Article

Performance and Persistence Outcomes of GEAR UP Students: Leveling the Playing Field in Higher Education

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Abstract

Given the major investment in the Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP) grant, rising postsecondary access, trends in poor persistence and retention rates, and the ongoing accountability measures in higher education, it is critical to examine factors related to postsecondary performance and persistence of GEAR UP students in comparison to their peers. College performance and persistence of 298 State GEAR UP students were compared with other first-time, first-year students (1,841) who entered a moderately selective, medium-sized public research university in Fall 2012. The GEAR UP students were more likely to be from disadvantaged, underrepresented backgrounds; despite less advantageous beginnings, they entered college with similar high school grade point average and Scholastic Assessment Test scores, though lower American College Test scores. Also, students' first-term grade point average and credit loads served as predictors of persistence. Most importantly, GEAR UP students were just as likely to perform and persist as their peers.

Keywords

performance, persistence, retention, university, academic achievement, GEAR UP students

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For over 20 years, student persistence and institutional retention has been a prime focus in higher education (Barefoot, 2004; Tinto & Pusser, 2006). From an institutional perspective, a postsecondary educational institution has failed to retain a student when the student leaves the institution without completing a certificate or degree (Tinto, 2012). Failure to retain a student reveals a *lost investment* of the student and of the institution (Tinto, 1993). Although much attention has focused on college student debt, the institution also loses a monetary share from its investment supporting activities in registration and admission, orientation, advisement, and instruction. Identifying waste and the misappropriation of resources has increasingly become a concern of postsecondary educational institutions as state and federal support has decreased substantially in the last decade due in part to the Great Recession. In addition, federal and state mandates that tie institutional quality and funding to graduation rates have generated a sense of urgency to identify and understand students who do not persist. These students signify a potential waste of pecuniary resources at the personal, institutional, and societal levels; ultimately, as with any customer retention model, it is more cost effective to retain students than to continually recruit new students (Herzog & Stanley, 2013).

Certainly, institutions are being held accountable for their outcomes more than ever before (Kirwan, 2007), and higher education administrators have set goals for improvement (Johnson, 2008). The influential Lumina Foundation (2013) set a nationwide goal to "increase the proportion of Americans with high-quality degrees, certificates, and other credentials to 60% by the year 2025" (p. 1). Yet, the United States has the "highest dropout rates in the industrialized world" (Symonds, Schwartz, & Ferguson, 2011, p. 10). Furthermore, there has not been an increase in retention rates over the past decade (Bowen, Chingos, & McPherson, 2009).

Approximately, 22% of first-time freshmen do not return for their sophomore year at 4-year, public institutions (Ryan, 2004; Snyder & Dillow, 2012). Moreover, persistence and completion vary by student characteristics (e.g., gender, race, work intensity, and financial need) and college experiences (e.g., need for remediation, transfer, and academic performance). Academic preparation (i.e., the intensity and quality of secondary level education) is the strongest predictor of persistence through to degree completion (Adelman, 2004, 2006).

Low-income students tend to be less academically prepared, which contributes to lower persistence, resulting in a bachelor's degree attainment rate of approximately 39% (Goldrick-Rab, 2006). From the lowest economic quintile, only 21% of students are adequately prepared for college-level work, compared with 54% of middle and upper quintile graduates (Goldberger, 2007). According to Adelman (2006), if students from lower income backgrounds received similar college preparation as higher income peers, they would increase their persistence to a bachelor's degree from 36% to 59%; likewise, Latino students would increase their chance of completion from 45% to 69%; and African American

students would similarly increase their chance of completion from 52% to 66%. In particular, students from underrepresented ethnic groups tend to have lower retention rates than White students (Rigali-Oiler & Kurpius, 2013).

Over the last decade, the composition of postsecondary institutions has changed with a 39% increase of students from underrepresented ethnic groups (Snyder & Dillow, 2012). Access to postsecondary education has expanded in part due to the efforts of specific programs established to increase preparation for, access to, and success in postsecondary education among students from disadvantaged backgrounds. A number of private sector, federal, state, and local college preparation programs have been operating for 30 years. Federal programs like Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP), Upward Bound, and Talent Search recognize that students from historically underrepresented groups have less *college knowledge*. These programs provide support for public schools in an effort to address the college knowledge gap; they aim to build college readiness pathways for students who lack adequate home and school resources to help them effectively transition to and succeed in college.

Each of these programs provides low-income or first-generation students and families with college preparation information, tutoring, mentoring, and assistance in the college admissions process. In terms of population served, GEAR UP is unique because it follows the same students from seventh grade through high school graduation (and now into the first year of college). Each of these programs provides students with many of the college-linking administrative services based on best research practices that demonstrate students who are prepared for college early in high school are more likely to enroll and persist (Hurtado, Inkelas, Briggs, & Rhee, 1997; Roderick, Nagaoka, Coca, & Moeller, 2008).

