EXPLORING SERVICE-LEARNING OUTCOMES AND EXPERIENCES FOR LOW-INCOME, FIRST-GENERATION COLLEGE STUDENTS:
A MIXED METHODS APPROACH

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ABSTRACT

According to a 2008 Pell Institute report, *Moving Beyond Access: College Success For Low-Income, First-Generation Students*, about 24% (4.5 million) of the undergraduate college population in America are low-income, first-generation (LIFG) students. However, for many of these students their chances of persistence to degree are extremely low. In fact, the persistence rate for LIFG students is a mere 11%—startling when compared to the national average persistence rate of 55% (Engle & Tinto, 2008). In efforts to increase the academic success and persistence rates of these students, several institutions have turned their attention to pedagogical strategies like service-learning.

A growing body of literature indicates that students who participate in courses that utilize a service-learning pedagogy have significant gains in cognitive and affective outcomes (Eyler & Giles, 1999; Campus Compact, 2010 & 2011; Vogelgeslang & Astin, 2000; Astin, Vogelgesang, Ikeda, & Yee, 2000). This research has been invaluable to the exploration of how service-learning is related to learning and development; however, very little has focused on the outcomes and experiences for “high-risk” students, such as low-income, first-generation. Investigation of service-learning experiences for LIFG students is vital for increasing our understanding of this pedagogy’s relationship to learning and developmental outcomes, especially as it pertains to overcoming environmental barriers that hinder academic success.

This study utilizes a sequential explanatory mixed-methods design to explore the outcomes and experiences related to service-learning participation for LIFG college students. The first phase of the study explores a national, longitudinal dataset from the
Cooperative Institutional Research Program (CIRP) of over 5,000 cases at 86 public and private universities. Analysis is conducted to examine differentiating characteristics between LIFG students that participate in service-learning courses and LIFG students that do not participate in service-learning courses. Exploratory factor analysis is conducted for the LIFG population to explore latent constructs. Analysis is also conducted for the overall sample of college students for comparison purposes. The service-learning outcomes and experiences of LIFG students are then explored in phase two with the collection of in-depth, face-to-face interviews of LIFG students that have participated in service-learning courses from three institutions. This phase’s interview protocol and multi-step coding procedure were informed by the findings of the quantitative phase.

Quantitative analysis indicates that very factors differentiate whether or not LIFG students will participate in service-learning courses. Other findings indicated that participation in service-learning has a significant positive relationship with college GPA, even when controlling for pre-college academic preparation. Interviews yielded three core themes that were related to LIFG students’ participation in service-learning: faculty and staff interactions, targeted programs, and a predisposition to service. Five core themes and one tentative theme emerged from the interview data about the outcomes related to participants’ service-learning experiences: Cognitive Diversity, Service as Reciprocal, Critical Consciousness, Encountering the “Self”, Aiding in Biculturalism, Career Acculturation.

This study has resulted in findings from each phase that provide greater understanding to the experience of LIFG students who participate in service-
learning. Four primary conclusions result from the synthesis of the findings of both phases: (1) LIFG students participate in service-learning at equal rates to the overall student population; (2) LIFG students’ participation in service-learning results from the combination of intrinsic and extrinsic motivations and has little to do with pre-college characteristics; (3) service-learning participation has positive impacts on academic outcomes for LIFG students; and, (4) service-learning participation has positive impacts on affective outcomes LIFG student.

These conclusions have implications most readily for institutional and classroom practice, but also for policy and research. Finally, the findings of this study highlight continuing gaps in our knowledge on this topic, and subsequently include a discussion of future directions for inquiry. Suggested areas of future research include extending the current research to a variety of institutional contexts; continued investigation of the unique learning and developmental needs of LIFG students and the ways in which curricular strategies may be employed to meet those needs; and, exploration into the impact of service-learning participation on persistence for students who transfer from community colleges to 4-year institutions.
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_Soli Deo Gloria!_
Despite a proposal in 2011 by President Obama to increase the budget for the Corporation for National and Community Service, the past two years have seen repeated severe cuts to the budget of this national agency which includes programs like Learn and Serve America1, AmeriCorps, and several other service agencies. What does the governmental funding of CNCS have to do with research on service-learning? By service-learning, I specifically am referring to regular, for-credit courses that utilize community service experiences and reflection as a teaching method to achieve the desired learning objectives of that course. Research on service, and specifically service-learning, is imperative to inform the incredibly difficult decisions that our country’s leaders must make about resources allocation. In other words, without research on the outcomes and experiences of multiple groups of people who participate in service-learning, decisions that cut funding for service and service-learning are likely to continue due to misinformation about the efficacy of such initiatives. This argument also applies to state legislators and college and university academic leaders. From an educational perspective, this argument requires more and better research on the ways in which we develop an educated, productive, citizenry. More specifically, more research is needed

1 Learn and Serve America is a program of the Corporation for National and Community Service that directly and indirectly serve K-Higher Ed institutions through grants, training, and research to facilitate service-learning projects.

2 HERI is currently phasing items into the College Senior Survey specific to constructing a derived variabld
about the pedagogies and practices that support students from backgrounds that may limit their academic success. In particular, greater attention is needed to inform policies and practices that seek to engage low-income, first-generation students in service-learning courses as a method of increasing their academic success.

Connecting the need for service-learning research to current economic realities is not meant to be a feeble attempt to exaggerate the importance of this topic. The fiscal reality of decreased public funding to many institutions has resulted in many institutional cutbacks. Historically, such economic realities have disproportionally negatively effected the already disenfranchised. In 2006 the Educational Trust released a report, *Promise abandoned: How policy choices and institutional practices restrict college opportunities*, that sharply criticizes governmental and institutional practices and policies that serve to actually limit access of low-income, first-generation students from entering into higher education (Haycock). Utilizing several datasets from NCES, the report concludes that institutional practices and policies have not only limited the access of low-income, first-generation students, but fostered institutional indifference that has lead to disproportionately lower levels of persistence.

Research on service-learning has grown substantially in the past three decades and has been invaluable to the exploration of student learning and development; however, the vast amount of this research has focused on white students from middle- and upper-class backgrounds. While low-income, first-generation (LIFG) students are historically less likely to participate in service-learning (Astin & Sax, 1998), there have been
substantial increases in student participation and opportunity to participate in service-learning courses across the nation (Campus Compact, 2010 & 2011). Despite these increases in overall student participation little research on the experiences or gains associated with this population’s participation in service-learning have been conducted. The exploration of service-learning effects for LIFG students is needed to determine its relationship to student success, especially as it pertains to overcoming complex barriers to their learning and development.

One may hypothesize that participation in service-learning for LIFG students would better equip them to succeed in higher education and beyond; however, there is a gap in the literature to support such claims. This claim is also called into question by the nature of the cognitive processes involved in service-learning. In their seminal book on service-learning, *Where is the Learning in Service-Learning*, Eyler & Giles (1999) explore the impact of encountering the “other” through service-learning experiences. Eyler & Giles conclude that service-learning participation is related to reductions in stereotypes, as well as increases in developing tolerance and appreciation of other cultures. These findings are compatible with much of Dewey’s (1938) theory of experiential learning; but does this experience with the “other” still occur, or occur in similar ways, for LIFG students?

A primary component of successful service-learning pedagogies result from the interaction between students and issues of difference (Eyler & Giles, 1999), but it is a logical fallacy to assume that students from backgrounds of limited financial and cultural
capital would experience similar issues of difference. More importantly, Keen & Hall (2008) argue that students participating in service-learning “need sustained and reflective dialogue across boundaries of perceived difference to effectively engage with the intellectual, moral, and spiritual challenges such engagement can create” (p. 71). They argue that lack of engagement around issues of difference is likely to result in the re-entrenchment or deepening of difference divides. Further exploration of LIFG students’ participation in service-learning is needed to understand their experiences and the outcomes related to these experiences. Moreover, institutions have an ethical responsibility for optimizing the success of their students (Bean, 1986), and several researchers (Haycock, 2006; Engle & Tinto, 2008) contend that current institutional practices and policies in higher education may be further marginalizing LIFG students from the academy—in effect pushing LIFG out of higher education. Without better understanding of the academic experiences of LIFG students and the efficacy of pedagogies like service-learning, institutions could be missing out on a valuable opportunities to increased student success, or worse, may actually inadvertently encourage their departure.

Previous research on the effect of participation in service-learning curriculum for LIFG students is limited; moreover, the few studies that have looked at service-learning in relation to diversity or multi-cultural issues have either focused on majority students’ experience with issues of difference (i.e., Dunlap, 1998) or have included very narrow sample characteristics (i.e., Lee, 2004). Few nationally representative datasets offer both
student level data and include survey item(s) specifically about service-learning participation.

**Purpose of the Study**

This study utilizes a Deweyian theoretical framework of service-learning layered with Astin’s (1991) Input-Environment-Outcomes Model for the expressed purpose of better understanding the learning experiences of low-income, first-generation students within service-learning courses. This layering of theoretical and conceptual frameworks served as the foundation to argue that differences in students’ background characteristics have an effect upon the experiences of low-income, first-generation students with service-learning and thereby the related outcomes for this population; such as academic achievement, cognitive development, or persistence. Greater understanding of the learning experience for low-income, first-generation students will provide increased understanding of the practices and policies that may lead to increased academic success for this student population and better application of this viable and effective pedagogy.

The study examines the variation in associated gains for LIFG students who participated in service-learning courses disaggregated by student characteristics and explore their experiences with service-learning via a mixed-methods explanatory sequential design (Creswell & Plano Clark, 2011; Creswell, 2003). Within this design, the study included two phases: In phase one, a national longitudinal dataset from the Cooperative Institutional Research Program (CIRP) at the University of California Los Angeles (UCLA) was utilized to analyze outcomes related to academic achievement,
growth in cognitive abilities, growth in diversity skills, and civic awareness. Variables related to academic skills were chosen for their clear indication of students’ scholarly success. Variables related to diversity skills and civic engagement were chosen for their theorized impact upon students’ holistic development and especially for their association with a “pluralistic orientation,” or skills and perspectives appropriate for living and working in a global and diverse society (Engberg, Meader, & Hurtado, 2003). The CIRP surveys used can be found in Appendix A, and a detailed list of the survey items being selected for analysis is included in Appendix B. Key variables are discussed in detail in chapter three.

Phase two utilized the results from the quantitative analysis in phase one to inform the construction a semi-structured interview protocol for in-depth, one-on-one interviews with LIFG students who had participated in service-learning courses. These interviews were aimed at exploring the service-learning experience and resulting outcomes for LIFG students. This phase allowed for the explanation and interrogation of the quantitative findings in relation to the research questions. This sequential mixed-methods approach was imperative to adequately answering the following research questions and for providing a robust understanding of how the quantitative findings in phase one could be explained through the qualitative findings of phase two. This design

\footnote{HERI is currently phasing items into the College Senior Survey specific to constructing a derived variable labeled “pluralistic orientation”; however, at the time of this study, the available dataset (2008 CSS) did not yet have the individual items that make up this scale.}
also allowed the researcher to explore divergent findings that resulted from the two data strands. Tashakori & Teddlie (2010) argue that mixed-methods research has the ability to produce both convergent and divergent findings and to allow for deeper insight into complex phenomenon. The qualitative data also allowed for the exploration of experiences that may be unique to this population of students that are not typically associated with service-learning.

This study’s focus was narrowed to students from institutions classified as Public and Private Universities in the HERI datasets. This was an _a priori_ decision based primary upon an issues of data access—the quantitative dataset included a larger number of public and private universities resulting from a couple grants which allowed for the collection of data from institutions that had not purchased HERI’s services.
The Problem Statement

The problem of this study is:

What are the outcomes and experiences related to service-learning participation for LIFG College students?

To address this problem comprehensively, I ask the following research questions for each phase of research:

**Quantitative Phase I Research Questions**

Research Question 1: What factors differentiate whether LIFG students will participate in service-learning?

Research Question 2: What are the factors that differentiate whether students (in the overall sample) will participate in service-learning in comparison to the factors identified for LIFG students?

Research Question 3: What latent constructs are present for the sample of LIFG college students?

Research Question 4: How does participation in service-learning relate to GPA, the CSS Civic Awareness Score, and any latent constructs for LIFG students?

**Qualitative Phase II Research Questions**

Research Question 1: What factors influence the participation of LIFG students in service-learning?

Research Question 2: What learning and development is related to participation in service-learning courses for LIFG students?
Terms & Definitions

The following key terms are used in this proposal and are provided here to help clarify their meaning and use. These terms are more fully detailed in the literature review.

- **Service-Learning**: An educational method where students learn and develop through participation in organized service—conducted in and meeting the needs of a community—that is integrated into a course curriculum and is aimed at facilitating the course’s learning objectives.

- **LIFG (low-income, first-generation) students**: College students who have annual family incomes $30,000 or below and whose parental educational attainment is less than “some college.”

- **LIFG Participants**: Low-income, first-generation college students who have participated in service-learning courses.

- **LIFG Nonparticipants**: Low-income, first-generation college students who have not participated in service-learning courses.

- **Student Success**: While this term can be broadly applied to indicate student learning and development, here it is specifically referencing learning and development towards degree attainment (i.e., persistence).
Justification for the Study

A gap in the research literature has been identified around the effects of service-learning for LIFG students; however, the importance of this study extends far beyond merely helping address that gap. This investigation provides findings about experiences and gains associated with service-learning for a group of students who face a series of complex barriers to their learning and development from limited financial and cultural capital. Findings suggest this experience promotes academic achievement and a variety of affective outcomes. Similarly, understanding the experience of these students in service-learning courses offers further explanation to the efficacy of such experiences for increased student success. The findings of this study include recommendations for curriculum development, institutional policy, and future research for the increased retention, persistence and success of LIFG students.
Chapter 2:  
Literature Review

This chapter begins with a brief exploration of the broader higher education context that increasing institutionalization of and research on service-learning are situated within. Service-learning is then explored in detail along with the research that has investigated the relationship between this pedagogy and student outcomes. Next, literature on LIFG students is used to explicate the host of complex barriers these students commonly experience in their academic journeys. A critical lens is then used to illustrate the gaps in literature that give rise to persisting questions about the efficacy of service-learning as a pedagogical strategy to increase LIFG student success. These questions are further refined and undergirded with a theoretical and conceptual examination of service-learning for LIFG students which provided the foundation for this study.

Situated Context

Research on service-learning is situated within the convergence of three larger forces in the landscape of higher education: Pressures to increased access to higher education, especially for historically underserved populations; pressures to subsequently increase degree attainment; and pressure from the assessment movement to empirically show the value of particular institutional efforts towards the previous two goals. The convergence of these larger movements has produced a crucible for service-learning research.
The U.S. Department of Education reports that between 2000 and 2008 the number of students attending Research & Doctoral institutions (Basic Carnegie Classification) and whose total family yearly income is $20k-29k increased by +7.7% to 26.3% (U.S. Department of Education, NCES, 2011). Similarly, between 2000 and 2008 the percentage of Black and Hispanic undergraduate students attending accredited institutions in the United States rose by +5.1% to 34.6% and by +2.1% to 13.9% respectively (U.S. Department of Education, NCES, 2010). Such increases are due in large part the goals and priorities set by the Advisory Committee on Student Financial Assistance (ACSFA). Created through the Higher Education Amendments of 1986, the ACSFA’s primary focus has been increased access to higher education with specific considerations and commitments to access for at-risk students. This focus was due in part to a persisting and noble democratic ideology that education is the great equalizer and essential for our democratic society; however, it also has a capitalistic reality.

In 2001 the ACSFA released a report, *Access Denied: Restoring the Nation’s Commitment to Equal Education Opportunity*, which argued that increasing the access and persistence of a broad income range of students would increase the gross domestic product by approximately $250 billion and the US tax revenue by $85 billion. The report illustrates increasing pressure for higher education institutions to increase both access and degree attainment for a broad range of students. With such financial expectations, especially in light of the current economic crisis, it is no surprise that in 2009 President Obama announced his college completion agenda with a commitment to
ensure the United States would once again lead the world in the proportion of college
graduates by 2020. Private organizations have set even more specific goals; for instance,
the Lumina Foundation has a commitment to increase America’s postsecondary degree
attainment rate to 60% by 2025.

Pushes to increase access and persistence over the past three decades have
naturally lead to a wider movement for the ongoing empiric assessment of learning
outcomes to ensure student success. Federal initiative such as the Department of
Education’s “Committee on Measures of Student Success,” and foundation and
association initiatives such as the Bill & Melinda Gates Foundation’s “Completion by
Design” initiative illustrate the prevalence of the assessment movement at a national
level. The movement’s presence can be seen at the institutional level with the growth of
survey centers that focus on broad student learning outcomes and engagement.

As a result of these forces, research on the relationship between various
pedagogical strategies and student outcomes has increased significantly over the past two
decades. As a result pedagogies such as service-learning have undergone a sort of
maturation process that has included formalization through professional associations and
increasing institutionalization amongst many colleges and universities. However, such
proliferation is not without concerns. In an article exploring the dangers of viewing the
institutionalization of service-learning as a panacea for higher education’s woes, Butin
(2006) cautions the higher education community to pursue a more critical approach in
exploring the efficacy of service-learning for all students. Butin argues that despite the
growing racial diversity and access for low-income students in higher education, that research on service-learning has largely assumed “that the students doing the service-learning are White, sheltered, middle-class, single, without children, un-indebted, and between the ages of 18 and 24” (p. 481). Butin argues for greater understanding of the service-learning outcomes for at-risk students as to not “oversell” the pedagogy’s capabilities.

**Service-Learning**

The term “service-learning” was first used in 1966 by Oak Ridge Associated Universities to describe a program utilizing partnerships between industries for scientific research; however, it was not until the 1980s that the term started being used more readily. In 1987 the National Society for Internships and Experiential Education (later renamed National Society for Experiential Education, NSEE) chose service-learning as an area of specific focus (Harkavy & Hartley, 2010). However, it was the 1989 Johnson Foundation’s Wingspread special report, *Principles of good practice for combining service and learning*, that really brought focus to the importance of combining service and reflective learning (Honnet & Poulsen, 1996). Wingspread has continued to host several conferences on service-learning research attempting to bring together educational research and policy makers with the expressed purpose to increase civic engagement.

As is often the case with a new term, the early uses of service-learning were somewhat varied and amorphous. In a literature review focusing on the definition of service learning Kendall & Associates (1990) found 147 different terms and definitions
related to the term. Perhaps the clearest distinction has come from defining this term through policy for the purposes of funding. The Serve America Act, which included the creation of such entities like Serve and Learn America and AmeriCorps, provide a specific definition for grant purposes. In their 2006-2007 Performance Report, Serve and Learn America set the following definition:

Service-learning is defined through the Learn and Serve America statute as an educational method under which students or participants learn and develop through active participation in thoughtfully organized service that is conducted in and meets the needs of a community; is coordinated within an elementary school, secondary school, institution of higher education, or community service program, and with the community; helps foster civic responsibility; is integrated into and enhances the academic curriculum of the students, or the educational components of the community service program in which the participant is enrolled; and provides structured time for the students or participants to reflect on the service experience. [42 U.S.C. 12511] (CNCS, 2008, p. xiv)\(^3\)

This definition sets several clear criteria for service learning, most importantly that it is an educational method. This pedagogical criterion clearly separates service-learning from community service or volunteerism. For the purposes of this study service-learning curriculum is embedded within the context of formal education (i.e., an approved course from an accredited academic institution).

In 2000, Astin, Vogelgesang, Ikeda, & Yee released a landmark report titled *How*

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\(^3\) This definition is based upon The National and Community Service Act of 1990 (as amended through Dec. 17, 1999, P.L. 106-170, approved 12-17-99).
Service Learning Affects Students. The report discussed findings from a nationally representative longitudinal study of 22,236 undergraduates at baccalaureate-granting institutions. The study, utilizing data from HERI’s CIRP dataset, had two goals: (1) to explore comparative and differential effects between participation in service-learning and community service, and (2) to enhance the field’s understanding of how learning is enhanced through service. In this study service-learning was defined as any course in which service is tied as a component of the course. A major finding was that service-learning added statistically significant positive gains to almost every benefit that was also associated with community service. In other words, the evidence indicated that service-learning curriculum resulted in increased gains over community service alone. While Astin, et al., connect service-learning to a curricular context, Manolis & Burns (2011) clarify this context by specifying service-learning as a specific pedagogy. In their work examining the attitudes of business students towards service learning, Manolis & Burns found confusion existing over the substance of service-learning and differentiate its construct from curriculum enforced service to an actual educational method. Manolis & Burns encourage researchers to frame the subject of service-learning research within implementations that clearly define the construct as one that combines community service and explicit academic learning objectives. The difficulty with narrowing the construct of service-learning to such a specific point is the lack of nationally representative survey data that include such specificity. This specificity can be achieved through less generalizable but more detailed qualitative data.
The clarification of this term for practitioners and researchers has also been aided and accompanied by a proliferation of service-learning organizations that advocate this pedagogy and its study. Some examples of this include the creation of Campus Compact, a national coalition of over 1,100 colleges and universities founded in 1985 by presidents of Brown, Georgetown, Stanford, and the president of the Educational Commission of the States, and the 1994 start of the *Michigan Journal of Community Service Learning*. This growth has also occurred in the research of the impact of service learning and its associated outcomes. Together, this research constitutes a body of literature that showcases the positive influence of service learning on the overall student population.

**Outcomes Related to Service-Learning**

As a natural starting point to research on an emerging pedagogy, research on service-learning has primarily centered on the overall student population. As Butin (2006) pointed out, the result of this reality is that most of the research on service-learning has consequently been conducted on majority students. This body of research has focused on a variety of student outcomes that include both academic and affective outcomes.

**Academic Outcomes**

In a review of the research on service-learning between 1993 and 2000, Eyler, Giles, Stenson, & Gray (2001) found twenty-four published research articles that include findings that service-learning has a positive impact on students’ learning. This attention
could be contributed to the centrality this outcome has to the *raison d’être*, or reason for being, of higher education. The previously mentioned study by Astin, et al., (2000) had as their second goal to explore how learning is enhanced through service-learning. Their study included exploration of academic performance as an outcome measure. Astin, et al., operationalized academic performance by looking at students’ senior college GPA, self-reported change in writing skills, and self-reported change in critical thinking skills (senior students were asked “Compared to when you entered college as a freshman, how would you now describe your ability to…”). In speaking about their results compared to outcomes of community service the researchers comment,

…there are a few outcomes for which service learning is a stronger predictor than is community service. For all academic outcomes as well as for some affective ones, participating in service as part of a course has a positive effect over and above the effect of generic community service. (p. 15)

These findings about service-learning’s impact upon academic outcomes confirm the results of many other researchers (Ward, 2000; Eyler & Giles, 1999; Astin & Sax, 1998; Miller, 1994).

In a study that included a quasi-experimental design Strage (2000) compared the final grades of 477 students over five semesters taking a child development course. The final two semesters (*n* = 166 students) of the study, a service-learning component was integrated into the curriculum. Comparisons between the students’ final grades using ANOVAs revealed an average 4.9% increase in final grade for the students who took the course with the service-learning component. Strage notes that despite these striking
results the most compelling evidences for increased learning were found in students’ reflective journals.

**Affective Outcomes**

In their meta-analysis Eyler, et al. (2001) found seventeen articles that indicate service-learning has a positive impact on developing interpersonal skills, and another thirty-one finding a positive effect on reducing stereotypes. Of these, Eyler & Giles’s (1999) seminal book, *Where’s the Learning in Service-Learning*, describes a multi-phase mixed-method study utilizing in depth interviews with more than 60 students involved in service learning to generate a pre- and post-survey instrument to identify associated outcomes. The resulting survey of 15,000 students (11,000 of whom had been involved in service-learning) produced data that found service-learning participation is related to the reduction of stereotypes, increase of a sense of community and feelings of similarity with the “other,” and an increase in the development of tolerance and appreciation of other cultures. These findings were statistically significant \(p<0.5\) even when the researchers controlled for age, gender, family income, minority group status, and other participation in community service. Eyler & Giles argue that service-learning provides students with an opportunity to interact with people whose experiences and perspectives are different from their own. Eyler & Giles argue these experiences with the “other,” through confrontation with disorienting dilemmas, cultivate skills that increase students’ diversity skills. This finding however produces serious questions about the outcomes of
students who participate in service-learning where their experiences are with people from backgrounds similar to their own instead of experiences with the “other.”

In her study interviewing college students at Saint Joseph’s University who were taking a writing course that involved service-learning through tutoring in a local middle school, Green (2001) found that subject positioning played a major role in their experience with service learning. Through her interviews Green found that students’ race and class constituted a difference of experience both through the ways that students were perceived by the persons they were serving, and through ways in which students experienced issues of difference towards those they served. Researchers examining the experience of minority status students involved in service-learning find students feel discomfort engaging in issues of diversity and difference (Green, 2001; Novick, Seider, & Huguley, 2011). These feelings of discomfort and lack of engagement may help explain Astin’s (1993) findings that African American and White students actually grow further apart in their beliefs about racial discrimination being a problem in our society and in their commitment to promoting racial understanding over the course of their college experience. In contrast, Lee’s (2004) study utilizing an open ended survey design and interviews to explore the intersection between social class and college outreach found “the commitment to service-learning is not entirely dissimilar by students’ backgrounds but rather that such dissimilarities (i.e., by race and class) provided a powerful vehicle towards increasing students’ activism and commitment to social change” (p. 317).
Twenty-one studies published between 1993 and 2000 found that service-learning has a positive effect on sense of social responsibility and citizenship skills (Eyler, et al. 2001). Eyler & Giles’s (1999) study, mentioned in detail above, found that students who participated in service-learning, especially well-integrated service-learning, had increased outcomes in all areas of their study’s model for civic engagement. This model includes increased understanding of social problems, increased cognitive development (related to academic skills), increased personal skills (e.g., working better with others, leadership, and communication skills), value development (commitment to social justice), and efficacy (both personal and community). Eyler & Giles argue these five areas allow students to both be knowledgeable and effective citizens. Other studies have similarly found that exposure to service through educational opportunities, at almost any age, increases future civic participation (Andolina, et al., 2003; Kahne & Sporte, 2008; Astin, et al., 2000; Astin & Sax, 1998).

Campus Compact’s 2009 Annual Membership Survey Reports (2010), including over one thousand institutions, revealed that 81% of the institutions surveyed included civic knowledge and engagement in their strategic plans. The commonality of civic engagement in institutional strategic plans was second only to critical thinking (90%); but what is civic engagement? As mentioned previously, Sanchez-Jankowski (2002) has argued that civic engagement’s meaning is relative amongst different subcultures. This finding is unsurprising considering the multiple definitions of the term seen in the research literature. Acknowledging this confusion in her recent book, Civic Engagement
in Higher Education: Concepts and Practices, Jacoby and Associates (2009) simply define civic engagement as “acting upon a heightened sense of responsibility to one’s communities” (p. 9). Colby, Ehrlich, Beaumont, & Stephens (2003) provide a more detailed description adding that an educated citizen understands their position and responsibility within a larger society, is subsequently mindful of societal issues, participates appropriately in making judgments upon issues, and taking actions accordingly. Here it is important to note a distinction between civic engagement and civic awareness-often conflated as only civic engagement. Though deeply connected, civic engagement implies particular actions and behaviors (i.e., voting, or volunteerism) while civic awareness denotes a particular thoughtfulness or consideration of one’s self as an interdependent person within the wider society and/or community. Indeed some may argue that these terms are two sides of the same coin; however, I argue that civic engagement’s behavioral aspect may in fact promote a more narrow scope of the multiple ways in which a person may choose to actualize views of civic awareness.

One further distinction should be made about civic engagement and civic awareness as they pertain to service-learning. James & Iverson (2009) argue that a distinction between two perspectives of citizenship must be made to better inform service-learning as a pedagogy. Drawing on a meta-review of the literature, they argue that civic engagement can be seen as a personal duty or as a participatory and justice-oriented practice. They go on to argue that this participatory view consequently situates the idea of service-learning as a pedagogy within a critical theory perspective. James &
Iverson conclude with their belief that “it is our [educators’] responsibility to provide experiential opportunities for students to develop a commitment to more critical understandings of citizenship” (p. 34). This distinction illustrates the importance for deliberate thought towards the intended outcomes for service-learning. Conception of civic engagement includes aspects of moral evaluation, especially if they are rooted in social justice, and therefore should be evaluated for the assumptions that undergird its philosophy.

Finally, service-learning participation has also been shown to also have a positive relationship with variables that constitute various aspects of critical consciousness, or the process of conscientization. Developed by Paulo Freire (1973) and grounded in Marxist critical theory, critical consciousness focuses on an individual’s ability to understand the world as being situated within complex social and political relationships with specific awareness of how institutional, historic, and systematic forces limit or promote opportunities for groups of people. Ginwright and Commarota (2002) note that Freire’s notion of critical consciousness relies on the premise that people’s lives are not immutable facts; an understanding that allows people to take control of their fate and thereby participate in social change. Ginwright and Commarota go on to argue that people can only truly understand their ability to exert control in their lives by participating in conditions that do so. Therefore, they argue “social action and critical consciousness are a necessary couplet; that is, acting upon the conditions influencing one's social experience leads to an awareness of the contingent quality of life” (p.87).
This independence between critical consciousness and social action is what Freire (1973) refers to as *praxis* and it provides a procedural understanding of how the development of critical consciousness is a related outcome to participation in service-learning.

While research on service-learning does not readily seek to operationalize critical consciousness as an outcome, several studies have produced findings that should be characterized as such. Batchelder and Root’s (1994) study investigating the participation in service-learning courses compared to traditional courses on cognitive, pro-social cognitive, and identity outcomes revealed significant gains for service-learning participants in complex cognitive variables including a greater awareness of the multiple dimensions and variability involved in dealing with social problems. Similarly, Barber, Higgins, Smith, Ballou, Dedrick, & Downing’s (1997) national study examining the impact of service-learning upon high school student civic involvement found that service-learning participants demonstrated significant increases in self-estimation of civic skills and their understanding of civic issues, despite only small improvements in mean scores testing in these areas. The development of critical consciousness is deeply related to issues of diversity and civic awareness given its focus on issues of power; however, critical consciousness is distinctive in its direct inclusion of cognitive skills, such as critical thinking.

As this section has demonstrated, research on service-learning has produced significant evidence toward the efficacy of service-learning as a pedagogy to increase growth and development for the majority of students who participate in this pedagogy.
Unfortunately, the bulk of the students who have participated in service-learning, especially in the past, have been traditionally aged, middle- to upper-class, white, females. What has yet to be seen; however, is the applicability for service-learning to be utilized in mitigating or overcoming the barriers that commonly impede the success of low-income, first-generation students.

**LIFG Students and Barriers to Their Success**

Research has shown that low-income, first-generation college students experience a variety of complex barriers to success that range from academic preparation to cultural capital (Choy & Berker, 2003; Horn, 1997; Forsyth, & Furlong, 2003; Pascarella & Terenzini, 2005; Perna, 2002; Wapole, 2003). The following review of literature explores several of empiric works that help contextualize common characteristics of low-income, first-generation students and help enumerate the challenges that make academic success difficult for these students. According to a 2008 report released by the Pell Institute, *Moving Beyond Access: College Success For Low-Income, First-Generation Students*[^4], about 24% (4.5 million) of the undergraduate college population in America are both low-income and first-generation (Engle & Tinto). However, for many of these students their chances of persistence to degree are extremely low. According to NCES’s Beginning Postsecondary Study: 1996-2001 (2002), low-income, first-generation college

[^4]: Low-income status is operationalized in this report as having a family income below $25,000 and first-generation status includes students whose parents do not have bachelor’s degrees.
students are nearly four times more likely to exit college in their first year than their peers with neither of these characteristics. Moreover, within six years a mere 11% of low-income, first-generation students had earned a bachelor’s degree or higher, compared to average student population’s persistence rate of 55%.

What are the characteristics of low-income, first-generation population that may help explain this average persistence rate? Analysis conducted by Engle & Tinto (2008) reveals that low-income, first generation college students disproportionately come from racial and ethnic minority backgrounds with lower levels of academic preparation, they also tend to be older, are less likely to receive financial support from parents, and more likely to have multiple outside of college obligations. Despite these “high-risk” characteristics Engle & Tinto conclude that even after taking low-income, first-generation student’s background characteristics, enrollment patterns, and academic preparation into account, this population is still at a disproportional risk of academic failure which they conclude “suggests that the lower performance and persistence rates of low-income, first-generation students are as likely the result of the experiences they have during college as it is attributable to the experiences they have before they enroll [sic]” (p. 20).

