to students, a form of community service. Participation in community service activities as a part of the college experience has been found to improve persistence to graduation (Lockeman & Pelco, 2013). Another direction for future research is to consider the impact of participation in a SIRP itself on persistence to graduation.

The University of Memphis is a large public research university. Historically underserved students are a sizable portion of the university's enrollments. This profile is important, and on many campuses, underserved students are a much smaller percentage of overall enrollment than at the University of Memphis. In addition, campuses may vary in their commitment to serving underserved students. Those differences may affect the opportunities and support required for the formation and operation of a SIRP (Astin & Oseguera, 2012; Maldonado et al., 2005). Comparative studies should be conducted across different campus contexts to assess the conditions affecting the creation and effects of a SIRP.

Conclusion

Increasing underserved student persistence to graduation remains a national priority for HEIs in the United States. Institutionally initiated programming and policies continue to be adopted to improve those rates. However, SIRPs in which underserved students lead the design and delivery of those programs and policies offer a different and potentially powerful means to achieve that improvement. With the development of underserved students' cultural capital, an underserved-student-driven SIRP can be a source for community engagement, expanding the production of relevant and effective retention programming. In the process, it becomes an effective source of change within a HEI.

In the case of the University of Memphis, the Tigers First SIRP initiated programming and policy efforts addressing opportunities and challenges for underserved students. Activities started with exercises aimed at identifying and validating the social capital

that the underserved students brought to the campus. Interactive events associated with already existing underserved student programming provided a platform for building group identity and social capital. When students representing the University of Memphis shared their experiences with students from other campuses, their perspective on the power of their collective social capital became significantly broader. It was also a stimulus for ideas of how that power could be used to advance underserved student interests. Returning home, they shared their learning with campus peers. The result was creation of Tigers First, a SIRP, as an organization to expand access to student services and advocate for underserved student policy issues. University staff who recognized, respected, and supported student leadership of the organization served as advisors.

Analysis of the creation and functioning of Tigers First reveals several lessons. One is the power of underserved students' cultural capital in initiating efforts aimed at improving student persistence to graduation. Another was the utility of Yosso's (2005) conceptualization of cultural capital to guide efforts to enhance and apply underserved students' cultural capital. A third was the importance of providing experiences for underserved students to expand their sense of opportunity to serve through exposure to underserved students from varying contexts. A fourth was the critical role of student advisors as culturally sensitive and supportive institutional navigators in the creation of a truly student-led organization.

The Office of First-Generation Student Success (OFGSS) was created in 2019 following the success of First Scholars, Student Success Programs, Tigers First, and other first-generation collaborative initiatives. This new office serves as a hub for all first-generation students, offering services such as peer mentoring, faculty mentors, career services, and advising. Many members of Tigers First serve as student workers and mentors within the OFGSS and help to highlight the needs of underrepresented students on campus

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Student Outreach and Engagement in Action: A Review of Georgia Daze Minority Recruitment

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Abstract

Throughout higher education in the United States of America, Black students are underrepresented in their enrollment at public, flagship universities relative to the population of Black people in their respective states (Harper & Simmons, 2019). At the University of Georgia, a student-initiated retention project (Maldonado et al., 2005) and registered student organization, Georgia Daze Minority Recruitment, has worked alongside institutional and administrative efforts to grow and retain the population of Black students for over 15 years. In this article, the authors detail how Georgia Daze student leaders participate in high school outreach, yield programming, and campus engagement as part of a successful community engagement program for underrepresented students. In addition, the authors provide the context in which Georgia Daze operates, the structure and institutional support of the organization, and promising practices learned from the success of Georgia Daze.

Keywords: Black students, underrepresented students, Georgia, minority recruitment, insitutional support

The University of Georgia, the state's flagship university, is the birthplace of public higher education in the United States of America (McGuinness, 2011). The University is a Carnegie-classified doctoral university with very high research activity and received the elective Carnegie Community Engagement Classification in 2010 and 2020. It is a large, land-grant and sea-grant institution with its main campus in Athens-Clarke County, Georgia, and smaller campuses in Griffin, Georgia, and Tifton, Georgia. In fall semester 2019, the institution had an enrollment of over 38,000 students, with an undergraduate population of nearly 30,000 students. The University of Georgia has a comprehensive offering of educational programs, attracts some of the state's most academically competitive students, and is ranked in the top 20 public universities by *U.S. News and World Report*.

In alignment with its public mission, the University of Georgia serves as a resource for the state and its citizens. In addition to teaching, research, and service provided by faculty and staff members, the university has a physical presence in every county within Georgia, achieved through its Public Service and Outreach units and UGA Extension. The University of Georgia and the State of Georgia even share the same symbol—the Arch—with three pillars that remind the university community and state citizenry to embody wisdom, justice, and moderation. Its many designations and commitments to the state reflect the impetus that leads the University of Georgia to continuously strive to serve its population and reflect the state of Georgia by being representative of its citizenry.

In Harper and Simmons's (2019) examination of inequities in higher education, as it pertains to Black students, they assigned letter grades to institutions of higher education based on their level of equity in four distinct areas: representation equity, gender equity, completion equity, and Black student to Black faculty ratios. In this assessment, the University of Georgia scored in the top quintile for its Black faculty to Black student ratio and in its completion rate for Black students compared to the institution's average completion rate. According to the

National Center for Education Statistics (2019), the 2012 cohort of African American and Black students in the United States had a 43.7% graduation rate; institutional data shows that the graduation rate at the University of Georgia for the 2012 cohort was 85.8% overall, and 80.9% for African American and Black students. Graduation rates at the University of Georgia surpassed the national average, with a slight difference between the rates of the overall student body and students who identify as African American and Black.

The University of Georgia scored in the middle quintile for gender equity and in the bottom quintile for the representation of Black students on campus when considering the population of Black people within the state. In fall 2018, Black and African American students made up approximately 8% of the student body at the University of Georgia. However, the U.S. Census Bureau (2019) reported that Black and African American people made up 13.4% of the population in the United States, 28.5% of people living in Clarke County (home to the University of Georgia), and 32.4% of people living in the state of Georgia. Therefore, it is incumbent upon the institution to actively engage and attract admissible underrepresented students to apply to and attend the university.

In addition to striving for representation equity, it is also important for institutions to concurrently value the attributes of prospective and currently enrolled Black students. Informed by Bell's (1987) critical race theory and its tenets (Delgado & Stefancic, 2001), Yosso's (2005) community cultural wealth framework provides meaning to and values the lived experiences and cultural norms that students of color live with, learn from, and bring with them to college campuses. This framework includes the following as forms of capital fostered by students of color: linguistic capital, aspirational capital, familial capital, resistant capital, navigational capital, and social capital. Community cultural wealth is an applicable framework as it centers race and combats the idea that students of color are lacking in social or cultural capital, as defined by middle- and upper-class people. Ultimately, community cultural wealth pushes educators and practitioners to understand, value, and nurture the capital that students of color possess. This framework informs the authors' perspectives and practice as it pertains to Georgia Daze outreach and engagement. While describing Georgia Daze, the authors parenthetically note where forms of capital (i.e., linguistic, aspirational, familial, navigational, resistant, and social capital) are embedded within the organization's operations and its programming.

Georgia Daze Minority Recruitment: An Organization and Program

In fall 2004 three Black students created the Georgia Daze Minority Recruitment program. Georgia Daze was originally designed as a community engagement program for underrepresented students that consisted of a two-night campus visitation program for high school seniors who were admitted to the University of Georgia, with aims to encourage talented, historically underrepresented students to enroll at the institution. After 15 years of existence on campus, the scope of Georgia Daze has expanded. Georgia Daze is now a student-led organization that operates with a multitude of student hosts, most of whom are from Black and other minoritized communities. Georgia Daze focuses on the recruitment, yield, and engagement of underrepresented students at the University of Georgia, with an emphasis on Black students (resistant and navigational capital). The organization's goals are to promote underrepresented students' educational attainment, growth in the university's student population, and connection with Black alumni for mentorship, as outlined in its constitution (Georgia Daze Minority Recruitment, 2018). Though Georgia Daze receives support from the university, students have a significant and primary role in organizing, running, and funding Georgia Daze. This level of student contribution makes Georgia Daze what Maldonado et al. (2005) termed a student-initiated retention project (SIRP).

To fulfill the purpose of Georgia Daze, members engage with and serve their community—primarily on campus, locally, and in the Atlanta metropolitan area—in ways that enhance personal development, enrich experiences for current and prospective students, and align with institutional initiatives. The organization's members engage in community outreach, host two overnight visitation programs for admitted students, and provide transition programming for first-year students at the university. Staff in the Office of Institutional Diversity, a division of the Office of the Senior Vice President

for Academic Affairs and Provost, provide administrative support for Georgia Daze. The assistant director of student initiatives in the Office of Institutional Diversity serves as the primary advisor for the organization, and the graduate assistant for student outreach provides administrative support and serves as a secondary advisor for Georgia Daze. In addition, the Office of Institutional Diversity supports Georgia Daze financially, coordinates with campus partners, and solicits additional sponsorships from campus allies such as the College of Agricultural and Environmental Sciences, the Division of Student Affairs, and the University of Georgia Athletic Association to support the programming efforts of the organization.

High School Outreach

Georgia Daze volunteers prioritize their community engagement through high school outreach and take pride in their role as advocates for higher education. The organization engages in outreach by participating in multiple events hosted by the Office of Undergraduate Admissions. These events include high school students attending visitation days at the University of Georgia, prospective student receptions, and high school lunch and learn sessions with Georgia Daze. The Georgia Daze student leaders recognize that a major component of their outreach is making sure that high school students can see themselves in college; through their outreach, high school students engage with enrolled college students who have similar identities and backgrounds (aspirational capital).

Outreach volunteers serve on panels for high school students and participate in small group conversations when given the opportunity. The Georgia Daze high school outreach cochairs help to organize the volunteers and assign their responsibilities and schedules. In addition, the cochairs work with the organization's advisors to ensure all volunteers can work in a group setting and individually with minors, in adherence to the institution's policy for programs and activities serving minors. During their outreach, volunteers focus on providing information about why they chose to apply to and attend the University of Georgia, college life at a historically and predominantly White institution, and advice regarding how to have a smooth transition into their first year in college (navigational capital). Throughout their 2019–2020 academic year, the Georgia Daze high school outreach volunteers engaged with over 350 high school students.

Yield Programming

Georgia Daze is best known for its Georgia Daze Weekend program. The organization facilitates the Georgia Daze Weekend program twice each spring. The first iteration of the program focuses on early admitted students, and the second iteration welcomes all admitted students to participate. During the Georgia Daze Weekend program, admitted students meet and learn from student leaders, faculty, administrators, and alumni (social capital). In addition, they visit classrooms, academic departments, dining halls, and residence halls. Ultimately, the goal is to yield admitted, Black students through familiarizing them with the community and systems of support at the institution. This program provides these students and their families or guests, who are often influential in the college selection process, with the information needed to make an informed decision regarding their admission to the University of Georgia (familial capital). At the weekend program, admitted students are encouraged to stay in contact with their host and other students through digital communities and social media, where they feel more comfortable communicating, which later turns into face-to-face engagement and continued mentorship after admitted students enroll (linguistic capital).

Georgia Daze executive board members interview student hosts and pair these hosts with Georgia Daze Weekend program participants, with assistance from their advisors. In addition to interviews, hosts complete trainings and are vetted to work with minors through the same process as Georgia Daze high school outreach volunteers. These hosts engage in the planning of the weekend, share their living space with the admitted student they host, and serve as a resource for admitted students throughout the weekend. Student hosts are integral to the facilitation of the Georgia Daze Weekend program. Hosts are often first-year and second-year students who live on campus and are eager to assist incoming students as they transition to the University of Georgia. The schedule from one of the Georgia Daze Weekend programs in spring 2020 is availabe in the Appendix.

Student Engagement

Georgia Daze facilitates programming for students it recruited and who then attended

the university to assist as they acclimate and engage with their new campus environment. The organization holds numerous general body meetings and programs focused on fostering a welcoming environment and connecting students to faculty, staff, and alumni (social capital). For example, "Exploratory Day" is an annual program hosted by Georgia Daze where students receive a tour of campus and learn the location of their classes before the semester starts. In fall 2019, Georgia Daze had four tour leaders from the visitor center to provide these tours to over 80 students in attendance. Another major program hosted by Georgia Daze is "Exposé: An All-White Affair," an event that aims to promote the talents and entrepreneurship of Black students at the University of Georgia. Many students and organizations, like the African American Choral Ensemble and the Pamoja Dance Company, contribute to the event with their performances. To promote unity and fellowship among the students, attendees are encouraged to wear all-white attire or clothing, hence the event's name, "An All-White Affair." In addition, Exposé is also an outlet for student business owners to gain exposure to the campus community through having their businesses recognized as vendors at the event. Lastly, "Dazed No More" is a program that aids in connecting current students to alumni. This program facilitates discussion between current students and recent graduates, and the alumni talk about their experiences on campus, the importance of representation on a campus that is a historically and predominantly White institution, and how to maximize their access to resources at the institution (navigational capital).

An important engagement initiative of the organization is recruiting hosts and ambassadors for the Georgia Daze Weekend program. Most students who attended the program as high school students are more inclined to give back and serve as hosts during their first year. Georgia Daze members actively recruit hosts through tabling in the student center and expressing the importance of hosts throughout their campus programming. Throughout the host and ambassador interview process, the Georgia Daze Executive Board stresses the importance of preparedness and professionalism. In addition, the interview process provides the students with the opportunity to engage in an interview and receive feedback; this experience is valuable as they pursue other opportunities on campus or employment in the future. In spring 2020, Georgia Daze held a retreat for all hosts and ambassadors where they participated in training and team-building activities in preparation for the Georgia Daze Weekend program.

Evaluating the Success of Georgia Daze

Colleagues in the Office of Undergraduate Admissions and Institutional Research assist the staff members in the Office of Institutional Diversity to support and evaluate the success of Georgia Daze. When Georgia Daze engages in outreach initiatives, the high school outreach leaders ask high school students to complete an information card if they are interested in learning more about the University of Georgia. These information cards allow the Office of Undergraduate Admissions to reach out and provide the high school students with additional information and add them to the institution's customer relationship management system. Using this system allows staff members to identify the nature of prospective students' interactions with the university community and when those interactions occurred.

Institutional Research colleagues provide the yield rate of the institution annually. The yield rate of the institution is the percentage of first-year students who enrolled in the fall of all the first-year students admitted for fall enrollment. This is calculated by dividing the number of students enrolled for the fall semester by the number of students admitted for the fall semester.

When determining the success of the Georgia Daze Weekend program, the Office of Institutional Diversity compares the overall yield rate of the institution to the commitment deposit rate for students who participated in the program. This comparison includes a few data points: the number of students who attended the program, the number of students who paid their commitment deposit prior to attending the program, and the number of students who paid their commitment deposit after attending the program. Using these numbers, the Office of Institutional Diversity calculates the percentage of students who committed to the institution after they attended the Georgia Daze Weekend program as well as the overall commitment rate of all attendees. Table 1 displays an example using the data from each of the spring 2018 Georgia Daze Weekend programs.

Georgia Daze yield programming contributes to the overall yield rate of the institution, which is used to measure the success of Georgia Daze. The yield rate of Georgia Daze Weekend program attendees is often substantially higher than the overall yield rate of first-year students at the University of Georgia. According to the National Center for Education Statistics, the University of Georgia had an overall yield rate of 45% for fall 2018. During the following semester, spring 2018, 87 admitted students attended one of the Georgia Daze Weekend programs, and 71 of them committed to attend the university. Thus, 72.9% of attendees committed after participating in the program, and 81.6% of all attendees committed, including those who committed prior to attending the program.

As we continue our efforts to increase retention and graduation rates for Black students through the Georgia Daze Weekend program, we are focusing on scaling up to include more participants and finding ways to incorporate best practices into the program. We attribute much of the success from the Georgia Daze Weekend program to the intentionality that the students and staff have in their planning, the continued support that Georgia Daze student leaders provide to admitted students beyond the weekend, and the Georgia Daze programming that builds community between the enrolled first-year students and other underrepresented students and alumni.

Next Steps and Promising Practices

The Office of Institutional Diversity is committed to the continued assessment and success of Georgia Daze. In conjunction with the Office of Undergraduate Admissions, the organization's advisors intend to examine institutional data to better predict where Georgia Daze high school outreach is needed most and the rate at which their outreach initiatives foster interest in attending college in general and the University of Georgia specifically.

In collaboration with the Office of Service-Learning and the Office of Institutional Research, the Office of Institutional Diversity has engaged in additional assessment to examine the impact of the Georgia Daze Weekend program on participants' academic performance. An initial study was part of a research project funded by the 2014 First in the World (FITW) Program. The broader project targeted students at six research universities to measure the effect of service-learning and community engagement programs on the academic outcomes of undergraduate students and underrepresented students. Looking at Georgia Daze, the research team used propensity score weighting and survival analysis modeling to examine the relationship between program participation and two key academic performance indicators: retention rates and graduation rates. Using existing institutional data, this study examined four cohorts (2011, 2012, 2013, and 2014) of first time, full time students and the differences between Georgia Daze participants vs. non-participants. Using preliminary findings, Georgia Daze participation appears to favorably impact both retention and graduation, especially for male students. Based on these promisings results, the Office of Institutional Diversity will engage in additional analysis to determine ways to maintain positive programmatic outcomes and build upon the program's success.

Table 1. Spring 2018 Georgia Daze Weekend Program Data

	Attendees	Preevent Deposits	Postevent Deposits	Total Deposits	Postevent Deposits (%)	Total Deposits (%)
First Weekend	31	1	19	20	63.3%	64.5%
Second Weekend	56	27	24	51	82.8%	91.1%
Spring Semester	87	28	43	71	72.9%	81.6%

Lastly, the Office of Institutional Diversity is looking into expanding the capacity of Georgia Daze without diluting its impact. In spring 2020, the second iteration of the Georgia Daze Weekend program occurred virtually due to Covid-19; the organization's executive board and its advisors will determine if the virtual format is an ideal way to expand the organization's high school outreach, yield programming, and engagement throughout the academic year.

Our hope is that this overview can serve as an impetus for institutional leaders to provide intentional support for student organizations, especially those who have grounded their missions and purposes in community outreach and engagement. With adequate support, these student organizations and SIRPs can assist in building and sustaining efforts that often align with institutional initiatives. Over its 15 years of existence, Georgia Daze has become an integral and embedded component of the experience of Black students at the University of Georgia, and the organization's members, with assistance from their advisors, have worked to fine-tune many aspects of their programming. However, we consider four key aspects of Georgia Daze and its programming to be promising practices—the first two points speak to student engagement, and the second two points speak more to institutional support.

1. *Student leadership*: Student leaders are best equipped to speak to prospective, admitted, and enrolled students about their lived experience of going to college and attending the institution. Though it is not their responsibility to be recruiters or programming professionals for the institution, their candid conversation with the population is unmatched.

2. *Intentional, continual programming*: Georgia Daze has experienced remarkable success with helping students acclimate to campus by extending its programmatic efforts throughout the academic year. Some prospective students see Georgia Daze high school outreach volunteers before they apply. As admitted students they engage with Georgia Daze hosts during the weekend program, and in their first year on campus, the Georgia Daze Executive Board works to ensure the students feel included in the Black community. This intentional, continual programming adds to the organization's success and recognition on campus.

3. *Alumni involvement*: We have found that beginning with the end in mind brings immense value to Georgia Daze, and the Georgia Daze Program has identified alumni engagement as a primary purpose of its organization. Therefore, Georgia Daze students talk about what alumni are doing when they engage in outreach, bring alumni to serve on panels during the Georgia Daze Weekend program, and facilitate discussions with alumni and current students during the academic year. This continuity of alumni involvement also provides Georgia Daze Executive Board members direct access to members of the institution's Black Alumni Leadership Council, which can be beneficial for them as they prepare for graduate education and career opportunities.

4. *Institutional support*: It is imperative to galvanize university-wide support for the organization and its programming. Georgia Daze benefits from the relationships fostered and maintained with senior administrators, leaders in academic colleges, and colleagues in the following areas: academic enhancement, admissions, alumni relations, athletics, financial aid, honors, housing, institutional research, student affairs, and undergraduate research. Some of this support helps to defray costs associated with the organization's outreach and subsidizes costs associated with attending the Georgia Daze Weekend program for participants. Other support includes giving presentations to prospective students and their families and guests, training high school outreach volunteers and Georgia Daze Weekend program hosts, and providing facility rentals for various programs.

Conclusion

Leaders within higher education, and particularly those who are at public, land-grant institutions, should strive to support their institutions' efforts to reflect the demographics of their citizenry and seek to mitigate inequities that impact Black students. Georgia Daze Minority Recruitment is one component of a multifaceted approach to achieving representational equity at the University of Georgia. In this regard, Georgia Daze Minority Recruitment's most significant impact is the sense of community it fosters for admitted students, which is dem-

onstrated by yield rates of admitted students who attend the program, the involvement of past participants within the organization, and the willingness and eagerness of alumni to participate in panels and provide mentorship to current students.

Georgia Daze Minority Recruitment is complex, and its strong student leadership, coupled with intentional and year-round programming, alumni involvement, and campus support, makes it a signature program and involvement at the University of Georgia. However, what enhances the impact of Georgia Daze Minority Recruitment, aside from what the institution is doing around recruitment and yield efforts, is that the experience of Black students and families is centered throughout their engagement with the program and organization. The centering of Black students and their families results in a program that naturally taps into forms of capital that are abundant in the Black community. Leaders on college campuses who are looking to create similar programs or organizations should engage students, faculty, staff, alumni, and families to identify how to best serve the population and design programs and services in ways that align with their community's cultural wealth.

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Appendix. Schedule of Events for Georgia Daze Weekend Program

Day 1	
7:00 AM	Check-in opens and students begin to arrive with their families or guests.
8:00 AM	Senior administrators from the Office of the President, Office of Institutional Diversity, and Office of the Vice President for Student Affairs greet admitted students and their guests. Georgia Daze Executive Board members introduce themselves and the Georgia Daze hosts.
9:00 AM	Georgia Daze Executive Board members and hosts separate the admitted students and their families and guests before leading the admitted students in icebreakers. The families and guests engage in an orientation hosted by the Office of Institutional Diversity until noon.
10:00 AM	A faculty member meets with the admitted students and provides advice for academic success at the University of Georgia.
11:15 AM	Admitted students attend a class with one Georgia Daze host. Admitted students have the option to choose from four classes that the Office of Institutional Diversity has approved with the teaching faculty member.
12:15 PM	Admitted students have lunch in the dining halls with Georgia Daze Executive Board members, Georgia Daze hosts, and other student leaders.
1:30 PM	Volunteers lead groups of admitted students to tour academic colleges based on their intended major and academic interests.
3:00 PM	Admitted students engage with representatives from study abroad and study away programs, the Honors Program, the Center for Undergraduate Research Opportunities, and the Division of Academic Enhancement.
4:00 PM	Georgia Daze hosts take admitted students to “Tate Time”—a recurring student-led gathering of Black students in the Tate Student Center—to meet other members of the Black community.
5:00 PM	Admitted students drop off their luggage at their host’s residence hall. This also serves as a break for admitted students.
6:30 PM	Admitted students eat dinner with the hosts and volunteers while various campus partners and student leaders present about their respective organizations. This provides an opportunity for students to learn the importance of networking and getting involved.
8:30 PM	Georgia Daze Executive Board members host a game night to get the admitted students engaged with the community of host, volunteers, and other student leaders.
Day 2	
7:30 AM	Admitted students drop off their luggage until their families or guests arrive.
8:00 AM	Admitted students have breakfast with administrators, faculty, staff, and students from the College of Agricultural and Environmental Sciences. Faculty discuss supplemental financial aid and resources within the college, and a student group shares their insights on community and systems of support as underrepresented students.
10:00 AM	Alumni of the University of Georgia talk about their postgraduate endeavors and their experiences on campus. Alumni also give admitted students their tips on how to be successful at the University of Georgia and beyond.
11:00 AM	Admitted students complete program evaluations and disclose if they intend to commit to the University of Georgia, and if the Georgia Daze Weekend program influenced their decision.
12:00 PM	Students depart with their families or guests.

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Building Bridges as We Walk Them: Underrepresented Students' Perspectives on Surviving Inhospitable Institutions

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Abstract

Investigating factors that impact student success and engagement in higher education is an essential line of inquiry for students who are marginalized and minoritized. This overview of a 5-year participatory action research project led by undergraduate and graduate students examines the development of *The UnGuide*, an online resource for students who feel "the university was not designed for them." In this article, we question current assumptions about student success and offer guidance for those who hold power in higher education. Lessons from the lived experiences of students involved in creating *The UnGuide* are shared, including the importance of centering student voices, value of peer-to-peer supports within the university, and strategies for students navigating and dismantling systems of oppression. We also reflect on ways power operates both within this larger project and within our universities, and ways we claimed our power as students with complex lived experiences and perspectives.

Keywords: underrepresented students, UnGuide, participatory action research, student success, student engagement

"No nos podemos quedar paradas con los brazos cruzados en media del presente. (We can't afford to stop in the middle of the bridge with arms crossed.) And yet to act is not enough. Many of us are learning to sit perfectly still, to sense the presence of the Soul and commune with Her. We are beginning to realize that we are not wholly at the mercy of circumstance, nor are our lives completely out of our hands. . . . We are each accountable for what is happening down the street, south of the border or across the sea. And those of us who have more of anything: brains, physical strength, political power, spiritual energies, are learning to share them with those that don't have. We are learning to depend more and more on our own sources for survival, learning not to let the weight of this burden, the bridge, break our backs. Haven't we always borne jugs of water, children, poverty? Why not learn to bear baskets of hope, love, self-nourishment and to step lightly? Caminante, no hay puentes, se hace puentes al andar. (Voyager, there are no bridges, one builds them as one walks.)