The assessment and evaluation of these programs' impact on college knowledge, especially persistence and degree completion, has been very limited in part because they are longitudinal intervention strategies that have high attrition rates (Cabrera et al., 2006). In this study, the contribution of one particular college-linking program on performance and persistence in the first year of college was explored. First-year outcomes of students who participated in a State GEAR UP program were compared with non-GEAR UP students who attended the same institution.

GEAR UP

The GEAR UP program was authorized under the 1998 amendments to the Higher Education Act. According to the U. S. Department of Education (ED, 2014a), the purpose of the program is to "increase the number of low-income students who are prepared to enter and succeed in postsecondary education" (Program Description, for a more detailed description of the study see

ED, 2014a). Since its inception, over $4.5 billion have been allocated for GEAR UP (ED, 2014b). This discretionary grant also requires a 1:1 match of nonfederal dollars, so the investment in this program doubles when considering the combined efforts in federal and nonfederal contributions. As the program continues to be funded and implemented, it has become increasingly necessary to examine outcomes.

In its 15 years of existence, GEAR UP has been the focus or context of a number of studies. For example, Standing, Judkins, Keller, and Shimshak (2008) reported interim outcomes of increased knowledge, expectations, and improved behavior among GEAR UP students and parents. College readiness was higher among students in GEAR UP schools than non-GEAR UP schools (Bausmith & France, 2012). Additional GEAR UP research has also examined the likelihood of enrollment, specific disadvantaged groups, successful partnerships, adolescent and career development, and so forth (Bausmith & France, 2012; Cates & Schaefle, 2011; Clancy & Miller, 2009; Heisel, 2005; Lozano, Watt, & Huerta, 2009; Standing et al., 2008; Usinger & Smith, 2010; Watt, Huerta, & Lozano, 2007; Weiher, Hughes, Kaplan, & Howard, 2006; Yampolskaya, Massey, & Greenbaum, 2006).

Because the program model starts with students in middle school, it takes a number of years to be able to document the high school preparation and college access of students; as such, the performance, persistence, and retention of GEAR UP students in higher education remains an open area of inquiry. In other words, the length of the program has served as a constraint on opportunities to research college *success* after enrollment. Given the major investment in GEAR UP, rising postsecondary access, trends in poor persistence and retention rates, and the ongoing accountability measures, it is critical to examine factors related to postsecondary performance and persistence of GEAR UP students in comparison to their peers.

Common Factors of Performance and Persistence

Academics

Poor persistence rates are primarily due to a lack of college readiness (Arnold, Lu, & Armstrong, 2012; Porter & Polikoff, 2012; Walpole, 2007). Readiness definitions tend to focus solely on academic performance (Porter & Polikoff, 2012), which has been largely identified as a strong, positive influence on postsecondary preparation and success (Adelman, 2004, 2006; Kuh, Cruce, Shoup, Kinzie, & Gonyea, 2008; Kuh, Kinzie, Buckley, Bridges, & Hayek, 2007; Lozano et al., 2009; Radunzel & Noble, 2012). Indeed, high school GPA is the strongest predictor of retention and postsecondary completion (ACT, 2005a, 2005b, 2012; Adelman, 2004, 2006; Kuh et al., 2008; Radunzel & Noble, 2012; Seidman, 2005).

Regarding the predictive strength of standardized test scores, Kuh et al. (2008) found that an American College Test (ACT) score reflects a student's academic achievement during high school and is a positive predictor of first-year college GPA and persistence. Results of Scholastic Assessment Test (SAT) exams also appear to be positive indicators of first-year college GPA in particular (Patterson & Mattern, 2011; Wyatt, Kobrin, Wiley, Camara, & Proestler, 2011). In turn, there is strong, positive evidence of the relationship between first-year college GPA and student persistence (Allen & Robbins, 2010; Gifford, Briceño-Perriot, & Mianzo, 2006; Lounsbury, Fisher, Levy, & Welsh, 2009; Nora & Cabrera, 1996; Pascarella & Terenzini, 2005). By extension, students with more rigorous academic preparation or higher standardized test scores take more college credits, which contribute to persistence and completion (Biven & Rooney, 1999).