In an article discussing the outcomes and experiences of low socioeconomic status college students, Walpole (2003) argues that students from varying levels of
cultural capital have differing habitus, defined as the goals for and perceptions of opportunity. In her longitudinal study utilizing a survey of over 12,000 respondents from more than 200 four-year institutions with four and nine year follow-ups, Wapole found that compared to their high socioeconomic peers, low socioeconomic status students spend less time in academic capital building activities (e.g., studying), have lower GPAs and spend more time working (most likely out of necessity), and subsequently have lower levels of income and lower levels of educational attainment. In an examination of the factors that significantly contribute to high GPA attainment, Nettles, Thoeny, & Gosman (1986) found that the most important contributing factor to high GPAs was low feelings of racial discrimination; having high high school GPAs and high SAT scores were the third and forth most important factors. High school GPA and SAT scores illustrate the impact pre-college preparation can have upon student success. A multitude of studies have shown that low-income, first-generation students are less prepared than their peers when entering college and that this lack of preparation constitutes a barrier to academic achievement (Forsyth & Furlong, 2003; Perna, 2002; Horn, 1997).

Similar to her findings about students’ lack of investment in academic capital, Wapole’s (2003) study also found that students of lower cultural and socioeconomic capital spend less time investing in social capital (involvement in clubs and groups) than

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5 Here the reference to habitus from Wapole’s work is rooted in Bourdieu’s (Grenfell, 2008) conception of the system of dispositions that an individual develops in response to lived experiences and that act in an embedded, almost pre-conscious manner to shape an individual’s concepts of self.
their peers. Wapole argues that these findings are cause for concern since other researchers (Pascarella & Terenzini, 2005; Carter, 1999; Tinto, 1993) have found such involvement is positively correlated with student persistence. In his article about the changing complexities of diversity with millennial students, Broido (2004) argues that though millennial students have a more comprehensive understanding of diversity the increasing racial segregation that occurs on higher education campuses has limited students’ development of pluralistic perspectives. For LIFG students, experiences that allow students to engage with varying perspectives is not only a valuable skill for critical thinking, Wapole’s (2003) findings suggest these experiences are important to allow students to learn a new habitus that includes aspirations of college success.

The exploration of factors contributing to increased civic engagement amongst students, especially as they become adults, has been a topic of great interest over the past few decades. Several researchers have shown evidence that increased educational attainment, higher socioeconomic status, and majority race/ethnicity status are factors that positively correlated to increased civic engagement (Burns, Scholzman, & Verba, 2001; Nie, Junn, & Stehlik-Barry, 1996; Verba, Scholzman, & Brady, 1995). Unsurprisingly, they also found the converse to be true—that LIFG students are less likely to be civically engaged. Sanchez-Jankowski (2002) cautions researchers about inferring causality from such data. Sanchez-Jankowski argues that group or community identity causes varying subcultures to adopt different conceptions of civic engagement. Sanchez-Jankowski’s argument is supported by Kahne & Sporte’s (2008) study that
explored the impacts of learning opportunities upon civic engagement. Kahne & Sporte’s study, which included over 4,000 high school students, found that when factors for neighborhood and family contexts (such as exposure to adults involved in community improvement) were included in their hierarchical linear model demographic characteristics were no longer statistically significant. Moreover, the study’s primary finding is that classroom civic learning opportunities can positively impact students’ commitment to civic participation. While these findings provide a more robust understanding of the process of cultivating civic engagement, they do not invalidate the evidence that LIFG students are less civically engaged; in fact, they help explain that reality.

As the literature indicates, these barriers inhibit the learning and development of both academic and affective outcomes. Institutions seeking to educate and develop students in and beyond college from diverse backgrounds utilize many pedagogies and practices; including service-learning. This is no surprise considering the bulk of the literature on service-learning indicates that participation in courses that utilize this pedagogy are related to increases in a variety of these academic and affective outcomes. Institutional attention towards issues of academic success for “at-risk” students has resulted in several well-intended but often ineffective programs and curricula, including various levels of institutionalized service-learning. Despite critiques that question the positioning of service-learning as an educational panacea (Butin, 2006), research shows the bulk of students who participate in courses utilizing a service-learning courses have
statistically significant gains in cognitive and affective outcomes (Astin & Sax, 1998; Astin, Vogelgesang, Ikeda, & Yee, 2000; Campus Compact, 2010 & 2011; Eyler & Giles, 1999; Vogelgeslag & Astin, 2000). While this research has been invaluable to the exploration of student learning and its associated gains for development, the vast amount of this research has continued to focus on white students (and in particular female) from middle- and upper-class backgrounds. Despite limited research on low-income, first-generation students’ participation in service-learning, many institutions have placed expectations upon service-learning courses to produce the similar outcomes for these students as past research has indicated for the general student population.

Gaps in the Literature

While the literature on service-learning has grown substantially and brought significant evidence to bear about the outcomes of service-learning for the overall student population, it is not without its contradictions and gaps. The results of these studies may not be applicable to the current shifting national population of college students. Some of the data are over a decade old, and some of this research is limited to only one institution. None of these studies formally investigate the relationship between empiric gains and participation in service-learning for low-income, first-generation students or examine what factors may contribute to this population’s participation. The few qualitative studies conducted around the area of minority student experiences with service-learning report mixed findings about the differences due to race/ethnicity (Keen & Hall, 2008), and little to no information exists about difference in the associated gains. In addition,
research in this area has significant limitations and validity threats due to unrepresentative samples and possible confounds of a single case limitations.

Rockquemore & Schaffer (2008) study exploring the cognitive processes involved in service-learning’s cultivation of civic engagement readily admits its major limitation is the study’s homogeneous sample (p. 20). Their sample is representative of their campus (Pepperdine University) meaning the researchers are able to capture the particulars of this case; however, the population characteristics are quite unique: 80% white; almost 70% female; at a faith-based institution; and over half of the sample came from homes with an average income over $75,000/year, and at least ¼ of the sample came from homes with an average income over $150,000/year. As previously indicated these factors are all highly correlated with many of the outcomes associated with service-learning, such as civic engagement (a threat to internal validity). This homogeneity severely limits the generalizability of the findings to other college students outside of this narrow context (Schofield, 1990; Krathwohl, 2009; Shadish, Cook, & Campbell, 2002). Similarly Dunlap’s (1998) study looking at “multi-cultural” issues pertaining to race in experiences of service learning utilized a qualitative study of 30 child development college students. Dunlap describes the sample as:

The majority of the students in the class were from economically-privileged, European-American communities. The overwhelming majority of those with whom they interacted in their service-learning settings were from economically less-privileged and poor African American and Latino/a backgrounds who were participating in various classrooms, day-care and after-school homework programs. (p. 59)
Rockquemore & Schaffer candidly describe their sample (n=120 participants) as largely lacking “exposure to various ethnic cultures” (p. 20). This calls into serious question whether the results of their survey (which will be discussed more later) are a measurement of service-learning or exposure to diverse ethnicities and perspectives—the community service sites were all located in downtown Los Angeles working with racially and ethnically diverse populations. Moreover, the qualitative piece to this study has several internal validity threats that could have been mitigated through different method choices. In their study the researchers primary stated goal was to create a cognitive map of the service-learning process. The authors utilize a grounded approach to thematically code daily journals for a subsample of 50 participants. In accordance with grounded theory and sound qualitative design (Maxwell, 2005; Krathwohl, 2009) the researchers began with open coding followed by an interpretive recoding which allows for the researchers to try and capture phenomena that not currently exist in predefined frameworks. Unfortunately, the authors make no mention of utilizing member checking or peer audits. Both of these tools would have increased the internal validity of their findings and have been in keeping with a grounded approach.

In a similar fashion Manolis & Burns’s (2000) study on the comparative attitudes towards service-learning between business and non-business students lacks certain measures of reliability needed to comprise a statistically sound study (Ziliak & McCloskey, 2008). While Manolis & Burns take considerable steps to ensure the internal validity of their scales using both a priori and exploratory factor analysis for their attitude
scales, they focus their results around the significance testing without providing information about the power or effect of that significance. The result is a two-dimensional understanding of the outcomes—they are shown to be of significance without showing the strength of that relationship. Moreover, asking the question, “How does college foster learning and development through service-learning?” is essential in judging the effectiveness and applicability of this pedagogy for the benefit of LIFG students.

As the demographics in higher education become more diverse, the research about the usefulness of service-learning must encompass a similarly diverse population. Low-income, first-generation students are of particular interest because of the possible impact that service-learning may have in mitigating common barriers they may face; however, blind application of any pedagogy is never advised. Instead, theory and research is needed to appropriately apply this pedagogy in ways that are likely to accomplish intended learning goals. Research in service-learning has mirrored that of the wider field by “not serving the needs of those who have traditionally been excluded from positions of power” (Mertens, 2007, p. 212). Broadening the scope of service-learning research is also in line with the axiology of service-learning as a transformative pedagogy.

**Theoretical & Conceptual Framework**

As research on the outcomes of service-learning has increased over the past two decades, efforts to institutionalized service-learning have increased across the higher education landscape. A survey of the Annual Campus Compact reports (2012, 2011,
2010) illustrate increases in full and part-time personnel and offices or centers with specific responsibilities for service-learning and community service initiatives. There is a serious assumption that often undergirds these efforts in relation to objectives of utilizing this pedagogy with underrepresented student populations: the assumption that participation in service-learning will yield similar experiences and/or outcomes as for all student groups as has been demonstrated by past research conducted upon samples that are overwhelmingly students of privilege (Butin, 2006). Theoretically, this assumption is called into question by Dewey’s theory of learning.

**Dewey’s Philosophy of Education**

Dewey’s (1938) book, *Experience and Education*, asserts that understanding the nature of human experience is prerequisite to understanding education. Dewey describes a theory of learning that results from the interplay between two principles: interaction and continuity. Dewey’s principle of interaction forms a longitudinal dimension where each experience a person has is seen as a transaction between the individual and the environment that will influence the future in some way. Dewey’s philosophy of learning is rooted in this transaction between individual and environment. Dewey says this “situation”—the context in which an experience can occur—is where knowledge can be acquired and applied. Dewey also argues that the principle of interaction is most readily evaluated by assessing if the experience has carried some sort of educational value and thus asserts that every experience will be either educative or “miseducative”; providing the example of a matchmaker for this principle. A matchmaker would seek to provide a
potential pairing with the best first interaction possible knowing that if the each individual, whether they continue to date or not, will be more inclined to participate in finding a match and—having learned in the experience—more equipped to date in the future. In contrast a poor interaction, or miseducative experience, is likely to lead to disengagement in the matching process. The principle of interaction positions educators as matchmakers between a student and material where the learning experiences—if educative—will propel the student to more learning experiences and create thirst for such experience and, quite literally, a love of learning.

Related but different, Dewey’s principle of continuity forms a lateral continuum where present experiences are affected by past experiences and will by extension effect future experiences. Essentially, the principle of continuity asserts that a person’s present experience is a constitution of the interaction of the present situation with the habits of emotional response, perception, appreciation, sensitivity, and attitudes that have developed from past experiences (Carver & Enfield, 2006). As Dewey puts it, “every experience both takes up something from those which have gone before and modifies in some way the quality of those which come after” (p. 35). This principle therefore allows for the shaping of current experiences to be educative through accounting for the past experiences and even planning for future interactions. In both principles learning is inextricably linked to a person’s background as it forms the “longitudinal and lateral aspects of experience” (Dewey, 1938, p. 44). Dewey’s principles of interaction and continuity highlight the role students’ backgrounds have in learning and the potential for
service-learning to create educative experiences. Several scholars position Dewey’s principles of continuity and interaction as the theoretical foundations of service-learning and attribute its success to providing “situations” for learning that draw upon students’ personal backgrounds (Eyler & Giles, 1999; Giles & Eyler, 1994; Jacoby & Associates, 1996).

Astin’s Conceptual Framework

Astin’s (1991) conceptual framework of student outcomes also provides theoretical evidence to suggest that students’ backgrounds would produce varying outcomes. In Astin’s own words, “The I-E-O model is very simple, yet it provides a powerful framework for the design of assessment activities and for dealing with even the most complex and sophisticated issues in assessment and evaluation” (p. 16). The origins of the model come from Astin’s examination of graduate program’s ability to produce Ph.D.’s (an outcome). Astin questioned if program outputs were merely a condition of the quality of inputs. For example would programs that recruited high quality students produce more Ph.D.’s regardless of the quality of their programs or vice versa? These early explorations convinced Astin that accurate assessment required taking into account student inputs, student outcomes, and the educational environment the students experienced. Pascarella & Terenzini (2005) further clarify Astin’s framework saying:

According to this model, college outcomes are viewed as functions of three sets of elements: inputs, the demographic characteristics, family backgrounds and academic and social experiences that students bring to college; environment, the
full range of people, programs, policies, cultures, and experiences that students encounter in college, whether on or off campus; and outcomes, students’ characteristics, knowledge, skills, attitudes, values, beliefs, and behaviors as they exist after college. (p. 53)

The I-E-O model allows the researcher(s) to account for the effect of students’ background characteristics (inputs), the experience of participating in service-learning courses while in higher education (environment), and to measure the resulting impact that experience may have upon the students’ development of academic skills, diversity skills, and civic engagement (outcomes).

A Layered Model Approach

The I-E-O model is essential for capturing two things: First, it illustrates Dewey’s principle of interaction at work in the influence of inputs upon environment; second, it illustrates Dewey’s principle of continuity in the influence of inputs upon outcomes. Figure 2-1 is a visual representation of the layering of Dewey’s principles and Astin’s model.
As Figure 2-1 illustrates, Dewey’s principle of interaction is positioned within the arrows connecting inputs to environment/experiences, and from environment/experiences to outcomes. This placement captures the transaction that occurs in an experience leading to an educative or miseducative situation. The transaction between student and experience is intimately connected to who they are as a person—their inputs—and their goals. A connection to the material or experience engages the student and can produce desired learning outcomes. Concordantly, a lack of connection leads to disengagement and little chance of accomplishment of the desired learning outcomes. I place the Dewey’s principle of continuity in the arrow connecting inputs and outcomes in an effort to capture the idea that all past experiences—and the subsequent attitudes and habits of the hear and mind resulting from those experiences—takes from those that have gone
before and therefore have a measure of independent effect upon the outcomes of the current experience. In this way, the principle of continuity introduces a temporal aspect to Astin’s I-E-O model. This temporal element provides a more realistic application of the I-E-O model to environments and experiences allowing the model to capture the effect of the past upon present and present upon future.

In relation to service-learning, this model provides a clear theoretical argument for the impact that students’ backgrounds play in the learning experience. Service-learning courses that target low-income, first-generation students will need to pay special attention to the ways in which those common background characteristics inform the service-learning experience and subsequent outcomes. This layered model provides a theoretical explanation for Engle & Tinto’s (2008) sobering conclusion that there is something about the actual college experience of LIFG students that increases their risk of academic failure. This model points to the fact that the current educational experiences of LIFG students are deeply shaped by their distinct background characteristics. As a result, research is desperately needed to help understand how these experiences maybe utilized by pedagogical strategies for increased academic success.
Chapter 3: Methodology

In this chapter, I first present a brief overview of the problem statement and resulting research questions addressed by this study. Next, I share an overview of the mixed-methods design employed to answer this study’s research questions and the reasoning for that design’s use. Method details are separated by the two phases of the study: Phase one will provide a description of the quantitative methods including details about the data source, population and sample characteristics, the variables explored, and the analytic process utilized. Similarly, phase two provides a detailed description of the qualitative methods including the procedures, participants and institutional sites, measures and analysis, and how findings were validated. These details are followed by an exploration of the points of intersection between the two data strands. Finally, this section concludes with a discussion of the study’s limitations and my identity as a researcher, acknowledging the philosophical and personal perspectives that informed my work in this study.

The purpose of this study was to explore the relationship between service-learning course participation and learning and development for low-income, first-generation students. Based on the layered theoretical and conceptual framework and the review of the literature, the study aimed to gain a better understanding of the relationship between participation in service-learning and learning and development for low-income, first-generation college students. The guiding question for this study was, “What are the
outcomes and experiences related to service-learning participation for LIFG college students?” To address this problem comprehensively, I ask the following research questions within each phase of the research:

Quantitative Phase I

*Research Question 1:* What factors differentiate whether LIFG students will participate in service-learning?

*Research Question 2:* What are the factors that differentiate whether students (in the overall sample) will participate in service-learning in comparison to the factors identified for LIFG students?

*Research Question 3:* What latent constructs are present for the sample of LIFG college students?

*Research Question 4:* How does participation in service-learning relate to GPA, the CSS Civic Awareness Score, and any latent constructs for LIFG students?

Qualitative Phase II

*Research Question 1:* What factors influence the participation of LIFG students in service-learning?

*Research Question 2:* What learning and development is related to participation in service-learning courses for LIFG students?

This study employed a sequential explanatory design that can be characterized in mixed-method typology as QUANT → QUAL = explained outcomes and experiences (Creswell & Plano-Clark, 2011). As the typology indicates, the research design sought to place equal priority of importance on both phases of the study. This design should be used when the findings from a quantitative strand need further explanation by a qualitative strand of data, or when a study’s research questions are best answered by
utilizing both quantitative and qualitative methods (Bryman, 2006; Creswell & Plano Clark, 2011). The lack of other research on this topic and the nature of this study’s research questions fit well with the purposes and strengths of this design.

For this study, the quantitative phase one used a national, longitudinal dataset to examine factors that differentiate low-income, first-generation students who participate in service-learning (LIFG Participants) from low-income, first-generation students who do not participate in service-learning (LIFG Nonparticipants). Additionally, this dataset was used to explore the relationship between participation in service-learning with several outcome variables for LIFG students. The findings from the quantitative phase informed the creation of a semi-structured interview protocol for the qualitative phase two. The qualitative data was utilized to explore explanations about how particular characteristics affect LIFG students’ participation in service-learning and how that participation was related to particular outcome. This second qualitative phase also allowed for the interrogation of the quantitative findings and the subsequent emergence of divergent themes or findings (Tashakkori & Teddlie, 2010). This mixed-methods design goes beyond increasing validity through triangulation; it allowed the researcher to mine different types of data in different ways to allow for convergent and divergent findings that increased the understandings of complex phenomenon.
Phase I Design - Quantitative

Data Source

Quantitative data for phase one came from the Cooperative Institutional Research Program’s (CIRP) national, longitudinal dataset. The dataset used includes cases from the 2008 administration of the College Senior Survey (CSS). Many of the participants in the CSS study have matched responses from CIRP’s respective administration of The Freshman Survey (TFS). The sample requested for analysis for this study included only students who had taken both TFS as they enter their first-year and the CSS just prior to graduation so that particular variables maybe compared over the course of students’ college experience. The CSS has been administered annually through the Higher Education Research Institute (HERI) at the University of California, Los Angeles. In HERI’s 2008 CSS report, the researchers described the survey’s focus as such:

With its focus on a broad range of college student experiences, including academic achievement and engagement, satisfaction with the college experience, values, attitudes, goals, degree aspirations, career plans, and other post-college plans, institutional and other researchers have used the CSS to study topics such as college retention, leadership development, faculty mentoring, civic engagement, student development and learning, and college satisfaction. (Liu, Ruiz, DeAngelo, & Pryor, 2009)

The 2008 CSS dataset included 23,423 graduating seniors (students who indicated they expected to graduate by June of 2008—regardless of date of entry) from 148
baccalaureate institutions. CSS participants are fairly representative of national norms with slight overrepresentation of participants from highly selective institutions. CIRP survey instruments provide normed-based comparisons for their participating institutions and heavily reliable national, longitudinal data for researchers (Liu, et al., 2009). The Freshman Survey (2004) and the College Senior Survey (2008) can be found in Appendix A.

This study requested a subset of the larger dataset that included Private and Public Universities that participated in both surveys. The resulting sample included 5,270 cases from 87 institutions. The dataset received from HERI was cleaned and missing data for independent variables were accounted for by performing multiple imputations\(^6\) (MI). Imputing missed data allowed for a little over fifty LIFG cases to remain in the analysis that would have otherwise been lost. Missing data were found to be non-monotone and Little’s test indicated it was missing completely at random (MCAR)—an assumption required for conducting MI. Additionally, variance and co-variance structures were inspected after successful imputations to test the imputation’s accuracy. MI technique was chosen over Expected Maximization (EM) for its ability to maintain the natural variability (through introducing error into the computations via the use of multiple

\[^6\] Multiple Imputations technique utilizes a separate regression analysis for each variable to calculate multiple estimates of each missing data point based upon the available data for each case. As is the SPSS recommendation (IBM Corporation, 2011), the MI was performed with five iterations (meaning that for each missing data point, five estimates were computed and then averaged, or pooled, together for analysis.
estimations of the missing data) and for its ability maintaining the original data’s variance and co-variance structures (Wayman, 2003)—which is important when performing regression analyses. MI was also chosen because the technique computes data at the case-level which corresponds to the level of analysis for this study (EM’s computations are conducted aggregately).

**Population**

The population of interest in this study is low-income, first-generation college students who participated in service-learning courses at public and private universities. HERI offers its participating institutions the choice to survey all graduating seniors or a portion through either random sampling or target sampling. Information on the institutional choice for administering the survey is not available to protect the identity of the institutions; however, as mentioned previously, HERI’s sample is fairly nationally representative in demographics (Lui, et al., 2009).

For this study, low-income, first-generation students were identified from student characteristics that constitute lower financial and cultural capital. Research suggests that while the best single predictor of lower financial and cultural capital is parental career occupation since it is more likely to be a consistent indicator over time (Bradley & Corwyn, 2002; Powers, 1981), using family income and parents’ educational attainment are also reliable items (Long, Carpenter, & Hayden, 1999; Nam &Terrie, 1981). While the CIRP surveys ask participants their parents’ career categories, parental educational attainment narrows the sample in a more reliable manner. Students outside of the sample
of interest by their parent’s career category that require a college degree, for example “engineer,” were already removed via parental educational attainment, whereas occupation categories that include a mix of degree and non-degree occupations, for example “technical,” would not adequately capture the intended sample. As a result, low-income, first-generation students were operationalized using two items: annual family income and parental educational attainment. As discussed in the literature review, students from these categories are likely to experience unique challenges in their educational experiences. The relationships of other student characteristics such as race/ethnicity were also explored in the analysis for their relationship to the dependent variables.

**Sample**

Several datasets were considered when choosing the data source for the quantitative phase of this study. Given that little to no previous research has focused investigating service-learning for LIFG students and the narrowness of the sample of interest (LIFG Participants), it was important to choose a dataset that had significant quantity and representation. In considering several national datasets, I found that very few contained student level data and contained a specific question about service-learning participation. As such, this study utilizes national, longitudinal, data from the 2004 Freshman Survey (TFS) and 2008 College Senior Survey (CSS), administered by the Higher Education Research Institute. TFS is given to students within the first two weeks of their first-year in higher education, and the CSS is given to seniors in college within...
six weeks of their graduation. Data from participants completing both surveys were used in this study. The subset of respondents used for this study includes participants from 87 Private and Public Universities.

LIFG students are operationalized using two items: annual family income and parental educational attainment. In an NCES report on middle- and low-income families paying for higher education, low-income is defined as having an annual family income below $30,000 (U.S. Department of Education, 2003; Choy, 2000). First-generation status is identified as students who indicate that both of their parents’ educational attainment is less than “some college” (i.e., qualifying response therefore included one of the following three responses only: grammar school or less; some high school; and, high school graduate). Of the 5,270 cases in the full dataset, 312 cases from 69 institutions meet the criteria of being both low-income and first-generation. Of the 69 institutions, 53.6% (n=37) are public universities where 70.5% (n=220) of the LIFG cases are enrolled, and 46.4% (n=32) are private universities where 29.5% (n=92) of the LIFG cases are enrolled.

Of the 312 cases of LIFG students, 41% (n=128) participated in service-learning (LIFG Participants). The sample of LIFG students participating in service-learning (LIFG Participants) are 26.6% male and 73.4% female, and are fairly diverse: 7% are Asian, 18.8% are Black, 42.2% are Hispanic, 14.8% are White, 5.5% are from other races/ethnicities, and 11.7% are Multicultural. LIFG students that did not participate in service-learning courses (LIFG Nonparticipants) are 38.6% male and 61.4% female, and
similarly diverse with the following racial make up: 23.4% Asian, 12.5% Black, 39.1% Hispanic, 13% White, 3.8% other race/ethnicity, and 8.2% multicultural. Table 3-1 includes the demographic information for both subsamples in a side-by-side comparison.

Table 3-1: Sample Demographics for LIFG Students

<table>
<thead>
<tr>
<th>Institutional Type</th>
<th>% of Institutions (n)</th>
<th>% of Students (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public</td>
<td>53.6 (37)</td>
<td>70.5 (220)</td>
</tr>
<tr>
<td>Private</td>
<td>46.4 (32)</td>
<td>29.5 (92)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100 (69)</strong></td>
<td><strong>100 (312)</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Service- Learning Participation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
</tr>
<tr>
<td>Male</td>
</tr>
<tr>
<td>38.6 (71)</td>
</tr>
<tr>
<td>Female</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>No - % (n)</td>
</tr>
<tr>
<td>Asian</td>
</tr>
<tr>
<td>Black</td>
</tr>
<tr>
<td>Hispanic</td>
</tr>
<tr>
<td>White</td>
</tr>
<tr>
<td>Other Race/Ethnicity</td>
</tr>
<tr>
<td>Multicultural</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

**Dependent Variables**

When analyzing large datasets that have many single item variables, factor analysis can be utilized to explore shared variance between multiple single items providing participant response patterns. Items that have significant amounts of shared variance can be grouped as a “scale” and may represent a theoretical construct (Kline, 2010). There are two common methods for using factor analysis: First, factor analysis can also be used to verify, or confirm, shared variance amongst variables where answering patterns are expected—this is called confirmatory factor analysis (CFA).
Second, factor analysis can be used to examine correlations in shared variance for a set of variables that may produce emergent answering patterns, or latent constructs—this is called exploratory factor analysis (EFA). Given the gaps in literature about the outcomes associated with service-learning participation for LIFG students, it was important to both confirm the reliability of constructs from past research for the overall student population and to conduct exploratory factor analysis to investigate the data for the presence of latent constructs applicable to LIFG students.

The purpose of this study was to explore the experience and outcomes of LIFG students and their participation in service-learning courses. Past research and literature heavily influenced the choice of the outcome variables analyzed in this study. Extant literature revealed two general categories of outcomes related to participation in service-learning: academic and affective. This study therefore included outcome variables that were both academic and affective in nature. Furthermore, the literature discussing LIFG students’ common barriers indicated that limited cultural and financial resources were related to disproportionate gains in academic achievement, civic engagement and awareness, and the development of latent constructs present for the LIFG population. In an effort to explore the relationship of service-learning participation within these three outcome constructs, this study ultimately utilized three outcome variables: college GPA, CIPR civic awareness scale, and cognitive diversity scale (a latent factor resulting from an EFA).
College GPA

Astin, et al., (2000) utilized three items from the CSS dataset to measure academic skills as an outcome of service-learning (college GPA, growth in critical thinking, growth in writing skills). This study utilized the same items with one exception: the CSS no has an item asking about growth in writing skills, but instead asked about growth in analytic problem-solving skills. The individual items that made up the academic skills scale (college GPA, growth in cognitive development, and growth in analytic problem solving; Astin, et al., 2000) were available and thus, CFA was used to investigate the internal reliability of these three items as an outcome factor. In contrast to past research on the overall student population, CFA of the academic skills scale resulted in a Chronbach’s alpha of 0.362, indicating an insufficient level of internal consistency for LIFG students (Clark & Watson, 1995). Further investigation revealed that college GPA was significantly correlated to self-reported change in critical thinking (Pearson’s r=0.155), but not to analytic problem solving for this population (Pearson’s r=0.099). These findings indicated that the academic skills scale, contrary to research for the overall student population, is not reliable measure for the population of LIFG college students. Thus, college GPA is included as an individual-item, outcome variable in this study as a measure of academic achievement.
Civic Awareness

Similar to academic skills, confirmatory factor analysis (CFA) would have been conducted upon the individual items that make up the CIRP civic awareness scale to confirm its applicability to LIFG students; however, access to the individual items of this scale were not provided. As a result the CIRP civic awareness score was used as prepared by HERI as an outcome variable in this study. CIRP civic awareness scale is comprised of three individual items: Growth in understanding of social problems facing our nation (weight=7.88), growth in understanding global issues (weight=3.32), and growth in understanding of the problems facing your community (weight=2.09). These items describe an understanding or awareness of local and global issues but do not capture the participant’s behavior in response to this understanding. As such, this variable distinctively captures students’ civic awareness and not civic engagement.

Cognitive Diversity

Given that the third quantitative research question of this study concerns the exploration of latent constructs for LIFG students, a detailed exposition of the findings and discussion of the exploratory factor analysis is provided in chapter four. Exploratory factor analysis was used to investigate the presence of latent constructs. Principle axis factoring was chosen for its ability to analyze data structure focused on shared variance

7 There is ample evidence for the validity and reliability of this scale based upon their overall sample of college students (Technical report). HERI utilizes Item Response Theory in their scale construction.
within a set of variables to produce factors that represent latent constructs (Warner, 2013). Additionally, varimax rotation was selected to maximize the sum of variances of the squared loadings and thereby present a simplified factor structure. One factor resulted from this analysis: cognitive diversity (α = 0.814). Four items make up the cognitive diversity scale: (1) growth in ability to think critically (weight = 0.834); (2) growth in analytic problem solving skills (weight = 0.809); (3) growth in knowledge of people of difference races/ethnicities (weight = 0.816); and, (4) growth in ability to get along with people from different races/ethnicities (weight = 0.747).

While EFA allows for the emergence of unexpected latent constructs, the presences of a factor similar to pluralistic orientation (Hurtado, 2007) or critical consciousness (Ginwright & Commarota, 2002) were somewhat expected due to the review of literature. Gardner (1995) points out that factors resulting from an EFA are not necessarily unidimensional; rather these factors may comprise multiple constructs that are deeply connected or related. This factor is named “cognitive diversity” in an effort to capture the related, but likely separate, dimensions of cognitive and diversity skills.

8 This study does not use the CIRP pluralistic orientation scale because it was not yet phased into 2008 CSS.
Independent Variables

Independent variables (Table 3-2) were requested from HERI that were likely to contribute to student outcomes based upon the layered conceptual and theoretical model. Demographic characteristics, freshman views, pre-college experiences are conceptually considered inputs; whereas, institutional characteristics are considered environmental or experiential variables in the layered model. These variables were chosen to allow for parsing of the data and so that the effect of service-learning participation could be more readily isolated. High school experiences that have been related to cultivating a predisposition for service (Astin & Sax, 1998; Sax, Astin, & Astin, 1996; Astin, et al., 2000); therefore, three variables (high school community service participation, high school service-learning participation, and attending a high school that required community service) were also selected for investigation and to control for this predisposition. Dummy codes were created for: racial/ethnic groups- Asian, Black, Hispanic, White (reference group) multicultural, and other race/ethnicity; sex- male and female (reference group); and primary undergraduate major- math and science majors, social science majors, pre-professional majors, other majors, and humanities majors (reference group).
Table 3-2: Independent Variables (Thematically Grouped)

<table>
<thead>
<tr>
<th>Demographics</th>
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</thead>
<tbody>
<tr>
<td>Race/Ethnicity (DC)</td>
</tr>
<tr>
<td>Sex (DC)</td>
</tr>
<tr>
<td>Low-Income, First-Generation (d)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Freshman Views (TFS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Racial discrimination is no longer a major problem in America (d)</td>
</tr>
<tr>
<td>Colleges should prohibit racist/sexist speech on campus (d)</td>
</tr>
<tr>
<td>Realistically, an individual can do little to bring about changes in our society (d)</td>
</tr>
<tr>
<td>Same-sex couples should have the right to legal marital status (d)</td>
</tr>
<tr>
<td>Affirmative action in college admission should be abolished (d)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pre-College Experiences</th>
</tr>
</thead>
<tbody>
<tr>
<td>High School GPA</td>
</tr>
<tr>
<td>High School Community Service Participation (d)</td>
</tr>
<tr>
<td>High School Service-Learning Participation (d)</td>
</tr>
<tr>
<td>Community Service Required in High School (d)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>College Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Undergraduate Major (DC)</td>
</tr>
<tr>
<td>Full-Time Enrollment (d)</td>
</tr>
<tr>
<td>Participation in Service-Learning Courses (d)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Institutional Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Institution (d)</td>
</tr>
<tr>
<td>Institutional Selectivity</td>
</tr>
</tbody>
</table>

(d)= dichotomous variable
(DC)= Dummy Coded

Analytic Procedure

The primary analytic procedure used in the quantitative phase of this study were two types of regression analysis: logistic regression and blocked ordinary least squares (OLS) regression. The use of hierarchical linear modeling (HLM) was explored in an effort to examine the relationship of the independent student–level variables with the outcome variables in light of changes in institutional-level variables (Raudenbush & Byrk, 2002). To maintain appropriate statistical power with HLM predictions, the general rule of thumb is to have, at the very least, 25 participants within each group (Raudenbush & Bryk; 2002). Due to the narrow criteria of this study (LIFG students),
most institutional groups did not meet this guideline, which precluded the use of HLM. Multiple analyses of variance and logistic regression was employed to answer the first two research questions: “What factors differentiate whether LIFG students will participate in service-learning?” and, “What are the factors that differentiate whether students (in the overall sample) will participate in service-learning in comparison to the factors identified for LIFG students?” Multiple analyses of variance provided an examination of significant differences in means between LIFG Participants and LIFG Nonparticipants. Logistic regression was chosen because the dependent variable for these two research questions is participation in service-learning courses, a dichotomous variable, the use of which invalidates the necessary assumptions needed for the use of linear regression modeling.