—*Anzaldúa, 1983, p. iv*

In June of 2016, six public universities representing the East Coast, South, Midwest, and West Coast from around the United States participated in a student summit funded by First in the World (FITW), a program of the U.S. Department of Education through the Fund for the Improvement of Postsecondary Education (FIPSE). The goal of the grant was to understand the impact of service-learning and community engagement on various student learning outcomes, such as retention and graduation rates, with an emphasis on expanding outcomes worth

considering, like college students' sense of belonging. In order to facilitate this expansion, the researchers gathered students to be collaborators on the grant, beginning with a college student summit. It was at this large student gathering that the seeds for *The UnGuide* were planted. Here, 55 first-generation, BIPOC, LGBTQIA+, Latinx, low-income, and/or disabled students from the six public universities engaged in an identity-mapping exercise (Futch & Fine, 2014) and then engaged in participatory analysis of the identity maps created. In this dynamic and generative encounter, the students began to map out possibilities for a project that could locate barriers, identify supports, and map out creative strategies for getting through college as a first-generation student and/or student of color. Although the focus of the FIPSE project was to examine the role of community engagement in advancing the educational success of underrepresented students, we believe that to fully understand the relationship between underrepresented students' community engagement experiences and their educational success, we must first develop a clearer understanding of how underrepresented students define educational success. This article focuses on building this understanding.

Over the next 5 years, a group of first-generation, BIPOC, LGBTQIA+, Latinx, low-income, and disabled graduate and undergraduate students representing each of these six universities formed a participatory action research (PAR) collaborative and continued to build on the project sparked by the student summit. Our PAR collaborative is in conversation with a lineage of liberatory approaches that seek to democratize access to research while committing to social change in the service of collective liberation. PAR has roots in the Frankfurt school of critical theory, Freirean liberation psychology, Lewinian social psychology, Orlando Fals Boarda's work, and the Highlander school and is adapted and enacted in dynamic ways by different communities (Stoecker & Falcón, 2022). Foundational to PAR as an epistemology is the role of coresearchers rather than research subjects or participants. Marginalized students are often the subject of scrutiny and extraction in other methodologies, but in our collaborative, all of us were valuable knowledge bearers and leaders of the knowledge construction process. Our collaborative sought to collectively envision what it would mean to craft an inviting space that is both a resource and a community; that is both local—speaking to issues that our individual universities face—and also inclusive, so anyone from any university can find support. To serve as this space, a website-platform was created. This virtual community does not belong to any specific university nor any specific group of people. The college students involved in the PAR project wanted to offer a space where students could find the tools they need to navigate their undergraduate years when sometimes the institutions that hold these tools do not make them readily available or accessible for them. The intention of the student-built resource is to offer a meaningful space that is dynamically coconstructed, a space that is shaped by each person who chooses to contribute to it, a space that changes with time and the needs that are encountered; a space for and by students titled *The UnGuide* (http://www.theunguide.org/). In this manner, we were able to bring together and situate students, and their social identities and lived experiences, as experts who can bring forth meaningful sociopolitical change for current and prospective college students (Brydon-Miller, 1997; Brydon-Miller & Maguire, 2009).

The goal of *The UnGuide* is not limited to student support. As the website states, "Because of *The UnGuide*, we hope you feel less alone, less isolated, but we also hope that *The UnGuide* will inspire institutional shift and help create the universities we all deserve." Visitors are invited to use the resource as they need it, whether it is to seek out strategies for survival by sifting through designated keywords, to join the conversation by visiting the social media sites associated with *The UnGuide*, or to offer tools that have been found to be meaningful and useful while navigating higher education. The invitation is both broad and unapologetically inclusive and celebratory. In this article, we discuss our collaborative methodology and the successes and challenges we encountered developing an online platform to situate and center students' voices, perspectives, and lived experiences.

A Note on Our Collaborative Methodology

To write this article, most of us involved in the research collaborative over the past 5

years have come together to reflect on the process and the lessons offered by the resource as well as the experience of building it. We gathered on a virtual platform a few weeks before the 2020 election in the United States and 6 months after the coronavirus drastically impacted all aspects of our lives. Prior to our conversation, we collaboratively drafted questions and prompts we would consider when together. Our unstructured interview and conversation was recorded through a virtual platform. Our virtual gathering was embedded into our real and complex lives as we were interrupted by a smoke alarm, as our children came into the room to check on us, as we were cooking dinner, as our partners were listening to music, and as we received phone calls from our parents. From our individual squares on the computer screen, we asked each other questions, we helped one another piece together past events, we agreed and disagreed. This conversation was later transcribed. In the act of translating our spoken reflections, we have made an effort to change each person's contribution as little as possible. In order to produce this article, retaining our individual and collective perspectives, we organized the conversation so that it may provide an accessible context for those not familiar with the project.

This approach is intentionally designed to challenge our understanding of academic professional engagement and the purposes of academia, a space that many of us inhabit. With this process we align ourselves with other scholars who are holding themselves accountable and radically redefining universities as sites of belonging and as holding potential "spaces of sanctuary" (Abo-Zena et al., 2022; Ayala et al., 2023). Our polyvocal knowledge creation is in response to what we feel are necessary changes that must take place within the academy. We hope to widen the methodological imagination through which we offer a more expansive view of what knowledge construction can look like and feel like in academic and nonacademic spaces (Fine, 2018). With this multivoiced conversation with which we composed this article, we are animating questions such as "How can knowledge production occur in a nonextractive manner?" Literally far from the ivory tower, our article was written in our homes while dinner was burning on the stove and kids were demanding our attention. Recently, scholars have pointed to the sociomaterial aspects of academics' writing practices (Tusting et al., 2019); that is how academics navigate the constraints of an increasingly extractive and dehumanizing institutional landscape. Our article embodies these particular requirements and facets and considers them a method of ethical knowledge production.

Process for Gathering Student Voices

The UnGuide, being a resource created by underrepresented students (i.e., those carrying systematically marginalized social identities) for underrepresented students, situated our undergraduate students as knowledge and content experts. Therefore, questions and prompts shared prior to the unstructured interview and conversation by undergraduate students were prioritized and uplifted within the virtually recorded conversation. Graduate students' experiences were also emphasized and connected, which allowed us to retain a nuanced conversation and perspective in which struggles, hardships, and complex emotions were shared in addition to instances of affirmation and support.

Lessons From *The UnGuide*

Disrupting Existing Narratives on Engagement, Success, and Legitimacy

The definition of student success endorsed by academic literature (e.g., Kuh et al., 2008) is not necessarily the definition of success that first-generation students and students of color subscribe to and are pursuing (Carpenter & Peña, 2017; Carrillo, 2016). Student success is often considered interchangeable with academic success, which includes metrics such as academic achievement, mastery of learning objectives, attainment of desired skills and competencies, satisfaction, persistence, and postgraduation accomplishments (York et al., 2015). For marginalized students, or students who the academy was not designed for, there is much more of a balance, connection, and integration between their home communities and the academic community (Carrillo, 2013). For these students, success does not exist outside these embodied selves (e.g., who they are, what they can do, and the sociocultural capitals that they have accrued; Yosso, 2005). Instead, success requires navigating and threading these worlds together (Holland et al., 1998). College students' skillful weaving of their personal (e.g., familial and cultural capital and obligations), social, and academic lives

together is not always taken into consideration within the literature documenting factors that impact student success.

The threading of these worlds, of the academy and their home communities, often involves students considering the impact they are able to have on, and the social responsibility they feel about, their home communities as a result of their access to higher academic spaces (Langhout & Gordon, 2019). The metrics within the dominant student success literature do not explore the commitments and approaches to success that first-generation students and students of color deeply value, such as bringing back to their home communities what they had learned in the academy (Kezar et al., 2022; Yosso, 2005). These instances of engagement from students of color and first-generation students are a form of resistance to erasure and oppression; a form of resistance that is often not recognized as resistance within psychological literature that does not recognize this form of agency and instead often adopts a deficit-framed lens (Giroux, 1991; Rodriguez & Blaney, 2021; Rosales & Langhout, 2020).

Students who began to craft the resource that would eventually become *The UnGuide* were aware of the harm of these institutional practices and how formalized knowledge is often a tool of white supremacy, an issue that Heinrich et al. (2010) alluded to when noting that a majority of psychological studies are based on WEIRD: White, educated, industrialized, rich, and democratic populations. A very small proportion of the population is studied within psychology, yet often the findings are universalized to humans in general. As a result, academic ideas, findings, and recommendations are often normed around whiteness. With this pattern in mind, rather than an "official" guide for other students, the collaborative decided to offer an "unguide," both to express hesitation to claim legitimacy within institutions that both delegitimate and erase, and to question what legitimacy means. For many students participating in the development of *The UnGuide*, legitimacy is experienced through validation and affirmation (Torres-Olave et al. 2021). Many first-generation students and students of color experience imposter syndrome at their predominantly White campuses (Gates et al., 2018). *The UnGuide* allows students to reflect on this shared experience and center their social identities, lived experiences, and cultural capital. Rather than pathologizing these students, *The UnGuide* allows people to name and validate their feelings. When the person is validated and perceives important interpersonal connections with others, they are more likely to perceive that they matter and belong in higher education (Museus et al., 2017; Salazar et al., 2022; Stebleton et al., 2014).

Building Our Own Experiences

The participatory team felt that when student experiences are discussed within the academic literature, they are described as "correct" ways to approach both student success and community engagement. Guides and systems, developed from this literature, present strategies for student success as either correct or incorrect (for examples, see National Academies of Sciences, 2017; Rowan-Kenyon et al., 2017; Zins et al., 2007). The students constructing *The UnGuide* wanted to avoid this false dichotomy and any prescribed paths. With the resources (e.g., students were able to make public posts at any time) offered by the contributors to the website, students can build their own resources based on their lived experiences and on the gifts that they bring to enrich academic institutions (Halkovic & Greene, 2015; Yosso, 2005). This freedom to exist wholly and unapologetically as themselves allowed students to disrupt what success and belonging mean, as well as prescriptions for their own success and belonging provided by institutional agents (e.g., faculty, administrators, and practitioners). One group of students at a large public Southern university, for example, were particularly motivated to rethink engagement after interacting with a group of peer college counselors from a large public university on the East Coast. Meeting these peer college counselors who were first-generation, BIPOC, LGBTQIA+, Latinx, and low-income students themselves allowed the students from the Southern university to see that their lived experiences were a source of wisdom and deep knowledge that could significantly benefit other students similarly grappling with unjust systems. Students saw their experiences as uniquely enriching their institutions. This encounter allowed them to understand that—in contrast with dominant narratives—community engagement is not about privileged students going into underserved communities. Instead, this encounter gave the students a tangible concept of how they can offer

their own lived experiences to support other prospective students' survival in academia. This way of "helping others" legitimated their own experiences and skills while concurrently destabilizing white supremacist notions of community engagement.

These student-centered understandings of success and engagement were not only in conflict with the larger academic literature but also with the FITW grant that *The UnGuide* was embedded in. Though very much aimed toward thoughtfully expanding metrics of success and engagement, the requirements of the larger federal grant were focused on outcomes that higher education researchers deem desirable, such as retention and graduation rates. This line of literature has found community engagement and service-learning to be high-impact practices that promote student academic outcomes in higher education (e.g., Kilgo et al., 2015; Kuh et al., 2008; Soria & Thomas-Card, 2014). According to this research, students' participation in these practices can help to foster their motivations toward graduation and/or continuing to the next semester. The goal of the grant was to study the connection between service-learning and student success as one pathway toward bridging the campus and community and eliciting underrepresented students' sense of belonging. The underrepresented college students involved in *The UnGuide*, however, frequently raised criticisms of service-learning. For example, in the literature, service-learning at many predominantly White institutions (PWIs) has been critiqued as students going into communities—often communities of color—to "save" them (Mitchell et al., 2012). When reflecting on the purpose of the grant, students began to provoke deeper questions that unearth the assumptions beneath concepts like *success* and *engagement*. Rather than damage-centered narratives about saving the marginalized communities they came from, the research team promoted a concept of engagement and service-learning that did not present communities as having deficits; instead, community engagement meant having the joy of supporting their rich communities that are full of gifts. This stance allowed students to speak about their culture from a place of power and empowerment, which then opens the door for others to do the same (Solórzano & Yosso, 2002; Yosso, 2005).

How Students Define Success

Researchers have documented that high-impact practices can have different results in different communities (Song et al., 2017). Whereas the grant continued to in part measure outcomes like retention, graduation rates, or GPA, *The UnGuide* was designed to allow students to explore different definitions of success. For example, a subset of researchers on the grant conducted focus group interviews with students in community engagement programs to learn more about what success meant to them. One finding was that students themselves defined success in a range of ways. Spaces like *The UnGuide* validate these qualitative approaches so that students can more confidently pursue those different definitions of success. The stories offered by students to *The UnGuide* helped us understand that confining definitions of success to metrics validated by academic studies and higher education institutional agents can lead to perpetuating systemic inequalities. Providing a space for students to define their own metrics for success and outcomes that matter to them offers an avenue through which inequities can be disrupted and equity can be explored.

The categories "marginalized" and "first-generation" students are often treated as monolithic groups by university researchers, as though everyone had the same life and academic experiences (Nelson et al., 2020; Pyne & Means, 2013). This project highlighted that this is not the lived reality of students, as students who live in the same zip codes often have completely different experiences. *The UnGuide* highlights this lived reality and allows for a deeper conversation about what equity in education looks like.

The Value of Spaces That Allow Students to Find Each Other

The conversations that emerged in the participatory action team developing the resource, and within the resource of *The UnGuide* itself, highlight the value of spaces that allow students to find one another. Our research team members noted that the resource worked as a catalogue of "cheat codes" as students provided stories about their experiences navigating challenging institutions. Though the team itself represented six public universities from six states around the United States, we often found that even if our regional circumstances were

different, similar dynamics were at play, and sharing our individual perspectives would empower others to take ownership over their own college experience.

These feelings of ownership are made possible when students can find one another and share the experiences and lessons of marginalized people navigating academic spaces (Carter, 2020). Even when adjustments to higher education programs or policies occur (e.g., Kezar et al., 2022), these adjustments may not necessarily benefit marginalized groups. The research team noted that rather than meeting the needs of students, changes can seem performative and mainly aimed at managing perceptions of institutions and institutional leadership. Students talking to other students about navigating the reality they face each and every day is an important way to enable ownership and sustain the work needed to continue in higher education.

The UnGuide invites participation from anyone the university was not designed for, such as students with intersectional identities, rather than single-identity categories with labels such as marginalized or underrepresented (Santa-Ramirez et al., 2020). Postings for the resource are not policed or restricted. If a person feels that they are negotiating spaces that were not designed for them, they can share whatever they wish on the website. This broad invitation ensures that whether a first-year or a senior, whatever a person's need, they can curate their engagement to meet this need. This space was designed to enhance accessibility for marginalized groups who are often barred and/or discouraged from academic spaces, whether explicitly or implicitly. For some members of our research collective, this broadness and ambiguity was powerful. In later sections, we will discuss the ways this ambiguity did not work for everyone.

When *The UnGuide* was initiated in 2015, the world, and our own individual worlds, looked different. Near the end of 2020, everyone in our collaborative was taking online courses at our universities. Some of us were forced to move back in with our parents. Many of our cities were filled with daily protests against police violence, and some of us had lost family members to the COVID-19 pandemic. For some of us, 2020 was marked not only by a global pandemic but also by racial inequities that continue to escalate and brutalize lives. Our worlds are dramatically different from 2015, and a space like *The UnGuide* is more needed than ever, especially as students are recovering from increased loneliness, lack of belonging, and connectedness experienced during the pandemic (Ernst et al., 2022). Students whom higher education was not designed for were also in danger of not being considered as higher education experience was redesigned and recalibrated during the crisis of the pandemic. As a result, many of us reflected on how we felt as if we were being swept away. Not only are students whom the institution was not designed for having to perform normalcy amid such extraordinary circumstances, but they have to do so while resources are being taken away at many public universities. Additionally, these students are often tasked with the burden of serving on various university diversity and inclusion task forces as advocates for adequate resources, tools, and support to enact any meaningful change. Meanwhile, work is happening from home spaces that may not be safe or predictable, and many of us were expected to continue to provide for others while managing these uncertainties and struggling to care for ourselves academically, socially, and professionally. *The UnGuide*, with its emphasis on community, broadness, and independence, was able to hold the complexity of the present moment and respond to the pandemic, authoritarianism, and systemic violence in ways that did not allow institutions to stifle or co-opt student activism, perspectives, and voice.

In addition to holding the complexity of students' lived experiences, *The UnGuide* allows for meaningful and supportive encounters when students need them the most. Many students faced limited options for connecting with others. Campus interactions before the pandemic allowed students to gather resources for surviving academia through many unexpected encounters with peers and mentors. Even if universities offer virtual resources, it can be difficult to get the information to everyone. *The UnGuide* encourages informal peer-to-peer connections, which can better support the dissemination of these resources when they are needed the most. For some of us who identify as first-generation students of color, the university experience can be extremely isolating. What allowed us to remain in school was finding a community of older student mentors who helped us to navigate interactions with faculty, identify sincere faculty support versus performative faculty engagement, and find useful

resources. Even as this community-building is more important than ever, it may not be easily accessible to many students who are experiencing the university virtually, either synchronously or asynchronously.

When students are able to find each other on *The UnGuide*, similarities and differences within their universities are made more visible. As students who visit the website platform are exposed to different communities and different strategies for community-building, new possibilities are revealed, whether it means advocating within their universities for these supports or creating spaces for themselves. However, the broadness of *The UnGuide* can also be experienced as intimidating or unclear to some students. For those of us who appreciate focus and more clarity, the holding space of "anyone the university is not designed for" was so broad that we required more clarity as to how to engage with the resource. The tension between holding all the complexity and providing scaffolding for using the resources so that students could more easily engage is an ongoing conversation within the research collaborative.

Ultimately, one of the greatest powers of *The UnGuide* and the reason we maintain this broadness despite its drawbacks is the stories that are captured from contributors. Students who identify as first-generation, students of color, LGBTQIA+, Latinx, low-income, and/or disabled generously offered their stories that illuminated the way institutions work for them and do not work for them, and in many cases seem to intentionally work against them. When a single space is created to hold these different stories, the mechanics of marginalization are made more visible, and thus, counterspaces and counterstorytelling can be initiated. *The UnGuide* is best approached with what Weis and Fine (2012) described as critical bifocality, to ensure that both the individual and the power structures at work are in focus, as the contributors intend.

Challenges of Creating These Spaces Where Students Can Find Each Other

Despite the value of these student-led communities, we have found significant challenges when encouraging engagement—mainly from institutions. Creating a student-centered space that held the complexity of lives and experiences grappling with institutional violence required us to address significant challenges and respond to frequent institutional resistance. We are aware of the impact when we use the word "violence." We choose to use this strong term, based on the theoretical framework of Patton and Njoku (2019), who drew on the experiences of Black women in the academy, who have historically experienced epistemological harm as well as psychological and emotional damage from navigating higher education. This concept of institutional violence is also reflective of our lived experiences as those who identify as first-generation, students of color, LGBTQIA+, Latinx, low-income, and/or disabled. The consequences of harmful spaces must be named, just as we feel them, before they can be addressed.

As an example of institutional resistance, some of us worked as coach counselors and struggled with inviting higher education investment. When engaging with college counseling offices and opportunity program spaces, we would share information about *The UnGuide* with the hopes that staff would share the resource with students. Unfortunately, the responses we received were often defensive because the offer of a new resource was taken as a judgment on existing institutional services. We were then forced to explain that their services are valuable but that peer advocacy is also important.

As a result of these tensions with established institutional programs, *The UnGuide* relied and continues to rely heavily on interpersonal relationships. Whether it was relationships with other students or with university staff, the collaborative struggled to sustain these connections through life changes. Over the course of these years, we graduated from universities and adopted new roles and have struggled to establish a system that would integrate younger students into the collaborative so that they may feel fully invested in the project. Life events and changes such as graduations and full-time jobs, or interruptions like summer breaks, or major academic milestones like finals and dissertations, remain ongoing challenges of sustaining *The UnGuide*. An unexpected learning opportunity also arose from our conversations with students regarding the legitimacy of *The UnGuide*. A resource without institutional support was perceived as unsafe; however, a resource branded by a higher education institution also suggested a potentially hostile climate. Like the other challenges mentioned, this

conflict was a rewarding learning experience that the collaborators struggled with while creating a space in which students can share and support each other.

Why Centering Student Perspectives Matters

Despite these ongoing challenges, *The UnGuide* is a powerful reminder that centering student perspectives is necessary for any kind of institutional shift toward equity and justice. Stories matter, and the stories about students that faculty and those in power currently hold impact the students' experience, and often serve to perpetuate a deficit-lens cycle of marginalization. The stories of marginalized folks (students of color and/or first-generation students) matter, not only in terms of the future direction of institutions, but also to create space for students to support each other and their home communities. This movement and support of our home communities is rarely emphasized by the university and is, in fact, devalued. This devaluing could look like accusing students of being unengaged, unfocused, and uninterested in school when the reality is that students the university was not designed for are dealing with many other things (e.g., cultural and familial obligations; Jehangir et al., 2022). That school is only one part of a full, dynamic, meaningful life is evident in stories contributed to *The UnGuide*.

These stories center the experiences of students who do not feel fully valued by institutions, and radical solidarity becomes and is made possible. Both on our research team and in the stories in *The UnGuide*, we see that despite dramatic differences in identity, geographical location, and life histories, students are often facing adversity and marginalization when it comes to accessing and experiencing higher education. Despite higher education's constant attempts at implementing diversity and inclusion initiatives, it is usually student leaders who have to pick up the middle ground and advocate for peers, as well as potentially create counterspaces (Choi, 2023), so that others can not only navigate the messiness of the institution and find resources they need, but also, and importantly, survive higher education with less trauma and harm. On our team, we frequently reflect on the ways we have in the past sought out and continue to seek out stories as a strategy for personal survival. Stories allow for connections that sustain and nourish us in inhospitable spaces (Del Tufo et al., 2020). Many of us spend significant energy trying to collect stories that reflect and validate our lived experiences.

However, it was not always easy to convince students that their stories and experiences are valid and that they are able to contribute to *The UnGuide*. Even if students accessed the resources, we would hear of their hesitation to submit their own experiences, often questioning whether their stories can benefit others. This hesitation is an illustration of the effect of the dominant narrative surrounding the lived experiences, perspectives, and voices of systematically marginalized students (McLean et al., 2018). Even if students come to the site and read the description and understand what the site is about, this engagement is happening in the context of constantly being told, implicitly or explicitly, that their voices do not matter, and that there is a right way to say things.

Centering Student Perspectives Identifies Circuits of Power and Dispossession

It is through the centering of student voices that dominant narratives about marginalized students are most effectively disrupted. It is not something that can be achieved through studies that seek to lift "unheard voices" in the name of justice because, as Macleod and Bhatia (2008) noted, this process to amplify so-called unheard voices can actually reproduce the process of speaking for others. *The UnGuide* centers students' voices, highlighting the fact that they are experts about their own experiences and that students are in a great position to name what is happening and dispel what Ignacio Martín-Baró called the "collective lie." In this holding space offered by *The UnGuide*, students can not only voice their concerns (publicly and anonymously), but also offer support for other students. *The UnGuide* invites peer-to-peer support, and these encounters further destabilize the deficit-lens narratives often attached to first-generation students and students of color.

When students can feel heard and understood about what they are going through without having to explain or justify or defend it, it is powerful. Through *The UnGuide* we see that collectively students are experiencing similar acts of marginalization and are affected by the same circuits of dispossession (Fine & Ruglis, 2009) despite coming from different circumstances. However, this knowledge serves as a way

of recognizing that our experiences are not particular to a specific institution nor brought out by a few destructive characters; instead, these are experiences that cut across many institutions and regions. Most importantly, this knowledge helps marginalized students reject attributions of failure and lack of effort, and instead consider the context and environment in which these attributions exist and proliferate (Payne et al., 2021).

The Struggle to Keep Student Voices From Being Co-opted

The research collaborative working with *The UnGuide* had a radical ethical commitment to centering student voices, yet we found that we could not always keep these voices from being co-opted. We were constantly reminded that structural power can creep in and change things, and even once this force is named and recognized, it might be too late to interrupt it. Our role within the larger grant served as a microcosm of how student voices are symbolically invited but when heard are frequently resented within academic spaces. *The UnGuide* was difficult to untangle from the demands of the grant and expectations of faculty. We asked ourselves at certain points whether *The UnGuide* was moving in the direction that students need or was focused on grant deliverables, having to balance both demands. We also asked ourselves whether the stories we gathered would be fragmented and dissected and used to justify how institutions currently function. Without vigilant reflection and unapologetic centering of student voices, power can insert itself into the process to reinforce existing structures and narratives.

The UnGuide was part of a larger grant investigating student outcomes and service-learning, which made *The UnGuide* more vulnerable to being co-opted by the outcomes and deliverables of the larger project. Even though *The UnGuide* was tasked with centering student voices, when the team amplified them and our own voices when interacting with the larger research team, we were met with surprise for our insistence on communicating and were even silenced. These experiences made us wonder what it means to center voices when that centering is pushed to the periphery and margins. It made us aware of potential inherent contradictions in a research project like this that is providing funding for our team, but that may also be perpetuating the very ideas we are seeking to dismantle. These were tensions that impacted our process as a team and our ability to cultivate trust and legitimacy with students who are all too familiar with being misled and mistreated by institutions.

The Future of The UnGuide

At the time of our initial drafting of this article, we were in the midst of a devastating global pandemic and a volatile election of Donald Trump that fanned the flames of division and civil unrest in the United States. During the final stages of our editing process, the World Health Organization declared the end of the COVID-19 public health emergency, and we once again found ourselves preparing for another controversial election. Since the seeds of *The UnGuide* were planted, the world seems to have shifted on its axis several times. Our own individual worlds have similarly been dismantled and rebuilt over and over again. Many of us have finished our degrees. Many of us have lost family members. Many of us found jobs and lost jobs. Many of us submitted endless applications that were mostly met with an unbearable silence.