Other Factors

GEAR UP programs are implemented in schools serving (a) a higher percentage of minority students, (b) with a higher proportion of at-risk students, (c) with somewhat higher signs of socioeconomic distress, and (d) with needier student populations than at a typical public school (Standing et al., 2008). Therefore, GEAR UP college students tend to be first generation, students of color, and from low socioeconomic backgrounds, all of which have also been tied to lower persistence rates (Cabrera & La Nasa, 2001; Johnson, 2008; Levinson, 2005, Lozano et al., 2009; Rigali-Oiler & Kurpius, 2013; Weiher et al., 2006). Likewise, the parents of GEAR UP students tend to have low educational attainment, which can also impact academic preparation, access to college knowledge, and knowledge of other available resources (Cates & Shaefle, 2011; Martinez, Cortez, & Saenz, 2013; Watt et al., 2007).

The primary behavior that supports persistence appears to be what the student does to take advantage of learning opportunities provided through social relationships with institutional faculty and staff (Pascarella & Terenzini, 2005). This includes working with professional staff by identifying mentors and working with advisors, as well as joining student academic communities, groups, or clubs. Essentially, when students lack social and cultural capital in their preparation for college, they are less likely to access such capital when they enter college. The GEAR UP program recognizes many of these social deficits and provides opportunities for GEAR UP students to develop social and cultural capital (e.g., cultural and family events, campus visits, financial literacy workshops, mentorship, etc.) to minimize the perceptual barriers that may not exist for more affluent students (Cabrera et al., 2006; Cates & Schaefle, 2011).

Access to financial aid also helps to reduce the existing persistence gap between low-income and wealthier students. Financial aid is important because students who receive financial aid are less likely to drop out or have an

interruption in enrollment (DesJardins, Ahlburg, & McCall, 2002). The availability of financial aid appears to be even more important for strengthening the persistence of students from underrepresented backgrounds (Baker & Velez, 1996). Chen and DesJardins (2008) found that students with Pell grants decreased the gap in the dropout between low- and middle-income groups. Students with financial aid are more likely to persist (Long & Riley, 2007), though this impact may only positively affect the first semester (Herzog, 2005).

Research has found that life decisions can be influenced by where one lives and was raised (Johnson, 2008; Williams & Luo, 2010). The effects of geographic characteristics on retention and persistence have often been focused on differences between urban and rural students for persistence (Williams & Luo, 2010). By investigating the effect of students' home city geographic characteristics on first-year persistence at a micropolitan university, they found that the closeness of a student's home city to campus had a significant, positive relationship with student persistence (Johnson, 2008; Williams & Luo, 2010). Students with homes within 50 miles of the institution were more likely to persist; this was reduced by approximately 10% when the distance was further. Moreover, the rural students' per unit increase in term GPA resulted in a 23.2% increased probability of persistence and an earned credit hour resulted in a 3.9% increased probability of persistence. Williams and Luo (2010) concluded that the social and financial support available by being so close to home supported persistence.

Finally, women take more rigorous course loads in secondary school, earn better grades, and are more likely to take college preparatory courses and exams (Adelman, 2006; Bae, Choy, Geddes, Sable, & Snyder, 2000). Better academic preparation contributes to the fact that women are more likely to enter 4-year institutions, as well as enroll in college immediately after high school (Adelman, 2006; Adelman, Daniel, Berkovitz, & Owings, 2003). In 2008, 72% of women and 60% of men enrolled in a postsecondary, degree-granting institution immediately following high school. This gender gap has been relatively stable (within 10 percentage points) since the mid-1980s (Ross et al., 2012). Further, better academic performance has a strong, positive effect on higher college completion rates by women over the last decade (Buchmann & DiPrete, 2006).

In sum, there are numerous factors that contribute to a student's preparation for and persistence in postsecondary education. These may be academic factors, such as high school GPA and standardized exam scores, as well as first-semester college GPA and the credits taken during college. Along with the many academic factors, there are numerous environmental and nonacademic influences on persistence and completion. These may be related to a students' race or ethnicity and gender, as well as their socioeconomic background, parents' education attainment, home location, and college integration process. Consequently, when GEAR UP students access postsecondary education, they represent a

combination of these many factors that must be confronted and overcome in order to successfully perform and persist in postsecondary education.

Background

The GEAR UP student factors used in this study were attained from a State GEAR UP program that followed a cohort model. Schools that had a 50% or higher federal free or reduced lunch rate were identified as GEAR UP schools, and all seventh-grade students within those schools were identified as GEAR UP. Therefore, it was not a priority (student-select) model; rather, the cohort was identified based on school characteristics and needs, not necessarily student characteristics. The State GEAR UP grant was awarded to this particular state during the 2006 to 2007 academic year. Much like the description provided by Standing et al. (2008), GEAR UP students in this study should have received services since the seventh grade. The services varied but were similar to what has also been documented in other research, including mentoring, tutoring, rigorous coursework, other academic services, as well as college-readiness enrichment services (Bausmith & France, 2012; Watt et al., 2007; Yampolskaya et al., 2006).