Factor analysis and blocked OLS regression analysis were utilized to examine the third and fourth quantitative research questions: “What latent constructs are present for the sample of LIFG college students?” and, “How does participation in service-learning relate to GPA, the CSS Civic Awareness Score, and any latent constructs for LIFG students?” Confirmatory factor analysis was used to investigate the efficacy of outcome scales used in previous research for the LIFG student population and exploratory factor analysis was used to explore latent factor constructs. Blocked OLS regression analysis minimizes the sum of squared distances between the observed and predicted values resulting from an equation of best fit. OLS regressions were run for each outcome. Independent variables were blocked into the following categories based upon the layered
conceptual and theoretical framework: Student pre-college characteristics, student pre-college experiences, student college characteristics, and institutional characteristics. Finally, a final “block” was added comprised of the service-learning participation (dichotomous) variable. The blocked nature of this analysis allows a researcher to monitor how much variance in the outcome is explained by the model as each block is added. Service-learning participation was entered last so that the change in $R^2$ would indicate the amount of variance in the outcome variable predicted by the inclusion of service-learning alone. For each OLS regression the errors were normally distributed, validating the use of this analytic method. Analysis of quantitative data was conducted using SPSS’s statistical software package.

**Phase II Design - Qualitative**

This second qualitative phase seeks to provide deeper exploration and explanation of the quantitative findings for both research questions. Specifically, this qualitative data focused on exploring how factors may differentiate low-income, first-generation students’ participation in service-learning (qualitative research question one); and on exploring the relationship between service-learning and learning and development for LIFG students (qualitative research question two). Analysis of the data collected in this phase allowed results to be explored, constructed, and negotiated with the participants through data collection and finding verification processes (Lincoln & Guba, 1985; Van Manen, 1990).
Procedure

The data for phase two was collected through in-depth individual interviews. In their simplest sense, interviews are guided conversations between two people where one person is seeking to obtain information (Bogdan & Biklen, 2007; Morgan, 1997). Interviews serve as the dominant strategy for data collection for this phase of this study. Interviews were conducted face-to-face with the participants and a semi-structured protocol was used to guide the conversation. While focus groups were considered for this phase of the study, individual interviews were chosen for their ability to focus on individual experiences and for the exploration of how students’ backgrounds and concepts of self-identity informed their service-learning experiences.

The semi-structured interview protocol developed for this phase utilized findings from the quantitative phase to inform the questions asked (Appendix C). Semi-structures protocol was chosen to allow for a measure of consistency in questions asked to participants while allowing in-depth exploration with follow-up questions to explore the interview topics fully. The consistency of the questions allows for comparison across participants, while the use of follow-up questions allows for the deep exploration of specific phenomenon (Bogdan & Biklen, 2007; Maxwell, 2005)—in this case, the service-learning experience and its related outcomes. Peer audits of the semi-structured interview protocol were conducted by two members of the dissertation committee (Drs. Hendrickson & Griffin).
Interview participants were recruited via an email invitation at three institutional sites. Participants self-selected into the study and though snowball sampling was employed, no participants resulted from this sampling procedure (Bogdan & Biklen, 2007). Faculty and administrators were utilized in helping to recruit participants via the distribution of an email recruitment letter (Appendix C). Some faculty chose to announce the study in their courses, although the prominent mode of distribution was via institutional list-serves.

This sample was operationalized in a manner consistent with phase one. Thusly, interview participants had to meet three criteria: low-income (parental annual family incomes below $30,000) first-generation (parental educational attainment below “some college”), and having completed at least one service-learning course. These criteria were presented in the recruitment materials and were verified via a short demographics survey (utilizing survey items from the 2008 CSS) given to interview participants at the beginning of their interview (Appendix C). The consistency of sampling between this study’s quantitative and qualitative phases is supported by the mixed-method practice of sequential sampling (Creswell & Plano Clark, 2011; Teddlie & Yu, 2007).

Institutional Sites

As mentioned above, the participants in this phase of the study were low-income, first-generation college students who participated in a service-learning course. While several institutional sites were considered, access to the population of interest and convenience were guiding principles in site selection. Additionally, only institutions that
mirrored the institutional characteristics of the sample in phase one were considered (i.e., Public and Private universities). As a result the qualitative data for this study were collected from two campuses of The Ohio State University (OSU)—main campus and a regional campus (OSU-Newark)—and at Widener University.

According to the 2010 Carnegie Classification, Ohio State is classified as a large, four-year and above, very high research, public institution. Ohio State has a high undergraduate population and a mission that reflects their land-grant institutional status. Ohio State’s main campus is located in the urban setting of Columbus, Ohio, and currently enrolls over 55,000 students. The undergraduate population is 47.3% female and 52.7% male and the ethnic/racial breakdown of their undergraduates is as follows: 3.1% Hispanic, 0.2% American Indian/Alaskan Native, 5.2% Asian, 6.3% African American, <0.1% Native Hawaiian or Other Pacific Islander, 75.6% White, 1.4% Two or More Races, 1.5% Unknown, and 6.6% International.

While any faculty member can utilize service-learning in their courses, Ohio State also has an established service-learning initiative (launched in 1999-2000) affiliated within the Office of Undergraduate Education that provides resources for students looking for service-learning courses and for faculty seeking to embed service into their curriculum. The institute reports that each year faculty offer over 70 courses that utilize a service-learning pedagogy. Service-Learning courses are officially designated as such by the addition of an “S” in their course ID and faculty obtain this designation through a review process from the university’s service-learning initiative.
Ohio State University-Newark is classified as a public, four-year, primarily non-residential, “Baccalaureate/Associates” institution according to their Carnegie classification, though their more than 2,300 students are able to complete several Bachelor’s degrees. The majority of their student population spends two years at Newark before transferring to main campus. Similar to the university’s overall commitment to service-learning, OSU-Newark offers an array of registered service-learning courses and even offers an Honors Service Scholars program that offers students a $1,500 scholarship and requires participation in a two service-learning courses. Located 40 miles from main campus, OSU-Newark enrolls a large proportion of low-income, first-generation population.

The third institutional site, Widener University (main campus), whose Carnegie classification is as a private, four-year, majority undergraduate, primarily residential, “Doctoral/Research” university. Widener prides itself as one of the top universities for civic engagement in the nation. With a faculty to student ratio of twelve to one, Widener faculty are encouraged to employ several experiential learning pedagogies—including service-learning—and the institution boasts a student body where 75% internships, community service, and/or volunteer programs. Located about 20 miles from Philadelphia in Chester, Pennsylvania, Widener enrolls approximately 3,200 students, of which 26% are students of color. Widener offers a handful of service-learning courses each semester and faculty can participate in a year-long service-learning fellowship.
program focused on providing the skills and opportunity for incorporating service-learning into their curriculum.

The institutionalized nature of service-learning at each institutional site is important in providing a measure of consistency in the service-learning curricular experiences. At each of the institutions, service-learning has been given institutional priority, funding, and increasing support. Conversation with faculty and staff at the three institutions sites demonstrated an understanding of service-learning as pedagogical strategy. Though participants in this phase of the study have taken a variety service-learning courses at separate sites, the pedagogical cornerstones are consistent. Each participant describes an integrated service-experience aimed at the learning objectives of their course that is accompanied by required course reflection and classroom discussion.

Sample

A total of 16 students showed interest in participating in the study; however, only four of these students accurately met the study’s criteria. Additionally, two of the four students volunteered to participate in follow-up interviews. Participants included three males and one female and ranged from 18 to 31 years of age. Participants were racially/ethnically diverse (Asian, Black, Multicultural, and White) and came from a variety of majors (City and Regional Planning, English, Biological Sciences, Psychology). Participants varied across each academic year, freshman through senior. Table 3-3 provides the demographic information for each participant listed by their chosen pseudonym.
Table 3-3. Interview Participant Demographics

<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Sex</th>
<th>Age</th>
<th>Race</th>
<th>Year</th>
<th>No. of S-L Courses Taken</th>
<th>Major</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adam</td>
<td>Male</td>
<td>31</td>
<td>White</td>
<td>Senior</td>
<td>3</td>
<td>City and Regional Planning</td>
</tr>
<tr>
<td>Bob</td>
<td>Male</td>
<td>30</td>
<td>Multicultural</td>
<td>Junior</td>
<td>1</td>
<td>English</td>
</tr>
<tr>
<td>Elnora</td>
<td>Female</td>
<td>18</td>
<td>Asian</td>
<td>Freshman</td>
<td>1</td>
<td>Biological Sciences</td>
</tr>
<tr>
<td>Joe</td>
<td>Male</td>
<td>18</td>
<td>Black</td>
<td>Sophomore</td>
<td>1</td>
<td>Psychology</td>
</tr>
</tbody>
</table>

It should be noted that though this phase of the data has a small sample size, this study still employs an explanatory sequential design with equal emphasis upon the two phases (i.e., QUANT-QUAL). This equal emphasis is accomplished primarily by equal weight given to the analyses of quantitative and qualitative data in addressing the study’s research questions and generating core arguments and conclusions. In other words, the two data streams and the findings that result from their separate analytic processes equally contribute to the study’s conclusions.

Measures & Analysis

Audio recordings of the individual interviews were transcribed and read for major themes. An a priori codebook was developed from the results of the quantitative findings and used in conjunction with an emergent coding process for the initial review of interview transcripts (Maxwell, 2005; Bogdan & Biklen, 2007). While this initial coding process may seem somewhat unconventional, findings from the first quantitative phase produced particular questions that warranted exploration within the qualitative phase. These areas of interest excluded the use of truly “open coding”; however, the a priori
codebook was meant to be a dynamic document that allowed for the inclusion of emergent codes and eventually emergent findings. After initial coding was conducted, broad thematic coding was used to organize transcript passages into themes (Merriam, 2002). Themes were then analyzed to write preliminary findings. Member checks were then conducted with the preliminary findings and the interview participants to increase validation of the findings and to negotiate and clarify researcher findings.

Maxwell (2005) recommends that qualitative researchers, especially newer qualitative researcher, should include processes for emic or substantive coding to emerge from qualitative data. In an effort to follow Maxwell’s recommendation, reflexive researcher memoing occurred throughout the data collection, transcription, and coding processes to allow for emergent themes and categories. This memo process was also a key aspect of the iterative approach to interpreting and analyzing data. Maxwell argues memos are an essential practice in qualitative data analysis as “memos not only capture your analytic thinking about your data, but also facilitate [sic] such thinking, stimulating analytic insights” (p. 96). In considering the researcher—myself in this case—the analytical tool of qualitative research, then I liken researcher memos to the “output” of that analysis.

**Points of Interface**

This study’s sequential explanatory design allowed data to be collected and analyzed as somewhat independent quantitative and qualitative data streams. As previously discussed, the mixed-methods approach allows the researcher to utilize
methods that most adequately answer research questions and to integrate multiple data streams to answer questions that cannot be adequately answered by a single method.

Creswell & Plano Clark (2011) refer to the integration of data streams as points of interface. These points of interface are impingent upon an underlying assumption of an understanding of quantitative and qualitative data as being compatible with each other; also known as the compatibility theory (Morgan, 2007). Wolcott (1994) quite eloquently makes an argument for understanding all data as a construction when he says:

> Everything has the potential to be data, but nothing becomes [sic] data without the intervention of a researcher who takes note—and often makes note—of some things to the exclusion of others. (pp. 3-4)

The constructed nature of all data undermines the concept that quantitative data is somehow more objective, and therefore, incompatible with qualitative data. This does not mean that data streams can be integrated in haphazard ways, rather it means that with critical consideration data streams can be integrated to address research questions that a single method could not adequately address. This study’s research questions require the use of both quantitative and qualitative data streams to be adequately answered: the quantitative stream to examine factors that differentiate the participation of LIFG students in service-learning and the relationship of particular outcomes with that participation, and the qualitative stream to explore the how and why of these relationships.

The design of this study offered two primary points of interface. The first point of
interface was in using the results of the quantitative phase one in the development of the qualitative phase’s two data collection procedure—the semi-structured interview protocol. This also occurred through utilizing the quantitative (phase one) findings to develop an *a priori* categorical coding structure to initially analyze the qualitative data (phase two). The second point of interface was in the integration of the qualitative and quantitative findings in chapter six. Figure 3-1 provides a visual map of this study’s sequential explanatory design. Boxes are used in the model to illustrate single data streams and ovals are used to indicate the two points of interface present in this study’s design.
Figure 3-1: Visual Map of Sequential Explanatory Mixed-Method Design
Limitations

Though this study was designed in an effort to mitigate limitations in past research, there are several limitations that persist with the current realities of this research that should be acknowledge in light of the study’s findings. These limitations are parsed below by the each phase of the study (quantitative then qualititative).

Quantitative Limitations- Phase I

There are some limitations inherent in using a secondary data source; for instance, survey questions cannot be altered or added to better get at the topic in question. The CIRP surveys seek to explore the impact of college through connecting student outcomes with a comprehensive set of college experiences. The surveys’ comprehensive nature allows for the exploration of a variety of experiences and outcomes, but are also limited in some specificity. For example, the single survey item that asks about service-learning participation does not provide information on the quality of the experience or the specific number of service-learning courses taken. Additionally, many of the variables being investigated result from items that request students’ perception of growth or change in various learning and developmental outcomes. Whitt, Nora, Edison, Terenzini, & Pascarella (1999) argue that students’ self-reported information is accurate, yet still caution researchers that questions where students are asked to estimate their growth in areas are susceptible to “response set”—a phenomenon where participants who answer positively in one portion of a survey are likely to an positively to later questions.
Additionally, this dataset did not allow for the operationalization of the “low-income” criteria with family size. Instead, a steady threshold (annual family income equal to or less than $30,000) was used; however, this figure does account for number of parents or children dependent upon that income. Similarly, this criterion does not account for geographic differences in cost of living. These limitation does not diminish the results of this study; rather, it becomes important contextualize the findings pertaining to growth in this study as student’s perception of such change.

Finally, the narrow focus of the study’s sample resulted in limited cell size of student cases nested within institutional sites. This limited cell size limited the analytic method to that of single-level regression analysis. The limits of these analytic procedures does not allow for the investigation of how the relationship of first-level variables (student characteristics, or experiences) may shift in response to changing second level variables (institutional characteristics). This concern does not limit the capacity for the chosen analytic procedures to describe the relationship between service-learning and particular outcomes; rather, it points towards a recommendation for future researcher to explore the ways in which institutional characteristics may have differential influences upon service-learning experiences and related outcomes.

**Qualitative Limitations- Phase II**

Two primary limitations exist with the qualitative phase of this study. First and foremost, the limited number of participants who volunteer for and fit the study’s criteria limit the generalizability of the findings. Limited external generalizability is a common
occurrence in qualitative research (Maxwell, 2005), and, case in point, the goal of this phase of the study is not to provide external generalizability but to provide internal generalizability—or the “generalizability of a conclusion within [sic] the setting or group studied” (p. 115). In other words, it is my goal to use this qualitative data strand to internally generalize towards the same population within the quantitative data strand. As such, the internal generalizability would have been increased with the inclusion of a few more interview participants. Similarly, the voluntary nature required by the three institutional IRB offices, has resulted in the possibility of selection bias. In other words, it is possibly that the experiences of LIFG Participants who self-selected into this study may be in some way misrepresentative of the entire LIFG Participant population.

**Researcher’s Position**

An important aspect of this study is the role that my beliefs and perspectives have played in my research. I believe this is important because these perspectives undergird and inform the decisions I have made in each step of the study; from topic selection to study design. By acknowledging these perspectives I aim to increase the authenticity and transparency of those decisions for you, my readers, and to encourage this practice for other researchers. While I have striven to conduct my work with “objective” practices in an effort to produce accurate findings, ultimately I am not an uninterested, objective, or unbiased. To put it succinctly I would describe myself as a critical pragmatist. This perspective has been molded by the work of many philosophic scholars, but especially
through the combined work of Biesta & Burbules (2003) and Glass (2001). Biesta & Burbules describe the teleology of pragmatism arguing:

… the point of research should be to help and support what takes place in human practices, not in order to say what should or should not happen, but rather to enable those who engage in human practices—including the practice of education—to achieve what they want or think should be achieved. (p. 96)

This explication articulates many of the desires behind choices of research topic and methods. In this study my choice of mixed-methods design is based upon an understanding of methods as tools that can, at times, be integrated to better understand phenomenon. However, pragmatism alone lacks a critical eye towards evaluating who is being supported, and who may be being oppressed through the process; it has an unclear axiology. Glass (2001) speaks to this issue when evaluating pragmatism in light of Freirean critical theory:

The test or the warrant for ontological or epistemic claims becomes not solely a matter of logic, theory, or method (although these do not become meaningless) but also becomes pragmatic. This conclusion elevates the demand for an ethics and politics consistent with a fully historicized philosophy of praxis in order to provide grounds for adequate justification for liberatory action. (p. 22)

Glass argues the purpose for research within the critical frame inherently involves both praxis and ethical consideration. This perspective is highlighted in my work and this study through the desire to give voice to the silent both in research topic and method.
In this study the choice to do work connected to the success of low-income, first-generation students is predicated on a desire to further understanding in an area of need that has not received much attention. Additionally, the choice to integrate quantitative and qualitative streams to allow for the possibility of divergent findings is based upon Nightingale’s (2003) argument that silences and incompatibilities can become evident when diverse methodologies and datasets are brought together. It is also important that I recognize my own experiences as a first-generation student and the resulting perspective that demographic brings to my conceptualization of cultural capital’s relationship to success. While my family’s income status would have been categorized as lower-middle-income during my undergraduate studies, my experiences of limited financial and cultural capital within a single-parent home have certainly influenced my interest in and the importance I place upon this work. Moreover, my own experiences as a lower-middle income, first-generation student have shaped the ways in which I relate to and understand the experiences of the students within this study—especially the qualitative participants.
Chapter 4: Quantitative Findings & Discussion

This chapter presents the findings and discussion of the first phase of the study. This chapter is organized in two parts. The first part contains findings related to the first two research questions, “What factors differentiate whether LIFG students will participate in service-learning?” and, “What are the factors that differentiate whether students (in the overall sample) will participate in service-learning in comparison to the factors identified for LIFG students?” This includes findings from a quantitative analysis, examining what characteristics differentiate LIFG students who participate in service-learning courses (LIFG Participants) from LIFG students that do not participate (LIFG Nonparticipants). This is followed by a similar analysis, examining what characteristics differentiate the overall student sample of students who participate in service-learning courses from those that do not. Together, these analyses allow for a comparison between the differentiating factors of students that participate in service-learning between the overall student sample and the sample of LIFG students.

The second part of this chapter addresses the final two research questions, “What latent constructs are present for the sample of LIFG college students?” and, “How does participation in service-learning relate to GPA, the Civic Awareness after four years of college, and any latent constructs for LIFG students?” This section includes the findings from an exploratory factor analysis as well as the results of multiple regression analyses.
examining the relationship that participation in service-learning courses has with three outcome variables.

**Part One: Who are they?**

**Research Question One: LIFG Characteristics**

What factors differentiate whether LIFG students will participate in service-learning? The LIFG student sample includes 312 cases of which 41% (n=128) had participated in service-learning courses. LIFG Participants were 26.6% (n=34) male, 73.4% (n=94) female, and self-identified as belonging to the following races/ethnicities: 7% Asian, 18.8% Black, 42.2% Hispanic, 14.8% White, 5.5% other races/ethnicities, and 11.7% two or more race/ethnicity. Conversely, 59% (n=184) of the sample of LIFG student sample had not taken any service-learning courses. LIFG Nonparticipants were 38.6% (n=71) male, 61.4% (n=113) female, and self-identified as belonging to the following races/ethnicities: 23.4% Asian, 12.5% Black, 39.1% Hispanic, 13% White, 3.8% other race/ethnicity, and 8.2% multicultural. Table 4-1 includes the demographic information for the sample of LIFG college students.
Table 4-1: Sample Demographics for LIFG Students

<table>
<thead>
<tr>
<th>Institutional Type</th>
<th>% of Institutions (n)</th>
<th>% of Students (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public</td>
<td>53.6 (37)</td>
<td>70.5 (220)</td>
</tr>
<tr>
<td>Private</td>
<td>46.4 (32)</td>
<td>29.5 (92)</td>
</tr>
<tr>
<td>Total:</td>
<td>100 (69)</td>
<td>100 (312)</td>
</tr>
</tbody>
</table>

Service- Learning Participation

<table>
<thead>
<tr>
<th>Sex</th>
<th>No - % (n)</th>
<th>Yes - % (n)</th>
<th>Total - % (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>38.6 (71)</td>
<td>26.6 (34)</td>
<td>33.7 (105)</td>
</tr>
<tr>
<td>Female</td>
<td>61.4 (113)</td>
<td>73.4 (94)</td>
<td>66.3 (207)</td>
</tr>
<tr>
<td>Total:</td>
<td>100 (184)</td>
<td>100 (128)</td>
<td>100 (312)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>No - % (n)</th>
<th>Yes - % (n)</th>
<th>Total - % (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asian</td>
<td>23.4 (43)</td>
<td>7.0 (9)</td>
<td>16.7 (52)</td>
</tr>
<tr>
<td>Black</td>
<td>12.5 (23)</td>
<td>18.8 (24)</td>
<td>15.1 (47)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>39.1 (72)</td>
<td>42.2 (54)</td>
<td>40.4 (126)</td>
</tr>
<tr>
<td>White</td>
<td>13.0 (24)</td>
<td>14.8 (19)</td>
<td>13.8 (43)</td>
</tr>
<tr>
<td>Other Race/Ethnicity</td>
<td>3.8 (7)</td>
<td>5.5 (7)</td>
<td>4.5 (14)</td>
</tr>
<tr>
<td>Multicultural</td>
<td>8.2 (15)</td>
<td>11.7 (15)</td>
<td>9.6 (30)</td>
</tr>
<tr>
<td>Total:</td>
<td>100 (184)</td>
<td>100 (128)</td>
<td>100 (312)</td>
</tr>
</tbody>
</table>

First, an ANOVA of the independent variables (Table 4-2) was used to identify variables with statistically significant differences between the LIFG Participant and the LIFG Nonparticipant samples. Dummy codes were created for race/ethnicity, the five college major categories, and sex variables so that variance between and within these groups could be examined. The analysis of variance indicated that five variables had statistically significant ($p \leq 0.05$) differences between LIFG Participants and LIFG Nonparticipants: Asian race/ethnicity (7.2% of LIFG Participants self-identify as Asian compared to the 23.3% of LIFG Nonparticipants), math and sciences majors (16.4% of LIFG Participants are math and science majors compared to the 26.1% of LIFG Nonparticipants), humanities majors (17.2% of LIFG Participants are humanities majors compared to the 29.3% of LIFG Nonparticipants), social science majors (41.4% of LIFG...
Participants are social science majors compared to the 20.7% of LIFG Nonparticipants), and high school community service participation⁹ (91.4% of LIFG Participants had participated in community service while in high school compared to the 77.7% of LIFG Nonparticipants). The analysis therefore indicates that amongst LIFG students within these characteristics (Asian students, math and science majors, humanities majors, social science majors, and students who participated in service-learning in high school) the proportion of LIFG Participants and LIFG Nonparticipants are significantly unequal. Further analysis (logistic regression) is required to examine the direction and strength of the relationship between these characteristics upon the prediction of service-learning participation.

Three variables were marginally significant \( (p\leq0.10\) level\(^{10}\): males (37.8% of the LIFG Participant sample were males, compared to 62.3% of LIFG Nonparticipants), high school GPA (the average high school GPA reported by LIFG Nonparticipants was 2.1% higher than the average high school GPA reported by LIFG Participants), and high school service-learning participation (63.6% of LIFG Participants had participated in service-

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⁹ High school service-learning participation and high school community service participation are captured by the survey instrument as separate questions.

¹⁰ The less stringent significance level of \( p\leq.10 \) is appropriate to note due to the small sample size (n=312). Analyses of the overall sample \( p\leq.10 \) level will also be similarly marked for the sake of consistency; however it will not be bolded and should not be given the same consideration with the overall sample’s large size (n=5,270).
learning in high school compared to 49.2% of LIFG Nonparticipants). This significance level suggests that some amount of discernable variation exists between LIFG Participants and LIFG Nonparticipants related to these four characteristics and they should, therefore, be examined within regression analysis for their ability to predict service-learning participation.

Most importantly, the marginally significant differences in group means between LIFG Participants and LIFG Nonparticipants in high school GPA indicates that it may be the case that, as a whole, LIFG Participants maybe somewhat more academically prepared than LIFG Nonparticipants. This finding is an important for consideration when examining outcomes related to service-learning participation. Additionally, the significant differences in high school service-learning participation (and marginal significance of high school community service participation) reinforce previous literature (Astin, et al., 2000; Astin & Sax, 1998) that indicated pre-college participation seems to predispose students to participation in service-learning courses during college.

Table 4-2: ANOVA of Independent Variables for LIFG College Students

<table>
<thead>
<tr>
<th>Variables</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Between Groups</td>
<td>0.816</td>
<td>1</td>
<td>0.816</td>
<td>3.656</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>63.170</td>
<td>283</td>
<td>0.223</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>63.986</td>
<td>284</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Between Groups</td>
<td>1.915</td>
<td>1</td>
<td>1.915</td>
<td>14.019</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>38.660</td>
<td>283</td>
<td>0.137</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>40.575</td>
<td>284</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Between Groups</td>
<td>0.304</td>
<td>1</td>
<td>0.304</td>
<td>2.333</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>36.903</td>
<td>283</td>
<td>0.130</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>37.207</td>
<td>284</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Between Groups</td>
<td>0.172</td>
<td>1</td>
<td>0.172</td>
<td>0.701</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>69.302</td>
<td>283</td>
<td>0.245</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------------</td>
<td>---------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
</tr>
<tr>
<td><strong>White</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>0.004</td>
<td>1</td>
<td>0.004</td>
<td>0.037</td>
<td>0.847</td>
</tr>
<tr>
<td>Within Groups</td>
<td>29.940</td>
<td>283</td>
<td>0.106</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>29.944</td>
<td>284</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Other Race/Ethnicity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>0.001</td>
<td>1</td>
<td>0.001</td>
<td>0.021</td>
<td>0.884</td>
</tr>
<tr>
<td>Within Groups</td>
<td>11.494</td>
<td>283</td>
<td>0.041</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>11.495</td>
<td>284</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Multicultural</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>0.106</td>
<td>1</td>
<td>0.106</td>
<td>1.278</td>
<td>0.259</td>
</tr>
<tr>
<td>Within Groups</td>
<td>23.522</td>
<td>283</td>
<td>0.083</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>23.628</td>
<td>284</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Major: Math &amp; Sciences</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>0.696</td>
<td>1</td>
<td>0.696</td>
<td>3.992</td>
<td>0.047**</td>
</tr>
<tr>
<td>Within Groups</td>
<td>49.531</td>
<td>284</td>
<td>0.174</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>50.227</td>
<td>285</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Major: Humanities</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>0.911</td>
<td>1</td>
<td>0.911</td>
<td>4.978</td>
<td>0.026**</td>
</tr>
<tr>
<td>Within Groups</td>
<td>51.956</td>
<td>284</td>
<td>0.183</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>52.867</td>
<td>285</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Major: Social Sciences</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>2.662</td>
<td>1</td>
<td>2.662</td>
<td>13.870</td>
<td>0.000***</td>
</tr>
<tr>
<td>Within Groups</td>
<td>54.516</td>
<td>284</td>
<td>0.192</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>57.178</td>
<td>285</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Major: Pre-Professional</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>.265</td>
<td>1</td>
<td>.265</td>
<td>1.932</td>
<td>0.166</td>
</tr>
<tr>
<td>Within Groups</td>
<td>39.011</td>
<td>284</td>
<td>0.137</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>39.276</td>
<td>285</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Major: Other</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>0.128</td>
<td>1</td>
<td>0.128</td>
<td>1.605</td>
<td>0.206</td>
</tr>
<tr>
<td>Within Groups</td>
<td>22.686</td>
<td>284</td>
<td>0.080</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>22.815</td>
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<tr>
<td><strong>High School GPA</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>4.846</td>
<td>1</td>
<td>4.846</td>
<td>3.180</td>
<td>0.076*</td>
</tr>
<tr>
<td>Within Groups</td>
<td>428.222</td>
<td>281</td>
<td>1.524</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>433.067</td>
<td>282</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Community Service Required in High School</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>0.447</td>
<td>1</td>
<td>0.447</td>
<td>2.497</td>
<td>0.115</td>
</tr>
<tr>
<td>Within Groups</td>
<td>50.857</td>
<td>284</td>
<td>0.179</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>51.304</td>
<td>285</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>High School Service-Learning Participation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>2.238</td>
<td>1</td>
<td>2.238</td>
<td>3.836</td>
<td>0.051*</td>
</tr>
<tr>
<td>Within Groups</td>
<td>163.938</td>
<td>281</td>
<td>0.583</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>166.177</td>
<td>282</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>High School Community Service Participation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>6.102</td>
<td>1</td>
<td>6.102</td>
<td>12.560</td>
<td>0.000***</td>
</tr>
<tr>
<td>Within Groups</td>
<td>137.498</td>
<td>283</td>
<td>0.486</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>143.600</td>
<td>284</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TFS View: Racial discrimination is no longer a major problem in America</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>0.009</td>
<td>1</td>
<td>0.009</td>
<td>0.067</td>
<td>0.796</td>
</tr>
<tr>
<td>Within Groups</td>
<td>34.879</td>
<td>273</td>
<td>0.128</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>34.887</td>
<td>274</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TFS View: Realistically, an individual can do little</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>0.462</td>
<td>1</td>
<td>0.462</td>
<td>2.083</td>
<td>0.150</td>
</tr>
<tr>
<td>Within Groups</td>
<td>60.982</td>
<td>275</td>
<td>0.222</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
To further investigate the relationship these independent variables have with participation in service-learning logistic regression was conducted. Since the dependent variable in question (participation in service-learning) is dichotomous, logistic regression was the most appropriate analysis. The resulting model (Table 4-3) was tested for goodness of fit using the Hosmer and Lemeshow’s test. A significance of $p=0.849$ for the Hosmer and Lemeshow test allows us to reject the null hypothesis (that the model does not have adequate fit) and conclude that the model is a good fit. Additionally, the Nagelkerke $R^2$ (a very rough approximation of the accuracy of the model’s accuracy) is
0.253; this means that while the model has good fit, its ability to accurately predict service-learning participation is still somewhat limited.

