

Student Growth from Service-Learning: A Comparison of First-Generation and Non-First-Generation College Students

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Abstract

The effect of service-learning courses on student growth was compared for 321 first-generation and 782 non-first-generation undergraduate students at a large urban university. Student growth encompassed both academic and professional skill development. The majority of students reported significant academic and professional development after participating in a service-learning course, and female students reported similarly high levels of growth regardless of their generational, racial, or financial status. However, for male students, the amount of growth differed significantly as a function of generational, racial, and financial status. Non-first-generation male students from minority and low-income backgrounds reported the least growth, whereas first-generation male students from minority and low-income backgrounds reported the most growth. These findings reveal that first-generation and non-first-generation male students may differ in their responses to service-learning and highlight the importance of utilizing large, diverse samples when conducting quantitative studies to investigate the impact of service-learning on student development.

Introduction

Students in today's college classrooms show greater diversity than at any other time in our nation's history. Colleges and universities across the United States are enrolling increasing numbers of historically underrepresented groups such as first-generation students (*Pike & Kuh, 2005*), and many higher education institutions are working to find ways to increase these students' academic success. In the case of first-generation students (i.e., students whose parents have not earned a bachelor's degree), these efforts are particularly important because the number of first-generation college students is rapidly increasing and because first-generation students are at very high risk for leaving higher education before they complete a bachelor's degree. Estimates of the percentage of all beginning postsecondary students who have first-generation status range from 43% (*Chen & Carroll, 2005*) to more than 50% (*Davis,*

2010). Choy (2001) found first-generation students were twice as likely as non-first-generation students to leave 4-year institutions before the second year. Warburton, Bugarin, and Nunez (2001) reported that first-generation students have 15% lower persistence rates at 4-year colleges. Even when first-generation college students persist beyond 3 years, they are less likely to earn bachelor's degrees than their second-generation peers (Terenzini, Springer, Yaeger, Pascarella, & Nora, 1996) and less likely to enroll in graduate degree programs (Hahs-Vaughn, 2004). Low-income first-generation students fare even worse, with a four times greater likelihood of leaving college after their first year (Engle & Tinto, 2008). Graduation rates are also abysmally low, with only 11% of low-income first-generation students finishing a bachelor's degree within 6 years, compared to 55% of their advantaged peers (Engle & Tinto, 2008).

Characteristics of First-Generation Students

These data clearly indicate that first-generation students struggle to succeed in postsecondary education, and a number of recent studies point to characteristics shared by first-generation students that may underlie these struggles. Specifically, first-generation students appear to be underprepared, both academically and psychologically, for higher education. For example, first-generation students enroll less often in rigorous high school classes (Horn, Nunez, & Bobbit, 2000), have lower SAT scores and lower high school GPAs (Warburton et al., 2001), show weaker cognitive skills (Terenzini et al., 1996), lack effective study skills (Filkins & Doyle, 2002; Terenzini et al., 1996; Treisman, 1992), and demonstrate lower academic self-efficacy (McConnell, 2000) than their non-first-generation peers. However, the most critical core characteristic of first-generation students is a broad and deep lack of familiarity with the culture of higher education (Davis, 2010). This lack of sophisticated understanding of both the purpose and workings of higher education may play a causal role in first-generation students taking longer to choose a major (Chen & Carroll, 2005; Terenzini et al., 1996), and, once they have selected a major, sticking with it and resisting further deliberation (Hahs-Vaughn, 2004). Problems with choosing a major arguably reflect first-generation students' uncertainty regarding their future professions and the skills needed for obtaining a job after graduating from college. Student growth, both academic and professional, may be delayed in first-generation college students even if they do successfully complete their degree.

Saenz, Hurtado, Barrera, Wolf, and Yeung (2007) found 86.8% of first-generation freshmen that entered 4-year institutions in fall

2005 were students of color, and Bui (2002) and Horn et al. (2000) reported that first-generation students were more likely to be ethnic minorities than non-first-generation students. Choy's (2001) data indicated that first-generation students were more often from poor and working-class backgrounds than their non-first-generation classmates. Despite these findings, it is important to remember that although a correlation may exist between minority and low-income backgrounds and first-generation status, many first-generation students are neither students of color nor poor. As Davis (2010) correctly emphasizes, "Having first-generation student status does not exclude one from belonging to any of the other demographic categories" (p. xvi). The key characteristic shared by all first-generation students is a lack of life experiences that promote university and college culture and that foster the development of competence and comfort in navigating the higher education landscape (Davis, 2010). However, the contributory roles of minority and financial status, when comparing the college experiences of first-generation students with those of their non-first-generation peers, cannot be ruled out.