Today, some of us in the research collaborative continue to have relationships with academia. In our positions as researchers and professors, we continue to invite students to shape *The UnGuide* into the resource they need it to be. The pandemic only increased the urgency for these sites of belonging. Research investigating minoritized students' sense of belonging during the pandemic has found that racial/ethnic minority students were most impacted (Barringer et al., 2022; Lederer et al., 2021). There is an even greater need for a space that refuses to silence and refuses to delineate success from the top down. *The UnGuide* is more needed than ever. Our goal continues to be to allow ownership to be carried by a collective of students from a number of public universities. Furthermore, we intend for these students to fully own the possibilities represented by *The UnGuide* and to make it what they need.

Solidarity and Caring Commitment to Seeing Each Other Thrive

Both in our research collective and in the stories found in *The UnGuide*, we continue to revel in the power of solidarity. Although *The UnGuide* does not offer easily replicable formulas to address the violence perpetrated against systematically marginalized

students in higher education, what we have uncovered are guiding concepts that should be considered to offer a more equitable education that minimizes harm and marginalization. We also highlight the promise of using a website-platform as a holding space, in which dominant narratives can be countered or redefined.

In closing, we offer a few of these core lessons from *The UnGuide*. First, student voices should not be used as an opportunity to bolster the perception of universities. As one of the authors of this article said, "It's hard to go where you want to go when your stories are a fuel for somebody else's car." Second, it is not possible to cultivate trust without recognizing the ways in which everyone is complicit in upholding power structures. The liminal space occupied by *The UnGuide*, which is not quite part of a university but very much situated within and inhabits universities, required us to name the contradictions of our project and to build trust from this place of honesty and vulnerability. Third, when student voices are centered—that is, actual student voices and not academic interpretations of voices—the priorities of the university can then better align to serve the students. During this moment in history, as we are looking for paths toward ethical ways of addressing our festering racial inequities, universities cannot afford to tiptoe toward justice. Instead, universities need to follow the students who have been building the bridges as they walked them, so that together we may march toward equity, justice, and our collective survival.

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First, second, and third authors contributed equally to the writing of this article.

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Why Researchers Should Consider Using Propensity Score Matching Methods to Examine Effectiveness of Community Engagement Programming

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Abstract

This article provides community engagement researchers with an introduction to propensity score matching (PSM) methods. It explains why PSM can serve as a valuable method for evaluating the success of programs when random assignment of individuals to community engagement programs is not possible; it also addresses some of the advantages and challenges in using PSM. It then explains the steps in conducting a PSM study and illustrates them with an example drawn from research our team conducted. That research looked at the success of a community engagement program in which underrepresented college students mentored and tutored middle school students in their community.

Keywords: propensity score matching, community engagement, methods, quantitative

Experimental methods in which participants are randomly assigned to groups provide a highly attractive approach for investigating the impact of educational programs. These methods meet conditions for identifying causes and effects (Maruyama & Ryan, 2014). Such methods are often referred to as *randomized control trials*, or RCTs. When samples are drawn randomly from a larger population, findings from the sample of participants can be generalized to the larger population. Because they are able to establish causality, RCTs are generally considered the "gold standard" for research (e.g., West, 2009).

Unfortunately, when assessing the effectiveness of postsecondary programs, random assignment is often infeasible because students at most colleges and universities self-select their courses, programs, and activities. Further, in educational studies, there may be strong considerations against random assignment that are both ethical (e.g., withholding treatment from one group of subjects who need it) and practical (e.g., treatment noncompliance; e.g., Lanza et al., 2013). Nevertheless, the capacity of researchers to evaluate the effectiveness and impact of programs is critical for continuing and expanding such programming on college campuses. Fortunately, the absence of random assignment does not necessarily preclude one from drawing inferences. Holland (1986), for example, stated that although experimentation is "the simplest such setting" where causal inference can be discussed, it is not the only "proper setting" (p. 946). As we will explain below, however, establishing causality in the absence of RCTs is difficult and not as definitive.

For college students, free choice is more likely when looking at educational activities that engage them in programs working in communities with community partners. Students who are given the option to voluntarily choose whether or not to participate in a community engagement program or a particular service-learning course may differ in a number of ways from those who choose

not to participate as well as from those for whom participation is a requirement. To achieve the RCT standard of experimentation, one could randomly assign students to either a course with no service-learning or to a similar course that contains service-learning. However, requiring students to participate in service-learning when they would rather be in the non-service-learning course (or vice versa) is likely to be problematic, given that students' motivation to participate and preferences for particular kinds of service-learning experiences influence the potential for students to achieve positive personal outcomes as well as the intended educational outcomes (e.g., Moely et al., 2008).

Although observed differences between community engagement participants and nonparticipants could be related to the effectiveness of a program or course, they might also be explained by other factors or variables that were not controlled for or considered. When potential differences between the participant and nonparticipant groups are not considered, it is not possible to speak definitively about causal impacts or program effectiveness, given that different outcomes could as reasonably be attributed to group differences as to the program. In such cases, researchers cannot dismiss the possibility that differences in outcomes are due to differences in student groups and not to students' experience in their programs. Program effectiveness may be influenced by students who elect to participate voluntarily, as those students may already be more engaged or receptive to the learning, topic, or activity than students who did not choose to participate voluntarily. Differences between groups caused by variables other than the program or course being evaluated are a major problem in determining the effectiveness of programs that result in positive outcomes for colleges and students.

Consider, for example, students who choose to take a service-learning course rather than a course that does not include a community-based learning approach. Even if those students were similar to (or matched with) other students on their sex, race/ethnicity, and college major, missed domains in which differences occur can create problems for drawing inferences about the program's effectiveness. For example, students who must work while attending college may not have time or flexibility to participate in activities that compete with their paid employment, such as student activities and clubs, volunteering, or unpaid internships. Factors such as financial need may create differences between students related to socioeconomic status, along with other factors such as merit scholarships, prior achievement levels, and access to external resources to support their education. These differences can be illustrated by a conversation we had with a student living in a neighborhood where many of our community engagement experiences occur. This student said she already contributes to the community by holding a job in it, and that she could not afford to do unpaid service when she needs the money from working for paying tuition. Not only is financial need an important concern for this student, but differing attitudes toward what community engagement means may also be a measure important to consider but difficult to apply in matching students in a research study. If a goal is to draw inferences about the effectiveness of a community engagement program on outcomes like retention or graduation, and randomized control trial experiments are not possible, matching students on other observable measures that might be related to the outcomes is important.

If we were able to *exactly* match college students on all variables that potentially provide an alternative explanation for program outcomes, including background and other variables like college of enrollment, major field, and prior achievement levels, we probably would have a good enough match to make the study approximate a true experiment. Such an outcome could occur if we had measured all the background and other variables that could provide alternative explanations for group differences on which to match program participants with nonparticipants and, furthermore, if we had access to a comparison sample sufficient to contain matches. Although this may sound possible, it typically is not feasible, for finding exact matches for all relevant variables for each student who participates in a particular course or program in a pool of students who do not participate in that course or program is an exponential problem. If a program is small, exact matching may be possible at a large university where there are likely many potential matches for each student participating in that program. However, when the size of the program and/or the number of variables to control is large, finding exact matches for program students on all the variables becomes difficult if not impos-

sible, particularly when attempting to exact match on variables that are continuous with many different levels (e.g., high school GPA or ACT/SAT scores). Even when considering the impact of measured variables, other unmeasured or unobserved variables such as engagement and motivation to participate in the program may also impact outcomes. These variables are rarely collected in large scale and not simple to use for matching.

To illustrate the complexity of matching, even matching students only on race/ethnicity requires a large pool from which to secure matches. Race/ethnicity has many possible categories. Assuming that we group into only seven major groups—African American, American Indian, Asian American, Hispanic/Latino, Pacific Islander, White, and Other—we have students who come from multiple backgrounds and would select multiple groups, which increases the number of different categories that have to be considered. If we were using categorical variables based on the different groups to match, we would code race/ethnicity into seven binary race/ethnicity groups (yes/no for each group). If all combinations of one or more racial/ethnic backgrounds were to occur, this would result in 128 ($2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 = 128$) different backgrounds. When adding other variables, such as gender (assuming three levels: male, female, non–gender conforming/nonbinary), Pell eligibility (yes/no), first-generation college student (yes/no), and resident status (naturalized, permanent resident, nonresident), the number of possible combinations increases multiplicatively with each variable. If applied, these variables could produce as many as 4,608 ($128 \times 3 \times 2 \times 2 \times 3$) possible unique background combinations to match, without even considering how to match on the continuous variables high school GPA and ACT/SAT score. As this example demonstrates, exact matching on all variables that potentially could account for finding differences between groups on outcome variables is generally highly impractical as well as rarely likely to be successful.

Alternatively, researchers could use a regression approach to control for those variables rather than trying to match them. The approach includes all the relevant background variables as covariates (leaving out one background for each variable to avoid collinearlity) and removes their relationship with all outcome variables before looking at the relation of the program (treatment) with the outcomes. Using the same example, if researchers were to consider a regression approach as an alternative to matching and included all the same variables in the analyses as covariates, they would have 12 (6 race/ethnicity + 2 gender + 1 first generation + 1 Pell elgible + 2 citizenship) dummy and two continuous (GPA, ACT/SAT) background variables for which they would control. However, the large number of covariates in the analyses could hinder an accurate interpretation of the findings, for they are likely to be interrelated with one another as well as potentially with the program. Relations with the program could occur if the program were more effective for students from some backgrounds than for students from different backgrounds, but also if a disproportionate number of students in the program were of a particular background.

So, are there other options for researchers who are interested in evaluating the effectiveness of their educational programs when they are not able to randomly assign participation or create exact matches? One method increasingly being used as an alternative is propensity score matching (PSM). PSM is a quasi-experimental approach that matches participants with nonparticipants, matching on the probability that a person would be a participant in the program. Using such an approach when random assignment is not possible can help strengthen the equivalency between a treatment group (e.g., students participating in community engagement) and a comparison group (e.g., students not participating in community engagement), reducing the probability that noted differences in outcomes between groups are due to relations of background characteristics of students with participation differences (i.e., students' self-selection into the community engagement program). When used effectively, it provides two groups made up of individuals with comparable likelihoods of participating in the program, allowing stronger assertions about the impact of the program.

Propensity Score Matching

PSM attempts to capture the strengths of experimental designs in instances when random assignment is not possible; PSM emulates random assignment. As described above, in many situations it is not possible to randomly assign participants to conditions when attempting to evaluate the effectiveness of postsecondary education pro-

grams. PSM provides a useful approach for matching individuals across conditions and thereby better determining the effectiveness of treatments. It has been employed widely in medical research, but only more recently has it become regularly used in the social, behavioral, and educational sciences (e.g., Fan & Nowell, 2011).

A main goal of PSM is to establish group equivalency between the treatment and comparison groups. It statistically removes confounds caused by preexisting differences between the treatment group and the nontreated (comparison) group on extraneous, uncontrolled variables, producing similar groups on which to evaluate effects of the treatment. For those infrequent instances where the two groups do not differ—that is, there are no differences on an array of potentially confounding variables between individuals selecting and experiencing a treatment and others not receiving that treatment—approaches like PSM are not needed, given that the two groups are essentially equivalent. In those instances, direct comparisons of the different groups without adjusting for covariates are appropriate.

For those more common instances where differences exist between groups, an approach like PSM can create comparable groups and overcome selection bias. If comparable groups can be created, PSM provides an approach that separates relationships between the controlled variables and the outcome variables from the relationship (effect) of the treatment/program with the outcome variables. PSM eliminates the possibility that the relationship of the treatment/program with outcomes could be due to differences between groups based on other variables that are measured and included in the PSM analyses. Even if the two groups can be made comparable, PSM depends on investigators who collect data on important background variables and who consider a full range of alternative explanations involving background variables when positing relationships between program/treatment and outcome variables.

Understanding Propensity Scores

PSM techniques use information from relevant variables that have been measured previously in related studies of the same participants, in addition to any available pretest scores or other variables pertaining to the participants, to produce a score that represents the likelihood (probability) that any individual will have participated in the program being evaluated. Analyses should include all potentially confounding variables noted through observations and/or previous studies as well as potentially including variables collected that are not necessarily expected to be related to program participation. Their inclusion allows researchers to confirm that these additional variables are not related to program outcomes; erring on the side of inclusion is preferable. The resulting unidimensional score, as described in more detail below, is called a *propensity score* (PS). Rather than using random assignment, matching is performed by pairing individuals from the treatment and comparison groups who have the same propensity score. Matching participants with nonparticipants on that score creates groups that are matched collectively across the set of measured variables.

What Makes Propensity Scores Good for Matching?

Using the language of PSM, a propensity score (PS) is the probability of exposure to a specific treatment or program conditioned on observed variables (e.g., Austin et al., 2007). A propensity score is a single numerical value for each individual, calculated from the covariates (often called *conditioning variables*). Propensity scores range from 0 (no chance of being in the program/treatment condition) to 1 (definitely in program/treatment condition). The score is the likelihood or probability that an individual will/did participate in the treatment/program being assessed. Propensity scores are used to match participants enrolled in a program or treatment with similar individuals about whom the researchers have data but who did not participate in the program. Propensity scores are calculated by regressing the treatment/program participation variable (participates/does not) on a set of potentially confounding variables. In principle, individuals with identical PSs have an equal probability of being in the treatment/participation group. Thus, PSs provide a statistical matching on the set of key background and prior performance characteristics by controlling for the relationship of all those covariates with the treatment or program. After matching, the two groups ideally are matched on all the measured background variables, which means that the relations of those background variables with the treatment or program are removed by controlling

them, allowing stronger "apples-to-apples" inferences to be drawn from comparisons between groups (e.g., Rosenbaum & Rubin, 1983). If the two groups are too different on the background variables and cannot be made comparable, PSM is not appropriate.

How Are Propensity Scores Generated?

Propensity scores are generated using the following steps. First, prior to data collection, it is useful to develop a conceptual map tracing how the program ideally would work and the background and demographic variables that would need to be collected in order to eliminate any confounding effects that may account for resulting group differences. Second, during data collection, investigators need to collect the full array of variables in their conceptual map of how the treatment works from a comparison group as well as program participants. Ideally, the comparison group would be larger, providing more opportunities for identifying good matches. Third, mean differences on control variables between the program/treatment group and the comparison group are examined. If no differences between the means of the groups exceed .05 standard deviations, the groups can be judged to be equivalent on the background variables, and simple mean comparisons on the outcome variables can be conducted without using PSM. In the more likely case where mean differences in background variables between groups exist, PSs are created by regressing the binary program variable (assuming a single program) on the full set of background and demographic variables and then using the regression weights for the predictors to calculate predicted scores for each individual. Those predicted scores are the PSs. Fourth, the PSs are used to create individual-level treatment/comparison group matches. Individuals are matched on PSs across the program (treatment) and comparison groups. Before the groups can be compared on the outcome variable(s), additional steps are required to see if any group differences remain; how these are handled will be explained after finishing the discussion of propensity scores.

To paraphrase Rosenbaum and Rubin (1983), the resulting PSs can be used as a unidimensional balancing score where each subject's PS becomes a summary of the pretreatment covariates, such that treated and comparison subjects who have the same PS have a balanced joint distribution of the pretreatment covariates. Two individuals with the same PS can be considered matched, yielding analyses that produce in principle an unbiased estimate of the treatment effect. By controlling other variables, PSM is preferable to simply accepting a nonequivalent comparison group, for it in principle eliminates a number of alternative explanations for differences between groups.

Individuals matched by PSs should approximate random assignment; each student who participated in a program is paired with a student having an equal (or similar if equal is not available) likelihood of participating, but who did not participate in the program. Matching is "approximate" because the effectiveness of the matching is dependent on the particular set of covariates available and selected, and because of the overlap of the two sets of PSs. Identifying and measuring a robust set of covariates helps ensure better matching. Covariates selected for the propensity score model should be conceptually identified as and/or empirically found to be related to both treatment and outcome. Their inclusion as covariates will prevent them from potentially influencing the program's relations with the outcome variables. If there is uncertainty, it is better to err on the side of overinclusion rather than risk excluding potentially important covariates. As noted above, unrelated covariates should not affect the regression analyses, for they will not be related to the program/treatment and will have negligible weights in determining propensity scores. After controlling for appropriate covariates, researchers can claim that treatment assignment is conditionally independent of potential confounding variables that might provide alternative explanations for observed outcomes. The language of PSM describes the effect as "conditioned on the covariates." Propensity score matching rests on the principle that participants in treatment or comparison conditions with identical PSs will have the same probability of being in the treatment condition.

Why Not Just Covary Potentially Confounding Variables?

Earlier we noted that an alternative way of addressing the impact of variables that might provide various explanations for the findings is to include those variables in a regression analysis. By including variables that may be related both to treatment assignment and outcomes, researchers can then statistically judge their impact on the relationship between the treatment and the

outcome, and ideally also control for differences due to those variables. This approach is known as "controlling for" potential covariates in multiple regression.

Covariate control is a widely accepted method in statistics. However, matching methods via PSM provide certain practical advantages important to consider. In regression, when multiple variables are involved, the shared variance is attributable to different predictors, which can leave interpretation ambiguous, especially when extraneous variables are highly related to program participation. Propensity scores reduce the array of covariates included to one overall unidimensional score, eliminating the need to include a large number of covariates for regression adjustment (Hong, 2015) and reducing interpretation ambiguity. In addition, PSM allows researchers to assess the covariate distribution between groups before the outcome analysis; regression adjustment during outcome analysis may be unreliable if both groups are far apart (nonequivalent) in covariates (Rubin, 2001). Further, various PSM approaches eliminate individuals who are outliers, which reduces outcomes being unduly influenced by individual extreme cases. Expanding on the prior point, for most PSM approaches, a priori examination of covariates results in the selection of a more balanced subsample by eliminating individuals who cannot be effectively matched. PSM also eliminates the relationship between covariates and the treatment or program variable before looking at the relationship between the treatment/program and outcomes; regression is influenced by interrelations among covariates and the treatment variable. Finally, various authors have pointed out that regression adjustment may increase bias in the treatment effect if the relationship between the covariates and the outcome is even slightly nonlinear (see Stuart, 2010 for review). For these reasons, PSM can provide a better balancing of covariates across treatment and control than covariate adjustment used in regression.

It is important to reiterate that PSM creates propensity scores in a process that occurs *prior to* examining relations of the program/treatment with outcome variables. Similar to other regression family approaches, creating matched groups in the preliminary stages of the analysis may reduce bias and increase the precision of the covariate adjustment in the outcome model (Rubin & Thomas, 1996). Because relations of the treatment with the outcome variable(s) have not been examined during the matching process, PSM allows researchers to try different PSM methods to find the one that does the best job of producing equivalent groups.

What Constitutes Well-Matched Groups?

Thus far, we have assumed that we will be able to create well-matched groups. As noted earlier, however, if we cannot, then PSM is not an appropriate approach, for it works only when groups can be well-matched. To determine the appropriateness of the matching process, after the matched samples are created, all the covariates are related to the treatment variable to examine the magnitude of remaining differences between the program and comparison groups. A set of principles has been adopted to define acceptable differences and to provide options if the groups are not completely matched. As explained above, because the matching process occurs before looking at relations of the program with outcome variables, we recommend trying different PSM matching approaches for generating PSs, and seeing which approach provides the best combination of match and power. Once we select the approach, we impose the decision rules on the chosen PSM approach.

First, if differences in all of the covariates have been reduced to less than .05 standard deviations (*SD*s), simple mean comparisons can be used to assess program effectiveness. If, however, some covariates remain unbalanced with differences greater than .05 *SD*s, we then examine how much greater the remaining differences are. If differences on all covariates are above .05 but less than .25 *SD*s, we can use PSM. We include covariates with differences between groups of greater than .05 *SD*s in the final regression model predicting the dependent variable to be able to control for their remaining relationship to the treatment/program and provide a more accurate estimation of the association between treatment and outcome somewhat independent of the covariates (Zanutto, 2006). If remaining differences between the two groups still exceed .25 *SD*s with the best PSM approach, using PSM is not possible, for in such situations, there is insufficient overlap between the comparison and treated subjects' PSs.

Challenges When Using PSM

As just described, overlap, called *common support*, is necessary to create well-matched

groups. Even though weighting to balance program and comparison groups with little or no overlap can be done, PSM is less likely to prove viable because the differences on potentially confounding variables cannot be eliminated. Bai (2015) identified 75% of overlap as the minimum requirement for creating comparable matched groups. Finding no overlap or too little overlap likely indicates that there are too many pretreatment differences between groups, which hinders researchers' ability to draw reliable causal inferences (e.g., Harder et al., 2010). At best, lack of overlap would result in having to discard many participants from the outcome analysis, which would lead at minimum to a reduction in sample size and, consequently, loss of statistical power (e.g., Lane et al., 2012). Even more problematic, it may result in retaining a matched subsample that is not representative of the population from which it is drawn.

A second challenge to PSM occurs with any approach that tries to substitute for random assignment by matching on an array of background and other variables to establish group equivalence. Such a strategy may be limited insofar as it can control only those variables that are observable and that have been measured, which may fail to eliminate fully preexisting group differences that are attributable to other relevant confounding and unmeasured variables. Using a Head Start program as an example, even with a number of appropriate controls, children might still differ on other unmeasured but important variables like the kinds of television programs they watch, their grandparents' education levels, the number of books in their homes, the achievement levels of their friends, and so on. If these variables are important but are not considered, and the treatment group is, in actuality, significantly lower on these unmatched variables, then the final results would be biased in favor of the comparison group. If differences are in the opposite direction, bias would favor the treatment group. The number of variables on which groups are not matched is potentially infinite. When remaining unmatched or undermatched, differences for compensatory programs likely favor the comparison group; in such instances, even effective intervention programs may look harmful or ineffective as a result of the failure to equate groups. It is difficult to know when researchers have matched on enough variables to ensure that the two groups are equivalent, and, for a program like service-learning, the direction of differences on unmeasured variables may vary from setting to setting. Fortunately for PSM, there is some evidence (e.g., Rosenbaum & Rubin, 1983) that it can control for bias from covariates, for many are related to measured covariates. Whether that is true for all settings is not clear; to the extent possible, researchers should carefully plan the covariates that are to be in the design.

One point that should be clear from the second challenge is that selecting the set of covariates is critical. Not surprisingly, there are different views about how the set of covariates should be selected (e.g., Austin et al., 2007).

- One view is to include those variables that are related to treatment assignment.
- A second is to include all variables potentially related to the outcome variable.
- A third is to include only variables associated with both treatment and outcome.

Findings from a Monte Carlo study by Austin et al. (2007) suggest that combining the first and second perspectives is best: The most effective approaches include as covariates variables that are theoretically related to treatment assignment as well as variables related to the outcome variable. These findings are consistent with our experiences as producing findings with the least ambiguity. The U.S. Department of Education's What Works Clearinghouse, in its efforts to emphasize trustworthy, science-based evidence, acknowledges the importance of these characteristics by requiring that at least one socioeconomic background variable and one prior achievement measure be measured and used as control variables for PSM when looking at educational outcome variables.

To recap the second criticism, all variables that potentially could provide alternative explanations for differences between groups on the outcomes of interest ideally comprise the set of covariates/conditioning variables. Not fully controlling for such variables allows them to confound the study, possibly reducing a PSM to a nonequivalent comparison group design. With nonequivalent groups, there are alternative explanations for differences between groups in outcomes. Challenges come when one or more of the

potentially confounding variables are unobserved or unmeasured. In some instances, a sensitivity analysis could be conducted to assess the extent to which the estimate would change if an unmeasured covariate were included (see Groenwold & Klungel, 2015; Hong, 2015).

A third criticism of PSM is related to misspecification of the logistic model predicting treatment. Misspecification occurs when a key covariate, that is, a covariate that is highly related to the treatment assignment, is omitted from the propensity score model. This omission leads to a misestimation of the PSs, resulting in biased estimators of the treatment effect (Drake, 2017). Researchers need to ensure that the covariates represent the possible confounding variables related to the implementation of the program, ideally including measures of prior outcomes. In the Head Start example, unmeasured variables like TV programs watched, grandparents' education, and books in the home could all provide alternative explanations for group differences and might have had important regression weights. Having a strong conceptual framework as well as drawing from prior research studies related to the topic under investigation helps to guide identification of possible confounding variables. To help address this potential criticism, many authors describe in detail the theoretical bases, the prior literatures, and the statistical methods they used to determine which covariates to include in the PS model in order to minimize possible misspecification (e.g., Harder et al., 2010; Pattanayak, 2015).

Finally, researchers' decisions about different PSM approaches may affect their findings. The selection of different matching methods or the way specific matching methods are used could result in differing results. In our experience, we never found a perfect matching procedure for a given data set, and we typically tried different approaches to see which provided the best sample. In using PSM, researchers have to make decisions about what to prioritize and accept: maximizing sample size, obtaining the highest quality matches, or selecting acceptable matches. We explain these processes in detail later.

At this point, having provided a summary of advantages as well as potential challenges to address in using PSM, we turn to specific steps in conducting PSM. After that, we describe how it was used to investigate the effectiveness of a community engagement program in which college students from underrepresented populations tutored middle school and high school students. In this study, we assumed the typical case for PSM, that the treatment variable (participated/did not participate) was dichotomous.

Steps in Conducting a Propensity Score Matching Analysis

Step 1. Identify the Variables That Could Account for Favorable or Unfavorable Outcomes

Before analysis, and preferably prior to data collection, it is important to consider variables that potentially could affect the relationship between the treatment/program and the outcome variables. The extant literature on the topic being studied should provide some guidance as to which variables should be included. Identifying covariates in the initial model is critical for establishing comparability between groups, as controlling them should allow one to estimate effects of the treatment program independently of those variables. To the extent possible, such variables need to be measured, for only variables that are measured can be controlled statistically.