The results of the logistic regression indicated that three variables are significant ($p \leq .05$) in predicting participation in service-learning courses for LIFG students: Asian race/ethnicity ($B=1.530$), high school community service participation ($B=0.644$), and social science majors ($B=-1.111$). When all variables are held constant, the odds of a LIFG Asian college students are 4.617 times more likely to participate in service-learning courses compared to their White peers (reference group). Conversely, the odds of students in social science majors participating in service-learning are 0.329 times less likely as humanities majors (the reference group). Finally, for LIFG students that have participated in community service in high school the odds 1.905 times more likely that they will participate in service-learning courses in college compared to those who have not participated in volunteerism in high school (all other variables being held constant). As previously mentioned, finding that high school participation in community service increases the odds of college participation in service-learning is unsurprising and consistent with the literature. That high school participation in service-learning isn’t a significant predictor of college participation is likely a result of limited use of service-learning pedagogy within high school curriculum. Of equal importance are the many non-significant variables are expected based upon previous literature.
<table>
<thead>
<tr>
<th>Variables</th>
<th>B</th>
<th>S.E.</th>
<th>Sig.</th>
<th>Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>0.095</td>
<td>0.336</td>
<td>0.778</td>
<td>1.100</td>
</tr>
<tr>
<td>Asian</td>
<td>1.530</td>
<td>0.571</td>
<td>0.008**</td>
<td>4.617</td>
</tr>
<tr>
<td>Black</td>
<td>-0.108</td>
<td>0.506</td>
<td>0.832</td>
<td>0.898</td>
</tr>
<tr>
<td>Hispanic</td>
<td>0.189</td>
<td>0.423</td>
<td>0.654</td>
<td>1.209</td>
</tr>
<tr>
<td>Other</td>
<td>-0.049</td>
<td>0.792</td>
<td>0.950</td>
<td>0.952</td>
</tr>
<tr>
<td>Multicultural</td>
<td>-0.206</td>
<td>0.569</td>
<td>0.718</td>
<td>0.814</td>
</tr>
<tr>
<td>TFS View: Racial discrimination is no longer a major problem in America</td>
<td>-0.364</td>
<td>0.399</td>
<td>0.363</td>
<td>0.695</td>
</tr>
<tr>
<td>TFS View: Realistically, an individual can do little to bring about changes in our society</td>
<td>0.128</td>
<td>0.293</td>
<td>0.662</td>
<td>1.137</td>
</tr>
<tr>
<td>TFS View: Colleges should prohibit racist/sexist speech on campus</td>
<td>-0.295</td>
<td>0.269</td>
<td>0.273</td>
<td>0.744</td>
</tr>
<tr>
<td>TFS View: Same-sex couples should have the right to legal marital status</td>
<td>-0.284</td>
<td>0.338</td>
<td>0.404</td>
<td>0.753</td>
</tr>
<tr>
<td>TFS View: Affirmative action in college admission should be abolished</td>
<td>0.313</td>
<td>0.301</td>
<td>0.297</td>
<td>1.368</td>
</tr>
<tr>
<td>High School GPA</td>
<td>-0.115</td>
<td>0.109</td>
<td>0.288</td>
<td>0.891</td>
</tr>
<tr>
<td>High School Service-Learning Participation</td>
<td>-0.034</td>
<td>0.200</td>
<td>0.864</td>
<td>0.966</td>
</tr>
<tr>
<td><strong>High School Community Service Participation</strong></td>
<td>0.644</td>
<td>0.226</td>
<td>0.004**</td>
<td>1.905</td>
</tr>
<tr>
<td>Community Service Required in High School</td>
<td>-0.274</td>
<td>0.341</td>
<td>0.424</td>
<td>0.761</td>
</tr>
<tr>
<td>Major: Math &amp; Sciences</td>
<td>-0.265</td>
<td>0.420</td>
<td>0.527</td>
<td>0.767</td>
</tr>
<tr>
<td><strong>Major: Social Sciences</strong></td>
<td>-1.111</td>
<td>0.371</td>
<td>0.003**</td>
<td>0.329</td>
</tr>
<tr>
<td>Major: Pre-Professional</td>
<td>0.725</td>
<td>0.442</td>
<td>0.102</td>
<td>0.484</td>
</tr>
<tr>
<td>Major: Other</td>
<td>0.064</td>
<td>0.553</td>
<td>0.907</td>
<td>1.067</td>
</tr>
<tr>
<td>Public Institution</td>
<td>0.365</td>
<td>0.322</td>
<td>0.258</td>
<td>1.441</td>
</tr>
<tr>
<td>Institutional Selectivity</td>
<td>-0.001</td>
<td>0.001</td>
<td>0.508</td>
<td>0.999</td>
</tr>
<tr>
<td>Full-Time Enrollment</td>
<td>-8.254</td>
<td>11145.921</td>
<td>0.999</td>
<td>0.000</td>
</tr>
<tr>
<td>Constant</td>
<td>0.851</td>
<td>2.887</td>
<td>0.768</td>
<td>2.341</td>
</tr>
</tbody>
</table>

*Significant at $p \leq 0.10$

**Significant at $p \leq 0.05$

***Significant at $p \leq 0.001$

For LIFG students all majors, except social sciences, are not significant predictors of service-learning participation when other variables are held constant; this finding suggests that differences in service-learning participation rates by major may actually be
driven by socio-economic factors. Furthermore, that social science majors are the only significantly negative predictor to participation warrants future study.

Looking specifically at LIFG Asian students (n=49), only nine had participated in service-learning courses; this small cell count could be affecting the significance of the racial group in the model. The group is disproportionately nested within math and science majors (57.1%; n=28); however, the major itself is not a statistically significant predictor of participation in service-learning. Ultimately, this finding requires further research to explore this hypothesis along with other explanations. Examination of the factors that significantly predict participation in service-learning courses for the overall sample may shed light on this finding. In other words it may be that service-learning participation amongst non-White students populations has increased.

Research Question Two: Differentiation Compared

What are the factors that differentiate whether students (in the overall sample) will participate in service-learning in comparison to the factors identified for LIFG students? To answer this question, the logistic regression analysis performed for the previous research question was duplicated with the overall sample of college students. The overall student sample includes 5,270 cases of which 43.3% (n=2,281) had participated in service-learning courses (Overall Participants). Overall Participants were 29.2% (n=666) male, 70.8% (n=1,615) female, and self-identified as belonging to the following races/ethnicities: 8.0% Asian, 11.3% Black, 14.3% Hispanic, 49.2% White, 3.2% other race/ethnicity, and 14.0% Multicultural. Conversely, 56.7% (n=2,989) of the
sample of overall student sample had not taken any service-learning courses (Overall Nonparticipants). Overall Nonparticipants were 39.2% (n=1,171) male, 60.8% (n=1,818) female, and self-identified as belonging to the following racial/ethnic groups: 11.0% Asian, 9.7% Black, 14.6% Hispanic, 46.7% White, 2.8% other race/ethnicity, and 15.2% Multicultural. Table 4-4 includes the demographic information for the overall sample of college students.

Table 4-4: Sample Demographics for Overall Students

<table>
<thead>
<tr>
<th>Institutional Type</th>
<th>% of Institutions (n)</th>
<th>% of Students (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public</td>
<td>50.6 (44)</td>
<td>57.8 (3,046)</td>
</tr>
<tr>
<td>Private</td>
<td>49.4 (43)</td>
<td>42.2 (2,224)</td>
</tr>
<tr>
<td>Total:</td>
<td>100 (87)</td>
<td>100 (5,270)</td>
</tr>
</tbody>
</table>

Service-Learning Participation

<table>
<thead>
<tr>
<th>Sex</th>
<th>No - % (n)</th>
<th>Yes - % (n)</th>
<th>Total - % (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>39.2 (1,171)</td>
<td>29.2 (666)</td>
<td>34.9 (1,838)</td>
</tr>
<tr>
<td>Female</td>
<td>60.8 (1,818)</td>
<td>70.8 (1,615)</td>
<td>65.1 (3,432)</td>
</tr>
<tr>
<td>Total:</td>
<td>100 (2,989)</td>
<td>100 (2,281)</td>
<td>100 (5,270)</td>
</tr>
</tbody>
</table>

Race/Ethnicity

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>No - % (n)</th>
<th>Yes - % (n)</th>
<th>Total - % (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asian</td>
<td>11.0 (329)</td>
<td>8.0 (182)</td>
<td>9.7 (511)</td>
</tr>
<tr>
<td>Black</td>
<td>9.7 (290)</td>
<td>11.3 (257)</td>
<td>10.4 (548)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>14.6 (437)</td>
<td>14.3 (327)</td>
<td>14.5 (763)</td>
</tr>
<tr>
<td>White</td>
<td>46.7 (1,396)</td>
<td>49.2 (1,123)</td>
<td>47.8 (2,519)</td>
</tr>
<tr>
<td>Other Race/Ethnicity</td>
<td>2.8 (84)</td>
<td>3.2 (73)</td>
<td>3.0 (157)</td>
</tr>
<tr>
<td>Multicultural</td>
<td>15.2 (453)</td>
<td>14.0 (319)</td>
<td>14.6 (772)</td>
</tr>
<tr>
<td>Total:</td>
<td>100 (2,989)</td>
<td>100 (2,281)</td>
<td>100 (5,270)</td>
</tr>
</tbody>
</table>

Table 4-5 contains the results of the logistic regression analysis (with the same independent variables) conducted on the overall student sample. Ten variables are found to be statistically significant ($p \leq 0.05$) in predicting service-learning participation for the overall student sample: being male ($B = 0.253$); of Asian ($B = 0.416$) or Multicultural ($B = 0.185$) racial/ethnicities; high school service-learning participation ($B = 0.282$); high
school community service participation (B= 0.281); being a social sciences (B= -0.702), pre-professional (B= -0.684), or “other” (B= -0.419) major; and attending an public institution (B= 0.613) or institutional selectivity (B= -0.001). Two variables were found to be marginally significant (p ≤.10; Hispanic race/ethnicity (B= 0.181) and the freshman view that Colleges should prohibit racist/sexist speech on campus (B= -0.112); however with the size of the full sample (n=5,270) these variables are likely insignificant. Several of these results are consistent with much of the literature on students who participate in service-learning with a few exceptions.

As previously mentioned, the finding that high school participation in service-learning, high school community service, or attending a public or more selective institution are all positively related to participation in service-learning courses while in college, is consistent with previous literature (Astin, et al., 2000; Astin & Sax, 1998). In contrast, past research has indicated that students from minority races/ethnicities or being male are less likely to participate in service learning (Brandenberger, 2013). This analysis indicates that, for the overall student population, being male increases the odds of participation in service-learning by 1.288 times more than the odds of females (reference group), when all other variables are kept constant. The analysis of this national dataset illustrates the importance for researchers to parse the race/ethnicity variables, as this model finds that being Asian, Hispanic (p 0.10), or Multicultural each increase the odds of participation in service-learning compared to White students when all other variables are kept constant. This finding for overall Asian students adds to the
earlier hypothesis that the increased odds for LIFG Asian students—compared to LIFG White students—may be reflective of an overall trend amongst Asian students. Future research should be conducted to give greater explanation to this finding.

The findings that the odds of social science majors (0.495 times likely), preprofessional majors (0.505 times likely), or “other” majors (0.658 times as likely) are all decreased compared to humanities majors (reference group) when all other variables are held constant suggests that there may be something distinctive about humanities majors’ curriculums or the students who are likely choose these majors that increase the odds of service-learning participation. The hypothesis that majors with heavy predetermined course loads allow less student choice or faculty experimentation with curriculum and thusly result in decreased structural opportunity for service-learning courses for students within such majors is unlikely in response to the findings about major influence on participation from this analysis. Specifically, the finding that math and science majors (those programs with the heaviest predetermined curriculum) aren’t significant predictors for participation compared to humanities majors when other variables are held constant provides evidence to counter this hypothesis. Differences seen in service-learning participation rates by majors are more likely attributable to other factors. While the influence of these characteristics gives us several findings about the overall all sample’s participation in service-learning courses, contrasting these findings to that of LIFG students provides is additional insight.
Table 4-5: Logistic Regression Predicting Participation in Service-Learning for Overall Sample

<table>
<thead>
<tr>
<th>Variables</th>
<th>B</th>
<th>S.E.</th>
<th>Sig.</th>
<th>Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>0.253</td>
<td>0.065</td>
<td>0.000***</td>
<td>1.288</td>
</tr>
<tr>
<td>Asian</td>
<td>0.416</td>
<td>0.107</td>
<td>0.000***</td>
<td>1.516</td>
</tr>
<tr>
<td>Black</td>
<td>0.042</td>
<td>0.106</td>
<td>0.694</td>
<td>1.043</td>
</tr>
<tr>
<td>Hispanic</td>
<td>0.181</td>
<td>0.093</td>
<td>0.051*</td>
<td>1.199</td>
</tr>
<tr>
<td>Other</td>
<td>-0.027</td>
<td>0.180</td>
<td>0.882</td>
<td>0.974</td>
</tr>
<tr>
<td>Multicultural</td>
<td>0.185</td>
<td>0.089</td>
<td>0.039**</td>
<td>1.203</td>
</tr>
<tr>
<td>TFS View: Racial discrimination is no longer a major problem in America</td>
<td>0.094</td>
<td>0.080</td>
<td>0.239</td>
<td>1.099</td>
</tr>
<tr>
<td>TFS View: Realistically, an individual can do little to bring about changes in our society</td>
<td>0.117</td>
<td>0.072</td>
<td>0.104</td>
<td>1.124</td>
</tr>
<tr>
<td>TFS View: Colleges should prohibit racist/sexist speech on campus</td>
<td>-0.112</td>
<td>0.060</td>
<td>0.062*</td>
<td>0.894</td>
</tr>
<tr>
<td>TFS View: Same-sex couples should have the right to legal marital status</td>
<td>0.025</td>
<td>0.063</td>
<td>0.693</td>
<td>1.025</td>
</tr>
<tr>
<td>TFS View: Affirmative action in college admission should be abolished</td>
<td>0.061</td>
<td>0.066</td>
<td>0.356</td>
<td>1.063</td>
</tr>
<tr>
<td>High School GPA</td>
<td>0.031</td>
<td>0.029</td>
<td>0.286</td>
<td>1.031</td>
</tr>
<tr>
<td>High School Service-Learning Participation</td>
<td>0.282</td>
<td>0.042</td>
<td>0.000***</td>
<td>1.326</td>
</tr>
<tr>
<td>High School Community Service Participation</td>
<td>0.281</td>
<td>0.051</td>
<td>0.000***</td>
<td>1.325</td>
</tr>
<tr>
<td>Community Service Required in High School</td>
<td>0.045</td>
<td>0.064</td>
<td>0.478</td>
<td>1.046</td>
</tr>
<tr>
<td>Major: Math &amp; Sciences</td>
<td>-0.056</td>
<td>0.080</td>
<td>0.483</td>
<td>0.945</td>
</tr>
<tr>
<td>Major: Social Sciences</td>
<td>-0.702</td>
<td>0.084</td>
<td>0.000***</td>
<td>0.495</td>
</tr>
<tr>
<td>Major: Pre-Professional</td>
<td>-0.684</td>
<td>0.095</td>
<td>0.000***</td>
<td>0.505</td>
</tr>
<tr>
<td>Major: Other</td>
<td>-0.419</td>
<td>0.110</td>
<td>0.000***</td>
<td>0.658</td>
</tr>
<tr>
<td>Public Institution</td>
<td>0.613</td>
<td>0.065</td>
<td>0.000***</td>
<td>1.846</td>
</tr>
<tr>
<td>Institutional Selectivity</td>
<td>-0.001</td>
<td>0.000</td>
<td>0.000***</td>
<td>0.999</td>
</tr>
<tr>
<td>Full-Time Enrollment</td>
<td>-0.139</td>
<td>0.713</td>
<td>0.849</td>
<td>0.870</td>
</tr>
<tr>
<td>Low-Income &amp; First-Generation</td>
<td>0.044</td>
<td>0.132</td>
<td>0.736</td>
<td>1.045</td>
</tr>
<tr>
<td>Constant</td>
<td>0.289</td>
<td>0.536</td>
<td>0.590</td>
<td>1.336</td>
</tr>
</tbody>
</table>

*Significant at $p \leq 0.10$

**Significant at $p \leq 0.05$

***Significant at $p \leq 0.001$

While on its face the findings of this study seem to indicate that very few variables differentiate whether LIFG students participate in service-learning, there are several significant conclusions that can be drawn from the comparison of these two
regression analyses. First and foremost, LIFG Participants differ in only slight ways from LIFG Nonparticipants: Smaller percentages of LIFG were Asian, math and sciences majors, or humanities majors; while a larger percentage were social science majors, and had participated in high school community service participation. Secondly, even fewer characteristics are significant predictors for participation in service-learning: being Asian, high school participation in community service (increasing odds of participation), and social science majors (decreasing the odds of participation). This is a contrast from the overall student population, where several pre-college characteristics and pre-college experiences are shown to be statistically significant in predicting service-learning participation, including: gender (male), races/ethnicities (Asian and Multicultural), high school service-learning participation, high school community participation, and primary undergraduate major (social science majors, pre-professional majors, and “other” majors), and institutional characteristics such as control (public) and selectivity. One explanation for these differences is that many of these independent characteristics may in fact be mediating variables for financial and cultural capital. In other words, the low-income and first-generation status of the LIFG group may “level” the differentiation otherwise present in the overall sample. Chi-Square test indicates that there are no statistically significant differences between the overall percent of students who

11 Being Hispanic, and the freshman view that colleges should prohibit racist/sexist speech on campus are marginally significant; however, at the overall sample’s size this level of significance is usually not reliable.
participate in service-learning courses and the percent of LIFG students who participate; although this does not control for variance that may be attributed to other factors. To account for these influences, the dichotomous “Low-Income & First-Generation” input variable was included in the logistic regression model of the overall sample; however, this characteristic was also non-significant in predicting participation in service-learning courses. In other words, this analysis concludes that being low-income and first-generation does not have a significant effect upon participation in service learning courses; this finding reflects a shift in participation rates over the past decade.

Other findings dispel commonly held beliefs about this population. For instance, despite the common hypothesis that enrollment behaviors may limit LIFG students’ participation in service-learning (Pascarella, Pierson, Wolniak, & Terenzini, 2004), the findings of this study indicate no statistically significant variation between the enrollment patterns of LIFG students who do and do not participate in service-learning, and that full-time enrollment is not a statically significant predictor of service-learning participation amongst LIFG students. Unfortunately this may be more a function of the dataset, which is overwhelmingly of full time participants.

Consistent with past research on the overall student population (Astin, et al., 2000), this analysis concludes that high-school participation in service (especially community service) is likely to predispose students to college participation for both LIFG and the overall student samples. Previous research has indicated minority students are less likely to participate in service-learning (Astin & Sax, 1998; Bradenberger, 2013).
However, the findings indicate that when compared to White students (the reference group) LIFG students’ race/ethnicity—with the exception of Asian students who are more likely to participate—is not significantly related to participation in service-learning (Table 4-3). Interestingly, for the overall student sample in addition to being Asian, being Hispanic (marginally) or Multicultural increase the odds of service-learning participation over that of White students (reference group; Table 4-5). These findings reflect another shift in the service-learning participation trends from past research.

Additionally, LIFG students of each race/ethnicity, with the exception of Asian students, have similar participation rates to each other and to the overall student population (Table 4-6). Observing the participation rates parsed by race/ethnicity for LIFG and the overall samples (Table 4-6) produces a perplexing finding: The service-learning participation rates of Asian students for LIFG (17.3%) and for the overall sample (35.6%) are considerably lower than other racial participation rates (all in the 42-51%). Yet despite this descriptive statistic, in both logistic regressions, when all other variables are held constant, being Asian increases the odds of participation. This suggests that some other factor is acting as a moderating variable where in the logistic regression as all other variables are being held constant being of an Asian race/ethnicity—compared to White students (the reference group)—becomes a significant predictor for service-learning participation.
Table 4-6. Service-Learning Participation Rates by Race/Ethnicity for LIFG Sample & Overall Sample

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>LIFG Participation Rate</th>
<th>Overall Sample Participation Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asian</td>
<td>17.3% (n=52)</td>
<td>35.6% (n=511)</td>
</tr>
<tr>
<td>Black</td>
<td>51.0% (n=47)</td>
<td>46.9% (n=548)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>42.9% (n=126)</td>
<td>42.9% (n=763)</td>
</tr>
<tr>
<td>White</td>
<td>44.2% (n=43)</td>
<td>44.6% (n=2519)</td>
</tr>
<tr>
<td>Other</td>
<td>50% (n=14)</td>
<td>47.1% (n=157)</td>
</tr>
<tr>
<td>Multicultural</td>
<td>50.0% (n=30)</td>
<td>41.3% (n=772)</td>
</tr>
</tbody>
</table>

Part II: Outcomes related to service-learning for LIFG students

Research Question Three – Outcome Factors/Latent Construct

What latent constructs are present for the population of LIFG college students? Exploratory factor analysis was performed to investigate the presence of latent constructs for the population of LIFG college students. In an effort to provide the opportunity for unanticipated latent constructs, each variable identified as an outcome via the conceptual and theoretical model guiding this study was utilized in this analysis (Table 4-7). Some outcome variable items were requested but not provided; for instance, individual items making up the CIRP scales from the College Senior Survey (CSS). Principle axis factoring was chosen for its ability to analyze data structure focused on shared variance within a set of variables to produce factors that represent latent constructs (Warner, 2013). Additionally, varimax rotation was selected to maximize the sum of variances of
the squared loadings and thereby present a simplified factor structure. This analysis indicated the emergence of one, four-item construct, with significant internal consistency (chronbach’s alpha= 0.814). It should be noted that though this analysis indicated high inter-correlation of these items, this does not necessarily mean the items represent a unidimensional construct (Gardner, 1995).

### Table 4-7: Outcome Variables included in Exploratory Factor Analysis

<table>
<thead>
<tr>
<th>College GPA</th>
<th>CSS Academic Self-Concept Score</th>
<th>View: Racial discrimination is no longer a major problem in America</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth in knowledge of people from different races/cultures</td>
<td>CSS Social Self-Concept Score</td>
<td>View: Colleges should prohibit racist/sexist speech on campus</td>
</tr>
<tr>
<td>Growth in ability to think critically</td>
<td>CSS Academic Disengagement Score</td>
<td>View: Realistically, an individual can do little to bring about changes in our society</td>
</tr>
<tr>
<td>Growth in ability to get along with people of different races/cultures</td>
<td>Future plans to participate in volunteer work</td>
<td>View: Same sex couples should have the right to legal marital status</td>
</tr>
<tr>
<td>Growth in analytical and problem-solving skills</td>
<td>Future plans to participate in a community service organization</td>
<td>Goal: Improving my understanding of other countries and cultures</td>
</tr>
<tr>
<td>CSS Social Agency Score</td>
<td>View: Affirmative action in college admissions should be abolished</td>
<td></td>
</tr>
</tbody>
</table>

The four items that make up this scale are (1) growth in ability to think critically (weight= 0.834); (2) growth in analytic problem solving skills (weight= 0.809); (3) growth in knowledge of people of difference races/ethnicities (weight= 0.816); and, (4) growth in ability to get along with people from different races/ethnicities (weight= 0.747) (Table 4-8). For the purposes of this study, this scale is called the Cognitive Diversity Scale in an effort to capture students’ self-reported change in their cognitive and diversity skills. As previously mentioned, conceptually this scale is most representative in theory to the terms pluralistic orientation (Hurtado, 2007) and the development of critical
consciousness (Ginwright & Commarota, 2002); however, with HERI’s recent development and phased inclusion of a “pluralistic orientation scale”, the use of that specific scale name has been avoided in an effort to limit confusion of the two scales.

Table 4-8: Component Matrix for Cognitive Diversity Scale

<table>
<thead>
<tr>
<th>Items (α: 0.814)</th>
<th>Factor Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth in knowledge of people from different races/cultures</td>
<td>0.816</td>
</tr>
<tr>
<td>Growth in ability to get along with people of different races/cultures</td>
<td>0.747</td>
</tr>
<tr>
<td>Growth in ability to think critically</td>
<td>0.834</td>
</tr>
<tr>
<td>Growth in analytical and problem-solving skills</td>
<td>0.809</td>
</tr>
</tbody>
</table>

Whether or not this latent factor represents a uni- or multidimensional construct, it does signify that change in cognitive reasoning skills and in broadening perspectives are deeply connected for LIFG students. Moreover, this analysis suggests that when growth occurs in one it is likely to also occur in the other. One explanation of this phenomenon is that growth in high order thinking skills and the knowledge of and ability to get along with people from different races and cultures may be mutually reinforcing patterns for LIFG students. Though this factor has a high internal consistency for LIFG students, regression analysis is required to investigate its relationship to service-learning.

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12 Items constituting the pluralistic orientation scale were not yet included in CIRPS’s 2008 College Senior Survey.
Research Question Four – Related Outcomes

How does participation in service-learning relate to GPA, the CSS Civic Awareness Score, and any latent constructs for LIFG students? Multiple regression analyses were performed to answer the relationships between participation in service learning for LIFG and GPA, Civic Awareness, and Cognitive Diversity. Separate OLS blocked regressions were fit for each of the three outcome variables. Additional ad hoc analyses were also conducted on the overall sample to provide context and comparison for the results of the analysis of the LIFG student population. Of the three regression analyses performed on LIFG students, participation in service-learning is a statistically significant predictor only for GPA.

College GPA

Table 4-9 includes the results of the regression predicting college GPA. Students’ pre-college characteristics account for that largest amount of variance in the final model (11.2%) including three significant ($p \leq 0.05$) variables: Black ($B= -0.883$), Hispanic ($B= -0.897$), and Multicultural ($B= -0.925$). Students’ high school GPA ($B= 0.343$) is a highly significant ($p \leq 0.001$) positive predictor of college GPA; whereas high school participation in service-learning courses has somewhat significant negative relationship with college GPA ($B= -0.265; p \leq 0.10$) when all other variables are held constant. While none of the student college characteristics are significant, one institutional characteristic, institutional selectivity ($B= -0.002$), has a somewhat significant ($p \leq 0.10$) negative
relationship with college GPA. Finally, service-learning participation has a significant positive (B= 0.496; \( p \leq 0.05 \)) relationship with GPA when all other variables are held constant. While the full model accounts for 24.5% of the variance in college GPA, the inclusion of service-learning in the model increases the overall R² by 4.1 percentage points. This percentage of variation explained by a single item is large; together, the other 18 independent variables together account for only 19.2% of the variance in GPA.

As mentioned in the analysis on differentiating characteristics between LIFG Participants and LIFG Nonparticipants, there is some evidence to suggest that the sample LIFG Participants, as a whole, may have been somewhat more academically prepared than the LIFG’s who did not participate in service-learning. This is an important consideration because it could mean that service-learning participation is a mediating variable between pre-college academic preparation and college GPA. To help account for this possibility, high school GPA was also included in the regression as a control. This means that participation in service-learning courses still has a statistically significant positive relationship with college GPA when other variables (like high school GPA) are held constant. In other words, participation in service-learning has a positive influence upon college GPA above and beyond any influence of high school GPA.

Finally, it should also be noted that Black (B= -0.883), Hispanic (B= -0.897), and Multicultural (B= -0.925) race/ethnicity descriptors are significant (\( p \leq 0.05 \)) negative predictors of college GPA. This finding indicates that even when financial capital (low-income), cultural capital (first-generation), and academic preparation are held constant,
there appears to be a systemic racial inequity that occurs during the college experience resulting in disproportionately lower GPA attainment for these subpopulations. This analysis does not take into account differences in academic preparation that may result from the quality of high school education—data available in the data set related to pre-college academic ability is limited to students’ high school GPA. However, this finding is consistent with previous research by Engle & Tinto (2008) that concluded lower performance and persistence rates of LIFG students are as likely the result of the experiences they have in college as pre-college characteristics.
Table 4-9: Results for Blocked Regression Model Predicting College GPA for LIFG Students

<table>
<thead>
<tr>
<th>Variables</th>
<th>M1</th>
<th></th>
<th>M2</th>
<th></th>
<th>M3</th>
<th></th>
<th>M4</th>
<th></th>
<th>M5</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Student Pre-College Characteristics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>6.080</td>
<td>0.000</td>
<td>3.892</td>
<td>0.000</td>
<td>2.895</td>
<td>0.030</td>
<td>5.016</td>
<td>0.002</td>
<td>4.859</td>
<td>0.003</td>
</tr>
<tr>
<td>Male</td>
<td>-0.223</td>
<td>0.286</td>
<td>-0.265</td>
<td>0.201</td>
<td>-0.220</td>
<td>0.290</td>
<td>-0.195</td>
<td>0.348</td>
<td>-0.183</td>
<td>0.370</td>
</tr>
<tr>
<td>Asian</td>
<td>-0.300</td>
<td>0.433</td>
<td>-0.391</td>
<td>0.291</td>
<td>-0.332</td>
<td>0.369</td>
<td>-0.268</td>
<td>0.471</td>
<td>-0.131</td>
<td>0.723</td>
</tr>
<tr>
<td>Black</td>
<td>-0.960</td>
<td>0.020**</td>
<td>-0.968</td>
<td>0.014**</td>
<td>-0.948</td>
<td>0.017**</td>
<td>-0.883</td>
<td>0.027**</td>
<td>-0.883</td>
<td>0.026**</td>
</tr>
<tr>
<td>Hispanic</td>
<td>-1.087</td>
<td>0.002**</td>
<td>-1.067</td>
<td>0.001***</td>
<td>-0.989</td>
<td>0.003**</td>
<td>-0.922</td>
<td>0.005**</td>
<td>-0.897</td>
<td>0.006**</td>
</tr>
<tr>
<td>Other Race/Ethnicity</td>
<td>-0.607</td>
<td>0.252</td>
<td>-0.403</td>
<td>0.435</td>
<td>-0.201</td>
<td>0.697</td>
<td>-0.173</td>
<td>0.736</td>
<td>-0.169</td>
<td>0.741</td>
</tr>
<tr>
<td>Multicultural</td>
<td>-1.175</td>
<td>0.009**</td>
<td>-1.085</td>
<td>0.014**</td>
<td>-0.921</td>
<td>0.028**</td>
<td>-0.909</td>
<td>0.030**</td>
<td>-0.925</td>
<td>0.024**</td>
</tr>
<tr>
<td>TFS View: Racial discrimination is no longer a major problem in America</td>
<td>0.126</td>
<td>0.659</td>
<td>0.222</td>
<td>0.441</td>
<td>0.290</td>
<td>0.329</td>
<td>0.276</td>
<td>0.360</td>
<td>0.241</td>
<td>0.416</td>
</tr>
<tr>
<td>TFS View: Realistically, an individual can do little to bring about changes in our society</td>
<td>0.115</td>
<td>0.578</td>
<td>0.159</td>
<td>0.419</td>
<td>0.114</td>
<td>0.563</td>
<td>0.087</td>
<td>0.656</td>
<td>0.104</td>
<td>0.591</td>
</tr>
<tr>
<td>TFS View: Colleges should prohibit racist/sexist speech on campus</td>
<td>-0.179</td>
<td>0.347</td>
<td>-0.124</td>
<td>0.501</td>
<td>-0.129</td>
<td>0.487</td>
<td>-0.190</td>
<td>0.312</td>
<td>-0.216</td>
<td>0.248</td>
</tr>
<tr>
<td>TFS View: Same-sex couples should have the right to legal marital status</td>
<td>-0.040</td>
<td>0.863</td>
<td>0.073</td>
<td>0.731</td>
<td>0.149</td>
<td>0.493</td>
<td>0.157</td>
<td>0.469</td>
<td>0.129</td>
<td>0.543</td>
</tr>
<tr>
<td>TFS View: Affirmative action in college admission should be abolished</td>
<td>0.112</td>
<td>0.610</td>
<td>0.077</td>
<td>0.716</td>
<td>0.118</td>
<td>0.582</td>
<td>0.153</td>
<td>0.471</td>
<td>0.186</td>
<td>0.376</td>
</tr>
<tr>
<td><strong>Student Pre-College Experiences</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High School GPA</td>
<td>0.315</td>
<td>0.000***</td>
<td>0.312</td>
<td>0.000***</td>
<td>0.325</td>
<td>0.000***</td>
<td>0.337</td>
<td>0.000***</td>
<td>0.373</td>
<td>0.000***</td>
</tr>
<tr>
<td>High School Service-Learning Participation</td>
<td>-0.275</td>
<td>0.044**</td>
<td>-0.280</td>
<td>0.049**</td>
<td>-0.271</td>
<td>0.056*</td>
<td>-0.265</td>
<td>0.061*</td>
<td>0.105</td>
<td>0.473</td>
</tr>
<tr>
<td>High School Community Service Participation</td>
<td>0.121</td>
<td>0.395</td>
<td>0.103</td>
<td>0.479</td>
<td>0.105</td>
<td>0.473</td>
<td>0.040</td>
<td>0.785</td>
<td>0.785</td>
<td></td>
</tr>
<tr>
<td>Community Service Required in High School</td>
<td>0.150</td>
<td>0.494</td>
<td>0.155</td>
<td>0.478</td>
<td>0.131</td>
<td>0.555</td>
<td>0.101</td>
<td>0.647</td>
<td>0.647</td>
<td></td>
</tr>
<tr>
<td><strong>Student College Characteristics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Major: Math &amp; Sciences</td>
<td>0.292</td>
<td>0.263</td>
<td>0.258</td>
<td>0.333</td>
<td>0.244</td>
<td>0.353</td>
<td>0.292</td>
<td>0.263</td>
<td>0.258</td>
<td>0.333</td>
</tr>
<tr>
<td>Major: Social Sciences</td>
<td>0.182</td>
<td>0.480</td>
<td>0.178</td>
<td>0.488</td>
<td>0.069</td>
<td>0.788</td>
<td>0.182</td>
<td>0.480</td>
<td>0.178</td>
<td>0.488</td>
</tr>
<tr>
<td>Major: Pre-Professional</td>
<td>0.590</td>
<td>0.044</td>
<td>0.444</td>
<td>0.139</td>
<td>0.382</td>
<td>0.202</td>
<td>0.590</td>
<td>0.044</td>
<td>0.444</td>
<td>0.139</td>
</tr>
<tr>
<td>Major: Other</td>
<td>-0.304</td>
<td>0.379</td>
<td>-0.382</td>
<td>0.273</td>
<td>-0.372</td>
<td>0.280</td>
<td>-0.304</td>
<td>0.379</td>
<td>-0.382</td>
<td>0.273</td>
</tr>
<tr>
<td>Full-Time Enrollment</td>
<td>0.752</td>
<td>0.528</td>
<td>0.819</td>
<td>0.492</td>
<td>0.762</td>
<td>0.532</td>
<td>0.752</td>
<td>0.528</td>
<td>0.819</td>
<td>0.492</td>
</tr>
<tr>
<td><strong>Institutional Characteristics</strong></td>
<td></td>
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<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>Public Institution</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Institutional Selectivity</td>
<td>-0.002</td>
<td>0.076</td>
<td>-0.002</td>
<td>0.076</td>
<td>0.090*</td>
<td></td>
<td>0.002</td>
<td>0.076</td>
<td>-0.002</td>
<td>0.076</td>
</tr>
<tr>
<td><strong>Service-Learning</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Participation in Service-Learning Course(s)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change in $R^2$</td>
<td>0.112</td>
<td>0.060</td>
<td>0.014</td>
<td>0.014</td>
<td>0.018</td>
<td>0.018</td>
<td>0.041</td>
<td></td>
<td>0.041</td>
<td></td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.112</td>
<td>0.172</td>
<td>0.186</td>
<td>0.186</td>
<td>0.204</td>
<td>0.204</td>
<td>0.245</td>
<td></td>
<td>0.245</td>
<td></td>
</tr>
</tbody>
</table>