Support for First-Generation Students

The development and implementation of formal support programs for first-generation students is only just beginning. Programs within colleges and universities are being designed to accommodate the characteristics of first-generation students as described in the literature previously cited. For example, recommendations were made for support programs to include summer immersion programs, academic remediation, study skills instruction, specialized academic advising, and campus acclimation assistance (Davis, 2010; Gupton, Castelo-Rodriguez, Martinez, & Quintanar, 2009). To date there is a lack of empirical evidence for the efficacy of these approaches in increasing first-generation college students' graduation rates.

An alternative approach to developing interventions targeted specifically at first-generation students is to investigate the efficacy of high-impact educational practices that increase engagement and success in the general population of college students. These high-impact practices have been described in detail by Kuh (2008) and included service-learning, collaborative assignments, diversity/global learning, first-year seminars, core curricula, learning communities, writing-intensive classes, undergraduate research, internships, and capstone experiences. Kuh's data indicate that first-generation students less likely to participate in these high-impact practices than their non-first-generation peers, yet no published

research currently exists that investigates the use of such practices with first-generation college students. This article addresses one specific high-impact educational practice, community engagement courses, and whether these courses have a positive impact on student growth. The impact of community engagement courses on first-generation college students will be compared with the growth reported by a comparable group of non-first-generation college students.

Service-Learning and First-Generation Students

Service-learning is a credit-bearing educational experience in which students participate in an organized service activity that meets identified community needs and allows them to reflect on the activity to gain further understanding of course content, a broader appreciation of the discipline, and an enhanced sense of civic responsibility (*Bringle & Hatcher, 1996*). Service-learning has been shown to improve students' academic performance (*Ash, Clayton, & Atkinson, 2005; Celio, Durlak, & Dymnicki, 2011; Markus, Howard, & King, 1993; Vogelgesang & Astin, 2000*) and to support the development of their personal and civic identities (*Ash et al., 2005; Eyster, Giles, Stenson, & Gray, 2001*).

Although research supports the benefits of service-learning on student development, these results may not be equally generalizable to all student subgroups. A number of studies have reported on gender differences in student outcomes following service-learning class participation. However, some studies report no gender differences in students' growth following service-learning class participation (*Tomkovick, Lester, Flunker, & Wells, 2008; Wang & Rodgers, 2006*), while other studies show females benefiting more than males (*Casile, Hoover, & O'Neil, 2011; Pragman, Flannery, & Bowyer, 2012*). These inconsistent findings may result from the effects of other demographic and social variables that were not controlled for in these studies, such as racial, financial, and generational status. Large quantitative surveys that poll students from a variety of demographic and social subgroups are needed to overcome these generalization weaknesses.

Surprisingly, very few studies have addressed first-generation students' experiences in service-learning, and no large-scale quantitative study on this topic has been reported. A small number of qualitative studies have recently been published that explore the experiences of first-generation students in service-learning classes. Yeh (*2010*) interviewed six low-income, first-generation students

of color (three males and three females) and found that service-learning provided these students with opportunities to connect personal values with academics. These connections enabled the students to find greater meaning in their education and to become more motivated to complete their bachelor's degrees. Henry (2005) interviewed three first-generation female students about their experiences in a service-learning class and found that the class provided opportunities for these students to expand their self-awareness. Henry noted that the young women she interviewed were able to develop their self-identities during their service-learning experience by reflecting on the important characteristics they shared with people they met at the service-learning site.

Only one small quantitative study could be found that has examined the impact of service-learning courses on first-generation college students. McKay and Estrella (2008) examined the impact of service-learning courses on the social and academic integration of 43 first-generation college students. This study found correlational support for the importance of service-learning in helping first-generation students achieve their academic goals and feel better integrated into the college community. However, this study presents a number of limitations for generalizing from its results. No comparison group was provided, so there is no evidence that the courses brought about improvements for first-generation students that they would not have for non-first-generation students. In addition, the number of students who participated in this study was relatively small and consisted almost entirely of minority students. The results of this study could be explained by the students' minority status rather than their first-generation status.

The current study extends our limited understanding of the impact of service-learning courses on student development (academic and professional) in first-generation students by comparing the self-perceived growth of several hundred first-generation and non-first-generation students after completing service-learning classes at a large urban public research university.