In addition to the intervention components, the federal funding agency required a scholarship component. A GEAR UP student's eligibility for the scholarship was determined by verified participation in the State GEAR UP program, high school graduation, residency, and acceptance and attendance at an institution recognized by the State's system of higher education. Specific to the high school graduation requirements, students needed to earn a standard diploma and earn at least a 2.0 GPA. To use the GEAR UP scholarship after meeting the high school graduation requirements, students also needed to enroll within the state's higher education system and attend full time (12 or more credits per semester). Based on the grant cycle for this State GEAR UP program, students graduated in Spring 2012 and enrolled in postsecondary education during Fall 2012.

Limitations

Various limitations must be considered with this study. The data pertaining to GEAR UP students only reflected enrollment immediately after high school graduation, full-time status, and those who used a GEAR UP scholarship. Also, it was assumed that the GEAR UP students participated in the GEAR UP program since the seventh-grade year, but validation of the time spent in the program was not explored. For the freshman comparison group, there was no attempt to identify if students participated in a similar college-going program prior to university enrollment. Finally, the results of the study are not generalizable; data were attained from only one institution and in one state for this analysis.

Method

Data set

To evaluate the influence of participation in GEAR UP on college performance and persistence, data pertaining to 298 GEAR UP students who entered a moderately selective, medium-sized public research university were compared with 1,841 first-time, first-year freshmen who entered the same university in Fall 2012. Comparisons were made only between freshmen from the host state (71% of all entering freshmen and 100% of entering GEAR UP students were from the host state). All GEAR UP students graduated from GEAR UP high schools participating in the State GEAR UP program and urban or rural status could only be reliably determined for in-state residents. The identification of data pertaining to the GEAR UP students was provided via the State's Department of Education; the data set was then populated with the variables explored in this study by using the university's institutional enrollment and academic progress data, as well as a first-year transition survey completed by incoming first-time, first-year freshmen. All data were attained under the auspices of the university's institutional review board.

Measures

Enrollment data allowed for comparisons by gender, race or ethnicity (*White* = 1, *Other* = 0), and Pell grant status (*Pell grant recipient* = 1, *not Pell* = 0). The students' high school location within the state was used to categorize students from urban or rural areas. Urban was defined as within an hour's drive to an urban-center; thus, some farming communities within an hour's drive of an urban center were identified as urban due to their level of access.

The parental level of education was drawn from a first-year transition survey, the students completed in the first month of the Fall 2012 term. The student's report of the education level of a parent (i.e., mother, father, guardian, etc.) was averaged into a single parent education measure (0 = *less than High School*; 1 = *High School degree or GED*; 2 = *Some College*; 3 = *Bachelor's Degree*; 4 = *Advanced Degree*). Parent education was missing for 13% of the total data set. Group mean replacement was determined as sufficient to retain these cases for analysis by examining potential bias with and without the missing cases in the analysis.

Academic preparation was measured by the student's high school GPA (range, 1.38–4.0), as well as ACT (12–34) or SAT (450–1500) scores. The ACT and SAT scores correlated highly ($r = .796$) and were, therefore, standardized on the same scale and combined into one measure—the higher score was retained when students submitted both test scores. In sum, only one

standardized test score was used in analysis (scaled, .34–6.98). Academic integration, academic progress, and persistence were also drawn from enrollment data. Whether the student lived on campus or obtained employment on campus was used for academic integration. These two factors constituted first-term integration or a potential for higher integration. First-term experiences were used in analysis, including the number of units the student completed during first term (i.e., credit load of 0–20) and the resulting first-term GPA (scaled, 0–4.0). Two types of persistence were identified: (a) fall-to-spring of the first year and (b) fall-to-fall from first year to second year. However, only the persistence from Fall 2012 to Fall 2013 was used in analysis.

Analysis

A path analysis was used to test a model based on a causal structure of temporal relationships between student characteristics, academic preparation, integration, performance, and persistence. Figure 1 depicts the model tested and shows an expectation to observe the direct impact of a student's background on the level of preparation, college integration, academic performance, and persistence. Specifically, low-income, first-generation students from underrepresented groups could demonstrate lower preparation, integration, performance, and persistence, as identified in the review of the literature. The indirect effects of background characteristics were included in the path analysis in order to estimate their impact carried forward on and through each college outcome.

