

# Breaking Down Barriers: Academic Obstacles of First-Generation Students at Research Universities

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## Abstract

The purpose of this study was to examine the perceived academic obstacles of first-generation students in comparison to non-first-generation students. Using the Student Experience in the Research University (SERU) completed by approximately 58,000 students from six research universities, the researchers used nonparametric bootstrapping to analyze differences between first-generation and non-first-generation students' obstacles to academic success. The results suggest that first-generation students more frequently encounter obstacles that compromise their academic success as compared to non-first-generation students, such as job responsibilities, family responsibilities, perceived weak English and math skills, inadequate study skills, and feelings of depression. Implications for learning assistance professionals are outlined.

**Keywords:** first-generation; retention; student success; high impact practices; support services

As learning assistance center professionals, tutors, and college educators seek to develop innovative strategies to assist students in meeting their academic goals, they may find value in targeting services to address the distinct needs of historically underserved student populations. One growing population of unique college students—first-generation students—may face challenges related to navigating the maze of higher education. This paper examines some of the academic obstacles faced by first-generation students and describes strategies that learning center practitioners and faculty members can use to assist these students with achieving academic excellence.

A variety of definitions have been used to describe first-generation students in the higher education and college student development literature, and each definition has subsequent consequences for students, institutions, and organizations. The authors of this article defined first-generation status as neither parent having earned a bachelor's degree; the same definition is used by federal TRIO programs and other organizations. In the present study, college students were considered first-generation even if their parents had some post-secondary education and/or an associate's degree.

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## Literature Review

The profile of first-generation students comprises certain characteristics. First-generation students are more likely than their non-first-generation counterparts to have additional characteristics that may serve as a disadvantage as they pursue their college education. First-generation students are more likely to be older, come from minority backgrounds, and have a disability (Bui, 2002; Hertel, 1992). Additionally, first-generation students are more likely to be non-native English speakers, immigrants (i.e., born outside of the U.S.), single parents, and financially independent from their parents (Bui, 2002). They tend to have lower levels of academic preparation and frequently need to be employed (often full-time) to help pay for educational and cost-of-living expenses (Jehangir, 2010).

First-generation students tend to have lower graduation rates than their non-first generation peers (Engle & Tinto, 2008). According to Engle and Tinto, "research has shown that low-income and first-generation students are less likely to be engaged in the academic and social experiences that foster success in college, such as studying in groups, interacting with faculty and other students, participating in extracurricular activities, and using support services" (p. 3). These challenges can be exacerbated by enrolling at large, research universities where classes tend to be larger and interactions with faculty members can be infrequent (Kim, 2009).

Although institutions of higher education generally have done a better job of promoting college access to first-generation students, college success as measured by persistence and graduation rates (i.e., retention of first-generation students) continues to be a problem (Engle & Tinto, 2008; Pascarella, Pierson, Wolniak, & Terenzini, 2004). Data from the National Center for Education Statistics' Beginning Postsecondary Study describe the situation for first-generation students in terms of college success. First-generation, low-income students were nearly four times more likely (26% to 7%) to leave higher education after the first year than non-first-generation students (Engle & Tinto, 2008). Six years later, nearly half (43%) of low-income first generation students had left college without earning their degrees. Among those who did not continue, nearly two-thirds (60%) did so after the first year.

First-generation students often face multiple unique barriers to post-secondary success (Jehangir, 2010). For example, first-generation students often bridge two cultures, not feeling a sense of belonging in either one (Oldfield, 2007; Rendón, 1992). Barriers can relate to issues that deal with family, social, cultural, and academic transitions (London, 1989). This lack of belonging or isolation can lead to feelings of depression and loneliness for first-generation students (Lippincott & German, 2007).

Additionally, due to family and work demands, first-generation students tend not to be as academically engaged as their non-first-generation peers (Kuh, 2008). Kuh discovered that first-generation and other historically underserved students tend not to participate in high impact educational practices as frequently as traditional students despite evidence that they benefit from participation on par or even more so than their non-first-

generation peers. These practices include intentional engagement activities such as learning communities, first-year seminars, common book experiences, study abroad opportunities, and other experiences that enhance the undergraduate experience. Some of these experiences, such as learning communities, also promote social engagement since curricular structures tend to be arranged so that students engage often and intensely with their peers (Jehangir, 2009). For first-generation students who may not have the opportunity to participate, this lack of involvement may contribute to additional challenges of establishing close interpersonal connections with other students. For example, Pascarella et al. (2004) noted that first-generation students tend to live off-campus, thereby making it more challenging to establishing relationships via on-campus structures, such as residence halls.