Service-Learning at Virginia Commonwealth University

Service-learning courses taken by the first-generation and non-first-generation undergraduate students who participated in this study were offered across a wide range of disciplines at all academic levels (i.e., freshman, sophomore, junior, and senior). All courses had been formally designated by the university's Service-Learning

Office as service-learning courses after the instructor had demonstrated that the course included (a) service activities that met a community-identified need, (b) a minimum of 20 hours of community service per student per semester, and (c) planned reflection activities that connected students' community service with the academic content of the course. During the 2009–2010 academic year, a total of 115 class sections (53 distinct courses) at both the undergraduate and graduate levels carried a service-learning designation. These classes were taught by 55 different instructors and enrolled a total of 2,633 undergraduate and graduate students. For the purposes of the current study, only undergraduate students were surveyed.

Hypotheses

Student growth is defined in our study as a self-reported improvement in academic skills (oral, written) and professional development (leadership, goals, and attitudes). Because of the limited research literature regarding the impact of service-learning on first-generation students' growth, this is an exploratory study. We hypothesized that (a) first-generation students would report improvement in academic skills and professional development at levels similar to those of their non-first-generation peers, and (b) demographic differences in growth might be evidenced.

Method

Participants

End-of-course survey responses were obtained from 1,155 (35%) of the 3,191 degree-seeking undergraduate students who were enrolled in designated service-learning courses during the 2008-2009 and 2009-2010 academic years at a large urban public university in the southeastern United States, and approval to use the survey for research purposes was granted by the institution's Internal Review Board for Human Subjects Research. Of these respondents, 74% were female and 58% were White. Most respondents were upperclassmen (78%), and most were enrolled as full-time students (94%). In addition, 25% were Pell Grant recipients. A Pell Grant is a postsecondary educational federal grant sponsored by the U.S. Department of Education that is awarded to students based on their demonstrated financial need. At the time of their enrollment in the service-learning course, 80% of respondents were of traditional college age (18–23 years).

For purposes of this study, students were classified as first-generation college students if they indicated that neither parent/caregiver had graduated from college; 321 students (27.8%) fit this criterion. Another 782 students (67.7%) indicated that one or both parents/caregivers had graduated from college. These individuals are classified as non-first-generation students. These proportions are consistent with responses from a university-wide demographic survey of Virginia Commonwealth University students that was conducted during the year prior to data collection for this study. Students who did not indicate whether their parents/caregivers had graduated from college (4.5%) were excluded from the data analyses.

Survey Instrument

All students who were enrolled in designated service-learning courses at Virginia Commonwealth University received an e-mail invitation to complete an online survey at the end of the semester. The survey consisted of demographic questions, questions about students' service-learning and community engagement experience, and items relating to student growth.

Demographic questions. Demographic questions included age, gender, race, enrollment status (full-time or part-time), academic classification (freshman, sophomore, junior, or senior), and major. Students were asked whether they were recipients of a Pell Grant for financial assistance. Students were also asked to provide the academic qualifications of their parents, and this information was used to determine their generation status (first-generation or non-first-generation).

Service-learning and community engagement experience. Students indicated course details of the service-learning class they had just taken, including the course name, section number, instructor's name, and date of completion. Students also reported the number of community engagement activities in which they were currently involved.

Student growth instrument. The student growth instrument consisted of five items: (a) This course helped me to develop my writing skills, (b) This course helped me develop my speaking and communication skills, (c) Participating in the community for this course helped me enhance my leadership skills, (d) This service-learning course helped me clarify my professional goals, and (e) Service-learning made me more aware of some of my own biases and prejudices. The first two items focus on skills essential to post-

secondary academic success; the final three address additional skills fundamental to the professional development of the student. Students responded using a 5-point Likert scale (1 = *Strongly Disagree*, 2 = *Disagree*, 3 = *No Opinion*, 4 = *Agree*, 5 = *Strongly Agree*). A student growth measure was calculated from the sum of the responses with a minimum score of 5 and a maximum score of 25. To test the internal reliability of this measure, a Cronbach's alpha coefficient was calculated, and a value of 0.80 suggests that this measure has adequate reliability.