As discussed earlier, some researchers suggest that variable selection during this stage should identify variables having a theoretical relationship to participation in the treatment as well as to the outcome variables (e.g., Caliendo & Kopeinig, 2008). Other authors, however, employ statistical approaches for selecting covariates. As an example of the latter, Harder et al. (2010) described testing and comparing three different logistic models: (1) a parsimonious model that includes only the covariates, (2) a more complex model that incorporates some interaction terms, and (3) a generalized boosted model that can include the same terms as the former model but in a nonparametric manner. Although combining both theoretical and statistical guidelines for the selection of covariates in the PS model is reasonable, concern remains about using any outcome variable as a consideration within a PS model (Pattanayak, 2015; Rubin, 2001). Specifically, statistical approaches that require researchers to view correlations between potential covariates and treatment before final outcome model specification potentially introduce bias in the final model structure, which is not rec-

ommended (e.g., Rubin, 2001).

The following points are guides for thinking about covariates:

- Identify possible control (conditioning) variables and see how many have been or can be measured. Measure as many as possible. An example from a study of a community engagement program is described in detail later in this article. For that study, we included as covariates sex, ethnic/racial background (dummy coded), prior achievement (ACT or SAT), citizenship status (international, U.S. born/naturalized, permanent resident; again, dummy coded), family income (Pell eligible or other), first-generation college student, honors program participation, and college of enrollment. We recognize that in some instances information on citizenship can be sensitive due to immigration policies and the way they currently are enforced, which may preclude obtaining that information, even with deidentified data.
- A criterion for determining which potential covariates to include in the matching process is that of *strong ignorability*. PSM assumes that there are no unobserved differences between the treatment and control groups, conditional on the observed covariates. In other words, the assumption is that after PSM, the resulting matched groups are similar enough that any difference in the outcome is attributable solely to the treatment. If researchers know about missing variables and feel confident that they know the implications of those unmeasured variables, then they could try to model them, even though doing so is challenging and may be open to criticism.
- As was noted earlier, using as an example the United States Department of Education's What Works Clearinghouse (WWC), at least one prior achievement variable and one prior social class/economic variable need to be included in the control variables for a PSM study to qualify for WWC publication.
- If samples include underrepresented groups, such as students of color, low income, first generation, and students with disabilities, those variables should be included as covariates in order to eliminate differences on those characteristics as reasons for the outcomes.
- Variables that may have been affected by the program should not be included in the matching process (e.g., attitudes about community involvement measured during participation in such a program). Including them eliminates or diminishes researchers' ability to determine effects produced by the program.

Ideally, one should include in the matching procedure all variables known to be related to both treatment assignment and the outcome (Glazerman et al., 2003; Heckman et al., 1998; Hill et al., 2004; Rubin & Thomas, 1996). There is little downsidsde to including variables that are actually unassociated with treatment assignment, as they will be of little influence in the propensity score (PS) model. Said differently, in computing PSs, collinearity may be relatively unimportant (but see also Zhang et al., 2019), for the goal is to optimize prediction of each individual's likelihood of being in the treatment condition so the matching works well. Only variables that predict participation will have meaningful weights, thus any other variables will not add to the model's prediction. The important point is that when maximizing explained variance, including variables is preferable to not including them. As noted earlier, exact matching on control variables is ideal, but typically not possible when a large number of confounding variables exist, thus warranting PSM.

Step 2. Estimate Propensity Scores

Once the conditioning variables are selected, estimate the PSs for each individual for whom data are available, both those participating in the program of interest and others who are potential comparison group members. Create a logit model using the observed covariates to predict the binary treatment variable (participated/did not participate). The predicted probability of each individual being in the program is their propensity score (PS), generated from the logistic regression, and calculated for each individual based on the selected covariates.

Once the PSs are available for all individuals, assess the degree of overlap (common support) between the PSs in the treatment and comparison groups before choosing a matching technique. This common support can be visualized and assessed by comparing graphs of the density distribution of the PSs for each group (Bai, 2015; Caliendo & Kopeinig, 2008).

Explore Possible Matching Approaches

The next step is to define acceptable "closeness," examining the distances between PSs of matches to determine whether an individual is a good match for another. One way to control matching is to specify the maximum distance allowable between matches. Specifying and using a maximum allowable distance is described as setting up a *caliper*. Rosenbaum and Rubin (1985) recommended using a caliper of a PS distance of 0.25 standard deviations to provide enough of a constraint on matches without sacrificing possible matches. Matches then occur only for scores less than the caliper distance apart. The most typical caliper is a difference in PSs of 0.2.

A second matching decision addresses the individuals whose PS scores fall outside the range of scores found for both the matched groups. Most commonly, those would be larger PSs (higher probabilities of being in the treatment/program) for individuals in the treatment group and lower PSs (lower probabilities of being in the treatment/program) for individuals in the comparison group. Excluding these individuals may benefit the quality of the matched groups, since more extreme cases would be less likely to have effective matches. When deciding who to include and exclude, one approach is to retain individuals whose scores are "close" to the scores of the other group (based, perhaps, on the standard errors of scores to help decide how far beyond the other group would still be a reasonable match—and thinking about calipers) and to exclude those that are beyond the selected range.

Once decisions are made about which individuals are good candidates to include in the matching process, the next step is to select and implement a matching method. Because matching methods are chosen *before* looking at the relationship of any matched groups with the outcome variables of interest, matches are not selected to maximize differences between groups on outcomes, but rather are selected to reduce differences between groups in the matched variables in order to create groups that are as similar as possible to one another. As is discussed in the next section, there are a number of different matching strategies to choose from. Therefore, if the first matching technique selected does not produce a good match, it is appropriate to try other matching approaches to determine which one produces the best possible matching of the groups.

If the treatment/program participation group is small compared to the full population (e.g., a small program within a large college or university) for which data are available, researchers can consider selecting what is called an N to 1 match rather than a 1 to 1 match. An N to 1 match allows multiple individuals from the comparison group to be matched to each individual in the treatment group. In such instances, weighting may be necessary to "balance" the groups. Weighting involves averaging across multiple good matches to provide more stable findings rather than arbitrarily selecting only a single individual for matching when many strong matches are available. If appropriate, one may subclassify or weight (prior to selection) the matches, then select the best matches within subgroups.

Step 3. Select a Matching Method for PSM

As was noted earlier, a number of different approaches are available. Those that use pairwise matching typically include a caliper to establish the maximum allowable distance between matched pairs. Other approaches try to retain as many individuals as possible, but use weighting rather than matching to keep balance across conditions. Among the most common approaches are the following:

1. *Nearest neighbor* (NN) matching. With NN, matching is performed sequentially (stepwise), so the order in which the treated subjects are matched may affect the quality of the matches. Because NN is performed randomly, each instance of NN can produce different matches, for the starting point for individual matching changes. This matching approach is often described as a "greedy" approach, for, because of the sequential nature of the matching, earlier matches may "use up" the best matches for individuals who are matched later. Typically, NN is selected without replacement, making any comparison individual eligible for only one match, which limits later

matches to those comparison individuals remaining unmatched. However, sometimes matched individuals are kept in the matching pool after being matched, allowing a comparison individual to be matched to more than one treatment individual. In such instances where a comparison individual is matched against several treatment/program participants, weighting that comparison individual more heavily to balance the size of the groups is suggested. Note that this matching is opposite to N to 1 matching, which underweights comparison individuals, whereas NN overweights them. In this case the characteristics and outcomes of this comparison subject need to have a heavier influence in the final outcome model when compared to other comparison subjects. Alternatively, N to 1 matching underweights comparison individuals so their outcomes have a lower impact on the final outcome model.

2. *Optimal pair matching* (OM). Like NN, the OM approach matches each individual program participant with an individual from the comparison group. In contrast, however, the OM approach minimizes the squared distances between matches across groups at a sample level. OM provides the best possible full sample matches by finding the smallest possible total squared differences in propensity scores between treatment and comparison groups. This approach is preferable if one wants to optimize well-matched pairs within the matched groups. Like NN, the OM approach matches program participants individually with an individual from the comparison group.

3. *Full matching* (FM). The FM approach finds pairs or groups of treated and control participants that are close based on the distance measure. It ideally keeps the full sample, limited only by eliminating individuals who fall outside the range of scores where there is overlap of the groups (common support). The ratio of matching (1:4, 3:2, etc.) can be selected on an a priori basis or by a caliper to constrain the groups. These groups are then used to create regression weights that are incorporated into the outcome analysis in order to balance the sizes of the groups—most often weighting the comparison sample to the sample size of the treatment group.

4. *Inverse weighting* (IW). In instances where PSs of the treatment group are much higher than those of the comparison group (e.g., where the treatment PSs are negatively skewed and the comparison group PSs are positively skewed) and the prior matching techniques will not work, it may make sense to upweight individuals on the smaller tails and downweight individuals in the larger part of each distribution for each group separately. Below is a formula for inverse weighting, which keeps all the individuals but weights cases differentially, with larger weights for treatment participants who have low PSs and smaller weights for comparison individuals with high PSs. For inverse weighting, think of two very different distributions of scores that have some overlap, with more of the higher PSs found in the treated individuals, and more of the lower PSs found in comparison individuals. This weighting formula ideally provides a better matched set of scores when groups differ substantially. With the inverse weighting formula,

$$W_i = T_i/e_i + [(1 - T_i)/(1 - e_i)],$$

e_i is the estimated propensity score for individual i, and T_i is treatment condition (treated = 1, control = 0).

As noted earlier about PSs, the likelihoods of being in the treatment condition range from 0 to 1. For inverse weighting, if PSs are close to 0 for treatment group individuals or close to 1 for those in the comparison group, the weights will get large. Having to use very high weights for the outlier cases in large samples with oppositely skewed distributions can amplify the influence of atypical individuals within their group. When using inverse weights, one should look at the distribution of weights to make sure there are not extremely large weights. One option is to discard cases with really big weights. For weights that are large but that seem to be part of the main distribution (i.e., greater than 5), one possibility would be to cap them at a maximum value so they are not too heavily weighted.

One other distance metric, similar to PSs, that we have not described is the *Mahalanobis distance*, which employs a geometric distance to match cases. It provides an alternative scale-invariant, multidimensional measure of the distance between two individuals. For instances where other

matching approaches do not produce quality matches, Mahalanobis distance matching may produce better balance on background characteristics since it takes this different approach.

Step 4. Assess the Quality of the Matching

Ideally, at least one of the methods of generating matches in the matching process results in well-matched samples. Well-matched samples occur when mean differences between the groups on the covariates are small in standard deviation differences. As noted, in some instances, one may have to try multiple matching approaches, sampling until well-matched samples result, for conducting PSM analyses requires samples to be well-matched. Pattanayak (2015) suggested estimating the standardized difference in means between treatment and comparison groups on all pretreatment covariates. Rubin (2001) added two more balance measures besides the one suggested in Pattanayak: (1) the standardized difference in means of the PSs and (2) the ratio of the treatment and comparison PS variances. Bai (2015) provided yet another measure, recommending using the percent of bias reduction as a criterion to assess balance. For the standardized difference between means of covariates, Rubin (2001) and Stuart (2010) recommended using 0.25 as the cutoff score to determine balance.

If after matching there still are differences greater than 0.25 standard deviations between the groups on any conditioning variables or other critical variables, then using PSM is not appropriate. It should, however, be noted that if a first matching does not yield well-matched samples, it does not mean that successful matching is not possible. One can rematch to try to make the differences smaller, which might work since starting points for NN matches are random, as are matches for pairwise matches when multiple possible matches are available. (For example, reestimating using NN matches, which are taken sequentially from a random starting point, produces different matches.) If covariates remain unbalanced, additional modeling or other considerations should be explored, such as using exact matching on one or more covariates (Pattanayak, 2015), adding more covariates, or including interaction terms in the original logistic model (Harder et al., 2010). One also can try weighting cases to balance on the problematic variable(s), or creating subgroups within the treatment group and then matching within subgroups to increase similarity of subgroups across treatment conditions. In addition to changing matching, one should inspect distributions visually to see if/how patterns can be understood and controlled. Again, if group differences in conditioning variables cannot be reduced to less than 0.25 standard deviations, then PSM is not appropriate, given that the remaining differences between groups are too great and cannot be eliminated by controlling covariates.

As long as differences remaining on each matching variable are less than the 0.25 standard deviations that preclude the use of PSM, one can proceed with PSM analyses. If, however, some differences less than 0.25 standard deviations still exceed 0.05 standard deviations, those matching variables have not been fully controlled through the matching. They should, therefore, be included as covariates in the analyses to control for their effects more fully.

Step 5. Analyze the Outcome Variable(s) and Estimation of the Treatment Effect

Once it is determined that PSM is appropriate for the sample, analyses comparing the groups should be straightforward. If no differences between groups on the covariates exceed 0.05 standard deviations, no covariates need to be included in the analyses. One can use *t*-tests for continuous variables or chi-square for dichotomous outcome variables to determine whether the groups differ. When differences between comparison and treatment groups on some conditioning variables exceed 0.05 but are less than 0.25, analyses of covariance (ANCOVAs) or logistic regression are appropriate, with analyses controlling for variables with preexisting differences greater than 0.05.

Step 5a. What to Do When Discarding Some Treatment Participants Based on PSs: ATE Versus ATT Findings

In discussions of causal effects, it is common to find estimates described as the Average Treatment Effect (ATE) and the Average Treatment on the Treated (ATT). The ATE, the treatment effect for the entire treatment group, compares all individuals in the sample. If the assignment on treatment is unconfounded (i.e., this assignment is independent of potential outcomes conditional on covariates), one can average the differences between groups to estimate the ATE. In some instances of PSM, however, researchers are unable to estimate the ATE

because program participants had to be dropped when creating the matched sample (e.g., subjects who fall outside the common support and are not included in the matching of groups). Studies where some of the treatment participants are dropped become ATT, which only compares subjects successfully matched with a comparison individual with similar probabilities of being in the treatment condition. The loss of treatment participants whose PSs are not similar to any individuals in the comparison group limits the inferences that can be drawn (Dehejia & Wahba, 2002; Stuart, 2010).

Using PSM to Evaluate Community Engagement Outcomes

To illustrate the use of PSM in evaluating community engagement program outcomes, we provide an example in which we applied PSM to a study of a college program involving a YMCA in a Midwestern city in which college students offered mentoring and tutoring to local youth through the YMCA. The program provides extracurricular activities to engage college students as they mentor and tutor local youth. This off-campus program hires primarily underrepresented college students to work with middle-school youth from diverse backgrounds in an after-school program. The program's mission is to facilitate meaningful community engagement by providing college students opportunities to apply their knowledge and skills to help community members while building friendships with other mentors and tutors. This experience is a paid community-engaged employment opportunity designed to address the financial needs of the participating college students while allowing them to apply their skills and knowledge in ways that directly address a community need (Schulzetenberg et al., 2020).

We set out to investigate whether participating in community-engaged employment (mentoring and tutoring local youth) at the YMCA was associated with underrepresented college students' persistence in college, their academic performance, and the rate at which they graduated (Schulzetenberg et al., 2020). For this research, we were guided by theory, selecting covariates that previous research on community engagement found to be related to participation in a mentoring and tutoring program, plus other variables that might result in alternative explanations for our findings (Eyler & Giles, 1999). For our covariates, we selected sex, ethnic/racial background (dummy coded), prior achievement (ACT/SAT), citizenship status (international, U.S. born/naturalized, permanent resident; again, dummy coded), family income (Pell eligible or other), first-generation college student, honors program participation, and college of enrollment. To strengthen our match, we also exact-matched on the year each participating college student entered as a freshman.

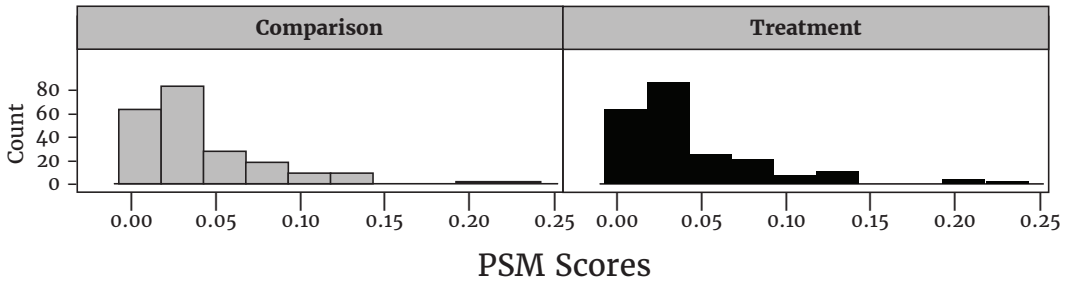
After deciding on covariates, we ran logistic regression to generate propensity scores (PSs). We then tested assumptions by examining the degree of overlap or common support between the PSs in the treatment and the much larger comparison group. As mentioned, this common support can be assessed graphically by comparing the density distribution of the PSs for each group (Bai, 2015; Caliendo & Kopeinig, 2008).

After finding sufficient overlap of the two groups, we worked on matching PSs of students who participated (n = 216) with scores of those of students at the same institution who did not participate (n = 52,693). For pairwise matching approaches, we used caliper matching to set a maximum distance allowed between PSs (in this case, 0.2 *SD*s).

The distribution of scores demonstrated that inverse weighting was not necessary, but we did run analysis using different matching approaches (nearest neighbor, optimal pair, and full matching). As noted earlier, testing different applications and comparing balance between different matches to determine the best possible set is widely accepted as an effective practice, for we at that point had not looked at the outcome variables (e.g., Austin, 2011; Kretschmann et al., 2014; Lanza et al., 2013). From among the different approaches, we found *optimal pair matching* to provide the best matches (see Figure 1).

After creating the matched groups (Figure 1), we assessed the balance across covariates between comparison and treatment groups to ensure that groups were equivalent. In our example, all covariate differences were less than 0.25 standard deviations after matching, indicating that PSM is appropriate. However, several covariates (biological sciences college, science and engineering college, Asian/Pacific Islander race category, and American Indian race category) were greater than 0.05. In order to separate the effects of program participation from these variables, we included each of them

Figure 1. Histogram of Propensity Scores for Treatment and Comparison After Matching



Note. Reprinted from "Improving Outcomes of Underrepresented College Students Through Community-Engaged Employment," by A. J. Schulzetenberg et al., 2020, I*nternational Journal of Research on Service-Learning and Community Engagement, 8*(1), p. 9 (https://doi.org/10.37333/001c.18719). Copyright 2020 by the International Association for Research on Service-Learning and Community Engagement. Used with permission from the publisher.

as covariates in our analyses to assess the effectiveness of the community-engaged employment program (e.g., Song & Herman, 2010).

Given that differences remained that were not fully eliminated, the outcome model included treatment as the independent variable, the variables listed above as covariates, and continued enrollment (persistence), credits completed, GPA, and graduation status as the dependent variables. The results of these analyses found strong effects of program participation for each of the four dependent variables. Table 1 is included to illustrate outcomes.

In this example, PSM allowed us to build group equivalence between students who participated as mentors and tutors and students who did not, and to measure the differences between groups across key outcome variables pertaining to educational success (continued enrollment, credits completed, GPA, and graduation status). Given the number of variables whose relationships with program participation were controlled, we are able to speak more confidently about the effectiveness of program participation than we would if we did not control for such variables or if we did not have comparable groups. As we previously noted about PSM, we cannot speak definitively about causality. Nevertheless, the findings are encouraging for the program being evaluated, for we can conclude that what resulted was not due to selection differences in the array of variables that we were able to control.

Concluding Discussion

To summarize, this article has described and argued for using a quasi-experimental approach called propensity score matching for situations in which possible comparison individuals exist corresponding to individu-

Table 1. Partial Regression Coefficients for the Relationship Between Community-Engaged Employment and Academic Outcomes for Underrepresented Students (N = 432)

	GPA		Credits Earned		Retention		Graduation	
	B	*SE*	*B*	*SE*	*B*	*SE*	*B*	*SE*
Participation	0.24*	0.06	19.6*	3.5	.12*	.03	.16*	.05

Note. Analyses controlled for initial enrollment in biological sciences college and engineering college, and for Asian/Pacific Islander and American Indian backgrounds. Reprinted from "Improving Outcomes of Underrepresented College Students Through Community-Engaged Employment," by A. J. Schulzetenberg et al., 2020, *International Journal of Research on Service-Learning and Community Engagement, 8*(1), p. 9 (https://doi.org/10.37333/001c.18719). Copyright 2020 by the International Association for Research on Service-Learning and Community Engagement. Used with permission from the publisher.
* $p < .001$.

als participating in a particular program, but where the individuals participating have not been (or cannot be) randomly assigned to the program. For researchers of community engagement programs, potential problems of nonequivalence of program participants with nonparticipants are widespread, for randomizing students into community engagement programs is often infeasible and at times unethical. In such instances, it is not possible simply to assume that the groups being compared are equivalent, for students frequently select participation in particular programs. By providing matching approaches, PSM provides a useful approach for studying effectiveness of community engagement programs on an array of student outcomes, including academic success.

PSM examines equivalence of the groups being compared first by collecting information on a number of background and other variables that are thought to be related to the outcomes of interest, and then by examining differences between the groups on all those variables. If there are differences between groups, PSM attempts to control for those differences to uncover relationships between program participation and outcomes that are independent of those other variables. It accomplishes that goal by matching individuals across groups who have the same likelihood of participating in the program of interest, emulating the process of random assignment where each individual has the same likelihood of being in the treatment group. Once groups are successfully matched, analyses comparing groups can be conducted using the traditional methods, such as *t*-tests, chi-square tests, or regression analysis.

Establishing an argument for causal impacts of community engagement or any other program is integral for building programming on college campuses. Findings from PSM studies like the one summarized in this article illustrate how the method can enrich the evidence base for effectiveness of community engagement programming and promote its use and continued support in higher education programming.

As is true of any analytic approach, PSM has limitations. In deciding whether or not to use PSM techniques, researchers should consider their sample and the variables available, for PSM is not always going to be useful or provide accurate findings. Small sample sizes, particularly in the potential pool of comparison individuals, and a limited availability of variables to be used as covariates both can greatly hinder the quality of the matches and the accuracy of the estimates.

In closing, researchers should consider adding PSM to their toolbox of methods for examining effectiveness of community engagement programming. We hope this overview of PSM has increased awareness of PSM's potential usefulness and has provided researchers with some basics of applying PSM approaches to help understand the impacts of community engagement programs on student outcomes.

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Leading Change to Ensure a Better World: College Students' Participation in Community Service

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Abstract

We examined whether the effects of community service on college students' engagement in social change and social generativity are conditional upon students' demographic characteristics. We used data from the Multi-Institutional Study of Leadership survey, which was administered at 70 four-year campuses in 2018. We used propensity score matching techniques to create a group of 13,981 students who participated in community service and matched them with a group of 13,981 students who did not participate in community service. The results suggest that the effects of community service on students' engagement in social change are significant and positive regardless of gender, parental education, and disability; however, the effects are not uniform across race/ethnicity or sexual orientation. Similarly, the effects of community engagement on social generativity are significant and positive across parental education and disability, but not uniform across gender, race/ethnicity, and sexual orientation.

Keywords: community service, social change, social generativity, college students

Over decades, researchers have amassed a large body of evidence pointing to the effectiveness of community service in promoting college students' social, developmental, leadership, and academic outcomes. Scholars have documented the outcomes of community service participation among college students, including enhanced social responsibility, sense of belonging, efficacy, motivation, multicultural awareness, civic responsiveness, academic skills, socially responsible leadership capacities, awareness of social issues, social perspective taking, engagement in social action and social change, multicultural competence, a desire to continue service beyond college, and more (Astin & Sax, 1998; Astin, Sax, & Avalos, 1999; Astin, Vogelgesang, et al., 2000; Einfield & Collins, 2008; Giles & Eyler, 1994; Hunter & Brisbin, 2000; Markus et al., 1993; Mitchell, Rost-Banik, & Battistoni, 2019; Mitchell & Soria, 2016; Moely et al., 2002; Schamber & Mahoney, 2008; Soria & Johnson, 2017; Soria, Johnson, & Mitchell, 2016; Soria, Nobbe, & Fink, 2013; Soria & Thomas-Card, 2014; Soria, Troisi, & Stebleton, 2012; Soria & Weiner, 2013; Steinberg et al., 2011; Warren, 2012).

Yet, amid the existing and ever-expanding research about the developmental benefits of college students' engagement in community service, unexplored limitations and angles remain. Notably, quantitative research on the benefits of community engagement is limited due to smaller sample sizes, single site or single classroom environments, and lack of control groups. Furthermore, researchers investigating the benefits of community service participation have treated samples as homogeneous groups without exploring whether community service is equally beneficial for different students based upon their demographic characteristics (Soria, Hufnagle, et al., 2019). In one study, researchers explored the conditional effects of academic service-learning courses (although not community service) on students' outcomes. Soria et al. examined the effects of service-learning classes on students' sense of belonging conditional on students' social class (i.e.,

low income or poor, working class, middle class, upper class or professional middle-class, and wealthy). The authors found that service-learning has differential effects on students' sense of belonging conditional upon their social class. In particular, enrolling in a service-learning course had effects on students' sense of belonging only among students from low-income/poor and working-class backgrounds and not among middle/upper class students.

Additionally, Langhout and Gordon (2019) found that "underrepresented and misrepresented college students" in service-learning based their notions of success more in civic responsibility than in traditional academic outcomes. These students benefited most when service-learning experiences supported their aims to develop social and personal insights that built pathways toward increased civic responsibility. Although these studies provide some insights into the potential for differential effects of service-learning based upon students' demographics, by and large, researchers have yet to explore whether the effects of community service are potentially conditional on students' demographic characteristics, including characteristics such as gender, race/ethnicity, sexual orientation, parental education, and disability.

Although scholars and practitioners have lauded the benefits of participating in community service, structural barriers can place opportunities to participate in community service out of reach for many students. For instance, some first-generation students and those from lower income backgrounds often need to work a greater number of hours when enrolled, are more likely to live off campus, and often commute longer to campus (Soria, 2015; Soria, Weiner, & Lu, 2014). Students who have caretaking responsibilities or other significant responsibilities may also be limited in their ability to volunteer their time to organizations or external causes. Furthermore, students who are underrepresented or marginalized in higher education may encounter discrimination or harassment in community service sites, resulting in potential harm to students, a desire to disengage from community efforts, further marginalization, and limited developmental benefits (Battistoni, 1995; Chesler et al., 2006; Mitchell, schneider, & Soria, 2019).