*Significant at $p \leq 0.10$; **Significant at $p \leq 0.05$; ***Significant at $p \leq 0.001$
**Civic Awareness**

Blocked OLS regression analysis for the LIFG student population predicting CIRP Civic Awareness Scores indicate that none of the independent variables are significant predictors within the any of the models (Table 4-10). While this finding is atypical it is likely indicative of limited variation in the dependent variable amongst the sample. This finding may suggest that the pre-college characteristic of being and LIFG students may be a mediating variable for civic awareness. In other words, it could be that there is something about being a low-income and/or first-generation student that eliminates the amount of variance in the civic awareness score. Past literature (Burns, Scholzman, & Verba, 2001; Nie, Junn, & Stehlik-Barry, 1996; Verba, Scholzman, & Brady, 1995) suggesting that low-income and first-generation students are less likely to be civically aware or civically engaged would then suggest that being low-income and/or first-generation would limit, or have a suppression effect upon the variation in this outcome for the entire subgroup.
Table 4-10: Blocked Regression Model Predicting CIRP Civic Awareness for LIFG Students

<table>
<thead>
<tr>
<th>Variables</th>
<th>M1</th>
<th>M2</th>
<th>M3</th>
<th>M4</th>
<th>M5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Student Pre-College Characteristics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>52.157</td>
<td>0.000</td>
<td>50.729</td>
<td>0.000</td>
<td>56.669</td>
</tr>
<tr>
<td>Male</td>
<td>-0.793</td>
<td>0.439</td>
<td>-0.505</td>
<td>0.635</td>
<td>-0.198</td>
</tr>
<tr>
<td>Asian</td>
<td>-2.249</td>
<td>0.191</td>
<td>-2.177</td>
<td>0.210</td>
<td>-1.818</td>
</tr>
<tr>
<td>Black</td>
<td>-0.047</td>
<td>0.980</td>
<td>0.033</td>
<td>0.986</td>
<td>0.511</td>
</tr>
<tr>
<td>Hispanic</td>
<td>1.181</td>
<td>0.458</td>
<td>1.184</td>
<td>0.457</td>
<td>1.350</td>
</tr>
<tr>
<td>Other Race/Ethnicity</td>
<td>0.396</td>
<td>0.883</td>
<td>0.390</td>
<td>0.887</td>
<td>0.220</td>
</tr>
<tr>
<td>Multicultural</td>
<td>0.585</td>
<td>0.767</td>
<td>0.649</td>
<td>0.744</td>
<td>1.075</td>
</tr>
<tr>
<td><strong>TFS View: Racial discrimination is no longer a major problem in America</strong></td>
<td>-0.403</td>
<td>0.776</td>
<td>-0.450</td>
<td>0.750</td>
<td>0.139</td>
</tr>
<tr>
<td><strong>TFS View: Realistically, an individual can do little to bring about changes in our society</strong></td>
<td>-1.131</td>
<td>0.279</td>
<td>-1.235</td>
<td>0.242</td>
<td>-0.959</td>
</tr>
<tr>
<td><strong>TFS View: Colleges should prohibit racist/sexist speech on campus</strong></td>
<td>0.644</td>
<td>0.501</td>
<td>0.600</td>
<td>0.537</td>
<td>0.526</td>
</tr>
<tr>
<td><strong>TFS View: Same-sex couples should have the right to legal marital status</strong></td>
<td>1.353</td>
<td>0.198</td>
<td>1.209</td>
<td>0.262</td>
<td>1.076</td>
</tr>
<tr>
<td><strong>TFS View: Affirmative action in college admission should be abolished</strong></td>
<td>0.388</td>
<td>0.719</td>
<td>0.505</td>
<td>0.644</td>
<td>0.381</td>
</tr>
<tr>
<td><strong>Student Pre-College Experiences</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High School GPA</td>
<td>-0.043</td>
<td>0.908</td>
<td>-0.010</td>
<td>0.978</td>
<td>0.083</td>
</tr>
<tr>
<td>High School Service-Learning Participation</td>
<td>0.771</td>
<td>0.279</td>
<td>0.836</td>
<td>0.250</td>
<td>0.837</td>
</tr>
<tr>
<td>High School Community Service Participation</td>
<td>-0.049</td>
<td>0.947</td>
<td>-0.188</td>
<td>0.805</td>
<td>-0.120</td>
</tr>
<tr>
<td>Community Service Required in High School</td>
<td>0.374</td>
<td>0.745</td>
<td>0.338</td>
<td>0.769</td>
<td>0.384</td>
</tr>
<tr>
<td><strong>Student College Characteristics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Major: Math &amp; Sciences</td>
<td>1.498</td>
<td>0.272</td>
<td>1.171</td>
<td>0.397</td>
<td>1.143</td>
</tr>
<tr>
<td>Major: Social Sciences</td>
<td>3.308</td>
<td>0.010</td>
<td>3.189</td>
<td>0.013</td>
<td>3.009</td>
</tr>
<tr>
<td>Major: Pre-Professional</td>
<td>0.017</td>
<td>0.991</td>
<td>-0.707</td>
<td>0.669</td>
<td>-0.807</td>
</tr>
<tr>
<td>Major: Other</td>
<td>0.884</td>
<td>0.617</td>
<td>0.411</td>
<td>0.818</td>
<td>0.439</td>
</tr>
<tr>
<td>Full-Time Enrollment</td>
<td>2.613</td>
<td>0.620</td>
<td>2.946</td>
<td>0.582</td>
<td>2.830</td>
</tr>
<tr>
<td><strong>Institutional Characteristics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public Institution</td>
<td>-1.083</td>
<td>0.340</td>
<td>-1.016</td>
<td>0.374</td>
<td></td>
</tr>
<tr>
<td>Institutional Selectivity</td>
<td>-0.009</td>
<td>0.094</td>
<td>-0.009</td>
<td>0.101</td>
<td></td>
</tr>
<tr>
<td><strong>Service-Learning</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Participation in Service-Learning Course(s)</td>
<td>0.820</td>
<td>0.425</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Change in R²</strong></td>
<td>0.057</td>
<td>0.013</td>
<td>0.032</td>
<td>0.018</td>
<td>0.003</td>
</tr>
<tr>
<td><strong>R²</strong></td>
<td>0.057</td>
<td>0.070</td>
<td>0.102</td>
<td>0.120</td>
<td>0.123</td>
</tr>
</tbody>
</table>

*Significant at \( p \leq 0.10 \); **Significant at \( p \leq 0.05 \); *** Significant at \( p \leq 0.001 \)
**Cognitive Diversity**

Similar to the previous findings with civic awareness, a blocked OLS regression predicting cognitive diversity scores for LIFG students resulted with only one significant ($p \leq 0.05$) variable: the freshman view that affirmative action in college admission should be abolished ($B = -0.487$; Table 4-11). The significant negative relationship this freshman view has upon the cognitive diversity scores of LIFG seniors is interesting as it supports the notion that cognitive diversity represents a sort of critical consciousness held by students. This finding also illustrates the lasting effect that pre-college beliefs or values can have upon college outcomes. Once again, for LIFG students, service-learning participation was not a significant predictor of Cognitive Diversity scores. As was the case with civic awareness, the lack of significance for the overwhelming majority of variables in the model suggests limited variation in the dependent variable for LIFG students.
Table 4-11: Results for Blocked Regression Model Predicting Cognitive Diversity for LIFG Students

<table>
<thead>
<tr>
<th>Variables</th>
<th>M1</th>
<th></th>
<th>M2</th>
<th></th>
<th>M3</th>
<th></th>
<th>M4</th>
<th></th>
<th>M5</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>12.399</td>
<td>0.000</td>
<td>11.603</td>
<td>0.000</td>
<td>10.897</td>
<td>0.000</td>
<td>11.336</td>
<td>0.000</td>
<td>11.336</td>
<td>0.000</td>
</tr>
<tr>
<td>Male</td>
<td>0.065</td>
<td>0.782</td>
<td>0.115</td>
<td>0.630</td>
<td>0.138</td>
<td>0.564</td>
<td>0.145</td>
<td>0.546</td>
<td>0.146</td>
<td>0.544</td>
</tr>
<tr>
<td>Asian</td>
<td>-0.143</td>
<td>0.705</td>
<td>-0.163</td>
<td>0.669</td>
<td>-0.172</td>
<td>0.656</td>
<td>-0.158</td>
<td>0.684</td>
<td>-0.158</td>
<td>0.687</td>
</tr>
<tr>
<td>Black</td>
<td>0.516</td>
<td>0.199</td>
<td>0.519</td>
<td>0.200</td>
<td>0.586</td>
<td>0.157</td>
<td>0.598</td>
<td>0.155</td>
<td>0.598</td>
<td>0.157</td>
</tr>
<tr>
<td>Hispanic</td>
<td>0.558</td>
<td>0.109</td>
<td>0.558</td>
<td>0.112</td>
<td>0.523</td>
<td>0.138</td>
<td>0.534</td>
<td>0.137</td>
<td>0.534</td>
<td>0.137</td>
</tr>
<tr>
<td>Other Race/Ethnicity</td>
<td>0.385</td>
<td>0.509</td>
<td>0.424</td>
<td>0.472</td>
<td>0.377</td>
<td>0.529</td>
<td>0.382</td>
<td>0.524</td>
<td>0.382</td>
<td>0.524</td>
</tr>
<tr>
<td>Multicultural</td>
<td>-0.292</td>
<td>0.517</td>
<td>-0.260</td>
<td>0.569</td>
<td>-0.197</td>
<td>0.675</td>
<td>-0.195</td>
<td>0.679</td>
<td>-0.195</td>
<td>0.679</td>
</tr>
<tr>
<td>TFS View: Racial discrimination is no longer a major problem in America</td>
<td>-0.061</td>
<td>0.825</td>
<td>-0.042</td>
<td>0.881</td>
<td>0.047</td>
<td>0.871</td>
<td>0.040</td>
<td>0.891</td>
<td>0.040</td>
<td>0.893</td>
</tr>
<tr>
<td>TFS View: Realistically, an individual can do little to bring about changes in our society</td>
<td>-0.092</td>
<td>0.684</td>
<td>-0.094</td>
<td>0.682</td>
<td>-0.062</td>
<td>0.789</td>
<td>-0.067</td>
<td>0.769</td>
<td>-0.068</td>
<td>0.768</td>
</tr>
<tr>
<td>TFS View: Colleges should prohibit racist/sexist speech on campus</td>
<td>-0.028</td>
<td>0.890</td>
<td>-0.028</td>
<td>0.892</td>
<td>-0.029</td>
<td>0.892</td>
<td>-0.038</td>
<td>0.860</td>
<td>-0.038</td>
<td>0.859</td>
</tr>
<tr>
<td>TFS View: Same-sex couples should have the right to legal marital status</td>
<td>0.011</td>
<td>0.960</td>
<td>0.014</td>
<td>0.948</td>
<td>-0.040</td>
<td>0.856</td>
<td>-0.035</td>
<td>0.872</td>
<td>-0.035</td>
<td>0.873</td>
</tr>
<tr>
<td>TFS View: Affirmative action in college admission should be abolished</td>
<td>-0.478</td>
<td>0.029**</td>
<td>-0.469</td>
<td>0.033**</td>
<td>-0.494</td>
<td>0.024**</td>
<td>-0.487</td>
<td>0.028**</td>
<td>-0.487</td>
<td>0.028**</td>
</tr>
<tr>
<td>High School GPA</td>
<td>0.062</td>
<td>0.435</td>
<td>0.059</td>
<td>0.467</td>
<td>0.063</td>
<td>0.441</td>
<td>0.063</td>
<td>0.443</td>
<td>0.063</td>
<td>0.443</td>
</tr>
<tr>
<td>High School Service-Learning Participation</td>
<td>0.049</td>
<td>0.753</td>
<td>0.038</td>
<td>0.602</td>
<td>0.086</td>
<td>0.598</td>
<td>0.086</td>
<td>0.598</td>
<td>0.086</td>
<td>0.598</td>
</tr>
<tr>
<td>High School Community Service Participation</td>
<td>0.064</td>
<td>0.695</td>
<td>0.039</td>
<td>0.819</td>
<td>0.041</td>
<td>0.813</td>
<td>0.040</td>
<td>0.815</td>
<td>0.040</td>
<td>0.815</td>
</tr>
<tr>
<td>Community Service Required in High School</td>
<td>0.106</td>
<td>0.673</td>
<td>0.087</td>
<td>0.726</td>
<td>0.087</td>
<td>0.729</td>
<td>0.086</td>
<td>0.732</td>
<td>0.086</td>
<td>0.732</td>
</tr>
<tr>
<td>Major: Math &amp; Sciences</td>
<td>0.188</td>
<td>0.523</td>
<td>0.176</td>
<td>0.559</td>
<td>0.177</td>
<td>0.559</td>
<td>0.177</td>
<td>0.559</td>
<td>0.177</td>
<td>0.559</td>
</tr>
<tr>
<td>Major: Social Sciences</td>
<td>0.291</td>
<td>0.305</td>
<td>0.288</td>
<td>0.313</td>
<td>0.287</td>
<td>0.319</td>
<td>0.287</td>
<td>0.319</td>
<td>0.287</td>
<td>0.319</td>
</tr>
<tr>
<td>Major: Pre-Professional</td>
<td>-0.402</td>
<td>0.220</td>
<td>-0.433</td>
<td>0.212</td>
<td>-0.434</td>
<td>0.210</td>
<td>-0.434</td>
<td>0.210</td>
<td>-0.434</td>
<td>0.210</td>
</tr>
<tr>
<td>Major: Other</td>
<td>-0.137</td>
<td>0.728</td>
<td>-0.158</td>
<td>0.692</td>
<td>-0.158</td>
<td>0.692</td>
<td>-0.158</td>
<td>0.692</td>
<td>-0.158</td>
<td>0.692</td>
</tr>
<tr>
<td>Full-Time Enrollment</td>
<td>0.714</td>
<td>0.513</td>
<td>0.737</td>
<td>0.503</td>
<td>0.738</td>
<td>0.506</td>
<td>0.738</td>
<td>0.506</td>
<td>0.738</td>
<td>0.506</td>
</tr>
<tr>
<td>Public Institution</td>
<td>-0.056</td>
<td>0.821</td>
<td>-0.056</td>
<td>0.822</td>
<td>-0.056</td>
<td>0.822</td>
<td>-0.056</td>
<td>0.822</td>
<td>-0.056</td>
<td>0.822</td>
</tr>
<tr>
<td>Institutional Selectivity</td>
<td>0.000</td>
<td>0.741</td>
<td>0.000</td>
<td>0.742</td>
<td>0.000</td>
<td>0.742</td>
<td>0.000</td>
<td>0.742</td>
<td>0.000</td>
<td>0.742</td>
</tr>
<tr>
<td>Participation in Service-Learning Course(s)</td>
<td>0.004</td>
<td>0.987</td>
<td>0.004</td>
<td>0.987</td>
<td>0.004</td>
<td>0.987</td>
<td>0.004</td>
<td>0.987</td>
<td>0.004</td>
<td>0.987</td>
</tr>
</tbody>
</table>

| Change in R²                            | 0.103    | 0.008 | 0.019    | 0.003 | 0.000    |       | 0.000    |       | 0.000    |       |
| R²                                      | 0.103    | 0.111 | 0.130    | 0.133 | 0.133    |       | 0.133    |       | 0.133    |       |

*Significant at \( p \leq 0.10 \); **Significant at \( p \leq 0.05 \); *** Significant at \( p \leq 0.001 \)
Discussion

Of the three regression analyses performed on LIFG students (College GPA, CIRP Civic Awareness and Cognitive Diversity), participation in service-learning is a statistically significant predictor only for GPA. While not in the original conceptualization of the study, several *ad hoc* measures were taken in response to the initial finding that service-learning is not a significant predictor for CIRP Civic Awareness Scores and Cognitive Diversity Scores. Regression analyses were run on each of the individual survey items that make up the Cognitive Diversity Scale\(^\text{13}\). In each of these analyses service-learning was not a significant predictor of these scores. This finding may indicate that service-learning does not increase exposure to diversity and cognitive development for LIFG students—a contrast with prior research which suggests generally that service-learning experiences contribute to these outcomes (Batchelder & Root, 1994; Eyler & Giles, 1999; Osborne, Hammerich, Hensley, 1998). Another hypothesis is that LIFG students as a whole perceive growth in these areas as a result of their college experiences such that little variance exists between LIFG Participants and LIFG Nonparticipants with these outcome variables.

Since each of these items are self-reported by college seniors just prior to graduation, this may simply be a limitation of the data. To investigate the plausibility of this hypothesis,

\(^{13}\) Regression analyses on the individual items that make up the CIRP Civic Awareness Scale were not possible because, while these items were requested, they were not shared.
the individual items making up the cognitive diversity scale were investigated.

Descriptive analysis shows that most students rate themselves high for each individual survey item; concordantly, there is very little variation present (Table 4-12), which explains why almost no independent variables were significant predictors in either of the regression models.

Table 4-12: Descriptive Statistics for Civic Awareness and Cognitive Diversity Sale Items for LIFG Student Sample

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>S.D.</th>
<th>Variation</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIRP Civic Awareness Score</td>
<td>52.971</td>
<td>7.957</td>
<td>63.311</td>
</tr>
<tr>
<td>Change in knowledge of people from different races/cultures</td>
<td>4.270</td>
<td>0.735</td>
<td>0.540</td>
</tr>
<tr>
<td>Change in ability to get along with people of different races/cultures</td>
<td>4.110</td>
<td>0.807</td>
<td>0.651</td>
</tr>
<tr>
<td>Change in ability to think critically</td>
<td>4.390</td>
<td>0.675</td>
<td>0.456</td>
</tr>
<tr>
<td>Change in analytical and problem-solving skills</td>
<td>4.360</td>
<td>0.670</td>
<td>0.449</td>
</tr>
</tbody>
</table>

College seniors’ perception that they have grown in critical thinking, analytical problem solving, knowledge of and ability to get along with people from different races/ethnicities while in college are commonly expected and stated goals of institutions of higher education, as well as society at large. Therefore, seniors’ perception that they have achieved these learning outcomes is not surprising, regardless of whether or not actual growth occurred. Additionally, research indicates that students may have difficulties self-assessing these subjective measures (Gonyea, 2005; Porter, 2011), especially when it comes to the issue of self-assessment of learning outcomes which Eyler (2000) warns may be conflated by perceptions of satisfaction. It is also interesting
to note that of the three outcomes examined, college GPA, though still a self-reported item, is a much less subjective measure. Whereas the other outcomes ask students to perceive their skills and growth, this item asks students to report a more objective figure. Interestingly however, regression analyses of CIRP Civic Awareness Scores and of Cognitive Diversity Scores conducted for the larger overall sample of college students results in models where service-learning is a highly significant \( p \leq 0.001 \) positive, predictor of both of these outcomes. Tables D-1 & D-2 show the regression models predicting CIRP Civic Awareness Scores and Cognitive Diversity Scores for the overall student sample (Appendix D).

**Summary**

As is often the case with research, the findings of this first, quantitative phase provide as many answers as new questions; however, there are several conclusions that can be gleaned. We see that there are very few differentiating characteristics between LIFG Participant and LIFG Nonparticipants. This finding is in stark contrast to significant differentiation amongst the overall student population that participates in service-learning which is disproportionally female and white. Similarly, we find that LIFG students participate in service-learning at similar rates as the overall student population—a clear shift from past research.

While outcome scales like academic skills, or civic awareness do not have sufficient internal reliability for LIFG students, there is evidence of a latent construct (the cognitive diversity scale) for LIFG, which is comprised of both growth in cognitive
abilities and exposure people from different races and ethnicities. We find that participation in service-learning is not a statistically significant predictor for perceived growth in several outcomes related to civic awareness or cognitive diversity scales—another departure from the overall student sample that is most likely related to a lack of variance in perceptions of growth in these areas. However, participation in service-learning courses is a significant predictor for increased GPA among LIFG students. The questions that several of these findings produce, such as “What do LIFG students who participate in service-learning think they learn, if anything, from these pedagogical experiences?” are difficult to address by a secondary quantitative data source. Instead these questions are explored in the next chapter with findings from in-depth interviews with LIFG Participants.
Chapter 5:
Qualitative Findings & Discussion

This chapter presents the findings of the second, qualitative phase of this study, focusing on the outcomes and experiences of low-income, first-generation (LIFG) college students. While the first phase investigated this topic via the quantitative analysis of large, national, longitudinal dataset, the second phase explored how LIFG students who participated in service-learning make meaning out of their experiences in these courses and the outcomes they perceived as resulting from these experiences through in-depth, face-to-face interviews with students attending three institutions. The chapter is separated into two parts, each addressing one of the two qualitative research questions. The first part of the chapter explores the first qualitative research question: “What factors influence the participation of LIFG college students in service-learning?” This section includes the discussion of three themes that emerged from the data about students and how they perceive various forces influencing their participation. The second part of the chapter addresses the second qualitative research question: “What learning and development is related to participation in service-learning courses for LIFG college students?” Six themes emerged from the interview data, representing how students perceived the relationship between their service-learning experiences and various outcomes. This chapter concludes with a summary of the findings.
A total of seven rounds of recruitment were conducted over the course of ten months between the three institutional sites: Three rounds at Ohio State University (main campus), two rounds at Ohio State University-Newark (a regional campus), and two rounds at Widener University. Faculty and staff from the Service-Learning Initiative and institutional assessment at Ohio State University (main campus and Newark) provided support in the participant recruitment process by identifying students whom had taken service-learning courses and sharing the recruitment email with these students. Faculty and staff from the Service-Learning program at Widener University disseminated the recruitment materials to each of the faculty members who taught service-learning courses and asked these professors to announce the study in their courses and to share the recruitment email with their students. The director of the Bonner Leadership Program at Widener also disseminated the recruitment email to each of the program’s students.

At each institution, student participation was voluntary. A total of 16 students showed interest in participating in the study; however, only four of these students

14 Two initial rounds of recruitment were conducted at Ohio State University’s main campus, which was the first data collection site. The data collection at the next two institutional sites allowed for an entire semester to pass at the initial site; therefore, a third round of recruitment was used to recruit participants whom had completed service-learning courses during data collection process.

15 Despite avid recruitment efforts on behalf of Widener faculty and staff, zero students volunteered or inquired about the study. This lack of participation at Widener may have simply resulted from the narrowness of the study’s criteria. This narrowness is illustrated by the quantitative sample: Of the 5,270 cases from 86 institutions, only 112—a mere 2.1%—were LIFG Participants.
accurately met the study’s criteria (being low-income: coming from families with annual incomes equal or less than $30,000; first-generation: where neither parent/guardian had attended college; and having completed at least one service-learning course). Two of the four students volunteered to participate in follow-up interviews, which resulted in a total of six interviews. Participants included three males and one female and ranged from 18 to 31 years of age. Participants were racially/ethnically diverse (Asian, Black, Multicultural, and White) and came from a variety of majors (City and Regional Planning, English, Biological Sciences, Psychology). Participants varied across each academic year, freshman through senior. Below are brief bios of each participant:

- **Adam** is a fifth year senior, just weeks away from graduating, when he meets with me to interview. He is a Caucasian 31 year old, who grew up in a rural area of Michigan. Adam’s parents are separated; his mother collects disability and his father works as a truck driver. After high school Adam says he didn’t quite know what to do so he decided to join the Marine Corps. After his service, Adam wanted to go to school and decided to start working towards an associate’s degree at a local community college near his hometown. Adam says he realized there weren’t many job opportunities in his hometown and decided to move to Columbus and attend Ohio State University. Adam was drawn to service-learning classes immediately because he wanted a hands on experience where he could learn more about what professionals with a degree in city and regional planning (his major) did. He so enjoyed his first service-learning course that he has now taken a total of three.
• **Bob** is a very active junior; serving in multiple student leadership positions and interning at his campus’s Multicultural Affairs office. Bob is an English major who is currently considering graduate school in higher education. Bob is quick to articulate his self-identification with several salient identities; although he was adopted, Bob learned that he is biracial with biological parents that are Caucasian and Native American. Bob has completed one service-learning course that is part of a larger, two-semester, service-learning program for honors students. In his service-learning course, Bob is working with a conglomeration of Native American tribes in New Orleans who are developing a museum to preserve their rich history and culture. For example, his small group has been working with the community to develop a website for the museum. At the end of the semester, Bob and his small group traveled to New Orleans to work on the project face-to-face with their community partners. Bob tells me they recently learned that they will get to continue working with the same community in their next semester—he is noticeably excited about continuing this project and returning to New Orleans in the Spring.

• **Elnora** is an 18-year-old first-year student in the same program as Bob, although she is working in a separate group and on a different project. Elnora is a biological science major and an aspiring optometrist. Elnora and her family are Vietnamese. She emigrated from Indonesia when she was a small girl, although Elnora says that she was old enough to vividly remember their life there. In her service-learning course, Elnora and a small group of students worked with a Vietnamese fishing
community outside of New Orleans that was devastated by Hurricane Katrina. In addition to being drawn to the project because of her cultural roots, Elnora was also interested because she has family in New Orleans, which she says gave her a better idea of how damaging the hurricane had been and, in turn, made her want to help more.

- **Joe** is an 18 year old, Black man who grew up primarily under the guardianship of his grandmother in an urban area of Toledo. Joe shared that going to a soup kitchen or receiving food assistance was not an uncommon experience for him and his family. Joe is pursuing a degree in psychology and a minor in women’s studies. Joe says that he is hoping to become a counselor, serving persons of color and especially Black women. Joe admits that a primary driving force behind his enrollment in the service-learning course he took was that he really enjoys the opportunity to travel and learn about new cultures and this course included a trip to London. Joe’s service-learning course focused on leadership and inter-group dialogue through service experiences that engage in issues of difference, diversity, and social justice. Joe explains that his course was focused on British cultural and social justice issues. Though students were involved in service-learning assignments throughout the semester, the course culminated in a trip to London where the students interact with several communities in different service experiences.

Table 5-1 provides the demographic information for each participant listed by their pseudonym. The narrowness of the study’s criteria resulted in a small sample size;
however, this reality should not eclipse the richness and depth provided by the participants.

<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Sex</th>
<th>Age</th>
<th>Race</th>
<th>Year</th>
<th>No. of S-L Courses Taken</th>
<th>Major</th>
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<td>Adam</td>
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<td>White</td>
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</tr>
<tr>
<td>Bob</td>
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<td>Junior</td>
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<td>English</td>
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<tr>
<td>Elnora</td>
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<td>Asian</td>
<td>Freshman</td>
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<td>Biological Sciences</td>
</tr>
<tr>
<td>Joe</td>
<td>Male</td>
<td>18</td>
<td>Black</td>
<td>Sophomore</td>
<td>1</td>
<td>Psychology</td>
</tr>
</tbody>
</table>

**Question 1: LIFG Service-Learning Participation**

What factors influence the participation of LIFG students in service-learning?

Three core themes emerged from interview data describing various extrinsic and intrinsic motivations for participation in service-learning courses for LIFG students: faculty and staff interactions, targeted programs, and a predisposition to serve. Faculty and staff interactions and targeted programs can be characterized as external—in this case institutional—extrinsic motivations for service-learning. Whereas, a predisposition to serve can be characterized as an intrinsic motivation towards service-learning. These themes encompass the breadth of responses within the sample; however, variation occurred for each participant in the various ways that themes overlapped.
Faculty & Staff Interactions

Faculty and staff interactions were referenced in a variety of ways: a referral of one participant’s current faculty to the service-learning course of another professor, the encouragement from one participant’s advisor, and—as we see below—the recommendation of a service-program coordinator. Joe is a sophomore who was recruited into a first-year-experience program designed to help minority students’ transition into college (PASS\textsuperscript{16}). When asked about how he came to a service-learning course that included a service-trip to London, Joe and I had the following dialogue:

JOE: Well during the course, ah, you do service-learning before you go to London, and then you go to London. I am in another program PASS… the program coordinator recommended that take the course because you study abroad. We were only there for slightly over a week and so ah, she recommended it to me so I signed up for the class.

INTERVIEWER: How did you get in to PASS?

JOE: You apply the summer like before you come here.

INTERVIEWER: Why did you apply?

JOE: Well, me personally, I used to work at the boys and girls club of Toledo, and my boss is good friends with the program coordinator for PASS. So he called her

\textsuperscript{16}PASS, an acronym for Program for Advising in Scholarship & Service, is a selective first-year academic learning community for Arts and Sciences students who have a shared interest in the academic, cultural, career, and community benefits of diversity.
up because she used to teach psychology, and she was like, "No, I don't teach it anymore but I have this other program [PASS]…” So it’s kind of happened through me knowing him, and him knowing her.

Joe describes how his interactions with a program coordinator influenced his decision to take a service-learning course. Digging a little deeper, we see the influence of the PASS program coordinator is a product of a social network developed from the interactions with a high school mentor (from the Boys and Girls Club). The director of the Boys and Girls club that Joe attended during high school utilized his own social capital, in this case a friend/collleague who is a professor at OSU, to provide Joe with a contact person at Ohio State who can point towards resource for Joe as he transitions from high school into college. In this case, this contact pointed Joe in the direction of the PASS program.

Joe is not alone in his experience, in the following excerpt Bob describes how a he was referred into his service-learning course by a separate professor he was taking a study abroad experience with. When asked how he came to his service-learning course Bob replies:

The one that I’m taking, I was actually referred to it when I was in Berlin this summer by the professor I was taking the study abroad class with. She referred me to the professor that’s hosting the class and by the time that I came back like I was already in the class…

Given that low-income, first-generation students tend to enter college with limited cultural and social capital, particularly as this applies to their own and their family’s
knowledge of institutional and academic cultures, it is not surprising that each of the participants point to faculty and staff interactions and invitations as impetuses for their service-learning participation.

Despite the institutional nature\(^\text{17}\) of service-learning at each of the institutional sites, participant recruitment for this study was largely characterized by student ignorance over what service-learning was, even when explained in common language. Whether this ignorance was due to unfamiliarity, poor institutional recruitment, lack of student priority, or some other reason the reality this theme communicates is: faculty and staff interactions with LIFG students are especially important for directing, and encouraging their participation in resources such as service-learning courses.

**Targeted programs**

Another extrinsic source of motivation for participation in service-learning courses came from students’ participation in programs, such as learning communities or specific service initiatives. Elnora explains that upon her acceptance to college she was offered a scholarship that required her to participate in a service-learning course:

Well I got a scholarship that kind of like put me in the class and so they were like you know before we got the scholarship like this is the class [reference the service-learning course]- This is what you have to do. I was like okay that's real

\(^{17}\) Each institutional site had an established service-learning center with dedicated faculty who sought to facilitate faculty in employing service-learning pedagogies in their course and to encourage student participation in these courses.
interesting. I want to help. Like not just for the scholarship money but like I really want to take a trip to New Orleans to see how they are doing down there and I have family down there. So that kind of like made me want to go more.

Later Elnora somewhat sheepishly admits she did not really know what service-learning was before the course and that she is glad she was offered the chance to participate. Elnora describes the push the program gave in providing the opportunity and then her pull towards wanting to help which is intensified by serving in an area where she had family. This theme also emerged in Adam’s narrative as he shares that his participation in service-learning began because his program requires its students to take three practicum courses of which at least half consistently employ a service-learning pedagogy.

**Predisposition to service**

The final theme that emerged from interviews about influences on participants’ participation in service-learning can be characterized as an intrinsic source of motivation. This theme was evidenced most often by participant phrases that spoke to an internal desire to serve or help others. For instance, when asked what motivated him to take his service-learning course Bob starts to share the he loves learning about other cultures and then says, “I wanted to do that [learn about another culture] and be able to give back at the same time.”

Adam alludes to a similar internal motivation when describing how he ended up choosing service-learning courses when picking amongst the practicum courses offered in his program:
They have this list every quarter, now semester, that comes out and you just...

You'll have like four of them and you have to pick one of four, and I just try to gravitate towards anything that has to do with an underserved community.