Overall, compared to their peers, first-generation students tend to be at a distinct disadvantage with respect to academic preparation in high school (Pascarella et al., 2004). Warburton, Bugarin, and Nuñez (2001) reported that first-generation students were less academically prepared and were less likely to complete AP credits in high school compared to non-first-generation students. Hellman and Harbeck (1997) also discovered that first-generation students have lower self-images of their academic ability than second-generation students. Several additional indicators point to the potential for first-generation students to experience problematic transitions to higher education. Jenkins, Miyazaki, and Janosik (2009) noted that many first-generation students enter college with inadequate academic preparation, largely due to the fact that first-generation students are less likely to enroll in college preparatory curriculum in high school. Indeed, in their study, they found that many first-generation students needed more remedial work on some areas than non-first generation students, were less confident in their academic ability and readiness of college-level work, and also were more likely to avoid asking questions or seeking help from faculty.

## **Method**

In the context of the multiple issues surrounding first-generation students' academic preparation, motivation, and initiative in higher education, this paper seeks to determine students' self-assessment of potential academic obstacles to their academic achievement. Knowing that attendance at large, public research universities may contribute to more isolating experiences for students—especially when it comes to accessing learning center resources and seeking assistance from tutors or faculty—the authors explored the experiences of students who attended six large, public research universities. Specifically, one of the objectives of the study was to ascertain whether first-generation students experience significantly different academic obstacles in comparison to their non-first-generation peers. The central research question is as follows:

What are the differences between first-generation and non-first-generation students in terms of their self-perceived barriers to academic success?

## **Instrument**

The Student Experience in the Research University (SERU) survey is based at the Center for Studies of Higher Education (CSHE) and is administered by the Office of Student Research and Campus Surveys at the University of California-Berkeley. The SERU survey sampling plan is a census scan of the undergraduate experience. All undergraduates enrolled during spring 2009 who also were enrolled at the end of the prior term are included in this web-based questionnaire, with the majority of communication occurring by electronic mail.

The SERU survey contains approximately 600 items depending on the assigned module and each institution's specific questions. Each student answers a set of core questions and is randomly assigned one of four modules containing items focused specifically on a research theme. The core questions focus on time use, evaluation of a student's major, campus climate and satisfaction. The four thematic research areas on the SERU include the following: academic engagement, community and civic engagement, global knowledge and skills, and student life and development.

The variables in this study are drawn from demographic items and items from one of the survey modules related to students' self-perceived obstacles to academic success. Students were randomly assigned to answer questions in the module, with 20% of students randomly assigned to answer the following question from the module:

During this academic year, how often have each of the following been obstacles to your school work or academic success?

- Competing job responsibilities (e.g., paid employment)
- Competing family responsibilities
- Other competing responsibilities (e.g., athletics, clubs, internship)
- Weak English skills
- Weak math skills
- Inadequate study skills (e.g., knowing how to start, knowing how to get help, organizing material)
- Poor study behaviors (e.g., wait until last minute, easily distracted, too much social time, too much web surfing)
- Bad study environment (e.g., noisy roommate, poor Internet access, inadequate computer or software)
- Feeling depressed, stressed, or upset
- Physical illness or condition

## **Participants**

The survey was administered in the spring of 2009 to 145,150 students across six large, public universities classified by the Carnegie Foundation as having very high research activity. The institutional level response rates varied from 26% to 69%, for an overall response rate of 39.97% ( $n =$

58,017). Between 12,097 and 12,161 students completed the module that included the items above. Approximately 58.2% of the participants were female, 60.1% White, 17.9% Asian, 7.7% Chicano-Latino, 5.8% African American, 5.1% other race/unknown, and 2.9% International. Additionally, 26.4% of the module respondents were first-generation students.