Additionally, another persistent shortcoming in the existing research about students' involvement in community service is the potential presence of students' self-selection biases. In other words, the characteristics and prior experiences that compel students to volunteer their time in community service may contribute to systematic differences between those who volunteer in college and those who do not (Soria & VeLure Roholt, 2018; Soria & Werner, 2018; Soria, Hufnagle, et al., 2019; Soria, Werner, & Nath, 2019). Comparisons of students who do and do not engage in community service may therefore show effects that are attributable not to the experience of completing community service but to students' characteristics, experiences, efficacy, and beliefs. Such systematic differences may contribute to differences in students' outcomes, so researchers should account for those differences when determining the effects of experiences on outcomes (Austin, 2011).

Therefore, to address the limitations of prior research, we used quasi-experimental procedures known as propensity score matching techniques to construct a control group of students who were not involved in community service and a treatment group of students who were involved in community service. We matched students on their demographics, precollege leadership experiences, precollege volunteerism experiences, and additional collegiate experiences to reduce the potential bias found within students' self-selection into community service. We also examined whether the effects of community service participation were conditional on students' gender, race/ethnicity, sexual orientation, parental education, and disability.

The outcomes we explored in this study include students' engagement in social change and social generativity, defined as a desire to give back to society and leave a legacy for future generations (Morselli & Passini, 2015). Higher education leaders are increasingly called upon to develop students who are socially responsible, engaging in positive social change, and actively participating in our pluralistic democracy (Association of American Colleges & Universities & National Leadership Council, 2007; Boyte & Hollander, 1999; Hurtado, 2007; Mitchell & Soria, 2016, 2017; National Task Force on Civic Learning and Democratic Education, 2012; Soria & Mitchell, 2016). Given the significance of these outcomes in a continued quest for social justice, the measures of social change engagement and social

generativity explored in this study are important for a variety of stakeholders in higher education. Armed with knowledge of whether community service has effects upon students' social change engagement and social generativity—and whether those effects are uniform among students regardless of their gender, race/ethnicity, sexual orientation, parental education, and disability—practitioners can better understand the outcomes of service and make revisions to existing programs or service opportunities, if necessary.

Conceptual Framework

We employed Bandura's (1986) social cognitive theory and Astin's (1993) input-environment-output model as the conceptual frameworks for this study. Bandura conceptualized learning as a social process that occurs through observing, modeling, and imitating behaviors. Additionally, learning is multidimensional and contains elements of cognition, morality, and behavior. The prosocial behaviors measured in this study—students' engagement in social change and social generativity—can be influenced through cognitive, moral, and behavioral processes that occur as a result of participation in community service. From a cognitive perspective, college students who engage in community service may learn from others with whom they are completing service (e.g., community partners, volunteers, supervisors) and discover more about social problems and social injustices. As a consequence of that cognitive knowledge, students may also develop higher levels of moral reasoning development, reaffirming a sense of what is right and wrong, especially with regard to social consequences. Bolstered by cognitive and moral development, students may seek to emulate the prosocial behaviors they see in others and develop their own behaviors to positively contribute to social change and generativity through actions that demonstrate care and concern for others. Additionally, through their service, students may learn how to become more involved in an expanded variety of community efforts, develop a greater understanding of the roots of inequality and social problems, build the confidence or abilities to effectively address social problems, learn how they can best support their communities with their personal skills and abilities, and fortify their continued desire to ensure a better future for continuing generations.

Astin's (1993) theory of college student development also provided guidance on the selection of variables used in our analysis. Astin hypothesized that the background characteristics of college students (inputs) and relevant aspects of the college experience (environment) influence students' outcomes. We utilized Astin's theory in our analyses by taking students' inputs (e.g., demographics and precollege community service experiences) and collegiate experiences (e.g., academic major, leadership experiences) into account when considering the self-selection biases of students who engage in community service.

Methods

Instrument

We utilized data collected as part of the Multi-Institutional Study of Leadership (MSL), which was administered at 70 four-year colleges and universities in spring 2018. We received Institutional Review Board (IRB) approval to conduct this study of existing data. The MSL is an international research program that examines the influence of higher education on undergraduates' leadership development. The MSL survey measures several outcomes reflecting students' engagement in a variety of experiences, including their participation in community service while in high school and in college. Students also report additional precollege experiences and perceptions; demographic characteristics that are not commonly collected within colleges and universities; and academic, prosocial, and leadership outcomes. Researchers have tested the psychometric properties of the MSL instrument and discovered that common concerns related to self-reported data—social desirability, halo effect, and item format—are not problematic in the MSL survey (Dugan, 2015; Tyree, 1998). Additionally, researchers who examined the MSL survey for content, criterion, and construct validity made several changes to improve those psychometric properties, including reducing the number of items and removing two constructs from the socially responsible leadership scale (Dugan, 2015; Tyree, 1998).

Participants

In spring 2018, 70 institutions participated in the MSL, and each invited 4,000 randomly selected students to participate (although some institutions included additional oversampled groups of students

beyond 4,000 students). We used only the randomly selected students in our sample, and the response rates varied between 14% and 48% across the institutions. After matching procedures (described below), we narrowed our sample down to 27,962 students (50% who engaged in community service in an average month and 50% who did not). In Table 1, we present students' demographic information, and in Table 2 we report the institutional information for the final sample.

Measures

Independent Measure

In the survey, students responded to the question, "In an average month, do you engage in any community service?" which was scaled 0 = *no* and 1 = *yes*. In the original sample of 39,845, 41.8% of students (n = 16,641) had engaged in community service. We matched those who had completed community service with those who had not completed community service, and the final sample was also reduced due to survey item

Table 1. Demographic Information for Respondents

	N	%
Gender		
Man	9,176	32.8
Woman	18,489	66.1
Transgender or gender nonconforming	297	1.1
Age		
Under 24	25,660	91.8
Over 24	2,302	8.2
Race/Ethnicity		
African American/Black	1,432	5.1
American Indian/Alaska Native	109	0.4
Asian American	2,282	8.2
Latino/Hispanic	1,875	6.7
Middle Eastern/Northern African	265	0.9
Multiracial	3,230	11.6
Native Hawaiian/Pacific Islander	90	0.3
Race not listed	581	2.1
White/Caucasian	18,098	64.7
Citizenship		
Domestic	26,888	96.2
International student	1,074	3.8
Parental Education		
Continuing generation	18,702	66.9
First generation	9,260	33.1
Transfer Status		
Started here	22,919	82.0
Started elsewhere	5,043	18.0
Class Level		
Freshman	6,221	22.2
Sophomore	6,114	21.9

Table continued on next page

Table 1. Continued

	N	%
Junior	7,046	25.2
Senior+	8,581	30.7
Sexual Orientation*		
Asexual	1,467	5.2
Bisexual	1,927	6.9
Gay	528	1.9
Heterosexual	22,568	80.7
Lesbian	329	1.2
Pansexual	424	1.5
Queer	433	1.5
Questioning or unsure	612	2.2
Preferred response not listed	326	1.2
Estimated Grades (percentages ≠ 100% due to rounding)		
3.50–4.00	14,109	50.5
3.00–3.49	9,560	34.2
2.50–2.99	3,401	12.2
2.00–2.49	736	2.6
1.99 or less	134	0.5
No college GPA	22	0.1
Disability		
Has a disability	24,125	86.3
Does not have a disability	3,837	13.7

Note. * Students could select more than one option, so counts ≠ 100%.

nonresponse. In follow-up items, students reported information about the nature and duration of their community service experience. About 10% participated in at least one hour of community service in an average month as part of a class, 4% participated in at least one hour of community service as a part of a work–study experience, 30% participated in at least one hour of community service with a campus student organization, 15% participated in at least one hour of community service as a part of a community organization unaffiliated with school, and 20% participated in at least one hour of community service on their own.

Covariate Measures

We utilized several measures as covariates in propensity score matching that we believed to be theoretically or practically related to students' community service participation (Austin, 2011). The demographic measures we selected included gender, age, race/ethnicity, citizenship, first-generation status (i.e., parents do not have a bachelor's degree or higher), transfer status, sexual orientation, estimated grades, and disability (Cruce & Moore, 2007; Lester et al., 2013; Marks & Jones, 2004; Mitchell, schneider, & Soria, 2019; Schulzetenberg et al., 2020; Soria, Hufnagle, et al., 2019; Soria, Werner, & Nath, 2019). We also matched students on their academic major, whether they were employed on or off campus (yes/no), whether they performed community service or participated in leadership in high school (frequency, 0 = *never* to 3 = *very often*), and whether they were members or leaders of college organizations (yes/no; Astin & Sax, 1998; Cruce & Moore, 2007; Marks & Jones, 2004; Mitchell, schneider, & Soria, 2019; Schulzetenberg et al., 2020; Serow & Dreyden, 1990; Soria, Hufnagle, et al., 2019; Soria, Werner, & Nath, 2019). We also

Table 2. Institutional Information for Sample

	n	%
Carnegie Classification		
Baccalaureate	2,749	9.8
Master's colleges and universities: Small and medium programs	3,205	11.5
Master's colleges and universities: Larger programs	7,161	25.6
Doctoral universities: Moderate research activity	1,146	4.1
Doctoral universities: Higher research activity	5,368	19.2
Doctoral universities: Highest research activity	8,333	29.8
Institutional Size		
1,000 to 4,999	5,126	18.3
5,000 to 9,999	6,886	24.6
10,000 to 19,999	6,449	23.1
20,000+	9,501	34.0
Control		
Public	14,629	52.3
Private	13,333	47.7
Institutional Setting*		
Town or rural	3,827	13.7
Suburb	6,533	23.4
Small city	4,321	15.5
Midsize city	5,849	20.9
Large city	7,432	26.6

Note. * Percentages ≠ 100% due to rounding.

included institutional measures such as Carnegie Classification, size, control, and setting (Cruce & Moore, 2007).

Dependent Measures

Our dependent measures included students' engagement in social change and social generativity. We measured students' engagement in social change by asking them how frequently they participated in nine different social change activities (e.g., involved with an organization that addresses a social or environmental problem, communicated with campus or community leaders about a pressing concern, acted to raise awareness about a campus/community/global problem, took part in a protest/rally/march/demonstration). Those items were scaled 0 = *never* to 3 = *often*. The internal consistency of the items was excellent (α = .91).

We measured students' social generativity by asking them six items from Morselli and Passini's (2015) Social Generativity Scale. Students rated their agreement (scaled 1 = *strongly disagree* to 7 = *strongly agree*) on items such as "I carry out activities in order to ensure a better world for future generations," "I think that I am responsible for ensuring a state of well-being for future generations," and "I commit myself to do things that will survive even after I die." The internal consistency of the items was excellent (α = .93).

Data Analyses

We utilized propensity score matching techniques in SPSS 24.0 (Thoemmes, 2012) to match students in the treatment condition (engaging in community service) with those in the control condition (not engaging in

community service), using the aforementioned covariates. We began by using binary logistic regression to compute the propensity scores (the estimated probability that students lived on campus) for individual students. Next, we used 1:1 nearest neighbor matching, meaning that each student who engaged in community service was matched to a student who did not engage in community service who had the most similar estimated propensity score (Austin, 2011). We matched without replacement and discarded all the units that fell outside the area of common support to avoid extrapolation to units that were so dissimilar that no comparisons could be made to other units (Thoemmes, 2012). We also imposed a caliper of .20 of the standard deviation of the logit of the propensity score to avoid inadequate matches (Austin, 2011).

Next, we utilized a factor analysis on the survey items to reveal latent variables that explain correlations between the variables (or dimensions). Traditional methods of exploratory factor analysis may overestimate or underestimate the true number of factors (Basto & Pereira, 2012). We therefore utilized Velicer's (1976) minimum average partial (MAP) method, parallel analysis (Velicer et al., 2000), and Raîche et al.'s (2006) optimal coordinate (OC) method to estimate the factors (Courtney, 2013). We used the procedures outlined by Courtney to analyze the data using SPSS R-Menu v2.0 (Basto & Pereira, 2012). Velicer's MAP values suggested a two-step minimum squared average partial correlation, and parallel analysis also suggested two factors should be retained. Against a plot of eigenvalues, the OC procedures estimated two factors should be retained. The goodness of fit statistics suggested the factorial model had good fit (GFI = .967, RMSR = .073), so we retained the following factors: engagement in social change (α = .91) and social generativity (α = .93). We computed the factor scores using the regression method and standardized the scores with a mean of zero and a standard deviation of one.

Students in this sample are enrolled in different institutions; therefore, we computed the intraclass correlation coefficients, an estimate of the proportion of between-institution variance compared to within-institution variance, and discovered the coefficients were less than .001, suggesting greater independence of observations in the different groups of institutions. Scholars utilizing the MSL survey in prior studies have similarly discovered nominal between-institution differences in their results (Dugan et al., 2013), suggesting that hierarchical linear modeling analyses are not necessary for the present project.

Next, we paneled the results by gender, race/ethnicity, sexual orientation, parental education, and disability, which means that we ran separate linear regressions for each of the groups within those major demographic categories. Finally, we analyzed the data using ordinary least squares regression. We examined the relationship between our independent variable (engaging in community service) and our dependent variables (engagement in social change and social generativity).

Results

After conducting the propensity score matching analysis, we examined whether the matching procedures balanced the distribution of variables in both the treatment and control groups by first reviewing the standardized mean differences (the mean differences between the two groups divided by the standard deviation of the control group) in the groups before and after matching. We met the threshold suggested by Rosenbaum and Rubin (1985) because we detected no large imbalances above .25 after matching. Next, we examined the overall imbalance test (Hansen & Bowers, 2008) and found that no variables were significantly unbalanced (over .25) after matching. Additionally, the measure developed by Iacus et al. (2009) was smaller in the matched sample than in the unmatched sample.

We inspected the histograms of propensity scores pre- and postmatching and observed that the magnitude of standardized differences was reduced. Furthermore, the histograms of standardized differences of all terms pre- and postmatching suggested that the standardized differences postmatching were centered on zero and that no systematic differences existed after matching (Thoemmes, 2012). Therefore, although the covariates within the treatment and control groups differed significantly before matching procedures were implemented, we effectively decreased bias by making the observed and treatment groups similar with regard to the covariates we used in our analysis.

After creating matched pairs of students,

we examined the potential impacts of community service on students' engagement in social change and social generativity conditional on gender, race/ethnicity, sexual orientation, parental education, and disability. The results for engagement in social change are shown in Table 3. The results suggest that the effects of community engagement on students' engagement in social change are significant and positive ($p < .001$) across all genders, parental education, and disability. Regardless of students' gender, parental education, or disability, students who participated in community engagement had significantly higher engagement in social change compared to their peers who did not participate in community service.

However, there were not uniform effects of community service on students of different racial/ethnic backgrounds and sexual orientations. Specifically, compared to their peers, American Indian or Alaska Native students who participated in community service did not have a significantly different level of engagement in social change compared to American Indian or Alaska Native students who did not participate in community ser-

Table 3. Regression Results for Engagement in Social Change

	B	*SE*	β	*p*	R^2
Gender					
Man	.462	.020	.234	.000	.055
Woman	.423	.015	.211	.000	.045
Transgender or gender nonconforming	.439	.125	.202	.001	.041
Race/Ethnicity					
African American/Black	.542	.056	.254	.000	.065
American Indian/Alaska Native	.279	.183	.148	.131	.022
Asian American	.470	.042	.233	.000	.054
Latino/Hispanic	.518	.049	.243	.000	.059
Middle Eastern/Northern African	.391	.138	.175	.005	.031
Multiracial	.412	.036	.201	.000	.040
Native Hawaiian/Pacific Islander	.833	.205	.406	.000	.164
Race not listed	.326	.084	.163	.000	.026
White/Caucasian	.421	.014	.216	.000	.047
Parental Education					
Continuing generation	.426	.014	.215	.000	.046
First generation	.455	.021	.223	.000	.050
Sexual Orientation					
Asexual	.316	.052	.158	.000	.025
Bisexual	.426	.046	.208	.000	.043
Gay	.488	.091	.231	.000	.053
Heterosexual	.388	.029	.186	.000	.035
Lesbian	.585	.113	.279	.000	.078
Pansexual	.304	.099	.149	.002	.022
Queer	.479	.093	.244	.000	.059
Questioning or unsure	.521	.081	.255	.000	.065
Preferred response not listed	.203	.117	.099	.083	.010
Disability Status					
Has a disability	.437	.013	.220	.000	.049
Does not have a disability	.431	.033	.206	.000	.043

vice (β = .148, p = .131). Among the rest of the racial and ethnic groups, however, students who participated in community service had significantly higher engagement in social change compared to their peers who did not participate in community service.

Additionally, students who noted that their preferred sexual orientation response was not listed and who participated in community service did not have a significantly different level of engagement in social change compared to their peers who did not participate in community service (β = .099, p = .083). Among the rest of the sexual orientation groups, however, students who participated in community service had significantly higher engagement in social change compared to their peers who did not participate in community service.

The results for social generativity are shown in Table 4. The results suggest that the effects of community engagement are significant and positive (p < .001) across parental education and disability. Regardless of students' parental education or disability, students who participated in community engagement had significantly higher social generativity compared to a matched group of peers who did not participate in community service.

The results were not uniform across all genders; specifically, transgender or gender nonconforming students who participated in community service did not have a significantly different level of social generativity compared to transgender or gender nonconforming students who did not participate in community service (β = .047, p = .427). Among the rest of the gender groups, however, students who participated in community service had significantly higher social generativity compared to their peers who did not participate in community service.

American Indian or Alaska Native students who participated in community service did not have a significantly different level of social generativity compared to American Indian or Alaska Native students who did not participate in community service (β = .075, p = .072). The same is true for Middle Eastern or Northern African students and Native Hawaiian or Pacific Islander students: There were no differences in students' social generativity based upon whether they participated in community service (β = .073, p = .245 and β = .034, p = .759, respectively). Across the rest of the racial/ethnic groups, however, students who participated in community service had significantly higher social generativity compared to their peers who did not participate in community service.

Similarly, asexual and pansexual students who participated in community service had no significant differences in their levels of social generativity compared to their matched peers who did not participate in community service (β = .048, p = .074 and β = .082, p = .096, respectively). Among the rest of the sexual orientation groups, however, students who participated in community service had significantly higher social generativity compared to their peers who did not participate in community service.

Discussion, Limitations, and Directions for Future Research

The results suggest that the effects of community service on students' engagement in social change are significant and positive regardless of gender, parental education, and disability; however, the effects are not uniform across race/ethnicity or sexual orientation. Particularly, American Indian or Alaska Native students and students who did not have a preferred gender available to select who participated in community service did not have a significantly different level of engagement in social change compared to their matched peers who did not engage in community service.

Similarly, the effects of community engagement on social generativity are significant and positive across parental education and disability, but not uniform across gender, race/ethnicity, and sexual orientation. With the social generativity variable, we saw more disparities among the different groups of students than were observed for the engagement in social change variable. Specifically, transgender or gender nonconforming, American Indian or Alaska Native, Middle Eastern or Northern African, Native Hawaiian or Pacific Islander, asexual, and pansexual students who participated in community service did not have a significantly different level of social generativity compared to their matched peers who did not engage in community service.

Although we observed that community service does not have equal outcomes for all students, a limitation of the present study is information about why we may have arrived at these results. For instance, we do

Table 4. Regression Results for Social Generativity

	B	*SE*	β	*p*	R^2
Gender					
Man	.268	.022	.128	.000	.016
Woman	.266	.014	.136	.000	.019
Transgender or gender nonconforming	.111	.140	.047	.427	.002
Race/Ethnicity					
African American/Black	.426	.057	.115	.000	.013
American Indian/Alaska Native	.340	.187	.175	.072	.031
Asian American	.247	.043	.122	.000	.015
Latino/Hispanic	.258	.047	.127	.000	.016
Middle Eastern/Northern African	.160	.138	.073	.245	.005
Multiracial	.313	.036	.155	.000	.024
Native Hawaiian/Pacific Islander	.062	.202	.034	.759	.001
Race not listed	.255	.089	.121	.004	.015
White/Caucasian	.261	.015	.132	.000	.018
Parental Education					
Continuing generation	.266	.014	.135	.000	.018
First generation	.265	.021	.129	.000	.017
Sexual Orientation					
Asexual	.102	.057	048	.074	.002
Bisexual	.338	.046	.167	.000	.028
Gay	.389	.091	.185	.000	.034
Heterosexual	.269	.013	.135	.000	.018
Lesbian	.335	.114	.163	.004	.026
Pansexual	.173	.104	.082	.096	.007
Queer	.295	.096	.148	.002	.022
Questioning or unsure	.233	.085	.112	.006	.012
Preferred response not listed	.253	.126	.113	.046	.013
Disability Status					
Has a disability	.269	.013	.136	.000	.018
Does not have a disability	.242	.034	.116	.000	.013

not know why transgender or gender nonconforming students, American Indian or Alaska Native students, Middle Eastern or Northern African students, Native Hawaiian or Pacific Islander students, asexual students, pansexual students, and students without a preferred gender option do not have higher prosocial outcomes when they engage in community service. As alluded to previously, students from underrepresented and marginalized backgrounds may encounter further marginalization in community service (Battistoni, 1995; Chesler et al., 2006; Mitchell, schneider, & Soria, 2019). For instance, students with marginalized gender and/or sexual identities have encountered experiences in community service where they were tokenized, disempowered, and silenced and where they felt their identity was erased (Mitchell, schneider, & Soria, 2019). In such spaces where students are not free to be themselves and celebrate or affirm their identity, students may not develop a desire to continue to engage in other efforts related to social change.

Furthermore, we do not know the in-depth nature of students' community service experiences. Traditional forms of service may feature acts of "serving for" rather than "serving with," and thus miss opportunities to teach students about systemic and institutionalized oppression, reflect upon the historical roots of social inequalities, and work to redistribute power (Mitchell, 2008). Researchers have suggested that intention in how community engagement experiences are designed and implemented may also inform students' prolonged efforts toward meaningful citizenship (Langhout & Gordon, 2019; Mitchell, Rost-Banik, & Battistoni, 2019). This limitation presents opportunities for future research; for instance, qualitative studies may reveal more insights into the results of this study and further unpack the potential barriers to students' growth and development in community service.

Across both of the models, participating in community service appears to explain a greater proportion of variance in students' engagement in social change than in students' social generativity. Students who engage in community service seem more likely to benefit from additional engagement in social change, such as through taking action to improve communities, campus, or the environment; work with others to address social problems; and take part in protests, marches, or demonstrations. The collegiate environment itself may inspire students' continued social engagement outside their community service participation; for instance, 4-year colleges and universities typically have multiple opportunities for students to work with others in student clubs or organizations, governmental associations, or affinity groups, making it easier for students to get involved in social change efforts given the access to others interested in similar pursuits (Williams et al., 2016). Morselli and Passini (2015) acknowledged that there might be "a more complex path" toward the development of social generativity (p. 180), and the present study also alludes to such a path. The challenge, it appears, may not be in activating students' engagement in social change, but in inspiring their long-term interest in making the world a better place for future generations. Efforts to create strong relational ties to community members and to build understanding of the social concerns impacting communities where students serve may further engender social generativity.

There are a few additional limitations to the present study that are important to address. For instance, our sample was derived from primarily 4-year institutions, thus limiting the generalizability of the findings to different types of institutions, such as community colleges. We encourage researchers to replicate these methods at community colleges or other types of institutions to examine whether the effects of community service are similar. Furthermore, researchers could expand the analyses by adding covariates not measured in the present study.

Community service explained only a nominal amount of variance in students' engagement in social change and social generativity, meaning that our limited model lacks many additional variables associated with those outcomes. Consequently, we recommend that researchers investigate whether other programs or services on campus may be more impactful in inspiring students' engagement in social change and social generativity.

Furthermore, propensity score matching techniques present additional limitations; for instance, the selection of covariates in the logistic regression is subjective and the misspecification of the logistic model is common (King & Nielsen, 2016). Propensity score matching also reduces the participant sample size for the outcome analysis, sometimes introducing potential bias in the

final models (Peikes et al., 2008). Finally, although we implemented propensity score matching to address self-selection bias in participating in community service, the generalizations derived from self-selection in response to a survey must also be factored into cautious interpretations of the results.

Conclusion

Although researchers have documented the attendant developmental benefits from participation in community service, scholars have not examined whether those benefits are universal among students with different gender, race/ethnicity, sexual orientation, parental education, and disability identities. The results of our study of college students enrolled at 70 four-year colleges and universities suggest that the effects of community service on students' engagement in social change are significant and positive regardless of gender, parental education, and disability; however, the effects are not uniform across race/ethnicity or sexual orientation. Similarly, the results of our study suggest that the effects of community engagement on social generativity are significant and positive across parental education and disability, but not uniform across gender, race/ethnicity, and sexual orientation. We encourage researchers to continue to investigate the ways in which community service may not be universally impactful for underrepresented and marginalized students. We further encourage practitioners to design community engagement experiences that promote engagement in social change and social generativity through relational, community-centered approaches that include opportunities for prolonged engagement and inspire commitment to leading change to ensure a better world.

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Developing the SLQAT (Service-Learning Quality Assessment Tool), a Quantitative Instrument to Evaluate Elements Impacting Student Outcomes in Academic Service-Learning Courses

Paul H. Matthews, Isabel Lopez, Laurel E. Hirt, Shannon O. Brooks, and Andrew Furco

Abstract

Given the diversity of settings and courses representing academic service-learning practice, a standardized, quantitative instrument to rate the quality level of course design and implementation is needed to optimize educational outcomes for participating students. This article describes a 5-year, multi-institutional process developing the *Service-Learning Quality Assessment Tool (SLQAT)*, a quantitative diagnostic composed of 28 "essential elements" known to promote positive student outcomes in postsecondary service-learning. We discuss the selection and operational definitions for these elements, the assumptions and decisions behind the development of the instrument, the use of expert feedback to develop baseline weights representing the relative importance of each element's contribution, the creation of rating levels representing element quality, and the development of protocols for the instrument's scoring and uses. We also reflect upon the challenges of attempting to create a broadly applicable instrument and share plans for additional piloting as well as recommendations for research and practice.