Results

Demographic Comparisons

For both generation groups the majority of the respondents were female (74%) and academic juniors or seniors (79%). First-generation students consisted of an older sample [χ^2 ($df = 3$, $N = 1102$) = 24.82, $p < .001$] with more part-time students [χ^2 ($df = 1$, $N = 1103$) = 10.61, $p < .001$]. First-generation students were more often minority students [χ^2 ($df = 1$, $N = 1025$) = 25.32, $p < .001$] and recipients of Pell Grants for low-income families [χ^2 ($df = 1$, $N = 1102$) = 81.68, $p < .001$]. Table 1 provides descriptive statistics for the demographic variables collected in this study. To control for possible confounding influences of age and enrollment status when comparing first-generation and non-first-generation college students, the data analysis that follows was limited to traditional full-time college students ages 18 to 23 ($n = 856$). The effects of minority status and Pell Grant status were included as additional variables in the statistical analyses that follow.

Table 1. Demographic Characteristics of Participants by Generation Status (N=1,103)

	Non-first-generation		First-generation	
	n	%	n	%
Age				
18-23 years	640	82	238	74
24-30 years	112	14	47	15
31-45 years	23	2	32	10
46 + years	6	1	4	1
Gender				
Male	212	27	77	24
Female	568	73	244	76

Minority status				
White	496	69	158	52
Minority	226	31	145	48
Pell grant status				
Nonrecipient	647	83	183	57
Recipient	134	17	138	43
Academic classification				
Freshman	55	7	25	8
Sophomore	107	14	48	15
Junior	244	31	99	31
Senior	375	48	149	46
Enrollment status				
Full-time	744	95	289	90
Part-time	37	5	32	10

Service-Learning Experience

Students who completed this survey came from 47 different service-learning classes that ranged in size from small classes with fewer than 15 students to much larger classes with close to 100 students. First-generation students ($M = 2.86$, $SD = 1.66$) did not differ from non-first-generation students ($M = 2.85$, $SD = 1.66$) in the number of community engagement activities they had been involved in previously, $t(854) = 0.92$, $p > .05$. Likewise, first-generation students ($M = 1.54$, $SD = 1.39$) did not differ from non-first-generation students ($M = 1.55$, $SD = 1.23$) in the number of community engagement activities in which they were currently involved, $t(854) = 0.91$, $p > .05$.

Student Growth

The overall mean score for student growth was 17.85 with a standard deviation of 3.76. Most students (first-generation and non-first-generation) reported significant improvements in all aspects of their student growth as a function of participating in service-learning courses. If we assume that a midpoint score of 3 for each item reflects that the participant neither agrees nor disagrees with each statement, then single sample t -tests for each item show that the mean response from all participants was significantly greater than 3. Table 2 summarizes these findings.

Table 2. Mean Scores for Each Item in the Student Growth Measure

Item	<i>M</i>	<i>SD</i>
Writing Skills	3.19	1.09
Oral skills	3.61	1.05
Leadership skills	3.83	0.91
Clarification of professional goals	3.62	1.07
Awareness of biases & prejudices	3.60	1.03

Note: Single sample *t*-tests show that all means are significantly different from a midpoint score of 3, $p < .001$.

Given the large size of the database compiled in this study and the variety of students who responded to the survey, a four-way analysis of variance was conducted for student growth scores: Gender (2) \times Generation Status (2) \times Minority Status (2) \times Pell Status (2). The main effect of Gender almost reached significance, with female students reporting marginally more growth ($M = 17.96$, $SD = 3.68$) than male students ($M = 17.62$, $SD = 3.92$), $F(1, 783) = 3.04$, $p = .08$. The only other significant effects found were for the three-way interaction of Generation Status \times Minority Status \times Pell Status, $F(1, 783) = 11.60$, $p < .001$, and for the four-way interaction involving all factors, $F(1, 783) = 9.62$, $p = .002$. The four-way interaction includes the three-way interaction and therefore, we will describe only the four-way result in more detail. To simplify the interpretation of such a complex interaction result, three-way Generation Status \times Minority Status \times Pell Status analysis of variance tests were conducted separately for female and male students. No significant results were found for the female students (refer to Figure 1); however, a significant three-way interaction was found for the male students, $F(1, 178) = 13.05$, $p < .001$ (refer to Figure 1). Non-first-generation minority males who were Pell Grant recipients reported the lowest levels of growth (even below the midpoint of the scale), whereas their first-generation counterparts reported higher levels of growth than most other groups of male students. These results highlight the complex mediating role that a student's cultural and financial background can play within any generation results that are obtained.