## Analysis

To determine whether differences exist between first-generation and non-first-generation students, the assumptions of normality and homogeneity of variance for the academic and social integration factors were tested. The results of the study showed that the Kolmogorov-Smirnov tests were significant ( $p < .05$ ), suggesting non-normal distributions; however, in large samples, this test can be significant even if the data are only slightly non-normal (Field, 2009). In examining the histograms and Q-Q plots, evidence was found for slight skewness in several of the factors. Additionally, the assumption of homogeneity of variance was violated in each of our computations (Levene's tests were significant [ $p < .05$ ]); thus, nonparametric bootstrapping was used to analyze our data, as nonparametric bootstrapping makes no assumptions about the probability model underlying the population and uses the observed sample data as a proxy for the population distribution. Monte Carlo  $p$ -values were computed by drawing 1,000 random bootstrap replicates of the data, with replacement, using a correction suggested by Davison and Hinkley (1997). Table 1 demonstrates Student's  $t$ -statistic, the standard errors of the bootstrapped mean differences, the nonparametric bootstrap 95% confidence intervals (using 1,000 replicates) for the mean differences, and standardized effect sizes as measured by Cohen's  $d$ .

## Results

### *Obstacles to Academic Success*

Differences between first-generation and non-first-generation students were statistically significant on several factors. First-generation students reported statistically significant ( $p < .05$ ) higher instances of the following factors as obstacles to their academic success: Competing job responsibilities; Family responsibilities; Weak math skills; Weak English skills; Inadequate study skills; and Feeling depressed, stressed, or upset (see Table 1). The only measure on which first-generation students had statistically significant ( $p < .05$ ) lower means than non-first-generation students was in the category of Other competing responsibilities. The size of the effects in most cases was relatively small, although Competing job responsibilities ( $d = -.27$ ) and Competing family responsibilities ( $d = -.32$ ), in addition to Weak English skills ( $d = -.19$ ) and Weak math skills ( $d = -.18$ ), and Inadequate study skills ( $d = -.20$ ) had modest effect sizes, suggesting those differences are larger and hold potentially greater impact for practitioners. Although not statistically significant, results showed that first-generation students had higher mean scores on all other items (save for Other competing responsibilities), suggesting that, overall, first-generation students experience greater obstacles

to their academic success than their non-first-generation peers. Further analyses of these trends are warranted to determine whether differences achieve statistical significance among different populations of undergraduates.

## Discussion

The results suggest that first-generation students more frequently encounter specific obstacles that compromise their academic success as compared to non-first-generation students. The largest differences occur in regards to the following items: Competing job responsibilities, Competing family responsibilities, Weak English skills, Weak math skills, Inadequate study skills, and Feeling depressed, stressed, or upset. As such, these factors are more likely to negatively impact first-generation students than non-first-generation students when considering their academic achievement in higher education.

Several of these factors likely compound upon one another, presenting several obstacles to first-generation students at the same time. For example, first-generation students may have both job and family responsibilities in addition to weak study skills—factors that, when combined, may cause even greater challenges to reaching their goals (Engle & Tinto, 2008). One can argue that first-generation students who attend large research universities experience these obstacles more frequently than first-generation students at smaller institutions (e.g., liberal arts colleges) due to the size of the universities. Learning assistance staff, tutors, and other educators (including faculty members) can benefit from an awareness of these challenges that first-generation students encounter (Arendale, 2010). Moreover, these professionals must reach out to first-generation students and help them to reach their personal and professional objectives.

First-generation students often enter college with perceived obstacles to their success (Jehangir, 2010). These feelings frequently are based on previous negative experiences (e.g., concerns about Math or English skills; study skills). Learning assistance professionals and other educators should be reminded that these are common barriers to success for first-generation students—both at the first-year and beyond. In other words, first-generation students often recognize and acknowledge that they will need assistance to address the outlined barriers to academic success. Richardson and Skinner (1992) noted that “all first-generation students are uncertain climbers” (p. 41). Additional programs, services, and structures are often needed to help students reduce the size of each step during the adjustment to the post-secondary education experience. In turn, this added support will help first-generation students feel a greater sense of control and responsibility during the college transition.