Keywords: service-learning quality, quantitative instrument development, student learning outcomes, service-learning assessment, course quality rubric

Academic service-learning—a pedagogy in which students' course knowledge is applied and shaped through collaboration with and service to community partners—is intentionally not a one-size-fits-all proposition; "indeed, no two service-learning activities are alike" (Furco, 2003, p. 13). Service-learning experiences are molded by the particular academic and community contexts in which they operate, and, in turn, are designed for particular outcomes and purposes across different stakeholders (Langhout et al., 2023; this issue). For example, even when focusing only on research investigating students, service-learning has consistently been found to achieve a broad range of positive outcomes, such as improved academic achievement (e.g., Kuh, 2008; Warren, 2012), enhanced personal and social development (e.g., Brandenburger, 2013), increased civic responsibility (e.g., Conway et al., 2009; Yorio & Ye, 2012), retention and persistence toward graduation (e.g., Bringle et al., 2010; Lockeman & Pelco, 2013; Mungo, 2017; Provencher & Kassel, 2017; Song et al., 2017), and even postgraduation employment benefits (e.g., Matthews et al., 2015), to name only a few.

We also know that for achieving these positive student outcomes, course quality matters (Billig, 2009; Billig et al., 2005; Eyler & Giles, 1999; Kuh, 2008; Mabry, 1998). Indeed, research studies have identified a number of key practices as fundamental to the integrity and quality of service-learning courses, both in K-12 and higher education settings. Although an exhaustive review of the literature on service-learning best practices is beyond the scope of this article,

dozens of different elements have been identified, summarized, or hypothesized by past scholarship as having impact on student outcomes (e.g., Botelho et al., 2020; Eyler & Giles, 1999; Heffernan, 2001; Jacoby, 2015; Steinke et al., 2002; Waterman, 2003). Additionally, service-learning courses that implement more of these practices identified as essential elements are more likely to result in positive outcomes for students (Celio et al., 2011).

However, "[i]t is simplistic to believe that following general principles of good practices in service-learning will affect all outcomes equally" (Steinke et al., 2002, p. 77). In addition, these practices are not incorporated across service-learning courses to the same degree (if at all). From course to course, service-learning practice can vary across a range of variables, representing differences in course design, partnerships, student experience, and instructor and institutional characteristics (Bringle et al., 2013; Furco, 2003; Heffernan, 2001; Roldan et al., 2004; Waterman, 2003). Even a cursory consideration of logistical possibilities—for instance, the amount of service provided, the service type (direct, indirect, nondirect), the degree to which service activities are integrated with the academic curriculum, students' preparation for service activities, and frequency and type of reflection—suggests many ways that courses vary. Experienced instructors also recognize that even for the "same" course, the specific implementation of the pedagogy is mutable from one semester to the next and among individual students' experiences. As an example, the engagement of students in reflection and analysis about the academic learning and societal impact of their work is considered an essential, undisputed best practice of service-learning (e.g., Eyler & Giles, 1999; Hatcher et al., 2004; Jacoby, 2015). Yet, even in our own intrainstitutional and cross-institutional analyses, we have found tremendous variation in what such reflection looks like. At the University of Georgia, for instance, among courses designated as service-learning, students report taking part in reflection between 0 and 20 times per semester (mean reported for fall semester 2019 was 8.4 instances), through as many as 10 different types (mean, 3.5) of reflective activities in their course. Similar variations in practice are found among service-learning courses at the University of Minnesota.

Critically, our field lacks quantitative instruments with which to capture differences or track the presence of key practices, much less the nuances of implementation quality (e.g., Bailis & Melchior, 2003; Botelho et al., 2020; Shumer, 2003). The diversity of service-learning practice poses challenges and limitations to conducting studies of service-learning with fidelity (Furco, 2003), especially for larger scale, institutional, and multisite research (Bailis & Melchoir, 2003). Most such studies, including ones conducted by members of our research team, end up simply having to categorize courses in a binary, as "service-learning" or "not service-learning" (e.g., Matthews et al., 2015; Song et al., 2017; Wilder et al., 2013), which runs the risk of oversimplification, obscuring important details and practices within the "service-learning" category.

Consistent, quantitative measurement of the presence and quality of best practices would better allow for statistical comparisons and more nuanced analyses across service-learning experiences, courses, and programs. Although some consensus exists on what these quality components of service-learning are, there is no standardized, quantitative instrument available that allows practitioners or scholars to assess the extent to which a course incorporates these key elements of high quality practice. Existing instruments are primarily qualitative, and/or are focused on only a few key components or particular disciplines. For instance, Shumer (2003) reported on a 3-year project to develop a self-assessment instrument for service-learning practitioners in K-12 settings (*The Quintessential Elements of Service-Learning*), with 23 statements in five domains; however, this instrument was designed primarily for program improvement, allowing for self rating of each only as "weak," "needs work," or "strong." Jenkins and Sheehey (2011) developed a staged "checklist for planning, implementing, and evaluating service-learning" (p. 54); their instrument is intended for course design, and does not include ratings. Similarly, Welch's (2010) O.P.E.R.A. model provides a planning framework with five key practices, but is not suitable for research. IUPUI's "taxonomy for service learning courses" (Hahn et al., 2016) details six important aspects of service-learning course design, each with three levels of implementation, but does not purport to address all quality elements, nor does it provide any sense of relative im-

portance of these components. Kieran and Haack (2018) developed a rubric "to evaluate course syllabi for quality and evidence-based indicators of [service-learning] components as found in the literature" (p. 42). Their PRELOAD rubric includes dimensions of partnership, reflection, engagement, logistics, objectives, assessment, and definition of service-learning as of importance, with scoring possibilities of "excellent," "satisfactory," and "developing"; however, this rubric is still oriented toward syllabus design, rather than actual implementation. Stokamer (2018) led a group at her university to develop a set of 10 Principles of Quality Academic Civic Engagement (PQACE) based in "the S-LCE literature, best practices, and personal experience" (p. 224) and geared toward their specific university context. Botelho et al. (2020) used student and faculty surveys and syllabi to determine a set of eight components of service-learning quality in STEM courses across the California State University system. These included both composite measures ("reflections," "values focus," "collaboration with community," "addressing community need," "linked to academic content," and "communication with community") and single-item components ("service-learning preparation" and "linked to learning objectives"), each of which could be rated on a scale of 1 to 4 (or 5) based on review of STEM syllabi and postparticipation student surveys.

In this article, we describe a 5-year, multi-institutional initiative intended to address the challenge and need for a standardized, quantitative, and scorable rating instrument focused on service-learning implementation and design. Below, we describe the iterative and cyclically reflective process (e.g., Kolb, 1984) of conceptualizing, developing, piloting, redesigning, weighting, and offering an instrument to the service-learning community, in order to allow researchers to evaluate more consistently the impacts of different essential elements of service-learning on student outcomes. We also reflect upon some of the challenges and decision points in the process, potential uses (and misuses) of such an instrument, and next steps for both our research team and the field.

Developing a Standardized Rating Instrument to Measure Service-Learning Quality

Purpose and Assumptions

The instrument—the *Service-Learning Quality Assessment Tool (SLQAT)*—was designed to address the need for a quantitative, comprehensive tool that allows for consistent and differentiated ratings of multiple key aspects associated with high quality design and implementation of service-learning courses in higher education, specifically oriented to student academic learning outcomes. The original impetus for its design lay in the larger, federally funded research program examining the impact of various community engagement practices on underrepresented undergraduates' educational success. In investigating service-learning course impact on student learning and educational success, members of the research team were interested in controlling and accounting for the quality of students' service-learning experience. Specifically, they sought to find a means to establish for each service-learning course a quantitative score that indicated the level of quality, based on the course's inclusion of service-learning best practices.

Although the SLQAT was born out of a study focused on outcomes for underrepresented students, the researchers conceptualized and developed the SLQAT as a more generally applicable research tool appropriate for all types of service-learning courses and all student populations. In addition, as is discussed further below, this measurement tool has broad utility beyond conducting research. For example, it can be used as a guide to conduct institutional reviews or approvals of service-learning courses. Faculty members can also use the tool when developing their own courses to ensure the inclusion of the essential elements of service-learning. Administrators can use the instrument as part of institution-wide self studies designed to identify the strengths and weaknesses of their institutions' service-learning and community engagement efforts.

Several assumptions guided the process and development of the instrument, resulting in choices of both what elements to include or exclude and how to orient, structure, and use the SLQAT. These assumptions and choices related primarily to three areas: definition of the service-learning context/

setting, selection of essential elements, and identification of data sources for scoring.

Service-Learning Context for Application

Regarding the context of the instrument, the SLQAT is based on best practices that pertain to service-learning in postsecondary (i.e., college/university) course settings. Following Bringle and Hatcher's (1995) characterization of service-learning as "course-based, credit bearing," the instrument is also designed strictly for evaluating *curricular* service-learning, not cocurricular experiences. In addition, service-learning is assumed to be a required (rather than optional) component of the course. Although other stakeholder outcomes (e.g., impact on the community) are key considerations for service-learning, this tool is focused tightly on *student learning outcomes* and the practice elements that influence them. Finally, the instrument aspires to be *universal*—relevant to and usable in all types of service-learning courses, regardless of discipline, length of engagement, service activity type (direct, nondirect, or indirect service), institutional type, location, or other contextual variables (Furco, 2003).

Selection of Essential Elements

Several key principles guided choices by the research team on what to include as "essential elements" (Billig et al., 2005; Botelho et al., 2020) in the SLQAT. First, in line with the above, individual elements should be broadly (or even universally) *applicable* across the range of disciplines, settings, and levels represented in service-learning coursework. Second, each element is assumed to be *essential*, in that research and/or practice suggest that it contributes tangibly and independently to the overall quality of service-learning student outcomes. Thus, any course that does not include all these elements is hypothesized to be less effective at bringing about positive student outcomes, in the same way that excluding key ingredients in a recipe will not result in as satisfactory a culinary outcome.

However, not all elements are assumed to contribute equally to service-learning quality (Steinke et al., 2002); for instance, in the previous analogy, the impact of leaving meat out of a pot roast recipe is likely more impactful than omitting celery. In the SLQAT, this is represented through differing base score values or weights that represent each element's level of hypothesized importance, as described later. In addition, elements should be able to be *substantiated*; each element should be clearly defined so that its absence, presence, and level of implementation can be consistently and definitively ascertained during rating. Finally, we acknowledge that a host of other factors likely also influence the quality of service-learning courses and implementation (e.g., faculty teaching experience, size of the course, length of term, students' prior experience with service-learning, access to transportation, community and institutional characteristics, etc.). However, as such factors typically cannot be adjusted at the course level or are out of the instructor's control, selection of elements for the SLQAT was oriented toward those that are *responsive* to the instructor's influence.

Scoring Assumptions

Other assumptions relate to the use and scoring of the SLQAT (further described later). For instance, scoring is based on a particular *instantiation* of a course (i.e., a product of a given semester and instructor, rather than a generic "master syllabus"), and the course is assumed to have been taught prior to scoring. Additionally, information contained in the data sources analyzed (such as the syllabus) is assumed to *represent actual practice* in the delivery of the course, and thus to be valid for determining the presence or absence of each element. Finally, in terms of *construct validity*, higher scores on the SLQAT are assumed to represent a higher quality of service-learning course implementation, which in turn is assumed to produce more positive outcomes for students.

Initial Conceptualization of the SLQAT

Instrument development was an iterative process from 2016 to 2021, engaging multiple stakeholders. The primary research team consisted of administrative faculty, staff, and graduate students at both the University of Georgia and the University of Minnesota. Key members of the team have decades of experience in service-learning administration, research, and teaching. The team met approximately monthly, typically virtually, over a 5-year period, with frequent emails and shared online documents and drafts, as well as periodic in-person work sessions. Team members also shared drafts and consulted with other researchers and practitioners in the service-learning/community engagement field at conferences and directly, throughout the process.

The initial instrument development began by brainstorming an intentionally large list of potential best practices for service-learning, based on the research team members' understanding of research and practice, resulting in nearly 50 potential elements for consideration. These potential elements were discussed and consolidated, following the principles and assumptions guiding the project as outlined above. Each potential essential element was given a short title and a short description, then elements were grouped (and regrouped) thematically into a subset of categories or "dimensions" and numbered for ease of reference. See Appendix for a full list of element titles and short descriptions. A full version of the tool (Furco et al., 2023) is published in this special issue. Early versions considered as many as 38 prospective essential elements, representing different dimensions (learning, service, student, faculty, community, structural, program improvement, institutional policies, etc.).

Weighting Essential Elements

Next, an initial weighting by a subset of the research team was performed for 36 initial elements, with ratings assigned as 1 (*slightly important*), 2 (*somewhat important*), or 3 (*very important*) to student learning outcomes. These individual ratings were compared and discussed, with sustained, deep discussion on wording, relevance, and importance. Means and standard deviations across the individual ratings were reviewed, and any element scored with more than a 0.5 standard deviation in mean (i.e., not rated the same by two or more of the five raters) was discussed or modified to achieve consensus. The revised mean rating served as an initial quantitative representation of the relative importance of that element, but more importantly, the process provided a continuous review of the clarity (conceptual as well as descriptive) of the instrument's elements and of the assumptions guiding its development.

During the next year, the essential elements were winnowed down as the process of piloting with real courses began. The intent of this pilot process was to ensure elements were clearly defined and operationalized, applicable to different types of service-learning, and sufficiently distinct from each other. Thus, some elements that were initially posited to impact student learning were removed when they were deemed difficult to substantiate based on the review of submitted course materials. Other elements were removed or reworked based on the realization that there would likely not be any course-to-course variability within the same institution (e.g., "institutional climate for service-learning") or as insufficiently focused on service-learning (e.g., "syllabus goals, expectations, requirements and assessment criteria clearly stated").

A second round of element weighting was performed in late 2016 with a revised set of 30 elements and weights. Seven raters from the research team scored each element, with subsequent in-depth group discussion on each element. Any elements with a standard deviation exceeding 0.5 were extensively discussed, and outlier ratings were voluntarily modified to fall within this parameter. Next, the mean scores of the finalized seven ratings were tallied to create an initial "base score" (ranging from 1.29 to 3.0). At the 2016 meeting of the International Association for Research on Service-Learning and Community Engagement (IARSLCE), the instrument was presented and session participants were invited to submit their own individual ratings for each element via a Qualtrics survey on the same scale (0.5 to 3.0). Comparing the IARSLCE attendees' means for each element with the research team's initial means showed that 23 of these 30 elements were rated with less than 0.5 difference (i.e., one scalar point) in either direction, suggesting that element score ratings could be "crowdsourced" with results similar to the more extensively deliberated ratings assigned by the research team. IARSLCE raters also were invited to share feedback on the instrument and the elements, which were reviewed and discussed by the research team, leading to additional modifications.

Additional Piloting and Feedback

The revised set of 30 elements was next piloted more broadly by the research team in spring 2017 with a purposive convenience sample of four courses (two from the University of Georgia and two from the University of Minnesota). For this round of the instrument's development, a series of quality level statements was created in order to operationalize or describe "baseline" level implementation, as well as "below baseline" and "above baseline" levels; these latter categories furthermore had two possible levels of quality within each descriptor, allowing five possible rating levels. The research team's mean scores for each element

were used as the baseline value of each element, then converted into five categories of weights: 20% below baseline, 10% below baseline, baseline, 10% above baseline, or 20% above baseline (see Figure 1). The service-learning courses for this scoring were all established courses at the two universities, each at the 3000 level, and were intended to provide diversity in discipline, quality, and service type (two direct service, two indirect service), to assess how well the instrument could be used in differing course settings. They included a small-group communication studies course in which students collaborated with nonprofits on a range of projects, then reflected on how they applied group work strategies, communication, and leadership; an online adolescent development course in which students provided peer mentoring for adolescents around the world through an online collaboration; a technical/professional writing course in which students developed written project deliverables for a set of community partner organizations; and an education course engaging preservice teachers in working with youth in educational settings and blogging about their experiences.

As part of this pilot and the challenges that emerged while scoring these courses, our team recognized that additional information beyond just the syllabus would likely be needed to definitively score the presence or absence of all elements. Discussion and reflection around points of disagreement or divergent interpretation of elements led to additional edits in the language, organization, and wording of elements over the next several months, and two more elements were removed or consolidated (e.g., "connection to broader socially relevant issues" was merged with "societal issues learning"). In late 2017, another round of pilot scoring using 28 elements was conducted (with the same technical writing course), resulting in further refinement of the language describing and naming the elements.

In order to engage and obtain feedback from the broader scholarly community, additional workshops and presentations of the instrument were made at numerous national and international venues from 2016 to 2019, including IARSLCE, the Engagement Scholarship Consortium, the Gulf-South Summit on Service-Learning and Civic Engagement Through Higher Education, Campus Compact conferences, and international research gatherings. At each venue, we solicited participant feedback related to the instrument and rating process, and promoted the opportunity to participate in future pilots.

Methodology for Restructuring Baseline Weights of Elements

In 2019, the research team reevaluated the prior baseline weighting of elements. We wished to address concerns that subsequent editing of the instrument had potentially shifted the element descriptions since the initial weighting, as well as addressing concerns and feedback about the meaningfulness of differentiating weights to the second

Figure 1. Sample Essential Element With Quality Statements, Implementation Levels, and Weighting

Short Description	*Element #1: Articulation of Service-Learning in Syllabus*				
	Service-learning is articulated and integrated in the course design and syllabus				
Quality Statements	Is there evidence in the syllabus of a service-learning experience within the course design and/or the course expectations?	Element is absent based on existing evidence.	While the SYLLABUS or ancillary documents mention a service-learning experience, this is underdeveloped, unclear, not relevant, or not integrated into the rest of the course.	The SYLLABUS articulates and describes a relevant service-learning experience as part of the course.	The SYLLABUS clearly explains the scope, relevance, and purpose of the service-learning experience, and how it is integrated into the course, with appropriate details.
	Implementation Level:	Absent	Below Baseline	Baseline	Above Baseline
	Weighted Element Score:	0	5.6	7.5	9.4
	Evidence/Notes:				

Note. See Appendix for full list of elements and short descriptions.

decimal place, which suggested a level of precision beyond our actual methodology. The range of possible scores, the appropriate level of precision, and the overall size of the weights were extensively discussed. Discussion included issues such as the merits of a 3-point, 5-point, or other scale; the likelihood that a score such as 2.13 was or was not meaningfully different from a score such as 2.33; and the impact of higher versus lower possible weights on overall scoring when some elements are scored absent, to name a few.

Ultimately, our research team decided to solicit additional expert feedback from the larger scholarly community. In 2020 we emailed invitations nationally and internationally on relevant email lists and through direct invitations to service-learning scholars and practitioners to independently quantify the posited value of each element, with no preconceived basis or provision of our own research team's prior scores. This process invited raters to read each of the 28 elements and its short description, then to assign a weight ranging from 1 to 9 to allow for greater nuance or spread, based on the influence of the given element on student learning outcomes. Participants were also asked to provide feedback on the validity, comprehensiveness, and wording of the instrument, and to self-rate their level of expertise and experience in service-learning teaching and research.

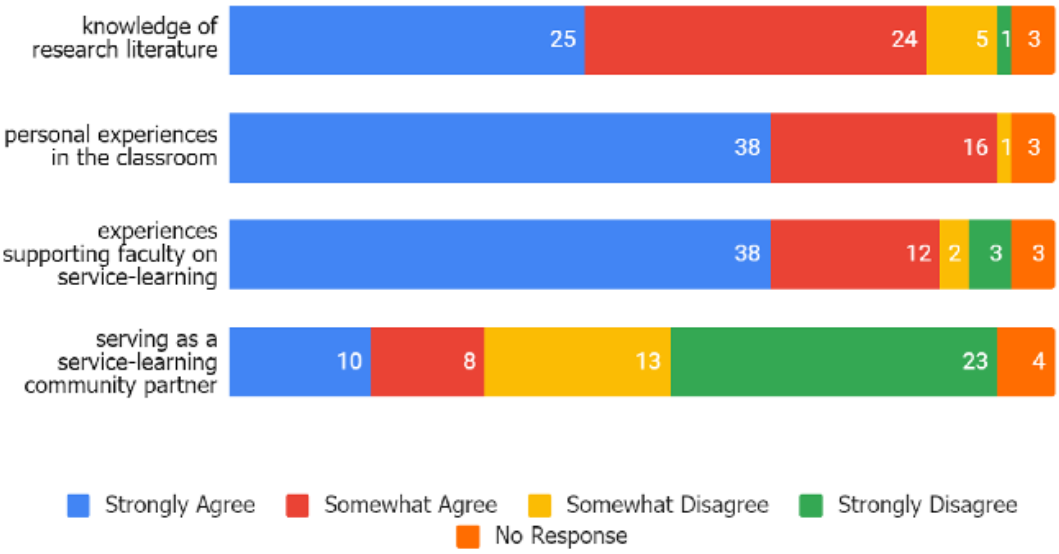
Some 65 responses were recorded through both Qualtrics and GivePulse platforms. Responses from members of our research team and from respondents who did not complete the weighting matrix, as well as a sole respondent who described their "knowledge of service-learning research and practice" as "novice" level, were eliminated from the data set. This step resulted in a final pool of 58 respondents, who represented instructional faculty, administrators, and other roles, primarily in higher education settings (see Table 1). Respondents were mostly from public (n = 24) and private (n = 17) institutions in the United States (representing 29 states), about half of which held the Carnegie community engagement elective classification, as well as from eight private and public universities in seven other countries. These respondents also explained the basis for their ratings, as shown in Figure 2.

The survey also provided respondents the opportunity to propose "any service-learning course design elements that are missing which impact student learning." All comments (n = 27) were carefully reviewed, categorized, and assessed in light of the same assumptions and guidelines used for the extant elements. Most suggestions were already represented in extant elements, though not always clearly articulated in the short description of the elements provided to raters (e.g., Element #14:

Table 1. Self-Reported Characteristics of Rating Respondents

Role		
Instructional faculty	21	
Administrator	32	
Other role	5	
Institutional Affiliation		
Higher education	52	
Non higher education	3	
No institutional affiliation	3	
Experience		
	Yes	*No*
Has taught service-learning courses	53	5
Has published service-learning research	36	22
	Advanced	*Intermediate*
Level of service-learning knowledge	36	22

Figure 2. Basis for SLQAT Elements Rating Responses



Appropriateness of Service Activities for Students—The service activities are contextually appropriate for students' level of skill/knowledge/experience). In some cases we clarified or strengthened them further in the SLQAT's quality level statements (see Figure 1). Other suggestions were not applicable to the full gamut of service-learning experiences (e.g., were relevant only for a certain discipline, or only for direct-service activities, etc.). One tangible change recommended by an expert rater resulted in renaming one element (from "reciprocity" to "mutual benefit") to be more in line with how the element is described in the instrument and supporting literature.

Although invited to rate these elements on a scale of 1 to 9, respondents' ratings of the baseline weights showed that they generally considered all the elements to be highly impactful on student learning outcomes, with an overall mean of 7.42 (SD, 1.48) and individual mean element weights ranging from 5.83 to 8.55 on the 9-point scale. This reinforced the assumption that these elements are indeed essential to service-learning. A further comparison of the ratings assigned by respondents who self-identified as having an "advanced" versus "intermediate" level of service-learning experience showed that the more expert raters identified the elements as even more impactful on average (a summed mean difference of 12.08 across the set of 28 elements). Because these differences in mean group ratings were statistically significant ($t(54) = 2.72$, $p < .01$), we decided to use the ratings by the "advanced" group only ($n = 36$), in order to maximize the expertise of the rater pool. Furthermore, because minor differences of tenths or hundredths of points seemed unlikely to represent meaningful variation of importance across elements, mean scores for each element were rounded to the nearest 0.5, resulting in final weights ranging from 6.0 to 9.0 with an approximately bell-curved distribution (Table 2). The spread of these base weights suggests that the lowest rated element could be considered about two thirds as impactful on student learning outcomes as the highest rated one. Additionally, with these 28 baseline weights summing to 212.5, any element marked as "absent" would reduce the summed total by about 7.6 points on average.

Assigning Implementation Quality Levels

In line with the goal of creating an instrument responsive to difference, each element was intended to be scorable on a range of levels of implementation quality, with concomitant differences in the weight assigned based on the hypothesized importance of the element's contribution to student learning outcomes. Earlier iterations of the instrument had proposed five categories of implementation quality, with varying values assigned to each level. However, pilot rater feedback showed that distinctions within the upper two (i.e., +10% vs. +20%) as well as the lower two (i.e., -10% vs. -20%) gradations were not able to be made con-

Table 2. Distribution of Baseline SLQAT Element Weights

Baseline Weight	Number of Elements (n = 28)	Elements With This Weight
6.0	1	#9
6.5	1	#8
7.0	5	#4, #7, #18, #19, #20,
7.5	10	#1, #5, #10, #13, #14, #17, #21, #23, #25, #26
8.0	8	#3, #6, #11, #12, #22, #24, #27, #28
8.5	2	#15, #16
9.0	1	#2

sistently. Therefore, despite the potential loss of nuance, we opted to enhance usability and consistency and consolidated possible ratings of quality to three levels (i.e., "below baseline," "baseline," and "above baseline"; see Figure 1).