Adam, describes that he was motivated to participate in service-learning courses because they offer him the opportunity to do work he considers meaningful. In the following excerpt Adam continues this articulation of an intrinsic motivation, highlighting how his thoughts are shaped by his identity as a student from a low-income family and his personal exposure to the historic, unintentional negative consequences for the poor resulting from city planning processes:

…coming from a low-income family I see where it's important and in planning we always talk about kind of how we've basically screwed over the poor folks and especially in city planning. Um, when it comes to like urban renewal and all that stuff... I'd like to do something with my work that I feel is important because that's, you know, that's where you give the best years and the best hours of your day, is to your work so you might as well do something you really believe in, and just kind of undoing some of the wrongs that we've done in the past is, I think, a good way to spend your life.

Adam says that the service-learning courses he’s been able to take have given him the opportunity to do the kind of work he describes above—work that feels important, that helps right some of society’s past wrongs, and work that has resulted in a job offer from one of the non-profits he worked with in one of his service-learning courses. Adam’s
predisposition to service is perhaps articulated most clearly here in the way that conceptualizes and evaluates the “good life.” Adam doesn’t ascribe wealth or prestige as markers of this life, rather he attributes a life spent helping others as meaningful and worthy of his best hours and best days.

Consistent with literature on service-learning that indicates past service as an influence upon future service (Astin & Sax, 1998; Sax, Astin, & Astin, 1996; Astin, et al., 2000), many participants discussed community service experiences prior to college in reference to their desires to help others. For instance, Bob spoke about his work with Habitat for Humanity; Joe mentioned his previous and present volunteerism with Boys and Girls Club; and, as the following quote shows, Elnora had significant service experience during high school:

I worked with Volunteers of America and then I did a lot with like my church and stuff and then I did Benevolent Warriors where we work with UNICEF and then I did stuff with the Red Cross and state council. We also did stuff for like, I don't know the organization, but the veterans-like we made like care packages. Elnora says these experiences in high school helped her realize how much she enjoyed participating in service activities. The propensity of previous service experiences reinforces the conclusion of other scholars (Astin & Sax, 1998; Sax, Astin, & Astin, 1996; Astin, et al., 2000) that the strongest influence upon student’s future service activity (service-learning or community service) is past participation; and in fact, Astin,
et al. (2000) conclude that service-learning’s impact is even greater than community service.

All four participants described a coalescence of at least two of the themes—one intrinsic and one extrinsic—that lead to their participation in service-learning. The wider look at the previous excerpt where Bob was describing how a faculty interaction (push) introduced him to a service-learning course illustrates how this extrinsic motivation alone was not enough to precipitate his participation:

I was actually referred to it [service-learning course] when I was in Berlin this summer by the professor I was taking the study abroad class with. She referred me to the professor that’s hosting the class and by the time that I came back like I was already in the class and I didn’t even know I was gonna actually do it yet… At that point I was like, “I don’t really know if I want to do this.” But then I thought about it and-never going to New Orleans before-I thought that would be something. The fact that I love all different kinds of cultures and I had never experienced that before in my own country in that specific kind of a culture, I wanted to do that and be able to give back at the same time. So, it’s that exactly what service learning is, you’re giving back but also educating at the same time. And so I really embrace that aspect of it.

Here Bob first talks about the extrinsic motivation towards the class from one of his professors that he was taking a study abroad trip with. Bob’s reference to being referred into the course is explained later in the interview when he shares that the course was full
causing him to needed a faculty referral to be added above the course limit. However, in reflection we see Bob describing hesitancy to participate even in light of the faculty referral. His decision to take the course results from the combination of a faculty invitation (extrinsic) along with an internal desire to give back (intrinsic). Similarly, in the earlier excerpt where Elnora described the scholarship that involved a required service-learning course, she shares that upon reflecting on the opportunity she realized she really enjoyed service activities saying, “I want to help… Like not just for the scholarship money.” In this case, it seems the scholarship program—an extrinsic motivation in the form of a targeted program—lead to the realization of a predisposition to serve—an intrinsic motivation. This finding indicates the recruitment of LIFG students for service-learning courses may result from, or at least be increased by, multiple influences.

**Question II: Outcomes Related to Service-Learning for LIFG Students**

What learning and development is related to participation in service-learning courses for LIFG students? The following list includes the five core themes and one tentative theme, along with an abbreviated description, that emerged from the interview data about the perceived outcomes related to participants’ service-learning experiences:

- **Cognitive Diversity** – Similar to the factor found in the quantitative analysis, this theme involves a broadening of perspectives related to diversity and to increases in cognitive development.
• Service as Reciprocal – A perspective that views service as a mutual give and take versus a unidirectional process with a provider and recipient.

• Critical Consciousness - Focuses on an individual’s ability to understand the world as being situated within complex social and political relationships with specific awareness of how institutional, historic, and systematic forces limit or promote opportunities for groups of people (Freire, 1973).

• Encountering the “Self” – An aspect of the service-learning experience where participants self-identify with the community partners they are serving.

• Aiding in Biculturalism – Biculturalism refers to the process whereby students are encouraged maintain connections to their home culture while adopting and navigating their institutional and/or academic culture (Kuh & Love, 2000).

• Career Acculturation – The process of learning and/or adopting the cultural norms associated with a chosen career field.

These themes arose from conversations about what the participants learned in their service-learning courses—in the classrooms and in throughout their service experiences—and through conversations about participants’ interactions with classmates and community partners.

**Cognitive Diversity**

One of the most prevalent learning outcomes participants attributed to their service-learning experiences was broadening their perspectives related to diversity issues. This broadening of perspectives is accompanied by growth in higher order cognitive
skills, whereby participants are able to analyze and even maintain multiple perspectives. Participants articulated a deepening understanding of both the similarities and differences of humankind through their interactions with classmates and community partners during their service experiences. When Joe was asked what he learned from his service-learning course, he begins to describe his experience as one that cultivates greater awareness of the diversity in the world, especially amongst cultures, yet this diversity is simultaneously layered with a growing understanding of the similarities that exist amongst all people—essential humanness that unites us within the richness of our diversity.

Joe describes a broadening of perspective that occurs through his interactions with other people. This interaction has a dual effect upon Joe’s understandings of people having both great variation and similarity simultaneously. Joe describes his experience as one that cultivates greater awareness of the diversity in the world, especially amongst cultures, yet this diversity is simultaneously layered with a growing understanding of the similarities that exist amongst all people—essential humanness that unites us within the richness of our diversity.

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These perspectives are not presented in conflict by Joe or Bob, but rather as the realistic complexity of the world. Bob articulates a similar growing understanding:

Getting to familiarize yourself with people from different cultures, learning about what happens in those cultures and how you can relate them to your own. I mean we’re all different but we all have similarities too, and so it’s finding that common ground so we don’t have these struggling situations, and I think that’s a great thing that a lot of people need.

I’ve realized that I can actually challenge myself to be more accepting of somebody I don’t really get along with. And that kind of amazed me. Because I’ve always been in that mindset of like I either dislike you or I like you. Like there’s no middle ground. And I’m learning like there can be a middle ground. There really has to be a middle ground because if not, you know what’s the outcome of it. And it’s either gonna be a positive or a negative. And it should always be a positive. So, just learning that I can be more challenging of myself and accepting of the other person’s standpoint.

Bob speaks of this growing understanding as the catalyst for a surprising discovery that he is able to challenge himself to find common ground with others, while accepting their difference. This ability to consider multiple perspectives for their ability to constitute a more just society are described by Kohlberg (Evans, Forney, Guido, Patton, & Renn, 2009) as postconventional morality, the third and final level of moral development where multiple perspectives are given voice and principled rational serves as the bases for what
agreement upon what is most just. Joe articulates a movement beyond dualist thought—this or that; dislike or like—into pluralism where multiple perspectives and even contradictions may co-exist. Joe’s assertion that difference should be embraced, connotes this realization that difference doesn’t have to be prioritized into right and wrong, but instead can simply be different—Kohlberg describes this as the first of two phases within postconventional morality. The second phase of postconventional morality is the ability to recognize a pluralism of perspectives while maintaining a commitment towards a particular perspective based upon a logically state rational. Bob describes such a commitment in light of broadening of perspectives when describes that what is best, is measured by the weighing the possible outcomes and choosing what is best for all parties involved. In this case, Bob uses utilitarian ethics—a rationalization of the greatest overall “good”—to evaluate multiple perspectives.

**Service as Reciprocal**

Participants also describe an increasingly dynamic view of service because of their experiences in these courses. Instead of speaking about service as a unidirectional process where a product is provided to the community partners, participants describe reciprocity inherent in their experiences. For instance, Elnora tells me that her service-learning class involves a lot of reflective writing. When I ask what some of her take-aways have been from her journaling she replies,

Well I learned like, just not to go down there- not to go down there and just be like “Oh they need us,” like “We're here because they want us.” They don't. They-
I mean—they could do it on their own but we're down there, not to be like: “Oh we're here. Yeah we're going to save you.” They don’t need saving. They just need a helping hand. We're not going to be super heroes and come down there. So we're learning from them. Not them from us I guess.

Elnora says that her service-learning experience has cultivated a perspective about service not being about one party saving another. Instead she highlights that while she may be providing some service, in her experience the community partners are the ones providing valuable lessons for her and her classmates. Another participant echoes this idea of giving and receiving through service-learning:

I really enjoy that aspect of giving back to somebody. Especially people who, you know they don’t have the ability to do things themselves. And I find that rewarding because not only am I making them feel better, in doing so it makes me feel better. So it’s that give and take and I think that’s probably why I’m doing service-learning because now I’m not only doing that give and take but I’m also getting something more than just a thank you kind of a thing. I’m actually getting an education into these, this organization’s life and learning about them as individuals as well. --Which you don’t really get that kind of a thing in a volunteering field. You may get to know a person’s name and you know where they grew up but you don’t get to know a more in-depth version of it. (Bob)

Like Elnora, Bob describe a lesson he believe he has learned exclusively through his service-learning experiences: that service is more than just providing services or help for
others. Instead Bob and Elnora describe service as a reciprocal transaction where those serving and being served exchange goods. Bob even points out that this view of reciprocity in service-learning is distinctive from his view of volunteering. As a result of the reciprocity the participants experience in service-learning they are able to see those they serve as more than helpless, or destitute, but in fact partners in the service-learning experience.

**Critical Consciousness**

Consistent with the literature on the affective outcomes with service-learning (Ginwright & Commarota, 2002), several participants described a growing since of the complex relationships social and political relationships that exert forces that may increase or limit the opportunities of particular groups of people—or critical consciousness. In the following quote, Adam responds to a question concerning how his interaction with community partners may differ from classmates who aren’t from similar backgrounds as him:

> Just, a lot of people in our classes and stuff haven't come from lower-income backgrounds and so they don't always understand people as well and sometimes there's this... I don't know, in our classes we go over social justice a lot, so much folks have a reasonable idea of it-- but I guess for me it is more of a practical experience, just the basic understanding that just because somebody's poor that doesn't mean they are this lazy or drug addicted stereotype.
Adam describes that in light of a social justice emphasis that he feels pervades his major, his personal experiences has still been practically shaped in relation to his self-identity. Adam describes that his personal relationship with poverty has cultivated a more critical questioning of commonly accepted stereotypes, especially as it relates to his service-learning experiences engaging with housing issues in impoverished communities.

The ideology around viewing those being served as community partners is deeply linked to a social justice movement within service-learning curriculum and research advocated by scholars like Ginwright & Commarota (2002) who provided a critique of service-learning and highlighted its ability to develop a critical consciousness within youth, especially from “oppressed” backgrounds. Within the last fifteen years, several researchers (Rhoads, 1997; Rice & Pollack, 2000; Rosenberger, 2000) began utilizing the term critical service-learning to describe service-learning experiences that employed a social justice perspective. In 2008, Mitchell formalized the term by advancing a critical model of service-learning and comparing it to a traditional view of service-learning. In her model, Mitchell places equal emphasis on student outcomes and social change arguing that together these goals promote the development of critical consciousness within students:

Critical service-learning pedagogy fosters a critical consciousness, allowing students to combine action and reflection in classroom and community to examine both the historical precedents of the social problems addressed in their service placements and the impact of their personal action/inaction in maintaining and
transforming those problems. This analysis allows students to connect their own lives to the lives of those with whom they work in their service experiences. (p. 54)

The cultivation of students’ critical consciousness requires a service-learning curriculum where faculty validate those being served as active contributors and co-educators in the service-learning experience—hence, the commonly used term “community partners”.

A critical view of service-learning is essential to the validation process of community partners, especially for LIFG students who often personally identify with the community partners, as it allows students the opportunity to analyze systems of oppression and question stereotypes that may place the poor or marginalized as lazy, stupid, or deficient in some way. Adam goes on to share that because of the faculty in his program’s commitment to social justice, it’s very easy for him to engage with his classmates about the propagation of negative stereotypes. Similarly, Joe describes an unexpected learning outcome—though he points out that he feels everything he learned in his was truly intended by his professor. He says that he has developed a greater understanding of the systematic forces involved in the American civil rights movement resulting from his service-learning course. Joe explains this was not a specified learning outcome in the course but that it resulted from the process of analyzing the British civil rights movement. As Mitchell argued above, a critical model of service-learning allows students to develop critical consciousness through examining the historical precedents of social issues and allowing students to reflect in pragmatic effects their actions or
inactions have in maintaining or transforming those issues, and it is in this humanizing process that students able to connect their own lives to those whom they are interacting.

**Encountering the “Self”**

Eyler and Giles (1999) have attributed much of service-learning’s success to an idea that students encounter the “other” in their service experiences. It appears that—at least for LIFG students—there is also an encountering of the “self,” and the two are not mutually exclusive. All four participants describe this encounter readily when speaking about their service-learning experiences. Adam does so as he relates the importance he sees in service-learning participation to his personal experiences with poverty: “Coming from a low-income family I see where it's [service-learning] important and in planning we always talk about kind of how we've basically screwed over the poor folks and especially in city planning.” Similarly, Bob references his encounter with self as he is describing the community he worked with in this service-learning course, “I like the group that we’re working with, yeah. I see a lot of myself in them with that, that confidence of like this is who I am and I don’t care about what anybody else thinks. This is just me.”

For Elnora, she relates her experience living in a “third world” to the devastation the community she worked with experienced after Katrina:

Well like after being hit by Katrina I can tell that-- or I can definitely like see myself there. I don't know. Since I used to live in a Third World Country; I know how it is like to not have everything and like anything I want that moment. So I
guess after Katrina hit they couldn't just you know go out to eat. Go hang out with their family whatever- *I can definitely see that*. So I kind of have that feeling like when I go down there it’s like when I go back to Vietnam and stuff.

Elnora later makes a similar comment to the one above, although this time she comments on her ethnic identification with the community and adds that because she is also Vietnamese she sees herself as a sort of ambassador between the community and the rest of her small group. Similarly, Joe talks about how his experience being on the receiving side of services like soup kitchens allowed him to connect better community members in his service experience:

> I have been to soup kitchens and so it's nothing new to me, for real. *I kind of can connect with people.* Of course, I haven't really been in their shoes, but I can connect with the people who are eating at a soup kitchen. I know how it is. I know the general set up of soup kitchens. Again, it was really familiar with me. Like ah, I would go with my grandma sometimes or one of my parents and stuff like that. And so, *I mean I know how it is when you go through that*; whereas some people may not, you know like... Yeah.

Bob, Elnora, and Joe each articulate a connection to the community partners they interact with in their service experiences. They express seeing themselves in the communities they are serving within; a familiarity with the people and circumstances that Joe points out. These encounters with “self” produce a feeling of connection between the
participant and community partners. In the dialogue below Joe verbally processes through a change in his motivations for serving as a result of this connection:

JOE: The only thing I can tell you, that was like just, ah, being who I am- where I'm from- to do service-learning, it gives you a better understanding of where you stand in the world, where other people stand in the world, other peoples' opinions of those people, and, I don't know, ways that you possibly could change people's opinions and like - Like, the simple fact that you may be helping someone who, ah, just like you or that you can relate to; versus helping someone that you have no connection with- type deal… for me, it's always different to do things with people who like go to soup kitchens or go and like do boxes of food to like give to families and stuff. Because, like again, growing up, I was one of those kids that we would like get boxes with government cheese, and like the bread and cereal and can goods and whatever comes with that. And to just like be on the opposite end of it, it’s like a real like eye-opening experience, to see what goes into that. And then on top of that to see what type of people go and assist with that.

INTERVIEWER: What do you mean by that?

JOE: Just, the fact that some people will do and not care. Other people will do it do it because it's there, "Hey let's go such and such for this organization" which is like okay, and then you have the people that just obviously don't care that are there because they either have to be or whatever, which it wouldn't really be
voluntary, but-- And then you get like people who can related who do it because they feel a relation to the people, they feel a connection to the people, they want to give back the same way that they were given to. So um-

…Just my ideas of helping give back to community are different, like this summer I want to work- well I won't be working but I'll be volunteering at the boys and girls club down here. And so just being around kids- I was in boys and girls club for eleven years out of my life and I was a staff member before I came here, like the exact summer, up until August before school started. Just to be able to give back to those people and stuff, so as far as that goes, speaking with the kids and then being a role model for the kids and giving them a chance to see someone who's like them and trying to succeed in life. That's more of the type of service and things that I wish I would do. But, definitely, definitely, something that I am passionate about.

Joe describes a shift in his motivation from serving as a sort of moral imperative—doing service because it’s the “right” thing to do—to a desire to participate in service because of a connection to the community. Joe describes this shift in his thinking as a result from his participation in his service-learning course where he related to the community partners because of his personal experience as a low-income students who had been on the receiving side of soup kitchens or food banks. Joe’s encounter with “self” in his service experience caused a shift in his motivations to serve.
Aiding in Biculturalism

Finally, participants shared that their service-learning experiences provided them with an opportunity to remain connected to their home communities through serving community partners they personally identified with. This theme draws heavily upon the previous two themes: encountering “self” and social justice orientation. The previous dialogue with Joe is one example of this biculturalism. “My ideas of giving back to the community are different…” Joe explains; he continues by describing how he attributes a lot of his success to his involvement with the local Boys and Girls Club and that his passion for serving. Joe says the encounter with his “self” in his service-learning experience has shifted his thinking about why he serves and thusly influenced his future summer plans to volunteer with the Boys and Girls Club near his campus. He tells me this experience resulted in Joe’s desire to actively seek out a community that enabled him to give back to the people that helped him in life. Even though it’s not his Boys and Girls Club, Joe explains that serving kids that he identified with made him feel like he was helping his community. In effect, Joe is maintaining a connection to that home culture by being a role model for youth from similar backgrounds.

Adam shares a similar thought while describing what he got out of taking service-learning courses:

It's also just nice to, you know, it's kind of like a giving back thing. People that make it out of the low-income trap, you now want to go help people, because it's like, 'Yay, I did it!' or at least getting a degree. It's kind of like you see a
basketball player or something from some developing country and then they want to go back and help kids get an education or something, and that's kind of the service-learning thing… It's like, I don't want to ever—I guess part of my goal in college is that I didn't want to just help myself out and then move to the suburbs that are just taking over everything. It's definitely like, having your career and classes and the work that you do focus on helping people out definitely keeps you from ignoring problems that you knew growing up.

Adam shares that his participation in service-learning has enabled him, not only to feel like he’s able to give back to other low-income families but to also maintain a connection to his roots. Adam adds that this connection through service also serves to prohibit him from forgetting the problems he knew growing up. Here Adam references the common phenomenon where upwardly mobile middle-class relocated from lower-income areas to suburbs, but Adam says he didn’t go to college to just help himself out. Adam tells me that he feels a responsibility to resist disconnecting from his home culture and instead extend the benefits of his success to it. Adam tells me his service-experiences and the subsequent orientation of this work provides a way of “staying grounded or connected to your roots.”

Successful retention of students, especially from marginalized backgrounds, has been the topic of educational research for decades and much of this research has centered on the integration of students within their institutions. In part, Tinto’s (1987, 1993) theory of student departure asserted that students much disassociate from their home
cultures and assimilate in the dominant campus culture to succeed. Many scholars have challenged this assumption (Kuh & Love, 2000; Museus & Quaye, 2009; Tierney, 1992, 1999) and instead argued for the importance of validating student’s home culture while helping them to participate within dominant institutional cultures. This biculturalism (Kuh & Love, 2000; Museus & Quaye, 2009) usually involves “cultural agents” who help students validate their home culture and its role in students’ identity while simultaneously helping them to navigate campus cultures.

While this theory is usually used to describe minority student retention and institutional fit, there is potential for application for LIFG students (many of whom are also students of color) and their service-learning experiences. LIFG students describe seeing themselves in the community partners they serve (encountering “self”). Service-learning courses that include social justice orientations or are undergirded by critical theory tend to validate community partners and thereby may provide self-validation for LIFG students’ identities, background, and home culture. This validation can occur in the ways that faculty interact with students around issues of difference and sameness, as well as the ways in which faculty involve community partners in these service-learning courses. For instance, Adam shared that in one of his service-learning courses the community partners provided feedback to his professor that was utilized in the course’s grading. Likewise, Bob and Elnora share that their faculty involve community partners in their service-learning course as co-instructors who provide mini-lessons and course content.
In this way, service-learning experiences increase biculturalism by providing LIFG students with connections to individuals who can serve as cultural agents—both the faculty and community partners—that allow them to remain connected to their home cultures as they manage transitions into their campus communities. As Adam and Joe explain, their service-learning courses have allowed them to give back to communities they feel connected to and, in so doing, have allowed them to feel connected instead of disassociated from their home cultures.

**Career Acculturation**

I describe this theme as a tentative theme because only one participant (Adam) spoke of it clearly; however, I chose to include it as a tentative theme due to the number of times it arose in Adam’s interview and the clarity by which it was articulated. While participants readily spoke about their identity as a low-income students, they rarely spoke about the impact of their being the first person in their family to attend college; save for one instance, when discussing how their service-learning experience influenced their career aspirations. This theme was unexpected as no questions were asked about career goals or the impact of service-learning upon major determination; however, in the following excerpts Adam shared that his service-learning experiences provided a clearer picture of a career paths that was previously foreign to him due to their working-class habitus. When asked what he got out of his service-learning courses, Adam first describes how his first-generation status left him with few examples of college-educated career paths:
Um, basically, that's what I think is interesting about like the service-learning classes because when I started off in college I kind of had no idea what I was doing because everybody I knew either worked in a factory, or drove a truck, or physically did something. And I would look at big office buildings and I'm like "What are all those people doing in there?" They can't just be filling out paperwork all day. Pushing files around, I don't know <laughs>. So I really had no direction, so that's what eventually led me to go into the Marine Corps and then I'm like “Oh, gotta find something to do.”

Adam clearly identifies the impact of a working class habitus upon his own career trajectory, which had earlier resulted in enlisting in the Marine Corps. Adam’s story is illustrating how limited cultural capital—in this case, limited exposure to the habitus of college educated persons—can impact the education and career choices of first-generation students.

Adam continues, vividly describing his feelings of ignorance around careers requiring college degrees due to a lack of exposure to these environments, and shared that his frustration over non first-generation persons’ lack of understanding:

A lot of people don't understand, even like, especially like having parents or family that's never been to college. They don't understand what a bigger deal; that is- and I didn't either. Like when I first went school I was like, “Oh I just go to college and get a degree and them I'm, you know- I'm set for life.” And then I got there and I'm like, “I don't know what to do!”
Adam’s habitus did not include a context for these positions and, despite his acceptance
and progress through his program of study; he articulates questions about how to parlay
his education into a career. Then Adam describes how his service-learning experiences
provided real-world exposure to those careers and changed his outlook upon his career
opportunities.

That's one thing that I think service-learning has also helped with, is just real
world experience because, like I was saying, you know I just looking at an office
and I don't know what anybody does-- What's a city planner? What does it do-- I
don't know, anybody that has these jobs. So it's like I actually had to experience
this to see, “Oh okay, that's what somebody with a degree does.” <Pauses>
I think that I get more out of it. I think it's more essential for me specifically,
because for one, again it's like you get real experience and you get to practice
what you're doing, and you get to know other people and maybe if you've- you
know if you're parents already have a degree you know what you're doing, it's
already predetermined or you've already thought about it- but this also gives you
focus and direction and that something that's really hard to find when you don't
have any examples of that around you.

Adam is emphatic as he shares the largest impact his service-learning classes in his life
was provided focus and direction for his career. This narrative typifies Wapole’s (2003)
argument that service-learning experiences are essential in providing marginalized
students with the opportunities to expand their habitus to include contexts and aspirations
for college success. The way that Adam tells me this information is important, he pauses and then carefully chooses his words, “I think I get more out of it. I think it’s more essential…..” Adam connected this point to his earlier articulations about the impact of his limited cultural capital describing the ways in which his service-learning experiences have contributed focus and direction to his career path. According to Wapole, Adam is illustrating how his interaction with the community partners in his service-learning experiences have expanded his habitus by providing exposure to these career options.

**Summary**

The in-depth interviews conducted in this second qualitative phase of research have resulted in the emergence of nine core themes that increase our understanding of the experience and outcomes related to participation in service-learning for LIFG college students. Three core themes have emerged from interview data that described various pushes—faculty and staff interactions, and targeted programs—or pulls—a predisposition to serve—towards participation in service-learning courses for LIFG students. Almost all participants communicated having both a pull and a push involved in motivating their service participation. Additionally, most participants spoke about previous participation in community service activities, which adds to the evidence that service activity may predispose students to service-learning participation. An additional six core themes emerged from the interview data pertaining to the learning outcomes related to participants’ service-learning experiences: cognitive diversity/pluralistic orientation, career acculturation, service as reciprocal, critical consciousness, encountering the “self”,
and aiding in biculturalism. These themes constitute a myriad of academic and affective outcomes that contribute to the academic success of LIFG college students. Next attention is turned towards the integration of these qualitative findings with the quantitative findings from the previous chapter.
Chapter 6:  
Conclusions & Implications

This chapter begins with an overview of the study, its research questions and the rationale for its design. Following this overview is a discussion of the conclusions produced by the integration of the quantitative and qualitative research phases of this study. Four primary conclusions are presented: two conclusions focus on the service-learning participation of low-income, first-generation (LIFG) students, and two conclusions focus on the outcomes related to service-learning participation for LIFG students. Then two issues are discussed where divergent findings emerged from the two phases. Next, the implications of these results are explored within the areas of educational research, policy and practice. Finally, given that the findings of this study are more suggestive than conclusive, I discuss future directions for inquiry based upon the increased understanding this study provides within the context of educational research.

Overview

Low-income, first-generation college student success continues to be a topic that warrants research and attention within higher education. Institutions of higher education are situated within a broader cultural landscape where increasing pressure exists for policies and practices that will increase the access and persistence of these students. Current research, however, suggests that institutions are not succeeding in this arena and that institutional practices and policy are in fact pushing LIFG students out of the
academy (Engle & Tinto, 2008; Haycock, 2006). This study aimed to increase the understanding of learning and development related to LIFG students’ participation in service-learning—a pedagogical method intended to increase student learning and, thereby, student success.

Specifically, the study utilized multiple data streams to investigate factors that differentiate LIFG students who participate in service-learning (LIFG Participants) from LIFG students who do not participate in service-learning (LIFG Nonparticipants) and the outcomes and experiences related to participation for LIFG students. Sequential explanatory mixed methods design was used so that broad findings from the quantitative analysis could be further explained through deep investigation from a qualitative analysis (Creswell & Plano Clark, 2011; Creswell, 2003). As such, this study utilized two research phases (quantitative then qualitative) to explore the following research questions:

**Quantitative Phase I Research Questions**

*Research Question 1*: What factors differentiate whether LIFG students will participate in service-learning?

*Research Question 2*: What are the factors that differentiate whether students (in the overall sample) will participate in service-learning in comparison to the factors identified for LIFG students?

*Research Question 3*: What latent constructs are present for the sample of LIFG college students?
Research Question 4: How does participation in service-learning relate to GPA, the CSS Civic Awareness Score, and any latent constructs for LIFG students?

Qualitative Phase II Research Questions

Research Question 1: What factors influence the participation of LIFG students in service-learning?

Research Question 2: What learning and development is related to participation in service-learning courses for LIFG students?

Within this study’s mixed-methods design, there were two primary “points of interface” in which the two phases influenced each other. First, the findings of the quantitative phase informed the creation of the qualitative interview protocol and a priori initial coding process. Second, this chapter—the conclusions of the study—synthesizes the findings of each phase in an effort to produce a more complete picture of the learning and experiences of LIFG students who participated in service-learning courses.

Conclusions

There are four primary conclusions that can be drawn from the synthesis of the quantitative and qualitative findings of this study, which inform our understanding of the potential experiences and outcomes of LIFG college students who participate in service-learning courses. The first two conclusions focus on the research questions and analyses regarding the participation of LIFG students in service learning; namely, what is distinctive about the participation of LIFG students in service-learning. The second two
conclusions focus on the research questions and analyses regarding the outcomes related to LIFG students’ participation in service learning.

1. **LIFG students participate in service-learning at equal rates as the overall student population.** The overall student sample included 5,270 cases of which 43.3% (n=2,281) had participated in service-learning courses. Similarly, the LIFG student sample included 312 cases of which 41% (n=128) had participated in service-learning courses. As reported in chapter four, a chi-square test confirmed there is no significant difference in participation rates between the two groups. This divergence from past literature (Astin, et al., 2000) is likely the result of increasing opportunities for students to participate in service-learning courses (Campus Compact, 2010, 2011).

   Furthermore, with the exception of Asian students, this study indicates that LIFG racial subgroups have equal, and in several cases slightly higher, service-learning participation rates compared to the overall sample. In light of previous research indicating that minority students participate in service-learning at lesser rates than their majority peers (Astin & Sax, 1998; Bradenberger, 2013), these findings suggest that either a shift in participation trends has occurred, or that such trends may be largely attributable to non LIFG minority students.

2. **LIFG students’ participation is service-learning results from the combination of intrinsic and extrinsic motivations and has little to do with pre-college characteristics.** LIFG students are more likely to arrive in service-learning
courses as a result of college experiences (extrinsic motivations), such as a faculty or staff invitation, and a desire to help others (intrinsic motivations), over pre-college characteristics like increased academic preparedness. Pre-college characteristics such as academic preparation or enrollment patterns do not significantly affect service-learning participation.

There is, however, a significant qualification to this conclusion: Consistent with previous literature (Astin, et al., 2000; Astin & Sax, 1998), there is one pre-college characteristic that is statistically significant in predicting future participation—prior service activity (most often observed as participation in community service). A potential explanation for this phenomenon is that participation in service activities creates a Matthew effect (Stanovich, 1986), or a continuous feedback loop, where an outcome of participation in service activities—especially when the experience is positive—is increased likelihood for future participation. This explanation is internally consistent with this conclusion, which finds that an intrinsic desire to serve is an essential motivation to service-learning participation.

3. **Service-learning participation has a positive effect on academic outcomes for LIFG student.** Above and beyond the influence of pre-college characteristics and college experiences, LIFG students’ participation in service-learning courses is positively associated with college GPA—perhaps the most indicative, and certainly the most common (York, Gibson, Rankin, Merson, Eury, Minutello,
Forthcoming) measurement of academic achievement. The persistence of a relationship between participating in service learning and college GPA despite including other variables in the model (e.g., race, high school GPA, primary major, and institutional selectivity) indicates that service learning is a meaningful activity for LIFG. Moreover, the inclusion of this variable increased the model’s ability to explain an additional 4.1% of the variation observed in college GPA, which illustrates the strength of the relationship between service-learning and college GPA.

Participation in service-learning was also related to the development of several cognitive processes that include higher-order skills such as critical thinking, analytic problem solving, and the evaluation of multiple perspectives. The development of these cognitive skills was suggested in the qualitative findings by the emergence of themes related to the cultivation of critical consciousness and cognitive diversity (the latent construct uncovered in the exploratory factor analysis). As suggested by Astin, et al.’s (2000) findings with the overall student population, participation in service-learning courses for LIFG students encourages increased gains in academic outcomes above and beyond those attributed to other input and experiential variables, such as race or major.

4. **Service-learning participation is positively related to affective outcomes for LIFG students.** In addition to the positive association that service-learning participation has with learning, LIFG students’ participation is also positively
associated with the development of several affective outcomes important to student success. Though service-learning participation was not found to be a significant predictor of LIFG students’ perception of their cognitive diversity, LIFG Participants in the qualitative phase of the study attributed gains in their understanding of diverse persons and perspectives to their service-learning experiences part of the definition of cognitive diversity. These qualitative findings supported the hypothesis that the quantitative findings were likely a product of the lack of variation amongst the responses to the survey items that constitute the cognitive diversity scale. Additionally, findings from the qualitative phase of the study suggest that LIFG college students may be able to reach greater understanding of chosen career paths (career acculturation) and a deeper awareness of the complexities of social, political, and historical forces that can serve to limit the opportunities of particular groups of people (critical consciousness) due to their service-learning experiences. These findings suggest that participation in service-learning courses for LIFG students encourages the development of several affective outcomes that are beneficial to students’ success (e.g., career acculturation, aiding in biculturalism).