Padron (1992), in his analysis of Miami-Dade Community College (MDCC) students, stated that first-generation students often possess an external locus of control, placing blame on external situational factors that may impact academic outcomes rather than assuming personal responsibility. He also indicated that additional academic advising and tutorial services often are needed to help first-generation students become more successful. Engle

Table 1

*Differences in Obstacles to Academic Success Between First-Generation and Non-First Generation Students*

Factor	First-Generation		Non-First-Generation		t	SE (95% CI)	d
	n	M (SD)	n	M (SD)			
Competing job responsibilities	3276	2.42 (1.35)	8877	2.08 (1.24)	-12.83***	0.07 [-0.38, -0.32]	-0.27
Competing family responsibilities	3281	2.58 (1.19)	8854	2.23 (1.07)	-15.91***	0.06 [-0.40, -0.30]	-0.32
Other competing responsibilities	3272	2.48 (1.14)	8875	2.60 (1.12)	5.53*	0.05 [0.01, 0.12]	0.11
Weak English skills	3276	1.35 (0.64)	8872	1.21 (0.81)	-7.43***	0.03 [-0.16, -0.10]	-0.19
Weak math skills	3261	1.75 (1.02)	8836	1.58 (0.91)	-8.25***	0.04 [-0.21, -0.13]	-0.18
Inadequate study skills	3272	2.40 (1.11)	8850	2.18 (1.05)	-7.84***	0.05 [-0.26, -0.17]	-0.20
Poor study behaviors	3270	2.96 (1.15)	8852	2.89 (1.14)	-2.97	0.05 [-0.11, -0.02]	-0.05
Bad study environment	3254	2.62 (1.07)	8857	2.54 (1.04)	-3.70	0.06 [-0.12, -0.03]	-0.07
Feeling depressed, stressed, or upset	3275	2.83 (1.12)	8865	2.68 (1.10)	-3.62**	0.05 [-0.19, -0.11]	-0.14
Physical illness or condition	3274	2.06 (0.95)	8887	2.00 (0.91)	-3.33	0.04 [-0.10, -0.03]	-0.07

Note. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

Scale: 1 - 5 ("not at all" to "all the time")

and Tinto (2008) offered other suggestions for educators, including learning assistance practitioners. These broad recommendations that institutional educators can take to assist first-generation students included the following: easing the transition to college; encouraging engagement on the college/university campus, and promoting (re)entry for young and working adults. The authors (Engle and Tinto) further recommended that the transition to college can be eased through targeted advising, tutoring, and mentoring by faculty and peers. Peer mentoring programs have demonstrated to be effective with first-generation students and other historically underserved student groups, often pairing upper-class students with entering first-year students (Crisp & Cruz, 2009; Strayhorn & DeVita, 2010; Wilson & Arendale, 2011). Other initiatives have included intensive Summer Bridge programs as well as other targeted outreach programs such as TRIO and McNair Scholars initiatives.

For experienced learning assistance professionals, these challenges of first-generation students likely will not come as a surprise. As indicated by the work of Pascarella and Terenzini (2005), first-generation students experience college differently than non-first-generation students, and they often face additional barriers to success. What can be done to address the unique needs, issues, and obstacles experienced by first-generation students? Based on the findings of the study, the following additional recommendations are offered for tutors, peer educators, faculty members, and other student affairs practitioners who interact with first-generation students.

First, learning assistance professionals should be aware of initiatives on their campuses that offer opportunities for academic and social engagement. This includes a range of options of high impact educational practices. Staff can highlight and recommend learning community options to first-generation students (e.g., some programs are targeted to first-generation students or focus on a specific area such as writing or speaking skills). By participating in these types of initiatives, first-generation students may gain confidence in areas that may be perceived as a barrier to success (Jehangir, Williams, & Pete, 2011).

Second, a key finding addresses the issue of weak English skills as an obstacle to success. A growing number of first-generation students are also immigrant students (including recent and second generation status immigrants). Although the scope of this article does not allow for an extensive discussion of immigrant student issues, learning assistance professionals should be reminded that immigrants often face a myriad of complex obstacles and transitions to college (Gildersleeve, 2010; Stebleton, Huesman, & Kuzhabekova, 2010), including but not limited to concerns about English communication skills.