Our next consideration was determining the appropriate spread to quantify these levels of quality within each element. We considered whether "above baseline" or "below baseline" should best be operationalized as reducing or enhancing the value of the baseline weight by 10%, or by 25%, 50%, or some other amount. We also discussed at length the benefits and challenges for different scale points and categories; for instance, whether to make the ratings represent a continuous variable (i.e., with a true zero for absent elements and consistent intervals between zero and each of the subsequent three quality levels), which could have advantages in terms of possible statistical procedures applied to the scores. In reviewing the element quality categories, we concluded that we were not operationalizing each of the three quality categories as representing consistent quantity or level of difference between quality categories, suggesting that these rating categories are more likely to represent ordinal-level points.

We also considered the practical interpretive implications for overall summed scores as described below using these possible spreads of ratings. Higher percentage values would raise the stakes for accuracy of rating across the three implementation levels, since moving from one quality category to the next in a broadly spread scoring scheme would have greater impact on the overall summed score than in a scenario with relatively less change in scores based on quality level. Analogously, on a ±10% plan, a course would have to score above baseline on about 10 additional elements for every element missing in order to receive a summed total quality score equivalent to that of a course with all elements rated as present at the baseline level of quality. Conversely, on a ±50% scoring plan, a course with a single missing element and two elements rated above baseline would receive a summed total score about equal to a course with all "baseline and present" scores.

In the absence of compelling data to substantively inform these decisions, our team agreed that the element ratings are likely ordinal-level variables, and opted for an intermediate level of impact by assigning ±25% as the variation from baseline for the quality categories. Ratings for particular elements present in a course therefore might range from 4.5 ("below baseline" for Element #9) to 11.3 ("above baseline" for Element #2). This broad set of possible ratings thus reflects hypothesized differences in both importance (baseline weight) and implementation quality of these essential elements.

Using the Service-Learning Quality Assessment Tool

The most current iteration of the SLQAT (Furco et al., 2023) consists of 28 essential elements, numbered and grouped for convenience into five conceptual dimensions (course design, learning, student, instructor, and community partner/partnership). Each essential element in the SLQAT has a title, a short description, a question to guide determination of evidence of the element's presence or absence in the data sources, and three levels of descriptive text with corresponding implementation quality categories. As described previously, the SLQAT includes a corresponding, underlying baseline weight (numerical value) for each element, repre-

senting the hypothesized importance of that element's contribution to service-learning course quality and implementation. In each element, the three quality categories help raters determine how well the element is put into practice: whether best described as presenting at baseline level (present with adequate implementation, scored at the base weight for the element), below baseline (partial or inadequate implementation, scored at 25% below the base weight), or above baseline (exemplary in implementation quality, scored at 25% above the base weight for that element). Each element rating block also includes an "evidence/notes" section where a rater may list comments, questions, or notes on what evidence their rating draws upon. Scoring is based on the overall evidence provided about the course, as described in the following section.

Course Evidence and Scoring Guidelines

The scoring process for a given course is intended to be based on a review of both *foundational* and *supplemental* data sources. The foundational sources for scoring the SLQAT are those deemed essential for rating, and include the course syllabus and course-specific materials provided to students (e.g., assignment guidelines not incorporated into the syllabus; student contracts for service-learning; information about community partners, placements, or projects; pertinent service-learning handouts from the institution's service-learning office). Based on pilot rating to date, foundational materials alone typically do not provide sufficient evidence to determine the presence/inclusion of all of the SLQAT's elements. Thus, using one or more supplemental data sources in the rating process is likely necessary to help enhance the accuracy and confidence of ratings. Supplemental data sources may include items such as interviews with or statements from the instructor; information from the campus service-learning office, the community partner, and/or students who took the course; sample deliverables from the service-learning activity; student reflections; and similar sources.

Additionally, our pilot testing suggests that at least two raters should use this instrument to independently rate a given course. Multiple raters can enhance objectivity and reduce potential rater error, thus strengthening the reliability of the scoring process, especially when discussion of program elements is included (cf. Shumer, 2003, p. 154). We recommend that each rater carefully review the initial course materials and independently score each element in the SLQAT, noting evidence supporting each rating. For elements where the data provided do not allow the rater to decide if the element is truly absent, a preliminary indication of "insufficient evidence to rate" may be noted, with no score assigned (i.e., left blank). Additional supplemental materials may even be solicited from the instructor or other sources at this stage, to help address unclear areas. After review of any additional sources of course information, the raters' individual assessments and notes should be compared, and then through discussion between the raters and additional consultation of all data sources available, an agreed-upon final rating for each element should be assigned. For this final scoring, no rating of "insufficient evidence to rate" should be included; instead, a score of zero (0) should be assigned for any element that is definitely absent or is still not evident after thorough review and discussion of the full set of available data sources. This procedure is in line with our guiding assumptions; because *every* element is considered important for service-learning quality, any element's absence intentionally and substantially reduces the course's overall summed quality score, as described next.

Establishing a Quality Score

To establish a total Service-Learning Quality Score for the course, the adjusted weighted ratings (which range from -25% to +25% of the base weights) for each of the 28 individual elements are summed. Because these elements have different base values representing their contribution to service-learning student outcomes, and these values are modified by level of implementation, the overall summed Quality Scores for any two given courses will typically vary. Relatedly, two courses may have the same overall Quality Score despite having different levels of presence, absence, and quality for particular elements.

A course scored as having all elements present at the baseline level thus receives a summed total Quality Score of 212.5. One in which all 28 elements are scored as present but all elements are below baseline would rate 159.5, and one in which all elements are present and above baseline would present a maximum possible score of 266.1. Our research has not yet established final guidelines for interpretation of these scores in

relation to other courses, nor where a cutoff point might be for a "high quality" course designation, for instance. However, the SLQAT provides a means to evaluate courses as having higher quality or lower quality in comparison to each other, allowing for more informed interpretations of the relationships between students' service-learning experiences and learning outcomes.

Discussion and Lessons Learned

In reflecting on our work over the past 6 years to create a reliable quantitative instrument to assess service-learning best practices, the complexity of this goal stands out. At the risk of stating the obvious, this is a difficult challenge. As our process description attests, deciding what is essential and what is not entails a judgment call informed by a large body of research and grounded practice. The question of what is universal in service-learning still seems open to potential differences in interpretation for different campuses and disciplines (e.g., Botelho et al., 2020), and becomes additionally complex when international contexts are considered. Even domestically, little evidence confirms whether enough consistency of practice exists between, for instance, first-year and graduate courses, or across different institutional types, or even among different groups of students, to allow use of a single, universal instrument. Different institutions may also place different emphasis on values embedded or explicit in their approach to service-learning, such as articulating social justice or critical service-learning, impacting judgments on what is essential in these courses.

Furthermore, gradations of quality are difficult to quantify and to describe, and even what seem like basic decisions (e.g., where to cut off between levels; how much spread is feasible in quantifying the implementation levels for each element) influence the form and use of the tool. Likewise, translating the essence of an element into descriptive language (describing what "baseline" implementation means, for instance) entails a balance between providing sufficient specificity to decide on a rating, without going too far in a particular direction that might limit application across diverse settings. Although our intent was to develop a quantitative instrument, a certain level of judgment, qualitative nuance, and individual variability seems likely to always remain inherent in holistically rating a course and its elements.

Other Recommendations for Practice

We originally conceptualized the SLQAT in order to develop quantitative, consistent overall quality scores allowing diverse service-learning courses to be rated in a more accurate and more nuanced way, in particular to allow for better institutional research on questions such as impact on student retention beyond the binary categorization of courses as "service-learning or not." We also envisioned this instrument as a key tool for a host of quantitative investigations, both as a predictor variable (e.g., "How well do higher SLQAT scores predict particular student outcomes?") and as a dependent variable (e.g., "What impact does faculty development programming have on course design and implementation?"). However, as was mentioned previously, the SLQAT also has the potential to impact practice and professional development beyond such research purposes. For instance, campuses and practitioners have expressed interest in using this tool for designing coursework, for reflective self-assessment of practice, and for ongoing quality improvement. Awareness of these key elements and their impacts could also support institutions in identifying what practices to include in their campus definitions and classifications of service-learning.

We suggest that the SLQAT can productively also serve as a basis for faculty development (or self-study) on the best practices of service-learning that promote positive student outcomes, and on key elements to consider when developing courses. As a self-assessment tool, the SLQAT can also provide practitioners with a quantitative score that indicates the level of overall quality (potentially benchmarked against other courses within and outside their institution) while also identifying particular elements of practice that are well implemented and those that may be improved. However, we also specifically advise against possible negative outcomes that could result from punitive adoption of an instrument such as this. Concerns have been raised that institutions or supervisors could attempt to use this tool to evaluate instructor teaching effectiveness. In our view, assessment of the quality of an instructor's teaching ability is not an appropriate use of the instrument, due to the complexity and contextualized variability of this pedagogical approach. In addition, the SLQAT focuses on the design and implementation of the service-learning

components of a course; it does not account for the nature, scope, or delivery of a course's academic content. Our research team also supports the idea that teaching and developing a service-learning course is an iterative and ongoing process that evolves with each implementation; SLQAT is designed to support instructors as they seek to implement the highest quality course that impacts student learning outcomes. Ideally, SLQAT would be used over time and provide positive support for instructors in this process of design, implementation, reflection, and redesign.

Limitations and Recommendations for Future Research

We acknowledge that the instrument and its development reflect premises that may not be universally accepted and have not yet been empirically assessed; however, these elements provide opportunities for future research more directly examining the decisions and assumptions of our research team as described in this article. In particular, we invite readers and researchers to consider the following caveats and areas for further investigation, and hope that the instrument will provide the impetus and opportunity to test (and ultimately support, disprove, or extend) these tenets. Likewise, we anticipate that the larger scale piloting process described below will also further validate some of the premises related to the instrument's development and use.

First, careful attention should be paid to how the elements were selected and operationalized in the SLQAT development process. Although the instrument is grounded in both research literature and the experience and expertise of those who helped shape, review, and pilot it, we acknowledge that the essentialness of each element has not been fully tested and should be evaluated further through additional research. Since the raters who provided the current baseline weights were not viewing the full version of the SLQAT instrument and approached service-learning work through different lenses and sets of experiences, we cannot ascertain whether they were interpreting these elements in the same way. Additionally, the SLQAT intentionally does not take into account a host of exogenous variables that likely influence the delivery of the course, such as instructors' experience, community or societal circumstances (e.g., a global pandemic), or unexpected circumstances such as changes in community partnership arrangements or staff during a semester or course offering. The elements included in the tool are only those over which the instructor has control.

We also note that the SLQAT is based on norms of practice and service-learning literature situated in Western and Northern education systems and practices. The intent of its development was to create a broadly applicable instrument, and international scholars were part of the pilot rating and feedback process; however, we do not yet have sufficient pilot testing with international courses to assert whether additional adaptation may be necessary for non-U.S. contexts. Although the development of the instrument was guided by assumptions related to universality of application in higher education contexts, we encourage practitioners and researchers to further test the breadth of that applicability in practice. In addition, given that the components that comprise the SLQAT are considered essential elements of service-learning, we also encourage further testing of the instrument within K–12 education contexts to assess the tool's applicability and utility in assessing quality service-learning experiences in primary and secondary school settings.

Future research should also more directly assess the assumption that higher SLQAT scores (i.e., "better" courses) bring about better student outcomes. As described earlier, the focus of the SLQAT and the selection of elements was intentionally oriented exclusively toward *student learning* outcomes. This focus, of course, does not capture the full importance and value of service-learning experiences; thus, the SLQAT likely excludes elements that impact or provide value to the community, instructor, or institution, to name some other possible stakeholders. The instrument also does not attempt to differentiate across the different types of student-level outcomes of interest to our field (e.g., academic learning, civic learning, graduation/retention, social–emotional, or character development). However, further research may productively investigate the relationship between the summed SLQAT Quality Score and any, all, or some of these student outcomes. Similarly, pilot participants have wondered whether single elements, or even composite dimension subscores, may have a standalone value as predictors of student outcomes, or whether the overall summed Quality Score is indeed the best metric.

Future research may thus help clarify the strength of the relationships between individual and collective elements of the rubric and particular student outcomes.

Though we treat the SLQAT's 28 elements as discrete, independent best practices in course design and implementation, relationships that influence the ways they are ultimately applied likely exist between and among them. For example, better "use of resources and support" (Element #9) might result in better "articulation of service-learning in syllabus" (Element #1) and/or more student reflection (Element #2); courses that clearly identify an "authentic community-based need" (Element #16) may likewise better demonstrate "mutual benefit" (Element #6), and so on. We also acknowledge that the current baseline weights, although informed by expert ratings, are still somewhat arbitrary; thus, there may or may not be a meaningful difference in impact between (for example) elements weighted with a 7.0 and a 7.5. Likewise, we hypothesize that a sum Quality Score for a course lacking some elements can validly be compared with that of a course that has all elements present; however, we have not yet tested this assumption.

Next Steps

Additional assessment of the SLQAT is needed to more fully validate the instrument as an accurate and effective measure of service-learning course quality. The research team is currently soliciting course materials (both foundational and supplemental) to be used for next-stage pilot testing of the instrument with an intentionally diverse set of courses. Ideally, this corpus of materials will represent service-learning courses modeling diverse approaches and settings (direct service, indirect service, graduate courses, undergraduate courses, first year seminars, etc.), different fields/departments, different institutional types and locations, and different levels of course quality (i.e., not just exemplary courses).

The next phase of piloting planned involves recruiting, training, and organizing a group of reviewers to evaluate course materials using the SLQAT and to ascertain reliability. We envision bringing together—virtually or in person—a set of raters to participate in training with the research team, then to rate, discuss, and debrief multiple courses, following the scoring guidelines and protocols described above. In addition to determining traditional measures of interrater reliability, other aspects of the SLQAT's validity and usability will be further investigated via rater feedback and reflection regarding time needed, challenges, and concerns about wording or operationalization. This piloting experience will help develop and inform content for future rater training, including confirmed, consistent element ratings for sample courses, explanations or definitions of terms used, and guidance regarding how evidence is used to achieve these ratings.

Additionally, the research team is collaborating with GivePulse to develop an online version of the instrument in order to facilitate its use and interpretation of results. This platform would automatically calculate summed Quality Scores and subscores as well as provide enhanced data displays to facilitate cross-rater comparisons. We further envision access to detailed scoring guidelines and training, comparative outcomes from multiple courses, and other online tools supporting the use of the SLQAT for both professional development and research purposes.

Conclusions

We set out to develop an instrument to meet an identified need for quantitative, more standardized rating of the key aspects of effective service-learning courses. Despite an investment of over 6 years, this result is in some ways a still unfinished attempt to quantify the quality of service-learning, a task that has proven much more complex than anticipated. We realize this is not necessarily the final version of the tool, which may be modified as we learn more from research in the field and as new dimensions of service-learning practice emerge. The instrument is complex by design in its structure and content, and requires time and practice to develop understanding of its various components and how best to use it. The effort and process of conceptualizing and building this instrument, reflecting upon the elements and descriptors, and considering the nuances and challenges of implementation, have been a worthwhile and rewarding experience for our research team. An instrument such as the SLQAT represents a valuable potential addition to research and practice for our field, and we invite other researchers and practitioners to use it as a starting point on their campuses

and beyond, and to evaluate and use it to better contribute to research, piloting, and reflective dialogue.

Acknowledgments

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Appendix

The Service-Learning Quality Assessment Tool (SLQAT)—Dimension, Element Titles, and Short Descriptions

For full version of instrument see: Furco, A., Brooks, S. O., Lopez, I., Matthews, P. H., Hirt, L. E., Schultzetenberg, A., & Anderson, B. N. (2023). Service-Learning Quality Assessment Tool (SLQAT). *Journal of Higher Education Outreach and Engagement*, 27(2), 183–202.

Dimension I: Course Design Dimension (10 Elements)

Element #1: Articulation of Service-Learning in Syllabus
Service-learning is articulated and integrated in the course design and syllabus.

Element #2: Reflection
The course includes relevant critical reflection activities intended to foster connections between course content and service activities.

Element #3: Diverse Perspectives
The course provides opportunities to explore diverse perspectives on issues connected to goals/objectives and service activities.

Element #4: Assessment of Student Performance
The course incorporates assessment of students' performance related to service-learning experience.

Element #5: Flexibility in Course Design/Implementation
The course shows flexibility to evolve and adapt to community and student circumstances.

Element #6: Mutual Benefit
The service-learning experience is designed to benefit all stakeholders involved.

Element #7: Feedback
Stakeholders are given opportunities to provide feedback on the strengths and weaknesses of service-learning activities, design, and practices.

Element #8: Risk Management
Consideration of risk management is relevant and appropriate for the course and service activities.

Element #9: Use of Resources and Support for Service-Learning
The course makes use of available institutional or external supports for service-learning.

Element #10: Planning and Articulation of Service Activity
Details and specific expectations for the service activities are planned and articulated.

Dimension II: Learning Dimension (7 Elements)

Element #11: Academic Content Learning from Service-Learning
The service-learning experience's relationship to the academic content of the course is explicit, transparent, and rigorous.

Element #12: Societal Issues Learning from Service-Learning
The service-learning experience engages students in learning about societal issue[s] in explicit, transparent, relevant ways.

Element #13: Personal or Professional Learning from Service-Learning
The service-learning experience engages students in developing personal learning and/or professional skills.

Element #14: Appropriateness of Service Activities for Students
The service activities are contextually appropriate for students' level of skill/knowledge/experience.

Element #15: Connection between Service and Learning
The service activities and learning goals/objectives are linked.

Element #16: Authentic Community-Based Need
The service activities are based on a clear, meaningful community-identified issue/need.

Element #17: Appropriate Duration/Intensity of Service
The service activity's duration or intensity seems appropriate for community needs and course learning goals.

Dimension III: Student Dimension (3 Elements)

Element #18: Student Preparedness for Service-Learning
Students are prepared for the service-learning experience.

Element #19: Relevance of Service Activity
The course helps clarify the service-learning experience's relevance to students' interests, lives, etc.

Element #20: Student Voice
The course incorporates opportunities/activities for student voice (e.g., autonomy, choice, creativity, leadership, influence) in the service-learning experience.

Dimension IV: Instructor Dimension (3 Elements)

Element #21: Instructor's Knowledge of Service-Learning Pedagogy
The instructor has knowledge about service-learning pedagogy and expertise in how to apply it.

Element #22: Instructor's Knowledge of Community
The instructor is knowledgeable about community partners, contexts, needs, and norms.

Element #23: Instructor's Knowledge of Societal Issues
The instructor has understanding of the societal issue(s) that undergird the service-learning experience.

Dimension V: Community Partner and Partnership Dimension (5 Elements)

Element #24: Site/Partner Appropriateness
Service partners or locations are appropriate, given focus of course, level of students, focus of societal issue.

Element #25: Guidance and Supervision of Students
The community partner provides supervision, training, direction, and/or guidance to support students' experience.

Element #26: Community Partner Co-Educator Role
Community partners have a co-educator role and provide input in shaping the service-learning experience.

Element #27: Community Capacity for Service-Learning
Community partners have the capacity to support and participate fully in the service-learning experience.

Element #28: Instructor and Community Partner Connection
A partnership or relationship exists between the instructor and the community or community partner(s) for service-learning.

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Service-Learning Quality Assessment Tool (SLQAT)

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About the Tool

The Service-Learning Quality Assessment Tool (SLQAT) was designed to provide a mechanism to evaluate the quality of design and implementation for credit-bearing, academic service-learning courses. The tool takes into account 28 elements that the service-learning literature supports as essential for high quality service-learning promoting positive academic and other outcomes for students, and organizes these elements into five dimensions. Each element also has an underlying numerical value or weight, representing the hypothesized importance of its contribution to quality service-learning course design and implementation.

Using the Service-Learning Quality Assessment Tool (SLQAT)

The SLQAT may be used for different purposes, such as instructor self-study, course design, faculty development, and as a research instrument providing dependent (outcome) or independent variables. Each of these purposes is valuable, but may imply different applications; for instance, use with faculty in creating a new service-learning course will likely focus on ensuring inclusion of all elements, rather than scoring per se.

For scoring uses, the SLQAT provides numerical values for each element, with a baseline value representing the hypothesized importance of that element's contribution to service-learning course quality and implementation. (For instance, while both are important, *Element #2, Reflection*, carries a higher base value than *Element #8, Risk Management.*) If an element is absent, that component receives a score of zero. If present, depending on how well developed and implemented the element is, each element can be scored with a different possible implementation level:

- a base (middle) score if there is evidence of adequate or baseline implementation;
- a greater value for exemplary implementation;
- a lesser value for partial or inadequate implementation.

Because every element is considered important for service-learning quality, a score of zero (absent) for any element will substantially reduce the overall final summed quality score.

Scoring is based on the overall evidence provided about the course (e.g., course syllabus, course assignments, descriptions of service-learning opportunities, interview or discussion with course instructor or campus service-learning staff, observations, evaluations, etc.). Instructions for how these scores are applied, and more information about data sources, are presented below.

Assumptions

- While other stakeholder outcomes are also important for service-learning, this tool is focused on elements that influence *student* outcomes.
- Some sort of service-learning activity is assumed to be a *required* component of the course being scored.
- Each element is assumed to be *essential* to all types of course-based service-learning (regardless of scale and scope) in that it contributes to the overall quality of service-learning. However, not all elements are assumed to contribute equally to service-learning quality, represented in the base score values that indicate each element's level of contribution.
- Other factors likely influence the quality of service-learning courses and implementation (e.g., faculty teaching experience, size of the course, length of term, students' prior experience with service-learning, access to transportation, community and institutional characteristics, etc.). These factors typically cannot be adjusted at the course level, or are out of the instructor's control, and are not included in the SLQAT.
- The information contained in the data sources analyzed (such as the syllabus) is assumed to represent actual practice in the delivery of the course, and they are assumed to be valid sources for determining the presence or absence of each element.
- The course is assumed to have been taught prior to scoring. (For course development purposes, focus-

ing on the elements, rather than attempting to ascertain a score, is appropriate.)

- Higher scores on the SLQAT are assumed to represent a higher quality of service-learning course implementation, which in turn is assumed to produce more positive outcomes for students.

Data Sources

The SLQAT scoring is based on a review of both ***foundational data sources*** and of ***supplemental data sources.***

1. The *foundational sources* for scoring the SLQAT are the **course syllabus** and **all course-specific materials** that are provided to students (e.g., assignment guidelines not incorporated into the syllabus; student contracts for service-learning; information about community partners, placements, or projects; pertinent service-learning handouts from the institution's service-learning office, etc.).
2. *Supplemental data sources* for the SLQAT rating include **at least one of the following:** interviews with/statements from the instructor; information from the campus service-learning office, the community partner, and/or students who took the course; deliverables from the service-learning activity; student reflections; etc. If needed and available, *more than one* of these supplemental data sources should be secured and reviewed to help enhance the accuracy and confidence of ratings.

For "low-stakes" purposes (e.g., self-study, faculty development, etc.), the SLQAT may be used with only the foundational sources. However, these foundational materials alone will likely not provide sufficient evidence to determine the presence/inclusion of particular service-learning elements. (In this case, the ratings should be used primarily for discussion around areas of strength and of potential improvement, etc.; while the element weight scores could be summed for an approximate total score, this should not be considered reliable or valid.)

Rating

When using the instrument for research and evaluation purposes:

- **Foundational sources plus at least one supplemental data source (#2, above) must be included** in the review and rating, and should be consulted to confirm the accuracy of the scoring of the course materials.
- **At least two raters** should use this instrument to **independently rate** a given course. This enhances objectivity within the evaluation as it provides a means to reduce potential rater bias or error while strengthening the reliability of the scoring process.

Depending on the intended use of the SLQAT, two rounds of scoring are recommended:

- First, each rater carefully reviews the initial course syllabus and course-specific materials (#1 *foundational sources* above), at minimum. Each rater independently scores each element in the SLQAT, noting evidence supporting each rating. For elements where the data provided do not allow the rater to decide if the element is truly "absent", a preliminary indication of "insufficient evidence to rate" may be noted, with no score assigned (i.e., leave blank).
- Next, the raters' individual assessments should be compared, and then through discussion between the raters and consultation of all course materials and supplemental data sources available, an agreed-upon **final rating** for each element should be determined. For this final scoring, *no rating of "insufficient evidence to rate" should be included*; instead, *a score of zero (0) should be assigned* for any element which is determined to be absent, or which is still not evident from the thorough review and discussion of the full set of available data sources.

Establishing a Quality Score

To establish a total Service-Learning Quality Score for a course, the weighted scores for each of the 28 individual elements are summed.

The same or similar overall SLQAT Quality Scores for two given courses are hypothesized to indicate a similar quality of service-learning implementation and design. However, similar scores may be achieved through different pathways; that is, a particular summed score may reflect absence of different elements, and/or different implementation quality of certain elements, across two given courses with the same score.

Scoring one or more elements as entirely absent will result in lower Quality Scores, reflecting the essential nature of every element:

- A course with all 28 elements present but all rated as "below baseline" would garner a score of **159.5.**
- One in which all elements are present and all are scored at the "baseline" level would receive a summed total Quality Score of **212.5.**
- The maximum possible score of **266.1** is theoretically possible for a course in which all elements are

present and all are scored as "above baseline."

- A definitive cutoff point for "high quality" service-learning based on total scores has not yet been codified, but Quality Scores **at or above 212** would seem to be indicative of courses incorporating best practices.

SLQAT Scoring Guidance

To use the SLQAT to rate a service-learning (SL) course, begin by considering the descriptor and question to decide if there is evidence of each element's presence in the course.

- Upon first review, if no evidence is available or provided, leave the rating blank.
- If the evidence provided is sufficient to determine presence/absence, but the element is **not** present, assign a score of zero ["0"] for this element.
- If evidence is provided that the element is present in the course, review each of the guiding statements to decide the quality of implementation or presence of the element. Select the statement that is best aligned with the quality/level of the element's presence and implementation, given the information and data reviewed about the course. (These scores represent baseline, above baseline, or below baseline.)
- Where possible, for each element, enter comments regarding the particular evidence that was used to justify the score assigned.
- The raters' individual assessments should be compared, and then through a conversation between the raters and review of all evidence, a final agreed upon rating for each element should be determined.