Each of these conclusions increases our understanding of service-learning for LIFG students. Moreover, the final two conclusions (that service-learning participation has positive impacts upon academic and affective outcomes for LIFG students) are
especially important because they illustrate the positive influence of service-learning pedagogy upon learning and development. In other words, these findings constitute evidence that support the efficacy of service-learning as a pedagogical strategy for increasing the learning and development of students and, in turn, aiding in student success.

While the evidence for the primary findings is fairly convergent from the two data streams, there are two places where findings resulting from the two data streams are divergent. As such, I hesitate to label their synthesis as “conclusions” for they are inconclusive. However, this divergence of results is, in fact, an important aspect of the ways in which they can increase our understanding of this phenomenon.

1. **Service-learning participation has a mixed impact on the development of civic awareness for LIFG student.** Results from the quantitative phase of this study indicated that service-learning participation was not a significant predictor of growth in the CIRP civic awareness scale. Yet results from the qualitative phase of this study indicated that participation in service-learning for LIFG students helped to cultivate critical consciousness and a view of service as reciprocal transaction important for the betterment of all parties involved. This divergence furthers the argument that Battistoni (2013) makes concerning the inadequacy of current research—specifically concerning the availability of valid measurements—on civic learning outcomes, which include several incredibly rich constructs such as civic awareness, civic engagement, and even civic beliefs.
This divergence of findings confirms the complexity of these constructs and suggests that while service-learning participation may not have a significant relationship with the specific CIRP civic awareness scale, participation does impact the development of critical consciousness and a reciprocal view of service, which I argue these are aspects of civic learning consistent with conception of participatory democracy (Barber, 1984, 1992; Freire, 1973)\(^{18}\). Furthermore, the mix of these results is consistent with a previous study that utilized the same survey in 2004, which found that service-learning did not contribute to most civic values or goals for the overall college population, with the exception of ‘commitment to political/social change’ (Vogelgesang & Pryor, 2009). This previous study adds weight to an argument for assessing the influence of service-learning participation upon a variety of civic outcomes individually.

2. **Service-learning participation has a mixed impact upon the development of cognitive and diversity outcomes for LIFG students.** Results from the quantitative phase of this study indicated that service-learning participation was not a significant predictor of growth in the latent cognitive diversity scale. Yet results from the qualitative phase of this study suggested that participation in

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\(^{18}\) Battistoni (2013) argues that participatory democracy has gained increasing acceptance within the realm of service-learning research as a conceptual framework whereby participation in service-learning cultivates a person’s self-identity as a civic agent who is able to effect change in communities or address social problems.
service-learning helped to broaden LIFG students’ perspectives relate to diversity issues and was accompanied by growth in higher order cognitive skills. Further investigation in the quantitative phase, revealed that LIFG students, regardless of their service-learning participation, tend to self-report high levels of growth on the individual items that made up this scale.19

**Implications**

**Implications for Practice**

The findings and conclusions of this study are perhaps most clear and applicable for practice given the pragmatic nature of pedagogical experience. The conclusions that service-learning participation has a positive impact upon academic and affective outcomes for LIFG students indicates that service-learning is an effective pedagogy for increasing LIFG students’ success and, in turn, their persistence—an implication consistent with suggestions from past research (Bringle, Hatcher, & Muthiah, 2010; Yeh, 2010). Institutions seeking to increase the success of their low-income, or first-generation students should consider specific ways to provide well-integrated service-learning experiences into students’ curriculum.

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19 The individual items that make up this scale include: (1) Change in knowledge of people from different races/cultures, (2) change in ability to get along with people of different races/cultures, (3) change in ability to think critically; and, (4) change in analytical and problem-solving skills.
By “well-integrated,” I specifically refer to service-learning experiences where faculty are equipped to engage students in reflective discourses around issues of difference and sameness—issues this study has shown they are likely to encounter. Given the importance that critical theory plays in aiding the critical consciousness and biculturalism for LIFG students, faculty and service-learning administrators should seek to utilize critical models of service-learning (Ginwright & Commarota, 2002; Mitchell, 2008), which emphasize true community partnerships and, in so doing, help students navigate issues of power, privilege, and systematic oppression. While many faculty may advocate for the use of these philosophical traditions for their ability to cultivate critical consciousness, this study’s findings indicate that their use in service-learning experiences is important specifically for LIFG students’ encounters with “self” in their interactions with community partners. Critical models of service-learning allow LIFG students to affirm the value of community partners in the learning experience, acting also as an affirmation of self, while also promoting a self-identities as agents for social change (Freire, 1973). Furthermore, these results indicate that faculty who utilize service-learning pedagogies are uniquely positioned to act as cultural agents (Kuh & Love, 2000) for LIFG students. Institutions should explore ways to provide professional development opportunities for faculty that focus on integrating a critical model service-learning and facilitating reflective discourse.

Another implication for practice focuses on methods for increasing student participation in service-learning courses. The findings of both phases of this study
indicated that prior service experiences (especially high school community service opportunities) significantly contributed to college participation. For many LIFG students, opportunities to participate in high school community service may be decreased by limited financial or cultural capital. K-12 Administrators and faculty should explore avenues for providing in- and out-of-school service experiences for these students. Higher Education professionals should also focus outreach and extension opportunities to partner with secondary educators, especially for high schools with large low-income populations, to provide service experiences.

**Implications for Policy**

Implications of this study for policy are especially important considering current reductions in funding for service-learning programs at the federal level. In April of 2011 the federal government made several funding cuts to national community and service-learning initiatives. Learn and Serve America’s, a granting agency of the Corporation for National and Community Service that serves elementary through postsecondary institutions (CNCS, 2008), had their entire 2011 budget cut ($39.5 million). Similarly, AmeriCorps’s budget was reduced by $22.5 million. The evidence this study provides about the efficacy of service-learning pedagogies for increasing the success of LIFG students in higher education constitutes an argument to restore and/or advance appropriations for service agencies. Additionally, the Matthew effect (Stanovich, 1986) that is created by service participation illustrates the importance that such agencies provide in advancing early integration of service opportunities for K-12 institutions, and
especially grants that provide such resources for Title IX schools. While these funding implications focus on the pragmatic reality of providing service opportunities in educational settings, these opportunities connect to the much wider national goals of increasing the access and persistence of diverse segments of America’s population.

At the institutional policy level, this study’s conclusions support efforts by faculty and administrators to institutionalize service-learning in both organizational structure and institutional commitments. While many institutions highlight the influence that service-learning courses have on civic awareness and engagement, Furco & Holland (2013) note the importance of emphasizing the influence that service-learning participation has to achieving the academic mission of the institution. The conclusions of this study indicate that for LIFG students, service-learning participation is more influential upon academic skills than civic awareness. Kecskes (2013) also argues that administrators seeking to increase the use of service-learning pedagogies by faculty should focus on institutionalization efforts to occur at the academic department level. Kecskes argues that for most institutions the locus of change will occur in these “engaged departments.” However, heeding Butin’s (2006) warning, such institutionalization should be undertaken with the understanding that service-learning pedagogies will result in varying outcomes for various student groups and that assessment efforts should account for such variation to fully capture the impact of such experiences. Finally, institutional policies should reflect institutional goals for increased commitment to service-learning. For example,
promotion and tenure policies should reward the increased time and skill involved in teaching service-learning courses.

**Implications for Research**

This study was designed by advancing and utilizing a layered theoretical and conceptual framework. This layered approach extended and contextualized Astin’s I-E-O (1991) model and Dewey’s (1938) principles of interaction and continuity to provide a model explaining the relationships students’ backgrounds and college experiences (e.g., service-learning) have with student outcomes. As such, this model helps explain “how” and “why” service-learning curriculum can be an effective pedagogical strategy for increasing the success of LIFG college students. I utilized this layered model to advance a theoretical and conceptual rationale for the study’s research questions; primarily asserting that LIFG student’s background characteristics would affect both the ways in which they experienced service-learning courses and the outcomes of that experience.

The findings of this study have suggested that LIFG students’ experiences in service-learning are qualitatively different and result in some alternative—though equally positive—outcomes to those associated with participation for the overall student population. Future studies evaluating the efficacy of learning experiences for LIFG students should use this layered model in their designs, especially in regards to investigating outcome factors particular for this student group. Research that only investigates outcomes related to a particular pedagogical strategy for the overall student population may in fact invalidate a particular pedagogy without adequately capturing
outcomes that are specifically related to the experience for LIFG students. Naturally, these implications directly inform future research on service-learning and more broadly for LIFG student success. Much of this research will rely on large-scale datasets due to the specific nature of LIFG students’ demographic criteria. As such, a final implication of this study regards the availability of student-level data on service-learning experiences. Large-scale data sources, especially that investigate the relationship college student experiences and outcomes, should incorporate survey questions specific to service-learning participation (clearly defined and separated from community service).

Moreover, this study suggests that quantitative instruments used to assess constructs related to civic awareness, diversity skills, or cognitive abilities may not be sufficiently valid for populations of low-income or first-generation college students. The layered theoretical and conceptual model advanced by this study proscribes measurements that account for the moderated and independent effect that input characteristics (such as being LIFG) have upon related outcomes. These research implications will provide important data necessary for future research on this topic.

**Future Directions**

This study has sought to contribute to the wide gap in the literature concerning the outcomes and experiences of LIFG students and their participation in service-learning. The resulting findings and conclusions have produced as many, if not more, questions about this topic that warrant future research than definitive answers. First, I suggest that future research should extend this research into additional institutional types.
Specifically, research should be conducted to investigate the relationship that service-learning has in promoting the persistence community college students, especially that of community college students who transition to 4-year institutions. In 2010, the American Association of Community Colleges (AACC) began a 3-year research project to investigate the relationship between service-learning participation and semester-to-semester persistence for community college students (Prentice, Robinson, & Patton, 2012). Unfortunately, Congress’s 2011 elimination of funding to the study’s funding agency (Learn & Serve America) halted the research before the study was complete. Preliminary findings suggested that a positive relationship exists between participation in service-learning participation and gains in positive retention factors. Future research should focus investigating the relationship between service-learning participation and degree completion for students who begin their journeys in community colleges.

While the quantitative phase of this study focused on three outcomes important to LIFG student success—college GPA, civic awareness, and cognitive diversity—the qualitative phase indicates that a myriad of outcomes, many unintended, are related to this experience for LIFG students. Future research should more fully explore the intended and unintended outcomes related to participation in service-learning for LIFG students. Additionally, while this study has focused on the student outcomes and experiences, exploration into the outcomes and experiences of community partners are likely to be of concern and interest for institutions with active outreach and extension goals. Future studies should seek to more thoroughly investigate the multiple constructs
related to civic learning (civic awareness, civic engagement, civic learning, and civic beliefs). The divergent finding of this study affirm Battistoni’s (2013) argument that more effective assessments are needed for the multiple aspects of civic learning and that future studies should utilize these tools to more deeply investigate the relationship between service-learning and civic learning.

The presence of the latent factor (the Cognitive Diversity Scale) with high internal consistency in the quantitative phase of this study and its reoccurrence as an outcome theme in the qualitative phase indicates that, for LIFG students, the development of cognitive skills, such as critical thinking and analytic problem solving, and the development of diversity skills, such as students’ ability to get along with people from different races/ethnicities, occur in tandem—perhaps even acting as a mutually reinforcing outcomes. Though LIFG participants in the qualitative phase described this theme as an outcome of their service-learning experience, LIFG participants in the quantitative phase generally perceived high personal growth for each survey question, which resulted in little variation and a high mean for this scale. In other words, LIFG students, regardless of service-learning participation, tended to report high growth in their abilities related to higher order cognitive skills and diversity skills. Future research should investigate the incorporation of less subjective opportunities for capturing these variables to investigate if the lack of variation is simply due to issues related to the self-reported nature of these survey questions. This implication for future research is consistent with Eyler’s (2000) warning against solely using self-reported data for service-
learning assessment. Eyler argues that students’ self-reports are likely to conflate perceptions of learning and satisfaction. Therefore, future research should seek ways to gather data that incorporate direct evidence of academic and affective growth.

Efforts to extend this line of study should seek to better operationalize the “low-income” demographic. As it is operationalized in this study, there was a single threshold (annual family income equal or less than $30,000). Though extremely difficult, future studies should seek ways to contextualize this variable by utilizing differing income thresholds for family size or geographic differences in cost of living. To ensure that this study’s sample constituted participants within the intended population (LIFG students), very conservative criteria were used. As such, future research that is able to employ more contextualized criteria is likely increase the sample size and limit threats to sample bias.

Finally, future research extending this study should include continued qualitative exploration of LIFG student experiences and outcomes related to service-learning. Due to the limited sample size of this study’s qualitative phase, saturation was not met. Future qualitative research on LIFG student’s service-learning experiences is likely to result in a better understanding of the intended and unintended outcomes related to courses utilizing this pedagogy. Specifically, further investigation around how particular models of service-learning influence the outcomes and experiences of LIFG students is a

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20 As mentioned in the limitations of the study, a stratified income/family size data were not available with the chosen dataset.
crucial topic for furthering best practices. For instance, comparison of the experiences and outcomes related to participation in a critical model of service-learning versus a traditional model of service-learning (Mitchell, 2008) for LIFG students may provide a greater understanding of the ways in which critical consciousness is developed, or how encounters with “self” may be affirmed within interactions service constituents as “community partners”. Additionally, comparing the experiences of LIFG students with non-LIFG students who participate in courses that employ critical models of service-learning could illustrate how pedagogies that utilize critical theory may differently shape the experiences and outcomes of the two student groups.

While disaggregation of LIFG Participants is difficult due to sample size, the results of the quantitative analysis indicate that most of differences in student characteristics have little-to-no impact upon the odds of service-learning participation. Therefore, further investigation into the LIFG Asian population is required to explain the quixotic finding that they are more likely to participate when all other variables are held constant, despite descriptive findings that indicate their noticeably limited service-learning participation rates (in both the LIFG and overall students sample). Additionally, future researchers should continue to disaggregate substantially different cultural subgroups. For instance, combining racial and ethnic groups such as Hmong, Chinese, Korean, Taiwanese, etc, into the category of “Asian” students ignores significantly different cultural characteristics. The same argument applies for Latino students or the “invisible” distinction of Native American students that are often consolidated into the
“other race/ethnicity” category. Such categories become necessary as to not invalidate statistical assumptions; however, the reality is these pan-ethnic designations suppress variation within subgroups and can present inaccurate or incomplete depictions of reality. Future research exploring the relationship between service-learning experiences, especially the intersection between race/ethnicity and LIFG student status, will likely require the richness that qualitative methodologies can provide to narrow sample sizes or to specific cases.

Summary

Future research on service-learning can only strengthen our ability to employ the pedagogical strategy for the benefit of student success. This study aimed to increase the understanding of the outcomes and experiences related to participation in service-learning for low-income, first-generation college students, a topic that has been unanswered by the current research literature. Using multiple data streams, the study found that low-income, first-generation students participate in service-learning at similar rates as the overall population and that participation is significantly related to past service participation and to a combination of internal and external motivations. This study found that participation in service-learning courses was positively related to increases in college GPA, even after controlling for background characteristics and pre-college experiences. Moreover, the study found that participation resulted in cultivation of several intended and unintended learning and developmental outcomes, such as critical consciousness, cognitive diversity, and career acculturation. The findings also disprove many previously held assumptions.
about low-income, first-generation students’ participation in service-learning, for instance, that minorities are less likely to participate in service-learning courses. These findings have implications for practice, institutional and federal policy, and research. The study’s conclusions therefore accomplish the task of increasing our understanding of low-income, first-generation students’ service-learning participation while also enumerating several directions for future inquiry. Most importantly, the study concludes that participation in service-learning course aids in the development of both academic and affective outcomes related to the success of low-income, first-generation college students.
REFERENCES


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# APPENDIX A: Surveys


## 2004 STUDENT INFORMATION FORM

### MARKING DIRECTIONS

Your responses will be read by an optical mark reader. Please,
- Use a pencil or black or blue pen.
- Fill in the oval completely.
- Erase cleanly any marks you wish to change or "X" out mark it in pen.

### CORRECT MARK INCORRECT MARKS

[ ] [ ] [ ] [ ]

### PLEASE PROVIDE YOUR ID NUMBER (as instructed)

Mark here if directed

### NAME:

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<tr>
<th>FIRST</th>
<th>MI</th>
<th>LAST</th>
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<tbody>
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</tbody>
</table>

### ADDRESS:

CITY:  
ADDRESS:  
NAME:  

PLEASE PRINT NAME AND PERMANENT/HOME ADDRESS (one letter or number per box)

### PLEASE PRINT NAME AND PERMANENT/HOME ADDRESS (one letter or number per box)

<table>
<thead>
<tr>
<th>CITY</th>
<th>ADDRESS</th>
<th>NAME</th>
</tr>
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<tbody>
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</table>

### When were you born?

<table>
<thead>
<tr>
<th>Month</th>
<th>Day</th>
<th>Year</th>
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<tbody>
<tr>
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</tr>
</tbody>
</table>

### 2004 STUDENT INFORMATION FORM

#### 1. Your sex:

- Male
- Female

#### 2. How old will you be on December 31 of this year? (Mark one)

- 16 or younger
- 17
- 18
- 19
- 20

#### 3. Is English your native language?

- Yes
- No

#### 4. In what year did you graduate from high school? (Mark one)

- 2004
- 2003
- 2002
- 2001 or earlier

#### 5. Are you enrolled (or enrolling) as a:

- Full-time student?
- Part-time student?

#### 6. How many miles is this college from your permanent home? (Mark one)

- 5 or less
- 11-50
- 101-500
- 51-100
- Over 500

#### 7. What was your average grade in high school? (Mark one)

- A or A+
- B
- C
- D
- F

#### 8. From what kind of secondary school did you graduate? (Mark one)

- Public school (not charter or magnet)
- Public charter school
- Private religious/parochial school
- Private independent college-prep school
- Home school

#### 9. What were your scores on the SAT I and/or ACT?

<table>
<thead>
<tr>
<th>SAT VERBAL</th>
<th>SAT MATH</th>
<th>ACT COMPOSITE</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

#### 10. Citizenship status:

- U.S. citizen
- Permanent resident (green card)
- Neither

#### 11. Prior to this term, have you ever taken courses for credit at this institution?

- Yes
- No

#### 12. Since leaving high school, have you ever taken courses at any other institution? (Mark all that apply in each column)

<table>
<thead>
<tr>
<th>Foreign language</th>
<th>History/Am. Govt.</th>
<th>Mathematics</th>
<th>Physical science</th>
<th>Science</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

#### 13. During your last year of high school what proportion of the time did you live with:

- Mother
- Father
- Stepfather
- Grandparent
- Lega
- Other adult(s)

#### 14. Where do you plan to live during the fall term? (Mark one)

- With my family or other relatives
- Other private home, apartment or room
- College residence hall
- Fraternity or sorority house
- Other campus student housing
- Other

#### 15. Is this college your: (Mark one)

- First choice?
- Second choice?
- Third choice?

#### 16. To how many colleges other than this one did you apply for admission this year?

- None
- 1
- 2
- 3
- 4 or more

#### 17. During high school (grades 9-12) how many years did you study each of the following subjects? (Mark one for each item)

- English
- Mathematics
- Foreign Language
- Physical Science
- Biological Science
- History
- Computer Science
- Arts

#### 18. Do you have a disability? (Mark all that apply)

- Hearing
- Speech
- Orthopedic
- Learning disability
- Health-related
- Partially sighted or blind
- Other

#### 19. What is the highest academic degree that you intend to obtain? (Mark one in each column)

- Bachelor's degree (B.A., B.S., etc.)
- Master's degree (M.A., M.S., etc.)
- J.D. (Law)
- Other

#### 20. Are your parents: (Mark one)

- Both alive and living with each other
- Both alive, divorced or living apart
- One or both deceased

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21. How much of your first year's educational expenses (room, board, tuition, and fees) do you expect to cover from each of the sources listed below? (Mark one answer for each possible source)

<table>
<thead>
<tr>
<th>Source</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family resources (parents, relatives, spouse, etc.)</td>
<td>50%</td>
</tr>
<tr>
<td>My own resources (savings from work, work-study, other income)</td>
<td>25%</td>
</tr>
<tr>
<td>Aid which need not be repaid (grants, scholarships, military funding, etc.)</td>
<td>10%</td>
</tr>
<tr>
<td>Aid which must be repaid (loans, etc.)</td>
<td>5%</td>
</tr>
<tr>
<td>Other than above</td>
<td>0%</td>
</tr>
</tbody>
</table>

22. What is your best estimate of your parents' total income last year? Consider income from all sources before taxes. (Mark one)

- Less than $10,000
- $10,000-14,999
- $15,000-19,999
- $20,000-24,999
- $25,000-29,999
- $30,000-39,999
- $40,000-49,999
- $50,000-59,999
- $60,000-74,999
- $75,000-99,999
- $100,000-149,999
- $150,000-199,999
- $200,000-249,999
- $250,000 or more

23. Current religious preference: (Mark one in each column)

- Baptist
- Buddhist
- Church of Christ
- Eastern Orthodox
- Episcopalian
- Hindu
- Islamic
- Jewish
- LDS (Mormon)
- Lutheran
- Methodist
- Presbyterian
- Quaker
- Roman Catholic
- Seventh Day Adventist
- Unitarian/Universalist
- United Church of Christ/Congregational
- Other Christian
- Other Religion
- None

24. Do you consider yourself a Born-Again Christian?

- Yes
- No

25. Please indicate your ethnic background. (Mark all that apply)

- White/Caucasian
- African American/Black
- American Indian/Alaska Native
- Asian American/Asian
- Native Hawaiian/Pacific Islander
- Mexican American/Chicano
- Puerto Rican
- Other Latino
- Other

26. For the activities below, indicate which ones you engaged in the activity frequently, mark √. If you engaged in an activity one or more times, but not frequently, mark (Occasionally). Mark (Not at all) if you have not performed the activity during the past year.

- Attended a religious service
- Was bored in class
- Participated in organized demonstrations
- Tutored another student
- Studied with other students
- Was a guest in a teacher's home
- Smoked cigarettes
- Drank beer
- Drank wine or liquor
- Felt overwhelmed by all I had to do
- Felt depressed
- Performed volunteer work
- Played a musical instrument
- Asked a teacher for advice after class
- Discussed politics
- Voted in a student election
- Socialized with someone of another racial/ethnic group
- Came late to class
- Used the Internet for research or homework
- Performed community service as part of a class
- Used a personal computer
- Discussed religion/spirituality: In class
- With friends
- With family
- Worked on a local, state, or national political campaign
- Maintained a healthy diet
- Stayed up all night
- Missed school because of illness

27. For each item, please mark Yes or No:

- Did your high school require community service for graduation?
- Have you participated in: A summer research program?
- A health science research program sponsored by a university?

28. What is the highest level of formal education obtained by your parents?

- Grammar school or less
- Some high school
- High school graduate
- Postsecondary school other than college
- Some college
- College degree
- Some graduate school
- Graduate degree

29. In deciding to go to college, how important to you was each of the following reasons?

- My parents wanted me to go
- I could not find a job
- Wanted to get away from home
- To be able to get a better job
- To gain a general education and appreciation of ideas
- There was nothing better to do
- To make me a more cultured person
- To be able to make more money
- To learn more about things that interest me
- To prepare myself for graduate or professional school
- To get training for a specific career
- To find my purpose in life

30. How would you characterize your political views? (Mark one)

- Far left
- Liberal
- Middle-of-the-road
- Conservative
- Far right

31. Rate yourself on each of the following traits as compared with the average person your age. We want the most accurate estimate of how you see yourself. (Mark one in each row)

- Academic ability
- Artistic ability
- Compassion
- Computer skills
- Cooperativeness
- Courage
- Creativity
- Drive to achieve
- Emotional health
- Forgiveness
- Generosity
- Kindness
- Leadership ability
- Mathematical ability
- Physical health
- Public speaking ability
- Religiousness
- Self-confidence (intellectual)
- Self-confidence (social)
- Self-understanding
- Spirituality
- Time management
- Understanding of others
- Writing ability
32. Mark only three responses, one in each column.

- Your father’s occupation
- Your mother’s occupation
- Your probable career occupation

**NOTE:** If your father or mother is deceased, please indicate his or her last occupation.

- Accountant or actuary
- Actor or entertainer
- Architect or urban planner
- Artist
- Business (clerical)
- Business executive (management, administrator)
- Business owner or proprietor
- Business salesperson or buyer
- Clergy (minister, priest)
- Clergy (other religious)
- Clinical psychologist
- College administrator/staff
- College teacher
- Computer programmer or analyst
- Conservation or forester
- Dentist (including orthodontist)
- Dietitian or nutritionist
- Engineer
- Farmer or rancher
- Foreign service worker (including diplomat)
- Homemaker (full-time)
- Interior decorator (including designer)
- Lab technician or hygienist
- Lawyer (attorney) or judge
- Military service (career)
- Musician (performer, composer)
- Nurse
- Optometrist
- Pharmacist
- Physician
- Policymaker/Government
- School counselor
- School principal or superintendent
- Scientific researcher
- Social, welfare or recreation worker
- Therapist (physical, occupational, speech)
- Teacher or administrator (elementary)
- Teacher or administrator (secondary)
- Veterinarian
- Writer or journalist
- Skilled trades
- Laborer (unskilled)
- Semi-skilled worker
- Unemployed
- Other
- Undecided

33. Mark only three responses, one in each column.

- Your father’s occupation
- Your mother’s occupation
- Your probable career occupation

34. Below is a list of community service/volunteer activities. Indicate which of these you participated in during high school. (Mark all that apply)

- Community improvement/ construction
- Elder care
- Hospital work
- Conflict mediation
- Substance abuse education
- Service to my religious community
- Other family care
- Services to the homeless
- Other community service

35. During your last year in high school, how much time did you spend during a typical week doing the following activities?

**Hours per week:**

- Studying/homework .
- Socializing with friends.
- Talking with teachers outside of class.
- Exercise or sports.
- Partying.
- Working (for pay).
- Volunteer work.
- Student clubs/groups.
- Watching TV.
- Household/childcare duties.
- Reading for pleasure.
- Playing video/computer games.
- Prayer/meditation.

36. Do you have any concern about your ability to finance your college education? (Mark one)

- None (I am confident that I will have sufficient funds). .
- Some (but I probably will have enough funds). .
- Major (not sure I will have enough funds to complete college). .

37. Below are some reasons that might have influenced your decision to attend this particular college. How important was each reason in your decision to come here? (Mark one answer for each possible reason)

- My relatives wanted me to come here .
- My teacher advised me .
- This college has a very good academic reputation .
- This college has a good reputation for its social activities .
- The cost of attending this college .
- High school counselor advised me .
- Private college counselor advised me .
- I wanted to live near home .
- Not offered aid by first choice .
- This college’s graduates gain admission to top graduate/professional schools .
- This college’s graduates get good jobs .
- I was attracted by the religious affiliation/orientation of the college .
- I wanted to go to a school about the size of this college .
- Rankings in national magazines .
- Information from a website .
- I was admitted through an Early Action or Early Decision program .
- A visit to the campus .
38. Below is a list of different undergraduate major fields grouped into general categories. Mark only one oval to indicate your probable field of study.

**ARTS AND HUMANITIES**
- Art, fine and applied
- English (language and literature)
- History
- Journalism
- Language and Literature (except English)
- Music
- Philosophy
- Speech
- Theater or Drama
- Theology or Religion
- Other Arts and Humanities

**PHYSICAL SCIENCE**
- Astronomy
- Atmospheric Science (incl. Meteorology)
- Chemistry
- Earth Science
- Marine Science (incl. Oceanography)
- Mathematics
- Physics
- Statistics
- Other Physical Science

**PROFESSIONAL**
- Architecture or Urban Planning
- Home Economics
- Health Technology (medical, dental, laboratory)
- Library or Archival Science
- Medicine, Dentistry, Veterinary Medicine
- Nursing
- Pharmacy
- Therapy (occupational, physical, speech)
- Other Professional

**BIOLOGICAL SCIENCE**
- Biology (general)
- Biochemistry or Biophysics
- Botany
- Environmental Science
- Marine (Life) Science
- Microbiology or Bacteriology
- Zoology
- Other Biological Sciences

**BUSINESS**
- Accounting
- Business Admin. (general)
- Finance
- International Business
- Marketing
- Management
- Socialial Studies
- Other Business

**EDUCATION**
- Business Education
- Elementary Education
- Music or Art Education
- Physical Education or Recreation
- Secondary Education
- Special Education
- Other Education

**ENGINEERING**
- Aeronautical or Astronautical Eng.
- Civil Engineering
- Chemical Engineering
- Computer Engineering
- Electrical or Electronic Engineering
- Industrial Engineering
- Mechanical Engineering
- Other Engineering

**SOCIAL SCIENCE**
- Anthropology
- Economics
- Ethnic Studies
- Geography
- Political Science (gov't., international relations)
- Psychology
- Social Work
- Sociology
- Women's Studies
- Other Social Science

**TECHNICAL**
- Building Trades
- Data Processing or Computer Programming
- Drafting or Design
- Electronics
- Mechanics
- Other Technical

**OTHER FIELDS**
- Agriculture
- Communications
- Computer Science
- Forestry
- Kinesiology
- Law Enforcement
- Military Science
- Other Field
- Undecided

39. Please indicate the importance to you personally of each of the following: (Mark one for each item)

- Becoming accomplished in one of the performing arts (acting, dancing, etc.)
- Becoming an authority in my field
- Obtaining recognition from my colleagues for contributions to my special field
- Influencing the political structure
- Influencing social values
- Raising a family
- Having administrative responsibility for the work of others
- Being very well off financially
- Helping others who are in difficulty
- Making a theoretical contribution to science
- Writing original works (poems, novels, short stories, etc.)
- Creating artistic work (painting, sculpture, decorating, etc.)
- Becoming successful in a business of my own
- Becoming involved in programs to clean up the environment
- Developing a meaningful philosophy of life
- Participating in a community action program
- Helping to promote racial understanding
- Keeping up to date with political affairs
- Becoming a community leader
- Integrating spirituality into my life
- Improving my understanding of other countries and cultures
- Working to find a cure to a health problem

40. What is your best guess as to the chances that you will:

- Change major field?
- Change career choice?
- Participate in student government?
- Get a job to help pay for college expenses?
- Work full-time while attending college?
- Join a social fraternity or sorority?
- Play varsity/intercollegiate athletics?
- Make at least a "B" average?
- Participate in student protests or demonstrations?
- Transfer to another college before graduating?
- Be satisfied with your college?
- Participate in volunteer or community service work?
- Seek personal counseling?
- Communicate regularly with your professors?
- Socialize with someone of another racial/ethnic group?
- Participate in student clubs/groups?
- Strengthen your religious beliefs/convictions?
- Participate in a study abroad program?

41. Do you give the Higher Education Research Institute (HERI) permission to include your ID number should your college request the data for additional research analyses?

© Prepared by the Higher Education Research Institute, University of California, Los Angeles, California 90095-1521

THANK YOU!
**The College Senior Survey (2008)**

**2007-2008 COLLEGE SENIOR SURVEY**

Please print (one letter or number per box). All information is confidential.

Your name and email address here helps facilitate follow-up studies to improve the college experience.

**MARKING DIRECTIONS**
- Use a #2 pencil or black or blue pen.
- Erase cleanly any answer you wish to change or "X" out mark if in pen.