In addition to a student's background, positive, direct, and indirect effects of participation in the GEAR UP program on postsecondary first-year outcomes were also expected. Because GEAR UP targeted all students at schools that primarily serve underrepresented, low-income, first-generation students, student background was controlled by locating it causally prior to GEAR UP status. We expected to observe a positive influence of GEAR UP participation on the

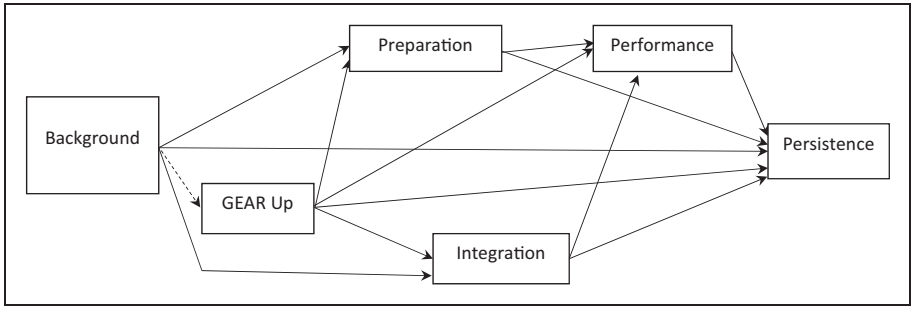

Figure 1. Temporal causal path model tested.

outcomes of low-income, first-generation students from underrepresented groups when those outcomes were compared with non-GEAR UP students. In particular, the impact of participation in GEAR UP was identified by examining its indirect influence on persistence through student preparation, integration, and performance. Overall, the expectation was that GEAR UP students would be academically prepared, would perform at the same level their first term in college, and would persist at the same rate as traditional non-GEAR UP college peers. Additionally, GEAR UP students were expected to perform and persist at higher levels than non-GEAR UP students of similar backgrounds.

The causal model was constructed and tested based on temporal relationships; thus, theoretical not statistical model fit was the primary standard by which the overall model was evaluated. Statistical fit was evaluated using four model fit statistics. The first two statistics are two measures of absolute fit—the root mean square error of approximation (RMSEA) and the standardized root mean square residual (SRMR). These are reported to establish how well the parameter estimates fit expectations (i.e., paths), as measured by the population covariance matrix or the covariance matrix residuals for SRMR. The SRMR is not as sensitive to large sample sizes as the RMSEA, and both have suggested cut off values at or below .05 (Hu & Bentler, 1999). In addition, the Comparative Fit Index (CFI), a measure of relative fit reflected by a value at or above .90, is also reported and compares the sample covariance matrix with a null model (Hu & Bentler, 1999). Finally, the adjusted R^2 is reported, which is the proportion of explained variance for eight outcomes of interest.

Criteria more stringent than the standard $\alpha = .05$ criterion was employed to focus our attention on significant effects that are large enough to matter. Student-level paths are only discussed when they have a p value less than .001 ($p < .001$) and a standardized coefficient greater than or equal to .10 ($b \geq .10$). In the narrative, small effects are identified when standardized effects are between .10 and .19, medium effects between .20 and .29, and large effects above .30. Significant effects at p values of .05 and .10 are still tabled and noted for reference, but the path figure (Figure 2) depicts effect sizes at the more rigorous level. Likewise, the revised theoretical model (Figure 3) reflects what was found by using more rigorous criteria.

Results

Descriptives

The GEAR UP students in this study, like most of their peers in the freshmen class, graduated from high school the spring of 2012 and were approximately 18 years of age. The GEAR UP students were slightly more likely to be female, $X^2(2, 2139) = 8.14$, $p < .01$. GEAR UP students were much more likely to be

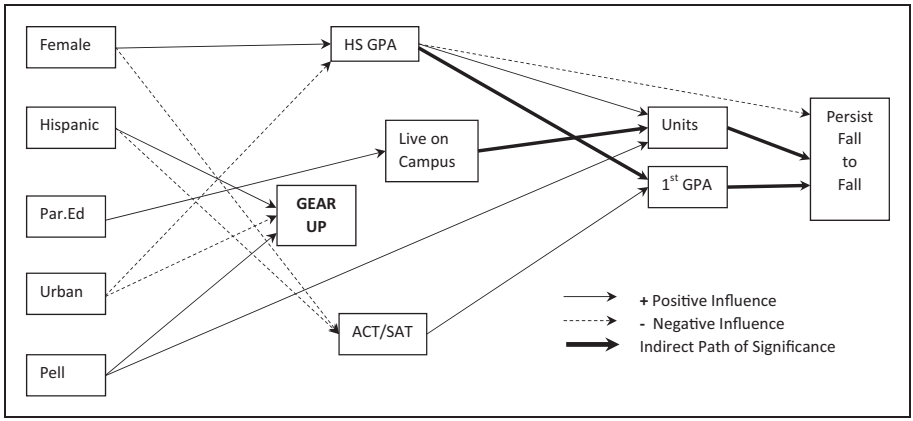

Figure 2. Path model showing positive and negative paths of statistical and practical significance (highlighting $SD > .10$ and $p < .001$) that predict persistence to Fall 2013.