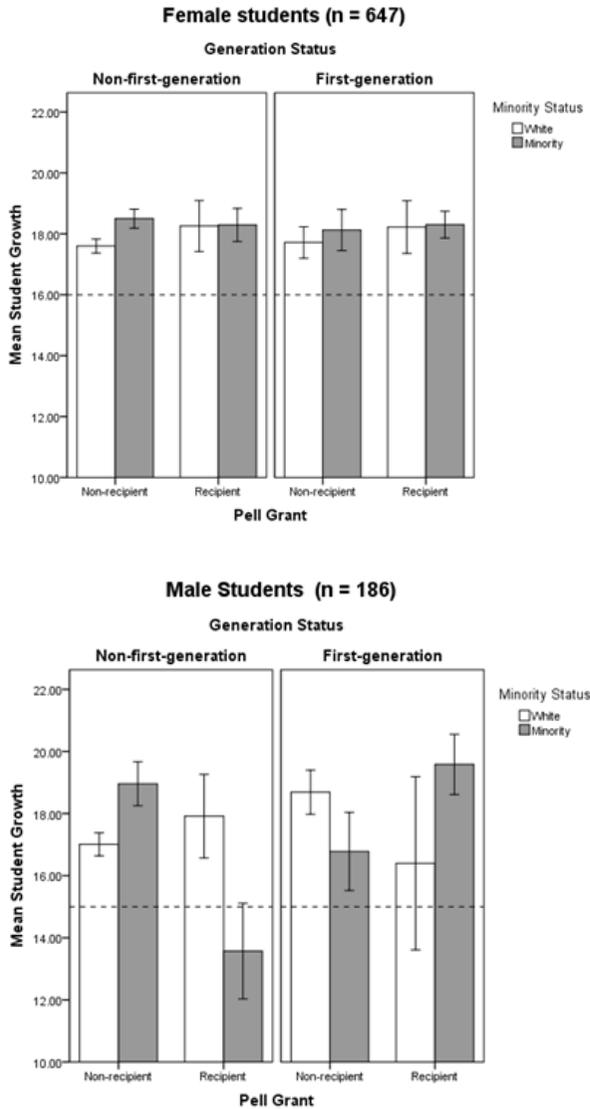


Figure 1. Interaction of Gender \times Generation Status \times Minority Status \times Pell Grant Status on student growth after participating in service service-learning. The dashed line depicted on the figure indicates the mid-point of the student growth scale.

Caution should be used when interpreting these complex interactions because the numbers of male students for these comparisons were relatively small. It is important to point out, however, that these results did not reflect the experiences of a small group of male students from the same service-learning class because the

males in each of these subgroups were enrolled in a variety of different service-learning classes.

Discussion

The current study explored first-generation and non-first-generation undergraduate students' perceptions of their growth as a student (academically and professionally) after completing a semester-long service-learning class at a large urban public research university. This study is important because of the large number of first-generation students now entering postsecondary education in the United States (*Davis, 2010*) and the low success rates of these students (*Choy, 2001*). This research represents the first large-scale study to specifically address the impact of service-learning on the growth of first-generation college students.

In their responses to an end-of-semester survey, both first-generation and non-first-generation students in our sample perceived their service-learning classes positively and believed that service-learning classes promoted their academic and professional growth. The consistency of this finding is impressive given the variety of service-learning courses in which the participants were enrolled. Students in the sample completed service-learning courses in multiple academic disciplines such as business, geography, nursing, criminal justice, religious studies, public relations, dental hygiene, graphic design, biology, and art education and these classes were offered at every academic level from freshman to senior. Consistent across all service-learning classes at Virginia Commonwealth University is a minimum of 20 hours of service per semester per student and instructor-planned reflection activities that connect the academic and service components of the class. Although previous studies have found that university students' perceptions of their service-learning classes were positive (*Astin, Vogelgesang, Ikeda, & Yee, 2000; Eyster, et al, 2001*), this literature has not yet disaggregated responses collected from first-generation students. This study provides evidence that first-generation college students value and appreciate service-learning classes as strongly as do their non-first-generation classmates.

The results of this study indicate that the response of first-generation students to their service-learning classes was mediated by other demographic variables, particularly gender. Female undergraduates, regardless of their generation status, financial need, or racial background, reported that they gained both personal and academic skills as a result of their participation in service-learning

classes. In fact, none of the various social and financial factors included in the study influenced the amount of growth reported by the female students. The female students did report marginally higher growth than male students, and this result is consistent with previous research showing that female students may benefit more from service-learning than do their male classmates (*Casile et al., 2011; Pragman, Flannery, & Bowyer, 2012*).