**Group Code**

<table>
<thead>
<tr>
<th>SERIAL #</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
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<td></td>
<td></td>
</tr>
<tr>
<td>Group Code</td>
<td>A</td>
<td>B</td>
</tr>
</tbody>
</table>

1. Please rate your satisfaction with your college in each area:
(Mark one in each row)

- General education or core curriculum courses
- Science and mathematics courses
- Humanities courses
- Social science courses
- Laboratory facilities and equipment
- Library facilities
- Computer facilities and services
- Quality of computer training/assistance
- Availability of Internet access
- Tutoring or other academic assistance
- Academic advising
- Career counseling and advising
- Student housing facilities (residence halls, etc.)
- Student housing office/services
- Financial aid office
- Financial aid package
- Opportunities for community service
- Job placement services for students
- Student health services
- Leadership opportunities
- Recreational facilities
- Psychological counseling services

2. What year did you first enter: (Mark one in each column)

- 2007 or 2008
- 2006
- 2005
- 2004
- 2003 or earlier

3. Please indicate your enrollment status below: (Mark one)

- Full-time undergraduate
- Part-time undergraduate
- Not enrolled

4. Expected Graduation Date:

- 2007
- 2008
- Other
- Not sure

5. Since entering college, indicate how often you:
(Mark one in each row)

- Worked on independent study projects
- Discussed coursework with students outside of class
- Have been a guest in a professor's home
- Participated in intramural sports
- Failed to complete homework on time
- Have been bored in class
- Came late to class
- Studied with other students
- Performed community service as part of a class
- Voted in a student election
- Received course assignments electronically
- Turned in course assignments electronically
- Used the library for research or homework
- Used the library for research or homework
- Missed class due to employment
- Missed class for other reasons
- Turned in a late study-abroad application
- Met with an advisor/counselor about your career plans
- Felt appreciated in class
- Felt appreciated in class
- Felt upset about grades
- Felt happy about grades
- Felt                                                                     |

6. Since entering college have you:
(Mark yes or no for each item)

- Joined a social fraternity or sorority
- Failed one or more courses
- Worked full-time while attending school
- Participated in student government
- Taken a remedial course
- Taken an ethnic studies course
- Taken a women's studies course
- Attended a racial/cultural awareness workshop
- Had a roommate of different race/ethnicity
- Participated in an ethnic/racial student organization
- Played varsity/intercollegiate athletics
- attendee withdrawn from school temporarily
- Enrolled in honors or advanced courses
- Participated in an internship program
- Participated in leadership training
- Transferred from a community college
- Transferred from a 4-year college
- Participated in a study-abroad program
- Taken courses for credit at another institution
- Participated in an undergraduate research program (e.g., MARC, MBRS, REU)
- Participated in a program to prepare for graduate school
- Participated in an academic program for racial/ethnic minorities
- Volunteered to work at a conference
- Presented research at a conference

7. Mark your undergraduate and graduate major. (Use codes provided on the attached fold-out)

- Undergraduate major (final or most recent)
- Graduate major (omit if you do not plan to go to graduate school)

8. Please mark your probable career/occupation. (Use codes provided on the attached fold-out)
9. During the past year, how much time did you spend during a typical week doing the following activities? (Mark one in each row)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Hours Per Week</th>
</tr>
</thead>
<tbody>
<tr>
<td>Studying/homework</td>
<td></td>
</tr>
<tr>
<td>Attending classes/labs</td>
<td></td>
</tr>
<tr>
<td>Socializing with friends</td>
<td></td>
</tr>
<tr>
<td>Talking with faculty during office hours</td>
<td></td>
</tr>
<tr>
<td>Talking with faculty outside of class or office hours</td>
<td></td>
</tr>
<tr>
<td>Exercising/sports</td>
<td></td>
</tr>
<tr>
<td>Partying</td>
<td></td>
</tr>
<tr>
<td>Working (for pay) on campus</td>
<td></td>
</tr>
<tr>
<td>Working (for pay) off campus</td>
<td></td>
</tr>
<tr>
<td>Student clubs/groups</td>
<td></td>
</tr>
<tr>
<td>Watching TV</td>
<td></td>
</tr>
<tr>
<td>Housework/childcare</td>
<td></td>
</tr>
<tr>
<td>Reading for pleasure</td>
<td></td>
</tr>
<tr>
<td>Commuting</td>
<td></td>
</tr>
<tr>
<td>Prayer/meditation</td>
<td></td>
</tr>
<tr>
<td>Career Planning (job searches, internships, etc.)</td>
<td></td>
</tr>
<tr>
<td>Playing video/computer games</td>
<td></td>
</tr>
<tr>
<td>Volunteer work</td>
<td></td>
</tr>
<tr>
<td>Surfing the Internet</td>
<td></td>
</tr>
<tr>
<td>Online social networks (MySpace, Facebook, etc.)</td>
<td></td>
</tr>
</tbody>
</table>

10. Compared with when you first entered this college, how would you now describe your:

<table>
<thead>
<tr>
<th>Trait</th>
<th>Stronger</th>
<th>Much Stronger</th>
<th>No Change</th>
<th>Much Weaker</th>
<th>Weak Weaker</th>
<th>Somewhat Weaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>General knowledge</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Analytical and problem-solving skills</td>
<td></td>
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<tr>
<td>Knowledge of a particular field or discipline</td>
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<tr>
<td>Ability to think critically</td>
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<tr>
<td>Knowledge of people from different races/cultures</td>
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<tr>
<td>Leadership abilities</td>
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<tr>
<td>Interpersonal skills</td>
<td></td>
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<tr>
<td>Ability to get along with people of different races/cultures</td>
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<tr>
<td>Understanding of the problems facing your community</td>
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<tr>
<td>Understanding of social problems facing our nation</td>
<td></td>
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<tr>
<td>Preparedness for employment after college</td>
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<tr>
<td>Preparedness for graduate or advanced education</td>
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<tr>
<td>Ability to manage your time effectively</td>
<td></td>
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<tr>
<td>Understanding of global issues</td>
<td></td>
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</tr>
<tr>
<td>Foreign language ability</td>
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<td></td>
</tr>
</tbody>
</table>

11. Please indicate the extent to which you agree or disagree with the following statements:

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have been singled out because of my race/ethnicity, gender, or sexual orientation</td>
<td></td>
<td></td>
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<tr>
<td>I see myself as part of the campus community</td>
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<tr>
<td>I have heard faculty express stereotypes about racial/ethnic groups in class</td>
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<tr>
<td>I feel I am a member of this college</td>
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</tr>
<tr>
<td>Faculty here are interested in students’ personal problems</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>There is a lot of racial tension on this campus</td>
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</tr>
</tbody>
</table>

12. Please rate your satisfaction with your college in each area.

<table>
<thead>
<tr>
<th>Area</th>
<th>Very Satisfied</th>
<th>Satisfied</th>
<th>Neutral</th>
<th>Dissatisfied</th>
<th>Very Dissatisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>Courses in your major field</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Amount of contact with faculty</td>
<td></td>
<td></td>
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<tr>
<td>Class size</td>
<td></td>
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</tr>
<tr>
<td>Interaction with other students</td>
<td></td>
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<td></td>
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<tr>
<td>Relevance of coursework to everyday life</td>
<td></td>
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<td></td>
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<tr>
<td>Relevance of coursework to future career plans</td>
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<tr>
<td>Overall quality of instruction</td>
<td></td>
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<tr>
<td>Overall sense of community among students</td>
<td></td>
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<tr>
<td>Availability of campus social activities</td>
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<tr>
<td>Overall college experience</td>
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<tr>
<td>Respect for the expression of diverse beliefs</td>
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<tr>
<td>Ability to find a faculty or staff mentor</td>
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<tr>
<td>Size of student population</td>
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<tr>
<td>Racial/ethnic diversity of the student body</td>
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</tr>
</tbody>
</table>

13. For the activities listed below, please indicate how often you engaged in each during the past year.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoked cigarettes</td>
<td></td>
</tr>
<tr>
<td>Felt lonely or homesick</td>
<td></td>
</tr>
<tr>
<td>Socialized with someone of another racial/ethnic group</td>
<td></td>
</tr>
<tr>
<td>Felt depressed</td>
<td></td>
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<tr>
<td>Felt overwhelmed by all I had to do</td>
<td></td>
</tr>
<tr>
<td>Attended a religious service</td>
<td></td>
</tr>
<tr>
<td>Drank beer</td>
<td></td>
</tr>
<tr>
<td>Drank wine or liquor</td>
<td></td>
</tr>
<tr>
<td>Performed volunteer work</td>
<td></td>
</tr>
<tr>
<td>Participated in political demonstrations</td>
<td></td>
</tr>
<tr>
<td>Discussed politics</td>
<td></td>
</tr>
<tr>
<td>Sought personal counseling</td>
<td></td>
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<tr>
<td>Discussed religion</td>
<td></td>
</tr>
<tr>
<td>Worked on a local, state, or national political campaign</td>
<td></td>
</tr>
<tr>
<td>Contributed money to help support my family</td>
<td></td>
</tr>
</tbody>
</table>

14. Rate yourself on each of the following traits as compared with the average person your age. We want the most accurate estimate of how you see yourself.

<table>
<thead>
<tr>
<th>Trait</th>
<th>Highest %</th>
<th>Above Average</th>
<th>Average</th>
<th>Below Average</th>
<th>Lowest %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic ability</td>
<td></td>
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<tr>
<td>Artistic ability</td>
<td></td>
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<tr>
<td>Computer skills</td>
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<tr>
<td>Cooperativeness</td>
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<tr>
<td>Creativity</td>
<td></td>
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</tr>
</tbody>
</table>
Rate yourself on each of the following traits as compared to the average person your age. We want the most accurate estimate of how you see yourself.
(Mark one in each row)

<table>
<thead>
<tr>
<th>Trait</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive to achieve</td>
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<tr>
<td>Emotional health</td>
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<tr>
<td>Leadership ability</td>
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<tr>
<td>Mathematical ability</td>
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<tr>
<td>Persistence</td>
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<tr>
<td>Physical health</td>
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<tr>
<td>Public speaking ability</td>
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<tr>
<td>Risk-taking</td>
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<tr>
<td>Self-confidence (intellectual)</td>
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<tr>
<td>Self-confidence (social)</td>
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<td></td>
<td></td>
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<tr>
<td>Understanding of others</td>
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<td></td>
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<td></td>
<td></td>
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<tr>
<td>Writing ability</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

15. Please indicate the highest degree you (A) will have earned as of June 2008 and (B) plan to complete eventually at any institution. (Mark one in each column)

<table>
<thead>
<tr>
<th>Degree</th>
<th>Highest Earned</th>
<th>Highest Planned</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vocational certificate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Associate (A.A. or equiv.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bachelor's (B.A., B.S., etc.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Master's (M.A., M.S., etc.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ph.D. or Ed.D.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M.D., D.O., D.D.S., or D.V.M.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LL.B. or J.D. (Law)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B.D. or M.Div. (Divinity)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

16. Indicate the importance to you personally of each of the following: (Mark one in each row)

| Importance | Essential | Very Important | Somewhat Important | Not Important | No Opin.
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Becoming accomplished in one of the performing arts, (acting, dancing, etc.)</td>
<td></td>
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<tr>
<td>Becoming an authority in my field</td>
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<tr>
<td>Obtaining recognition from my colleagues for contributions to my special field</td>
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<tr>
<td>Influencing the political structure</td>
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<tr>
<td>Influencing social values</td>
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<tr>
<td>Raising a family</td>
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<tr>
<td>Having administrative responsibility for the work of others</td>
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<tr>
<td>Being very well off financially</td>
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<tr>
<td>Helping others who are in difficulty</td>
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<tr>
<td>Making a theoretical contribution to science</td>
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<tr>
<td>Writing original works (poems, novels, etc.)</td>
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<tr>
<td>Creating artistic work (painting, sculpture, etc.)</td>
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<tr>
<td>Becoming successful in a business of my own</td>
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<tr>
<td>Becoming involved in programs to clean up the environment</td>
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<tr>
<td>Developing a meaningful philosophy of life</td>
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<tr>
<td>Participating in a community action program</td>
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<tr>
<td>Helping to promote racial understanding</td>
<td></td>
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<tr>
<td>Keeping up to date with political affairs</td>
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<tr>
<td>Becoming a community leader</td>
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<tr>
<td>Improving my understanding of other countries and cultures</td>
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<tr>
<td>Working to find a cure for health problems</td>
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<tr>
<td>Improving the health of minority communities</td>
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</tr>
</tbody>
</table>

17. To what extent have you experienced the following with students from a racial/ethnic group other than your own? (Mark one in each row)

<table>
<thead>
<tr>
<th>Experience</th>
<th>Always</th>
<th>Often</th>
<th>Sometimes</th>
<th>Never</th>
<th>Not at All</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dined or shared a meal</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Had meaningful and honest discussions about race/ethnic relations outside of class</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Had guarded interactions</td>
<td></td>
<td></td>
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<tr>
<td>Shared personal feelings and problems</td>
<td></td>
<td></td>
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<tr>
<td>Had tense, somewhat hostile interactions</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Had intellectual discussions outside of class</td>
<td></td>
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<td></td>
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<tr>
<td>Felt insulted or threatened because of your race/ethnicity</td>
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</tr>
<tr>
<td>Studied or prepared for class</td>
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<td></td>
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<tr>
<td>Socialized or partied</td>
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<td></td>
</tr>
<tr>
<td>Attended events sponsored by other racial/ethnic groups</td>
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</tr>
</tbody>
</table>

18. Your current religious preference: (Mark one)

<table>
<thead>
<tr>
<th>Religion</th>
<th>Baptist</th>
<th>Jewish</th>
<th>Roman Catholic</th>
<th>Muslim</th>
<th>Catholic</th>
<th>Episcopal</th>
<th>Lutheran</th>
<th>United Church of Christ</th>
<th>Hindu</th>
<th>Presbyterian</th>
<th>Other Religion</th>
<th>Islamic</th>
<th>Quaker</th>
<th>Other</th>
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</table>

19. How often have professors at your college provided you with: (Mark one in each row)

<table>
<thead>
<tr>
<th>Item</th>
<th>Always</th>
<th>Often</th>
<th>Sometimes</th>
<th>Never</th>
<th>Not at All</th>
</tr>
</thead>
<tbody>
<tr>
<td>Encouragement to pursue graduate/professional study</td>
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<tr>
<td>An opportunity to work on a research project</td>
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<tr>
<td>Advice and guidance about your educational program</td>
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<tr>
<td>Emotional support and encouragement</td>
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<tr>
<td>A letter of recommendation</td>
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<tr>
<td>Help to improve your study skills</td>
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<tr>
<td>Feedback on your academic work</td>
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<tr>
<td>Emotional support and encouragement</td>
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<tr>
<td>An opportunity to discuss coursework outside of class</td>
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<tr>
<td>Help in achieving your professional goals</td>
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<tr>
<td>An opportunity to apply classroom learning to &quot;real-life&quot; issues</td>
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</tbody>
</table>

20. Please indicate your agreement with each of the following statements. (Mark one in each row)

<table>
<thead>
<tr>
<th>Agreement</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Somewhat Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>There is too much concern in the courts for the rights of criminals</td>
<td></td>
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<tr>
<td>Abortion should be legal</td>
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<tr>
<td>The death penalty should be abolished</td>
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<tr>
<td>Marijuana should be legalized</td>
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<tr>
<td>It is important to have laws prohibiting homosexual relationships</td>
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<tr>
<td>Racial discrimination is no longer a major problem in America</td>
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<tr>
<td>Realistically, an individual can do little to bring about changes in our society</td>
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<tr>
<td>Colleges should prohibit racist/sexist speech on campus</td>
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<tr>
<td>Same sex couples should have the right to legal marital status</td>
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<tr>
<td>Affirmative action in college admissions should be abolished</td>
<td></td>
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<tr>
<td>Federal military spending should be increased</td>
<td></td>
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<tr>
<td>Colleges have the right to ban extreme speakers</td>
<td></td>
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</tr>
</tbody>
</table>
21. If you borrowed money to help pay for college expenses, estimate how much you will owe as of June 30, 2008: $___________.

22. How much of the past year’s educational expenses (room, board, tuition, and fees) were covered from each of the following sources? (Mark one answer for each possible source)
   - Family resources (parents, relatives, spouse, etc.)
   - My own resources (income from work, work-study, etc.)
   - Aid which need not be repaid (grants, scholarships, military, etc.)
   - Aid which must be repaid (loans, etc.)
   - Other sources

23. When thinking about your career path after college, how important are the following considerations: (Mark one in each row)
   - Working for social change
   - High income potential
   - Social recognition or status
   - Stable, secure future
   - Creativity and initiative
   - Expression of personal values
   - Availability of jobs
   - Limited working hours
   - Leadership potential
   - Discovery/advancement of knowledge

24. What do you plan to be doing in fall 2008? (Mark all that apply)
   - Attending undergraduate college full-time
   - Attending undergraduate college part-time
   - Attending graduate/professional school
   - Working full-time
   - Working part-time
   - Working in a science/math/technology related job
   - Working in a humanities/social science related job
   - Participating in a post-baccalaureate program
   - Serving in the Armed Forces
   - Attending a vocational training program
   - Traveling
   - Doing volunteer work
   - Staying at home to be with or start a family
   - No current plans

25. If you are planning on being employed after graduation, which best describes the current state of your employment plans? (Mark one response only)
   - Not actively looking for a position
   - Looking, but no offers yet
   - Received an offer for a position, but declined
   - Currently considering an offer
   - Accepted an offer of employment
   - Not planning on employment this fall

26. If you are planning to attend graduate or professional school, which of the following best describes the current state of your educational plans? (Mark one response only)
   - Accepted and will be attending in the fall
   - Accepted and deferred admission until a later date
   - Placed on waiting list, no acceptances
   - Still awaiting responses, no acceptances
   - Will be applying this coming fall
   - Not applying this fall, but might apply at a future date
   - No plans to apply to school now or in the future

27. Think back over the past two weeks. How many times in the past two weeks, if any, have you had five or more alcoholic drinks in a row? (A drink can be a 12-ounce beer or wine cooler, a 4-ounce glass of wine, or a shot of liquor either straight or in a mixed drink.)
   - None
   - Twice
   - 6-9 times
   - Once
   - 3-5 times
   - 10 or more times

28. If you could make your college choice over, would you still choose to enroll at your current college?
   - Definitely yes
   - Probably yes
   - Definitely no
   - Probably no

29. How would you characterize your political views? (Mark one)
   - Far left
   - Middle-of-the-road
   - Conservative
   - Liberal
   - Far right

30. Is English your native language?
   - Yes
   - No

31. What is the average grade you received during your college career, both overall and in your major? (Mark ONE circle in each row)
   - Overall GPA
   - Major GPA

32. Please indicate your racial/ethnic background. (Mark all that apply)
   - White/Caucasian
   - Mexican American/Chicano
   - African American/Black
   - Puerto Rican
   - American Indian/Alaska Native
   - Other Latino
   - Asian American/Asian
   - Other Native Hawaiian/Pacific Islander

33. Your sex:
   - Female
   - Male

34. Do you give the Higher Education Research Institute (HERI) permission to include your ID number should your college request the data for additional research analyses? HERI maintains strict standards of confidentiality and would require your college to sign a pledge of confidentiality.
   - Yes
   - No

ADDITIONAL QUESTIONS: If you received an additional page of questions, please mark your answers below:
### APPENDIX B:
#### Study Variables

<table>
<thead>
<tr>
<th>Independent Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Service-Learning</strong></td>
</tr>
<tr>
<td><strong>Service-Learning:</strong> “Since entering college, indicate how often you have performed community service as part of a class?” (reconstructed as a dichotomous variable, 0=No, 1=Yes) [ACT09]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Student Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Student Demographics</strong></td>
</tr>
<tr>
<td><strong>Race/Ethnicity Group:</strong> “Please indicate your racial/ethnic background.” (dummy coded, 0=White, 1=American Indian, 2=Asian, 3=Black, 4=Hispanic, 5=Other, 6=Multicultural) [RACEGROUP]</td>
</tr>
<tr>
<td><strong>Sex:</strong> “Your sex.” (dummy coded, 1=Male, 0=Female) [SEX-307]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Student Pre-College Characteristics</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High School GPA:</strong> What was your average grade in high school? (1=D, 2=C, 3=C+, 4=B-, 5=B, 6=B+, 7=A-, 8=A or A+) [HSGPA_TFS]</td>
</tr>
<tr>
<td><strong>Community Service Required in High School:</strong> Did your high school require community service for graduation? (0=No, 1=Yes) [CSVREQ_TFS]</td>
</tr>
<tr>
<td><strong>High School Service-Learning Participation:</strong> Indicate which activities you did in the past year: Performed community service as part of a class? (0=No, 1=Yes) [ACT20_TFS]</td>
</tr>
<tr>
<td><strong>High School Community Service Participation:</strong> Indicate which activities you did in the past year: performed volunteer work? (0=No, 1=Yes) [ACT12_TFS]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Student College Characteristics</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Major:</strong> Primary undergraduate majors were grouped in the following categories and dummy coded with Humanities as the reference group: Humanities (6=English, 9=Humanities, 8=History or Political Science, and 10=Fine Arts), Math &amp; Sciences (1=Agriculture, 2=Biological Sciences, 5=Engineering, 11=Mathematics or Statistics, and 12=Physical Sciences), Social Sciences (13=Social Sciences, Pre-Professional (3=Business, 4=Education, and 7=Health Professional), Other (14=Other Technical, 15=Other Non-technical, and 16=Undecided)</td>
</tr>
<tr>
<td><strong>Enrollment Status:</strong> “Are you enrolled (or enrolling) as a…” (1=Part-time Student, 2=Full-time student)</td>
</tr>
<tr>
<td><strong>Full-Time Enrollment:</strong> Dichotomous variable derived from “enrollment status” (0=No, 1=Yes).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Socioeconomic Status</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Parents’ Income:</strong> “What is your best estimate of your parent’s total income last year?” (1=Less than $10,000, 2=$10,000 to 14,999, 3=$15,000 to 19,999, 4=$20,000 to 24,999, 5=$25,000 to 29,999, 6=$30,000 to 39,999, 7=$40,000 to 49,999, 8=$50,000 to 59,999, 9=$60,000 to 74,999, 10=$75,000 to 99,999, 11=$100,000 to 149,999, 12=$150,000 to 199,999, 13=$200,000 to 249,999, 14=$250,000 or more) [INCOME_TFS]</td>
</tr>
<tr>
<td><strong>Parents’ Education:</strong> Father's education; Mother's education (1=Grammar school or less, 2=Some high school, 3=High school graduate, 4=Postsecondary school other than college, 5=Some college, 6=College degree, 7=Some graduate school, 8=Graduate degree) [FATHEDUC_TFS-485]; [MOTHEDUC_TFS]</td>
</tr>
<tr>
<td><strong>First Generation</strong> (Derived from above): “First generation status based on parent(s) with less than ‘some college’” (1=No, 2=Yes) [FIRSTGEN_TFS]</td>
</tr>
</tbody>
</table>
Student Outcomes (Dependent Variables)

Academic Skills
**College GPA:** Grade-point-average (1=D, 2=C, 3=C+, 4=B-, 5=B, 6=B+, 7=A-, 8=A or A+) [COLLGPA]

**Growth in Critical Thinking Skills:** “Compared with when you entered college as a freshman, how would you now describe your ability to think critically?” (1= much weaker, 2=weaker, 3=no change, 4=stronger, 5=much stronger) [SLFCHG04]

**Growth in Analytic Problem-Solving Skills:** “Compared with when you entered college as a freshman, how would you now describe your analytical and problem-solving skills? (1= much weaker, 2=weaker, 3=no change, 4=stronger, 5=much stronger) [SLFCHG02]

Diversity Skills
**Growth in Cultural Understanding:** “Compared with when you entered college as a freshman, how would you now describe your knowledge of people from different races/cultures?” (1= much weaker, 2=weaker, 3=no change, 4=stronger, 5=much stronger) [SLFCHG05]

**Growth in Leadership:** “Compared with when you entered college as a freshman, how would you now describe your leadership abilities?” (1= much weaker, 2=weaker, 3=no change, 4=stronger, 5=much stronger) [SLFCHG06]

**Growth in Interpersonal Skills:** “Compared with when you entered college as a freshman, how would you now describe your interpersonal skills?” (1= much weaker, 2=weaker, 3=no change, 4=stronger, 5=much stronger) [SLFCHG07]

**Growth in Diversity Skills:** “Compared with when you entered college as a freshman, how would you now describe your ability to get along with people of different races/cultures?” (1= much weaker, 2=weaker, 3=no change, 4=stronger, 5=much stronger) [SLFCHG08]

Civic Awareness Scale
**CSS Civic Awareness Score (1=Low score, 2=Average Score, 3=High score) [CIVIC_AWARENESS]**

Derived from the following three items:
1. **Growth in understanding of Social Problems Facing our Nation:** “Compared with when you entered college as a freshman, how would you now describe your understanding of social problems facing our nation?” (1= much weaker, 2=weaker, 3=no change, 4=stronger, 5=much stronger) [SLFCHG10 - 130] (weight=7.88)
2. **Growth in understanding Global Issues:** “Compared with when you entered college as a freshman, how would you now describe your understanding global issues?” (1= much weaker, 2=weaker, 3=no change, 4=stronger, 5=much stronger) [SLFCHG14 - 134] (weight=3.32)
3. **Growth in understanding of the problems facing your community:** “Compared with when you entered college as a freshman, how would you now describe your understanding of the problems facing your community?” (1= much weaker, 2=weaker, 3=no change, 4=stronger, 5=much stronger) [SLFCHG09 - 129] (weight=2.09)

Other Outcome Variables (DV)

**Self-Reported Change**
“Compared with when you entered this college, how would you now describe your:” (1=Much weaker, 2=Weaker, 3=No change, 4=Stronger, 5=Much stronger) ** Each of the following are individual items.
- Knowledge of people from different races/cultures [SLFCHG05]
- Ability to get along with people of different races/cultures [SLFCHG08]
- Understanding of the problems facing your community [SLFCHG09]
- Understanding of social problems facing our nation [SLFCHG10]
- Understanding of global issues [SLFCHG14]
Views
“Please indicate your agreement with each of the following statements:” (1=Disagree strongly, 2=Disagree somewhat, 3=Agree somewhat, 4=Agree strongly) ** Each of the following are individual items.

- Racial discrimination is no longer a major problem in America [VIEW06 & VIEW06_TFS]
- Realistically, an individual can do little to bring about changes in our society [VIEW07 & VIEW07_TFS]
- View: Colleges should prohibit racist/sexist speech on campus [VIEW08 & VIEW08_TFS]
- View: Same sex couples should have the right to legal marital status [VIEW09 & VIEW09_TFS]
- Affirmative action in college admissions should be abolished [VIEW10 & VIEW11_TFS]

Goals
“Indicate the importance to you personally of each of the following:” (1=Not important, 2=Somewhat important, 3=Very important, 4=Essential) ** Each of the following are individual items.

- Influencing the political structure [GOAL04 & GOAL04_TFS]
- Influencing social values [GOAL05 & GOAL05_TFS]
- Helping others who are in difficulty [GOAL09 & GOAL09_TFS]
- Participating in a community action program [GOAL16 & GOAL16_TFS]
- Helping to promote racial understanding [GOAL17 & GOAL17_TFS]
- Keeping up to date with political affairs [GOAL18 & GOAL18_TFS]
- Becoming a community leader [GOAL19 & GOAL19_TFS]
- Improving my understanding of other countries and cultures [GOAL20 & GOAL21_TFS]

Institutional Characteristics
College I.D.: I.D. number assigned by HERI for each institution; institutional identity remains confidential. [ACE]

Institutional Control: Institution Control (1=Public, 2=Private) [INSTCONT]
Institutional Type: Institution Type (1=University, 2=4-year, 3=2-year) [INSTTYPE]
Institutional Selectivity: Institutional selectivity (Very Low, Low; Medium; High, Very High) [SELECTIVITY]
Greetings!

I am writing today to ask for your participation in a study on low-income, first-generation college students who participate in service-learning classes. My name is Travis York, and I am a doctoral student in the Higher Education program at Penn State University.

Low-income, first-generation students who have taken a service-learning class are invited to participate in an interview to discuss their service-learning class experience. By low-income, first-generation, I mean students whose parents or guardians have not attended college and whose family has estimated annual income of $30,000 or less. The interview will last about an hour and will be scheduled on campus Monday and Tuesday, January 21-22, 2013.

As a small thank you for participating in this study you will receive a $10 gift certificate to a local eatery. Preliminary findings of your interview will be shared with you for your review so that feedback can be provided to accurate capture your experience. If you would like to participate in this study or would like more information please email me at tty102@psu.edu.

I am conducting this study to learn more about the outcomes and experiences associated with participation in service-learning courses. This study may significantly contribute to our understanding of experiences that both promote and hinder the success low-income, first-generation college students at American universities.

There is no anticipated risk associated with participating in this study, and you may withdraw from the study at any point. In discussing your experiences as a student, you may become uncomfortable with difficult or challenging experiences that you have had. You may elect to not answer any question(s) that makes you feel uncomfortable, and your identity and the specific institution you attend will be kept completely confidential in any reporting of data from this study. This study has received approval from Penn State’s Institutional Research Board (IRB Protocol ID: 38806) and from Widener’s Institutional Research Board (38-13).

You may also contact me via email or the phone number below with any questions. Thank you so much for your time and consideration. I hope to hear from you soon. Should you choose to participate in this study the attached consent form will be provided to you at the interview. Again, if you would like to participate in this study or would like more information please email me at tty102@psu.edu.

Sincerely,
Travis York,
ABD Candidate for PhD
[Contact Information]
The Pennsylvania State University
Semi-Structured Interview Script

**Title of Project:** Exploring Service-Learning Outcomes and Experiences for Low-Income, First-Generation Students: A Mixed-Methods Approach

**Researcher:** Travis York

**Participant Pseudonym:** ______________________

**Date:** __________

**Welcome, Introduction & Consent**
Hello, thank you so much for meeting with me today! I’m Travis and I’m a doctoral student in Higher Education. How are you today?

So, today I’m hoping to chat with you for about an hour to and hour and a half about your experiences with service-learning. Before we begin, I have a consent form that I want to share with you and answer any of your questions that you may have.

*Provide two copies of the consent form.*

Here are two copies of the consent form. I’ll give you a minute to review this consent form. Do you have any questions? *(Answer any questions.)* So, if you understand and agree to participate I’ll have you sign one copy and you can keep the other copy. And please, feel free to ask me any questions you have about this at any time. *(Participant chooses to sign and continue or opts out of participation.)*

I would like to record our conversation today so that I can capture all of the great things you have to say. So now that we’re ready to begin I’ll start the recording.

*Start audio recording.*

**Questions**

1. Tell me some about yourself?
   a. Major
   b. If you had to define yourself to someone else what would you say?

2. How did you end up taking this service-learning course?
   a. How do you think most students come to taking a service-learning course?

3. Tell me about the service-learning course you took?
   a. What was the course?
   b. What service did you participate in?
   c. Why do you think service-learning was a part of your class?
   d. How did your teacher explain the purpose of the experience?
   e. What kind of activities did you do in-class that related to your service experience?

4. Talk to me about learning...
   a. What are the major things you learned from this class?
   b. Think about the learning objectives of this course, how do you think they were achieved?
c. Would you say that your grades are an accurate reflection of your learning?

d. Are there things you learned from this experience that weren’t necessarily objectives of the course?

e. What was surprising to you about this experience?

f. What was most challenging for you in this experience?

5. Tell me about the interactions you had with people in the service experience.

6. What about the interactions you had with classmates?

7. Tell me about opportunities you’ve had getting to know people different from yourself?
   a. In and outside of this class.
   b. When you engage with people different from yourself what do you gain?
   c. What about this service experience, did you engage with people different from yourself?

8. To what extent did you see yourself in the people that you were engaging with?

9. What do you think has changed for you because of your experience?

10. How do you think your background has affected your service-learning experience?

Wrap-Up

I want to thank you so much for your time today! The information you’ve shared with me today has been really valuable and I appreciate your time you’ve shared. As a very small thank you, I have this little gift certificate for you. As I said in the email invitation, I may have some follow-up questions for you later; would you be willing to talk to me via phone in the coming months?

Optional- If still looking for participants

Also, I am still looking for other students to interview about this topic. If you know of any other students that you think may meet the criteria of this study, I would love to speak with them. Please share my contact information with them and encourage them to think about participating.

I will be in touch through email with my preliminary findings to get your feedback about their accuracy.
## APPENDIX D:
## Supplemental Regression Analyses on Overall Student Sample

Table D-1: Blocked Regression Model Predicting CIRP Civic Awareness Scores for Overall Student Sample

<table>
<thead>
<tr>
<th>Variables</th>
<th>M1</th>
<th>M2</th>
<th>M3</th>
<th>M4</th>
<th>M5</th>
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</thead>
<tbody>
<tr>
<td><strong>Student Pre-College Characteristics</strong></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>52.203</td>
<td>.000</td>
<td>49.651</td>
<td>.000</td>
<td>46.339</td>
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<td>.559</td>
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<td>-1.257</td>
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<td>.003**</td>
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<td>1.892</td>
<td>.000***</td>
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<tr>
<td>Multicultural</td>
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<td>.700</td>
<td>.041**</td>
<td>.652</td>
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<td>TFS View: Racial discrimination is no longer a major problem in America</td>
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<td>.562</td>
<td>-.120</td>
<td>.703</td>
<td>-.102</td>
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*Significant at p ≤ 0.10; **Significant at p ≤ 0.05; *** Significant at p ≤ 0.001
VITA

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B.A. in Student Ministries, Undergraduate Minor in Humanities: Geneva College (2005)

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REFEREED PUBLICATIONS


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Department of Educational Policy Studies, College of Education, Penn State University
Higher Education Students, HIED 556: 2012 (Co-Instructor)
Education In American Studies, ETDHP 115: 2010, 2011 (GTA)

Higher Education Graduate Program, Geneva College
Foundations of Retention and Assessment: 2013
Historical Foundations of Higher Education: 2007 (Co-Instructor)
European Higher Education: 2008 (Co-Instructor)