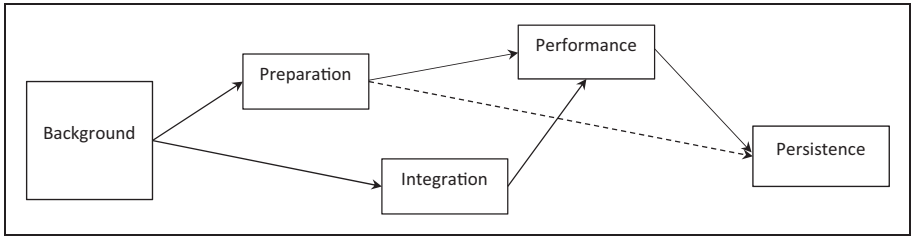

Figure 3. Temporal causal path model supported.

Hispanic or Latino, $X^2(2, 2139) = 57.2$, $p < .001$, more likely to be Black, $X^2(2, 2139) = 4.43$, $p < .05$, and much less likely to be White, $X^2(2, 2139) = 87.6$, $p < .001$, than other freshmen. For Pell status, GEAR UP students were more likely to have a Pell grant, $X^2(2, 2139) = 8.14$, $p < .01$, than other freshmen. Also, GEAR UP students were more likely to come from rural areas of the state, $X^2(2, 2139) = 8.14$, $p < .01$. Finally, GEAR UP students reported lower levels of mother, $M = .50$, $SD = .83$; $t(1797) = 5.5$, $p < .001$, and father, $M = .43$, $SD = .77$; $t(1726) = 5.8$, $p < .001$, education than other freshmen reported for a mother ($M = .89$, $SD = 1.06$) or father ($M = .86$, $SD = 1.09$). Although a continuous measure of parent education was used in the analysis, it is important to note a summary measure of parent education—GEAR UP students were more

likely to be first-generation college students, 93% vs. 81%; $X^2(2, 1672) = 51.9$, $p < .001$, than were other freshmen.

GEAR UP students had similar high school GPAs ($M = 3.41$, $SD = .39$) to other freshmen ($M = 3.37$, $SD = .38$). Also, of the GEAR UP students, 75% submitted ACT scores compared with 46% of other freshmen; of note, this GEAR UP program partnered with ACT, so students were provided funds and access to the ACT test at their school sites. The ACT scores of GEAR UP students, $M = 21.7$, $SD = 4.2$; $t(1076) = 5.3$, $p < .001$, were significantly lower on average than other freshmen, $M = 23.3$, $SD = 4.0$. Even though fewer GEAR UP students submitted SAT scores (57%) than ACT scores, while more of the comparison group submitted SAT (60%) than ACT scores, there was no difference in SAT scores between GEAR UP ($M = 1037$, $SD = 177$) and other freshmen, $M = 1099$, $SD = 146$; $t(1268) = 1.59$, $p = .06$.

The GEAR UP students were less likely to live on campus, $X^2(2, 2139) = 9.7$, $p < .01$, than other freshmen. In contrast, GEAR UP students were more likely to be employed on campus, $X^2(2, 2139) = 20.9$, $p < .001$. By the end of their first term, GEAR UP students ($M = 14.3$, $SD = 2.3$) and other freshmen ($M = 13.5$, $SD = 3.6$) had completed a similar number of credits. Likewise, GEAR UP ($M = 2.74$, $SD = .98$) and other freshmen ($M = 2.78$, $SD = 1.0$) had similar first-term GPAs. Finally, GEAR UP students and other freshmen were both just as likely to persist to Spring 2013 (87% vs. 90%) and Fall 2013 (74% vs. 73%). Thus, to examine the multivariate and causal structure of these relationships, path analysis was utilized.

Path Analysis

The direct effects of the path analysis are depicted in Tables 1 and 2; select indirect effects are shown in Table 3. The standardized coefficients reported may be interpreted as conditioned on the correlations among the exogenous background variables. Therefore, Table 1 presents the influence of a student's background on GEAR UP status and high school preparation, while statistically controlling for the relationships between the various background indicators. The path analysis overall achieved good statistical fit ($RMSEA = .096$; $CFI = .896$; $SRMR = .034$).

Following the more stringent criteria that was set,[1] GEAR UP students were more likely to be Hispanic or Latino and low income, as identified by having a Pell grant. GEAR UP students were also less likely to be from urban areas of the state. These background indicators explain just 9% of the variance in GEAR UP status.

Students who were more academically prepared coming out of high school were more likely to be female, as evidenced by higher high school GPAs, although females also had lower standardized test scores. Black students were less academically prepared, as was revealed by lower GPAs and lower standardized test scores. Hispanic or Latino students also had lower standardized test

Table 1. Standardized Coefficients for Path Analysis Predicting High School Outcomes.