Acknowledgments

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Note

For additional information on the development of the Service-Learning Quality Assessment Tool, see the following article:

Matthews, P. H., Lopez, I., Hirt, L. E., Brooks, S. O., & Furco, A. (2023). Developing the SLQAT (Service-Learning Quality Assessment Tool), a quantitative instrument to evaluate elements impacting student outcomes in academic service-learning courses. *Journal of Higher Education Outreach and Engagement*, 27(2), 161–180.

The Service-Learning Quality Assessment Tool (SLQAT) Rating Cover Page

Name of Rater	
Date Rating Completed	
Course Name & Number (and Semester/Year, if relevant)	
Course Instructor	
Institution	

Data sources used for rating

Foundational	
Supplemental	
Follow-up	
Scores	
Dimension I: Course Design	**_____ out of 92.7 maximum; all elements present at baseline levels = 74**
Dimension II: Learning	**_____ out of 69.4 maximum; all elements present at baseline levels = 55.5**
Dimension III: Student	**_____ out of 26.4 maximum; all elements present at baseline levels = 21**
Dimension IV: Instructor	**_____ out of 28.8 maximum; all elements present at baseline levels = 23**
Dimension V: Community Partner	**_____ out of 48.8 out of 48.8 maximum; all elements present at baseline levels = 39**
Total Quality Score	**_____ out of 266.1 maximum; all elements present at baseline levels = 212.5**

Dimension I: Course Design Dimension (10 Elements)

Element #1: Articulation of Service-Learning in Syllabus ***Service-learning is articulated and integrated in the course design and syllabus***				
Is there evidence in the syllabus of a service-learning experience within the course design and/or the course expectations?	Element is absent based on existing evidence.	While the SYLLABUS or ancillary documents mention a service-learning experience, this is underdeveloped, unclear, not relevant, or not integrated into the rest of the course.	The SYLLABUS articulates and describes a relevant service-learning experience as part of the course.	The SYLLABUS clearly explains the scope, relevance and purpose of the service-learning experience, and how it is integrated into the course, with appropriate details.
IMPLEMENTATION LEVEL:	Absent	Below Baseline	Baseline	Above Baseline
WEIGHTED SCORE:	0	5.6	7.5	9.4
Element #2: Reflection ***The course includes relevant critical reflection activities intended to foster connections between course content and service activities***				
Is there evidence of activities that engage students in reflection on the service-learning experience?	Element is absent based on existing evidence.	While at least one REFLECTION activity is present, reflection is minimal, superficial, or does not connect the service activity with course content or learning goals/ objectives.	The course provides more than one substantive REFLECTION activity (whether through writing, arts-based, electronic, oral, or other modalities) that links the service activity with at least one course goal/learning objective.	The course provides ongoing, challenging, critical REFLECTION activities throughout the course that foster connections between the service activity and one or more course learning goal/objective.
IMPLEMENTATION LEVEL:	Absent	Below Baseline	Baseline	Above Baseline
WEIGHTED SCORE:	0	6.8	9.0	11.3

EVIDENCE/NOTES:

Element #3: Diverse Perspectives ***The course provides opportunities to explore diverse perspectives on issues connected to goals/objectives and service activities***				
Is there evidence that the course incorporates learning about diverse perspectives on issues related to the service-learning experience?	Element is absent based on existing evidence.	While diverse PERSPECTIVES about the service-learning activity or community seem likely to emerge through course discussions, activities, or readings, this is not intentionally or explicitly designed into the course; or, elements addressing diversity may be superficial/ insufficient for the activity and context.	At least one course design element (e.g., lecture, reading, discussion, or activity) intentionally engages students to explore diverse PERSPECTIVES on issues directly related to their service activity, community partner, or beliefs/opinions; the level of discussion of diversity is appropriate for the overall service-learning experience and context.	Multiple relevant and rigorous course elements (e.g.,lectures, readings, discussions, or activities) intentionally challenge students and deepen PERSPECTIVES on issues directly related to their service-learning experience, community partner, and/or beliefs/opinions.
IMPLEMENTATION LEVEL:	Absent	Below Baseline	Baseline	Above Baseline
WEIGHTED SCORE:	0	6.0	8.0	10.0
Element #4: Assessment of Student Performance ***The course incorporates assessment of students' performance related to service-learning experience***				
Is there evidence that student performance related to the service-learning experience is assessed?	Element is absent based on existing evidence.	Student performance in the service-learning experience is ASSESSED, but in ways not related to student learning (e.g., general participation points for the service activity, or credit for hours of service).	At least one dimension of student learning from the service-learning experience is adequately ASSESSED.	More than one dimension of student learning from the service-learning experience is ASSESSED and includes clear evaluative criteria (e.g., grading methods, demonstration of skills, reflection activities, rubrics).
IMPLEMENTATION LEVEL:	Absent	Below Baseline	Baseline	Above Baseline
WEIGHTED SCORE:	0	5.3	7.0	8.8

EVIDENCE/NOTES:

Element #5: Flexibility in Course Design/Implementation ***The course shows flexibility to evolve and adapt to community and student circumstances***				
Is there evidence of flexibility in the course if circumstances require changes to the service-learning experience or course expectations?	Element is absent based on existing evidence.	The course provides minimal FLEXIBILITY in the structure of the service-learning experience (e.g., a general statement indicating that plans may change).	The course shows evidence of FLEXIBILITY in one aspect of the service-learning experience (e.g., deadlines, placements, accommodations).	The course shows evidence of FLEXIBILITY in more than one aspect of the service-learning experience (e.g., deadlines, placements, accommodations).
IMPLEMENTATION LEVEL:	Absent	Below Baseline	Baseline	Above Baseline
WEIGHTED SCORE:	0	5.6	7.5	9.4
Element #6: Mutual Benefit ***The service-learning experience is designed to benefit all stakeholders involved***				
Is there evidence that the service-learning experience is designed to provide benefit to stakeholders?	Element is absent based on existing evidence.	Possible BENEFITS for students, partners, or other stakeholders of the service-learning experience may be inferred or understood, but are not explicit or articulated.	Outcomes or BENEFITS for students and for at least one other stakeholder (e.g., community members, partner organization) anticipated from the service-learning experience are clearly evident in foundational or supplemental data about the course.	The intended BENEFITS for students, partners, and other stakeholders are clearly articulated and explained (e.g., evident in the course design), and are linked to course objective/goals and service-learning project expectations and deliverables.
IMPLEMENTATION LEVEL:	Absent	Below Baseline	Baseline	Above Baseline
WEIGHTED SCORE:	0	6.0	8.0	10.0

EVIDENCE/NOTES:

Element #7: Feedback ***Stakeholders are given opportunities to provide feedback on the strengths and weaknesses of service-learning activities, design, and practices***				
Is there evidence that feedback on the service-learning experience is sought or included in the course?	Element is absent based on existing evidence.	FEEDBACK about the service-learning experience by participating stakeholders is informal or implied.	At least one formal opportunity or method for FEEDBACK by students, community partners, or beneficiaries directly related to the service-learning experience is evident in the course activities or materials.	More than one formal opportunity or method of FEEDBACK by multiple stakeholders is clearly apparent.
IMPLEMENTATION LEVEL:	Absent	Below Baseline	Baseline	Above Baseline
WEIGHTED SCORE:	0	5.3	7.0	8.8
Element #8: Risk Management ***Consideration of risk management is relevant and appropriate for the course and service activities***				
Is there evidence that potential risks involved in the service-learning experience have been considered and addressed?	Element is absent based on existing evidence.	Some RISKS or risk management considerations related to the service-learning experience are mentioned, but not in adequate detail in relation to apparent level of risk.	Information about relevant potential RISKS and/or relevant risk management guidelines is communicated to stakeholders in advance of the service-learning experience.	Any potential RISKS of the service-learning experience (to all appropriate stakeholders) have clearly been identified, and appropriate risk management requirements have been developed and are clearly documented and presented in the course materials (e.g., background checks, transportation considerations, or volunteer orientations).
IMPLEMENTATION LEVEL:	Absent	Below Baseline	Baseline	Above Baseline
WEIGHTED SCORE:	0	4.9	6.5	8.1

EVIDENCE/NOTES:

Element #9: Use of Resources and Support for Service-Learning ***The course makes use of available institutional or external supports for service-learning***				
Is there evidence that available institutional or external resources and support have been applied?	Element is absent based on existing evidence.	The course materials, design, or components suggest that an institutional or external RESOURCE or support (e.g., professional development, consultation, funding, award, resource, or accommodation support) may have been applied to enhance or develop the service-learning experience, but this is not explicit or clear.	At least one relevant institutional or external RESOURCE (e.g., professional development, consultation, funding, award, resource, or accommodation support) has clearly been applied to enhance the instructor's, community partners', and/or students' service-learning experience.	A variety of institutional or external RESOURCES (e.g., professional development, consultation, funding, award, resource, or accommodation support) has clearly been applied to enhance the service-learning experience.
IMPLEMENTATION LEVEL:	Absent	Below Baseline	Baseline	Above Baseline
WEIGHTED SCORE:	0	4.5	6.0	7.5
Element #10: Planning and Articulation of Service Activity ***Details and specific expectations for the service activities are planned and articulated***				
Is there evidence of information provided to the students on what their course service activity entails?	Element is absent based on existing evidence.	Minimal PLANNING information (e.g., deadlines or hours required) related to the service activity is provided, or the information is loosely defined, and planning and details are not clearly articulated.	Key PLANNING details are provided up front to students about the service activity, including partner(s), timing, and desired deliverables or activities.	Detailed PLANNING information is provided to students regarding most essential areas such as partner(s), timing, deliverables or activities, responsibilities, location, supervision, logistics, risk management, etc.
IMPLEMENTATION LEVEL:	Absent	Below Baseline	Baseline	Above Baseline
WEIGHTED SCORE:	0	5.6	7.5	9.4

EVIDENCE/NOTES:

Sum of Dimension I _____

Dimension II: Learning Dimension (7 Elements)

Element #11: Academic Content Learning from Service-Learning ***The service-learning experience's relationship to the academic content of the course is explicit, transparent, and rigorous***				
Is there evidence that the service-learning experience supports the course's academic content?	Element is absent based on existing evidence.	The relationship between the service-learning experience and the ACADEMIC CONTENT of the course is implied, but it is not clear whether participating will significantly advance students' academic content learning.	There is a clear relationship between the service-learning experience and the course's ACADEMIC CONTENT, making apparent how participating supports or enhances academic content learning.	The course's ACADEMIC CONTENT and the service-learning experience are closely and intentionally linked, such that students are likely to learn the academic content more deeply or rigorously than if they did not participate.
IMPLEMENTATION LEVEL:	Absent	Below Baseline	Baseline	Above Baseline
WEIGHTED SCORE:	0	6.0	8.0	10.0

Element #12: Societal Issues Learning from Service-Learning ***The service-learning experience engages students in learning about societal issue[s] in explicit, transparent, relevant ways***				
Is there evidence that the service-learning experience supports students' learning about a relevant societal issue?	Element is absent based on existing evidence.	The relationship between the service-learning experience and a SOCIETAL ISSUE(S) is implied, but it is not clear whether participating will significantly advance students' understanding of the issue.	There is a clear relationship between the service-learning experience and students' learning about a relevant SOCIETAL ISSUE(S), making apparent how participating can support or enhance students' understanding of the issue.	The service-learning experience as well as other course activities are tightly and intentionally linked with an important SOCIETAL ISSUE(S) (e.g., course has an explicit social justice perspective), such that students are likely to learn about the issue in depth and/or from multiple perspectives.
IMPLEMENTATION LEVEL:	Absent	Below Baseline	Baseline	Above Baseline
WEIGHTED SCORE:	0	6.0	8.0	10.0

EVIDENCE/NOTES:

Element #13: Personal or Professional Learning from Service-Learning ***The service-learning experience engages students in developing personal learning and/or professional skills***				
Is there evidence that the service-learning experience supports students in learning about themselves or developing professional skills?	Element is absent based on existing evidence.	Students seem likely to develop at least some PERSONAL LEARNING or PROFESSIONAL SKILLS in the course or service-learning experience, but this is not explicit or is not clearly related to the service-learning experience per se.	There is clear evidence of how the service-learning experience can support students in developing deeper PERSONAL LEARNING outcomes (e.g., moral reasoning, stereotype reduction, developing new interests, becoming more aware of personal strengths, etc.); or in developing PROFESSIONAL SKILLS (e.g., teamwork, communication, time management, project development, etc.).	There is clear evidence of how the service-learning experience and related course content supports students in developing both deeper PERSONAL LEARNING outcomes (e.g., moral reasoning, stereotype reduction, developing new interests, becoming more aware of personal strengths, etc.), and in developing PROFESSIONAL SKILLS (e.g., teamwork, communication, time management, project development, etc.).
IMPLEMENTATION LEVEL:	Absent	Below Baseline	Baseline	Above Baseline
WEIGHTED SCORE:	0	5.6	7.5	9.4
Element #14: Appropriateness of Service Activities for Students ***The service activities are contextually appropriate for students' level of skill/knowledge/experience***				
Is there evidence that the service activity is appropriate for the course and students?	Element is absent based on existing evidence.	The overall service activity seems somewhat APPROPRIATE for the course or student level, but this is not specified or clear; or, the service activities include components that appear too simple or too challenging for students.	Service activities seem APPROPRIATE for the course level (e.g. a first-year course vs. a graduate course) or the student level (e.g., novice experience vs. prior knowledge and expertise required).	All service activities are clearly and explicitly APPROPRIATE to both the course level and the student level, and these activities are neither too challenging nor too simple.
IMPLEMENTATION LEVEL:	Absent	Below Baseline	Baseline	Above Baseline
WEIGHTED SCORE:	0	5.6	7.5	9.4

Element #15: Connection between Service and Learning ***The service activities and learning goals/objectives are linked***				
Is there evidence of how the service activities and the learning goals relate to each other?	Element is absent based on existing evidence.	The service activities seem likely to RELATE to some of the course's learning goals/ objectives, but this relationship may be superficial, implicit, or unclear.	There is clear evidence of how at least some part of the service activities RELATES to the course's learning goal(s)/ objective(s).	Most or all service activities are clearly and explicitly RELATED to the course objectives and learning goals.
IMPLEMENTATION LEVEL:	Absent	Below Baseline	Baseline	Above Baseline
WEIGHTED SCORE:	0	6.4	8.5	10.6
Element #16: Authentic Community-Based Need ***The service activities are based on a clear, meaningful community-identified issue/need***				
Is there evidence that the service activities respond to a community-identified need?	Element is absent based on existing evidence.	The service activities seem likely to relate to a community NEED, but it is not clear whether the community or partner has identified this issue as a priority.	The service activities clearly relate to some NEED or issue identified in consultation with the community or partner.	The service activities are directly responsive to a clear and substantive NEED or issue that the community or partner has identified and that contributes to the public good.
IMPLEMENTATION LEVEL:	Absent	Below Baseline	Baseline	Above Baseline
WEIGHTED SCORE:	0	6.4	8.5	10.6

EVIDENCE/NOTES:

Element #17: Appropriate Duration/Intensity of Service *The service activity's duration or intensity seems appropriate for community needs and course learning goals.*				
Is there evidence of appropriate duration, scope, or intensity of the service activity?	Element is absent based on existing evidence.	The level of DURATION OR INTENSITY of service activities seems inadequate given the community needs and/or course learning goals.	The level of DURATION OR INTENSITY of service activities seems appropriate for the community needs or course learning goals.	The level of DURATION OR INTENSITY of service activities is based explicitly on community needs and course learning goals.
IMPLEMENTATION LEVEL:	Absent	Below Baseline	Baseline	Above Baseline
WEIGHTED SCORE:	0	5.6	7.5	9.4

EVIDENCE/NOTES:

Sum of Dimension II _____

Dimension III: Student Dimension (3 Elements)

Element #18: Student Preparedness for Service-Learning *Students are prepared for the service-learning experience*				
Is there evidence that students are intentionally prepared for the service-learning experience?	Element is absent based on existing evidence.	Course opportunities for student PREPARATION are generic, minimal, or not focused on the specific needs of the service-learning experience.	The course incorporates at least one intentional and customized opportunity that ensures students have adequate PREPARATION for their service-learning experience.	The course incorporates multiple or comprehensive intentional and customized opportunities that ensure students have adequate PREPARATION for their service-learning experience.
IMPLEMENTATION LEVEL:	Absent	Below Baseline	Baseline	Above Baseline
WEIGHTED SCORE:	0	5.3	7.0	8.8

EVIDENCE/NOTES:

Element #19: Relevance of Service Activity ***The course helps clarify the service-learning experience's relevance to students' interests, lives, etc.***				
Is there evidence of course activities that attempt to connect the service-learning experience to students' interests, prior or future experiences, or prior or future coursework?	Element is absent based on existing evidence.	There is some evidence of an activity (e.g., reflection, discussion, or assignment) that appears related to helping students FIND RELEVANCE in the service-learning experience, but it is not fully developed or specified.	At least one well-developed activity (e.g., reflection, discussion, or assignment) appears related to helping students FIND RELEVANCE in the service-learning experience (e.g., to their interests, their prior or future experiences, or other coursework).	More than one well-developed activity (e.g., reflection, discussion, or assignment) is clearly related to helping students FIND RELEVANCE in the service-learning experience (e.g., to their interests, their prior or future experiences, or other coursework).
IMPLEMENTATION LEVEL:	Absent	Below Baseline	Baseline	Above Baseline
WEIGHTED SCORE:	0	5.3	7.0	8.8
Element #20: Student Voice ***The course incorporates opportunities/activities for student voice (e.g., autonomy, choice, creativity, leadership, influence) in the service-learning experience***				
Is there evidence of opportunities for students to exercise choice, autonomy, creativity, or leadership in the selection, planning, or delivery of the service-learning experience?	Element is absent based on existing evidence.	Students have opportunities to INFLUENCE the service-learning experience in terms of selection or logistics, but these choices may be trivial, unclear, or underspecified.	Clear opportunities are present for students to INFLUENCE, select, or give leadership to at least some substantive elements of the selection, planning, or delivery of the service-learning experience.	Clear and reasoned opportunities are present in several aspects of the course for students to INFLUENCE, select, or give leadership to many key elements of the selection, planning, or delivery of the service-learning experience.
IMPLEMENTATION LEVEL:	Absent	Below Baseline	Baseline	Above Baseline
WEIGHTED SCORE:	0	5.3	7.0	8.8

EVIDENCE/NOTES:

Sum of Dimension III_____

Dimension IV: Instructor Dimension (3 Elements)

Element #21: Instructor's Knowledge of Service-Learning Pedagogy ***The instructor has knowledge about service-learning pedagogy and expertise in how to apply it***				
Is there evidence that the course instructor has knowledge and/or experience with service-learning pedagogy?	Element is absent based on existing evidence.	The instructor has minimal or basic knowledge and/or experience with service-learning PEDAGOGY (e.g., consulting with introductory resources about service-learning pedagogy and/or relying on the expertise of others).	The instructor has moderate knowledge and/or experience with service-learning PEDAGOGY (e.g., engaging with books and materials, attending workshops and conferences, and/or participating in consultations).	The instructor has advanced knowledge of and experience with service-learning PEDAGOGY (e.g., longevity of practice, leadership roles in advancing service-learning on the campus, seeking out additional opportunities to deepen their practice, and/or producing service-learning scholarship).
IMPLEMENTATION LEVEL:	Absent	Below Baseline	Baseline	Above Baseline
WEIGHTED SCORE:	0	5.6	7.5	9.4

EVIDENCE/NOTES:

Element #22: Instructor's Knowledge of Community ***The instructor is knowledgeable about community partners, contexts, needs, and norms***				
Is there evidence that the course instructor is knowledgeable about the partner and/or community context, needs, and norms for the course service activities?	Element is absent based on existing evidence.	The instructor has minimal or basic knowledge about the COMMUNITY partner or context/norms/needs for course service activities (e.g., initial introduction to community; relying on other instructors, community engagement professionals, or secondary materials for information about the community or partner; assumptions of community needs).	The instructor has sufficient knowledge of the COMMUNITY context appropriate for the course service activities (e.g., prior experience with the community or partner; awareness of community strengths and community-identified needs; personal participation in community work; knowledge from relevant sources such as readings or courses).	The instructor has advanced or deep knowledge about the COMMUNITY context and norms where service activities are taking place (e.g., ongoing experience with/in the community; deep knowledge from relevant sources; seeking leadership roles in the community; experience working alongside own students; deep understanding of historical context).
IMPLEMENTATION LEVEL:	Absent	Below Baseline	Baseline	Above Baseline
WEIGHTED SCORE:	0	6.0	8.0	10.0

EVIDENCE/NOTES:

Element #23: Instructor's Knowledge of Societal Issues *The instructor has understanding of the societal issue(s) that undergird the service-learning experience*				
Is there evidence that the instructor has understanding or knowledge of the societal issues that the service-learning experience addresses?	Element is absent based on existing evidence.	The instructor has minimal or basic knowledge about the societal ISSUE(s) that the service-learning experience addresses (e.g., has little personal or professional experience on the topic; relies predominantly on a one-sided source of information about the issue, etc.).	The instructor has moderate understanding or knowledge of the societal ISSUE(s) that undergird the service-learning experience (e.g., has devel-oped or can explain a view of complex and diverse perspectives relating to the issue, from readings, courses, or engagement with the issue).	The instructor has advanced, holistic understanding or knowledge of the societal ISSUE(s) that undergird the service-learning experience (e.g., conducts research on the issue; is personally engaged deeply with organizations working on this issue; has substantive historical background knowledge or preparation in this issue area).
IMPLEMENTATION LEVEL:	Absent	Below Baseline	Baseline	Above Baseline
WEIGHTED SCORE:	0	5.6	7.5	9.4

EVIDENCE/NOTES:

Sum of Dimension IV _____

Dimension V: Community Partner and Partnership Dimension (5 Elements)

Element #24: Site/Partner Appropriateness ***Service partners or locations are appropriate, given focus of course, level of students, focus of societal issue***				
Is there evidence that the community partners or sites are appropriately chosen for this course?	Element is absent based on existing evidence.	Community partners or service sites may be minimally indicated; while some community partners or site(s) could be APPROPRIATE for this course, the rationale for partner or site choices is not clear or made explicit.	Most community partners or site(s) for service activities are identified and appear APPROPRIATE and relevant to the focus of the course and objectives.	All community partners or site(s) are clearly identified and APPROPRIATE and relevant, with explicit reference to at least two of the following: focus of the course (e.g., placement gives students insight into the course themes), level or preparation of students (e.g., students will be able to carry out appropriate activities for their level), and societal issue (e.g., students will learn about the societal issue at the site).
IMPLEMENTATION LEVEL:	Absent	Below Baseline	Baseline	Above Baseline
WEIGHTED SCORE:	0	6.0	8.0	10.0
Element #25: Guidance and Supervision of Students ***The community partner provides supervision, training, direction, and/or guidance to support students' experience***				
Is there evidence of the community partner providing guidance to or supervision of students?	Element is absent based on existing evidence.	The community partner plays a minor role in the supervision, training, direction, or GUIDANCE of students' experience.	The community partner is involved in GUIDANCE of students' experience (e.g., supervision, training, or direction of students).	The community partner plays a major role in GUIDANCE or supervision throughout the students' experience (e.g., on-site supervision, training, and/or direction).
IMPLEMENTATION LEVEL:	Absent	Below Baseline	Baseline	Above Baseline
WEIGHTED SCORE:	0	5.6	7.5	9.4

Element #26: Community Partner Co-Educator Role *Community partners have a co-educator role and provide input in shaping the service-learning experience*				
Is there evidence of the community partner(s) serving in the co-educator role or having voice in shaping the service-learning experience for students?	Element is absent based on existing evidence.	Community partner(s) are implicitly involved in shaping the service-learning experience, but details on how they PARTICIPATE as a co-educator are unclear.	Community partner(s) PARTICIPATE in some way as a co-educator (e.g., designing the service-learning experience, presenting to the class, providing readings, delivering lessons to students, and/or providing feedback on student work).	Community partner(s) PARTICIPATE in more than one meaningful way as a co-educator throughout the course (e.g., designing the service-learning experience, presenting to the class, providing readings, delivering lessons to students, and/or providing feedback on student work).
IMPLEMENTATION LEVEL:	Absent	Below Baseline	Baseline	Above Baseline
WEIGHTED SCORE:	0	5.6	7.5	9.4
Element #27: Community Capacity for Service-Learning ***Community partners have the capacity to support and participate fully in the service-learning experience***				
Is there evidence of the community partner(s) having capacity to support and fully participate in the service-learning experience?	Element is absent based on existing evidence.	Community partner(s) may have minimal or unclear CAPACITY to fully support, participate in, or fulfill the agreed upon service activities.	The identified community partner(s) have acceptable CAPACITY to allow students to carry out the required service activities, in terms of staffing, knowledge, and availability.	Community partner(s) have clearly demonstrated CAPACITY to fully support the required student service activities, in terms of staffing, knowledge, availability, and experience.
IMPLEMENTATION LEVEL:	Absent	Below Baseline	Baseline	Above Baseline
WEIGHTED SCORE:	0	6.0	8.0	10.0

EVIDENCE/NOTES:

Element #28: Instructor and Community Partner Connection ***A partnership or relationship exists between the instructor and the community or community partner(s) for service-learning***				
Is there evidence of a connection between the instructor and the community partner(s)?	Element is absent based on existing evidence.	The instructor and community partner(s) have agreed to collaborate, but their CONNECTION is superficial or transactional.	The instructor and the community partner(s) have established a CONNECTION including communication and/or meetings in advance of the course; key understandings of how they collaborate have been addressed.	The instructor and all community partner(s) have a strong, ongoing CONNECTION and partner relationship based on previous collaboration, mutual trust, and/or extensive communication/meetings.
IMPLEMENTATION LEVEL:	Absent	Below Baseline	Baseline	Above Baseline
WEIGHTED SCORE:	0	6.0	8.0	10.0

EVIDENCE/NOTES:

Sum of Dimension V _____