On the other hand, male students differed significantly among themselves in their response to service-learning experiences, with some males reporting considerable benefits and others reporting very little benefit. These findings did not result from differences in the types of classes taken by these male students because the males in our sample were widely dispersed across a variety of service-learning classes in many academic disciplines. Males who were from both low-income and racial minority backgrounds differed significantly in their perceptions of personal outcomes that resulted from their service-learning experiences depending on whether they were a first-generation or non-first-generation student (refer to Figure 1). We do not have the data to explain these differences because we did not ask our participants to explain why they did or did not experience growth as a student while participating in their service-learning classes. Qualitative studies involving small focus groups drawn from these different student populations are needed to help answer this question. At this time, we can only conjecture about the possible factors that underlie the differences in student growth found with our subgroups of male students.

One hypothesis is that these differences relate to the motivation behind each student's decision to attend a four-year college and whether participation in service-learning courses helps to validate this decision. For many students, attending college is a preliminary step in their identity formation and allows them to explore professional and personal goals (*Luyckx, Goossens, & Soenens, 2006; Luyckx, Schwartz, Goossens, Soenens, & Beyers, 2008*). However, other students may not have the financial or social support to use college to explore personal and professional options. They have already overcome many of life's hurdles to become a college student and have a clear identity formed. For these students, college is a validation of their hard work and life decision, and these students may have a sense of adulthood more akin to that of individuals already in the workforce (*Luyckx, Schwartz, Goossens, & Pollock, 2008*). Participation in a service-learning course that engages the student in many forms of critical self-analysis will have very different effects on these different types of students and may lead to very different perceptions

of the benefits of service-learning experiences for student growth. We recently conducted research that found identity statuses to vary as a function of status in college students (Pelco, Ball, & Lockeman, 2013). We believe this is a promising direction for future research that aims to understand the impact of service-learning on college student development.

A second explanatory hypothesis relates to cultural differences in the students' precollege background and their current campus life. Recent research by Stephens, Fryberg, Markus, Johnson, and Covarrubias (2012) indicated that first-generation students often experienced a cultural mismatch between the independent norms institutionalized in American universities and the relatively interdependent norms that first-generation students are socialized with in working-class home contexts. Stephens and her colleagues used gender as a covariant, so the effect of gender in their studies was not reported. However, if students viewed service-learning pedagogy as aligned primarily with interdependent (rather than independent) norms, this may explain why first-generation males from racial minority and low-income backgrounds perceived themselves as benefiting more from service-learning experiences than their non-first-generation counterparts. This difference was not as evident with female students. We hypothesize that women, as a gender, may be more comfortable with interdependent norms, and therefore the first-generation and non-first-generation female students in our sample showed no differences in perceived growth by generation status. Future research is needed to address questions related to first-generation and non-first-generation college students' cultural assimilation to campus environments and how service-learning may assist this assimilation process.

The preceding paragraphs elucidate the complex interplay of variables that affect a student's service-learning experience. Our data suggest that students' socioeconomic status may influence their growth as a result of service-learning class participation, yet very little service-learning outcomes research addressing socioeconomic status exists. First-generation status and socioeconomic class are often correlated. However, not all first-generation students grow up in low-income families, and many students with high financial need have parents who graduated from college. It will be important for future research to disaggregate the influences of first-generation status and socioeconomic class so that these two important variables can be considered separately as well as cumulatively.

Several limitations of this study are important to note. Limited data were collected on the variability of service-learning experi-

ences within each of the service-learning class sections used for this study. For example, each of the classes included some form of reflection and at least 20 hours of service per student; however, no information was collected describing the type of reflection (written, discussion-based, graded, etc.) or service project (individual, group, graded, etc.). These variables may play causal roles in explaining the group differences we observed. Future studies should further explore the roles these variables play in the service-learning experiences of first-generation and non-first-generation students.

The results of this study support the contention that first-generation students believe service-learning classes facilitate their professional and personal growth. Future research is needed to develop and test a higher education academic success model that includes both person (e.g., clarification of professional goals, leadership skills) and context (e.g., number of service-learning courses taken) variables that lead to student success outcomes that include, but are not limited to, the attainment of a 4-year diploma.

Because universities and colleges around the United States will be matriculating an increasingly large percentage of first-generation students over the next decade, the economic viability of these institutions will rest, at least in part, on the success of their first-generation students. In challenging economic times, the implementation of a variety of high-impact educational strategies that work to engage the vast majority of students, rather than the creation of many interventions targeted to specific subgroups, may be most efficacious. A growing body of research, including results from the present study, lends support to the conclusion that service-learning is one of these important high-impact educational strategies.

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