	GEAR UP	HS GPA	ACT/SAT
Demographics			
Female	.060**	**.173***	**−.175***
Asian	.043	.075***	−.007
Black	.066**	**−.105***	**−.173***
Hispanic	**.190***	−.075**	**−.173***
Native	.040	−.046*	−.037
Multiethnic	**−.156***	.016	**.121***
Parent Education	−.085***	.041	.078***
Urban	**−.098***	**−.111***	.079***
Pell	**.131***	−.046*	−.030
GEAR UP		.045*	−.030
Adj R^2	9%	7%	11%

Note. *$p < .05$. **$p < .01$. ***$p < .001$. Bold SD coefficients meet stringent criteria discussed under Analysis, SD > .10 & p < .001; these paths are modeled in Figures 2 & 3.

scores than White students; however, the effect size of the difference observed between Latino and White students' high school GPAs was practically too small to note. Finally, multiethnic students when compared with White students had significantly lower standardized test scores. Thus, these effects were small and explained just 7% of the variance in high school GPA and 11% of the variance in the combined ACT or SAT standardized test score.

Academic integration was measured by living on campus or working on campus. Table 2 shows that Black students, multiethnic students, and students with parents who had a higher education level were all more likely to live on campus. These background indicators explain only 6% of the variance in living on campus. In contrast, a student's background did not predict who had a job on campus.

Academic performance was measured by the end-of-term credit load and term GPA. Table 2 shows that all previously discussed background, preparation, and integration measures were regressed on academic performance. Of the background indicators, only students who had Pell Grants (i.e., a proxy for low-income status) had higher credit loads by the end of term. High school GPA also had a small, direct positive effect on credit load. In the range of large direct effects, living on campus had a significant positive influence on a student's credit load by end of term. Overall, 15% of the variance in credit load was explained. First-term GPA was predicted only by prior academic preparation. High school GPA had a large, direct positive effect on first-term GPA; by comparison, standardized test scores had a small positive effect on GPA; 26% of the variance in first-term GPA was explained by this path model.

Table 2. Standardized Coefficients for Path Analysis Predicting Integration, Performance, and Persistence (Direct Effects).

	Live on campus	Job on campus	Credit load	First-term GPA	Persist to Fall
Demographics					
Female	.021	.065**	.064**	.027	−.016
Asian	−.058*	−.030	.057**	.047*	.012
Black	.123***	−.012	.029	−.017	.000
Hispanic	−.079***	−.011	.048*	.027	.057*
Native	−.051*	.050*	.024	−.014	.002
Multiethnic	.148***	.005	−.022	−.018	−.047*
Parent Education	.120***	−.028	−.017	.011	.032
Urban	−.043*	.037	.004	.067***	.007
Pell	.015	.056*	.122***	−.020	−.008
GEAR UP	−.049*	.089***	.051*	−.013	−.003
Academic preparation					
HS GPA			.096**	.479***	−.099***
ACT or SAT			.045	.101***	.040
Campus integration					
Live on campus			.328***	.023	−.070***
Job on campus			.041*	.031	.050**
First term					
Credit load				.047*	.346***
First-term GPA					.414***
Model fit statistics					
R^2	6%	2%	15%	26%	28%
RMSEA	.096				
CFI	.896				
SRMR	.034				

Note. RMSEA: root mean square error of approximation; SRMR: standardized root mean square residual; CFI: Comparative Fit Index; HS GPA: high school grade point average; GEAR UP: Gaining Early Awareness and Readiness for Undergraduate Programs; ACT: American College Test; SAT: Scholastic Assessment Test. *$p < .05$. **$p < .01$. ***$p < .001$.

Also, the student's background, preparation, integration, and performance during first term were regressed on the student's persistence from Fall 2012 to Fall 2013. Foremost, the student's first-term college GPA and credit load had large direct, positive influences on persistence all else held equal. The student's high school GPA, however, had a small, negative impact on persistence

Table 3. Standardized Coefficients Depicting *Indirect Effects* From GEAR UP Status to Persistence to Fall Through Select Measures.

	Path (via variable)	Indirect effect
GEAR UP	HS GPA and first-term GPA	.009*
GEAR UP	Credit load	.018*
GEAR UP	Live on campus and credit load	−.006*
GEAR UP	Job on campus	.004*
Academic preparation		
HS GPA	First-term GPA	**.198*** **
HS GPA	Credit load	.033**
HS GPA	Credit load and first-term GPA	.002*
ACT or SAT	First-term GPA	.042***
Campus integration		
Live on campus	Credit load	**.114*** **
Live on campus	Credit load and first-term GPA	.006*
Job on campus	Credit load	.013*
First-term performance		
Credit load	First-term GPA	.019*

Note. ACT: American College Test; SAT: Scholastic Assessment Test; GPA: grade point average; HS: high school; GEAR UP: Gaining Early Awareness and Readiness for Undergraduate Programs.
*$p < .05$. **$p < .01$. ***$p < .001$. Bold SD coefficients meet stringent criteria discussed under Analysis, SD > .10 & p < .001; these paths are modeled in Figures 2 & 3.