Third, learning center staff and other educators can consider engaging students in discussions related to their first-generation student experience. When working with students who may be struggling in terms of academic confidence, staff can ask students if they are the first in the family to attend college and encourage a dialogue focused on common concerns faced by first-generation students. First-generation students may feel a cultural,

social, and emotional disconnect from campus life, as they often cannot turn to family members to receive guidance navigating a potentially disorienting experience. As such, learning center professionals should not assume that students are knowledgeable about the services they offer and should be proactive in reaching out to this population.

Fourth, first-generation students may experience a constant feeling of alienation on campus. The imposter syndrome, well-researched in the academy (Brookfield & Preskill, 1999; Jensen, 2004; Megivern, 2003), is a dissociative state in which estranged first-generation students may never feel confident, grounded, or socially connected to their academic experiences on campus. Learning center staff, tutors, and peer tutors can take extra measures to help first-generation students to feel like they belong on campus, that they are genuine members of campus life who can achieve academic success. For example, learning center staff who were first-generation students themselves should consider serving as mentors to first-generation students, relating their experiences and serving as an example of one who *made it*. In addition to providing assistance with mastering academic subjects, learning centers can assist first-generation students with building confidence and developing strategies to increase their confidence and self-efficacy. Fostering long-term relationships and communications (e.g., through a monthly newsletter or email to students), congratulating students on their successes in formal ways (e.g., end of the semester celebrations or official events such as Dean's list receptions), involving family members in acknowledgement ceremonies and rituals, and supporting students as they cross important milestones (e.g., from their first year to second year) are all ways in which learning centers can support first-generation students (Magolda, 2000).

Finally, learning assistance professionals are encouraged to be aware of challenges related to students' mental health concerns. Daddona (2011) noted that issues related to students' mental health are an ongoing concern; the prevalence and severity of mental health concerns is well documented (Kadison & DiGeronimo, 2004; Kitzrow, 2009). Furthermore, Daddona outlined several strategies for peer educators who interact with undergraduate students, including advice on how to make effective referrals to students who may need psychological services. It is important that learning assistance professionals (including peer educators) possess strong communication skills, and fully understand the campus counseling services and resources available to students; this suggestion can be especially relevant for first-generation students. Educators should be aware of multicultural issues related to counseling and that there may be resistance and/or stigma about seeking out help for mental health concerns. From this perspective, learning assistance professionals become invaluable "brokers" of the other resources on campus that can best serve first-generation students. In sum, learning assistance professionals and educators who work with first-generation students can play a meaningful role in helping first-generation students to be more successful and reach their academic and personal goals.

## Limitations and Suggestions for Future Research

The generalizability of this study is limited because it explores first-generation and non-first-generation students at a single institutional type—large, public research universities. As a result, we recommend further work on to include multiple institutional types. Additionally, while the purpose of this study was to examine differences between first-generation and non-first-generation students only, a future study could consider a control for additional variables to determine whether the differences observed covary with other factors that remain present while controlling for other variables (e.g., gender, immigration, and socioeconomic differences) among students that may influence first-generation students' self-perceived obstacles to success. An additional limitation includes self-reported data on large surveys that rely on student responses (Porter, 2009). Related to this limitation, it should be noted that the SERU was conducted during the spring semester; it was possible that some first-year, first-generation students may have stopped out after the first semester. The SERU was a census survey, so all student responses are combined (i.e., first-year to senior year). Future studies may pursue an analysis of responses by year in college. Finally, we encourage scholars interested in this area to pursue qualitative studies that explore the lived experiences of first-generation students to learn more about their journeys towards higher education success.

As Engstrom and Tinto (2008) wrote about first-generation learners: "Access without support is not opportunity" (p. 46). The number of first-generation students pursuing 4-year degrees likely will continue to increase. Learning assistance practitioners and those who engage students in developing academic success strategies are in an ideal position to help address the unique needs and challenges of first-generation students. Awareness of self-perceived obstacles to academic success is vital to students and the educators that serve them. In this study, we identified several key obstacles that first-generation students often face at large research universities and suggested several strategies to help promote academic engagement and success. First-generation students can learn to rely on the support from committed learning assistance professionals to help them be successful as they strive towards their academic and personal objectives.

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