(Table 3). The results outlined in Table 3 also revealed that, while living on campus did not have a direct impact meeting the stringent criteria, it had a small, significant *indirect* effect on persistence via the positive influence that it had on a student's credit load. Overall, 28% of the variance in fall-to-fall persistence is explained by the path model used in this study.

Discussion

Contrary to the literature, results of this study indicated that the GEAR UP students were as successful as their university campus peers, even though they were more likely to be Hispanic or Latino, Black, a Pell recipient, or have parents with less education. Most importantly, the GEAR UP students were just as likely to persist as compared with their university peers, even though they had lower ACT scores than the other freshmen.

Interestingly, the GEAR UP students were more likely to be from rural areas. Yet, they were still just as likely to persist as the other students. This contradicts the findings by Williams and Luo (2010) because, even though the university's

location was not within 50 miles of their home, rural GEAR UP students persisted at a rate on par with their peers. Perhaps, their rural background could also explain why students were less likely to live on campus, as living on campus often yields a greater expense. In addition, even though GEAR UP students were more likely to have a rural background and live off campus, this did not deter them from campus employment. The GEAR UP students were more likely to be employed on campus than their freshmen peers. Therefore, their campus employment may have contributed to GEAR UP students' academic integration and access to social capital on campus. In sum, it appears that although GEAR UP students were significantly more likely to come from historically underrepresented backgrounds (e.g., low income, first generation, and ethnic minority) in terms of college attendance, they did just as well by the end of their first term as other freshmen from the same state and they were just as likely to persist to spring and fall.

Specific to persistence, the path analysis demonstrated that high school GPA had a direct, positive effect on first-term college GPA and credit load. In turn, the first-term college GPA and credit load yielded a direct, positive influence on student persistence. While living on campus did not have a direct effect on persistence, an indirect effect on persistence was observed via the student's credit load. Essentially, credit load fully transmitted the positive influence of living on campus to persistence. It is also particularly noteworthy that high school GPA had a negative, direct influence on persistence. Although this may seem contrary to expectations, examination of the indirect effects revealed that high school GPA actually had a positive influence on persistence via its impact on a student's first-term GPA. As a result, the observed negative, direct influence of high school GPA on persistence exposed a higher *risk* of persistence for high-performing high school students who were not academically successful during their first term in college. The large to moderate size of the direct and indirect effects suggest that the finding cannot be overstated: High-achieving students in high school who do not succeed their first semester of college are much less likely to persist.

Conclusion

While the literature has documented that more students from underrepresented groups are accessing postsecondary education, low levels of performance and persistence have also been documented. There continues to be an increased need to better understand student performance and persistence beyond access to a higher education institution. This study demonstrated that the GEAR UP program served to diversify the university campus's student body because GEAR UP students were from various underrepresented groups (e.g., ethnic, low income, first generation, low parental educational attainment, Pell recipient, rural geographic region, etc.). While the GEAR UP student backgrounds have

long been identified as factors related to poor success rates in higher education, these students were just as likely to perform and persist on the university campus as compared with their freshman peers. Consequently, it appears that the State GEAR UP program's services and efforts prepared students to enter and succeed at a postsecondary education institution beyond the first year.

An emphasis on rigorous academic preparation for students has continued to be a focus of GEAR UP and other college readiness programs. This emphasis must continue, particularly as high school GPA demonstrates such a critical impact on first-term GPA and, as a result, impacts persistence. Furthermore, these programs have long emphasized full-time credit enrollment, and results revealed that this continues to be a strong predictor of persistence. More recently a 7-year funding option was put in place for the federal GEAR UP grant, in which grantees could apply to support students during their first year of postsecondary enrollment. Use of this option could allow GEAR UP grantees to provide support targeting efforts to increase students' first-term GPA and support in balancing a full-time credit load in order to perform, persist, and succeed in higher education. In this study, the comparison of GEAR UP students and their non-GEAR UP freshmen peers revealed positive and noteworthy outcomes. When uniquely considering the vulnerable population of GEAR UP students, it appears that GEAR UP helped to level the playing field in higher education.

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Note

1. See under *Plan of Analysis* p-value less than .001 ($p < .001$) and a standardized coefficient equal or greater than .10 ($b \geq .10$).

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