Changes in First-Generation College Students’ First-Term Outcomes Following the Initiation of Tennessee Promise

This brief explores differences in first-generation and non-first-generation students’ outcomes following the initiation of the Tennessee Promise in 2014-2015. The initiation of the program created a constellation of supports for students transitioning to postsecondary institutions. In addition to providing financial aid, these supports include assistance and encouragement in filing the Free Application for Federal Student Aid (FAFSA), informational resources, and mentoring. The program also changed the conversation around the culture of college going, promoting how postsecondary education can be accessed by a diverse population of students.¹ ²

There is strong evidence that almost all students eligible to apply engaged with Promise. As of 2018, over 80 percent of eligible students applied for the program in any given year, 90 percent of applicants completed their FAFSA¹, and the state’s FAFSA filing rate increased to a high of 82 percent following Promise initiation.³

First-generation students may particularly benefit from supports created by the Tennessee Promise

First-generation students are less likely to have sufficient access to key resources about college-going from parents to support their transition to college.⁴ The Tennessee Promise created several supports. Assistance and encouragement in filing the FAFSA may have helped first-generation students access federal and state financial aid. Improved access to information and guidance may have helped first-generation students better navigate the complex application process. Finally, the mobilization of stakeholders across the state promoting access to free college may have created additional community supports for first-generation students. As students who face numerous challenges accessing college, added support from a guidance counselor, teacher, parent, or mentor may have encouraged first-generation students to pursue higher education opportunities they could not previously afford or access.

Summary of Findings

Following the introduction of Promise, first-generation students were predicted to attempt and earn more first-term credits, but were predicted to earn lower GPAs, as compared to their non-first-generation peers. These patterns were only observed for community college students, whether or not they enrolled as Promise students. While Promise-initiation may have helped improve college access for first-generation students, students faced continued challenges to academic success after enrollment.
Prior Research

Prominent scholars have identified the role college access programs such as Tennessee Promise may play in improving access for students from historically underserved populations.5,6 While a growing body of work examines the impact of Promise programs, their role with respect to improving first-generation students access and outcomes remains to be understood.7

Data

This analysis uses Tennessee administrative data obtained through the Tennessee Postsecondary Evaluation and Analysis Research Lab (TN-PEARL), a research-practice partnership between Vanderbilt University’s Peabody College of Education, University of Tennessee’s Boyd Center for Business and Economic Research, and the Tennessee Higher Education Commission (THEC). The data are collected by THEC and the Tennessee Student Assistance Corporation (TSAC) and maintained by the state’s P-20 data repository. The sample includes eight cohorts of first-time, first-year students enrolled in state community or four-year colleges in the 2010-11 through the 2017-18 school years. The sample contains 187,117 students in their first term of enrollment who have filed for federal financial aid, are Tennessee residents, U.S. citizens, dependents between ages 17-24, and have complete information on the variables in the larger study (Joshi, 2020).8 See Appendix for complete list of variables in study.

Defining First-Generation Students

Using data on parental education from the FAFSA, the study identified first-generation students as students with at least one parent without a college degree. Note this definition is different from that used by TDOE (see Appendix for more information).

Analysis

We used regression analysis to show adjusted differences in first-generation and non-first-generation students’ first-term postsecondary outcomes after the initiation of the Tennessee Promise. Post-Promise outcomes were estimated for students in high school cohorts eligible to apply for and participate in the Tennessee Promise. These students enrolled between the 2015-16 through the 2017-18 school years.

Differences in post-Promise outcomes are shown for three first-term outcomes, namely: (1) credits attempted, (2) credits earned after adjusting for credits attempted, and (3) GPA. Findings are presented as predicted outcomes adjusting for a variety of factors. In presenting differences between first-generation and non-first-generation students, the analysis controls for differences in students’ demographic characteristics, academic preparedness, access to financial resources, and institutional characteristics (see Appendix for details).

Findings

To what extent did the first-term postsecondary outcomes of first-generation and non-first-generation students differ following the initiation of the Tennessee Promise?

Figure 1: Predicted First-Term Credits Attempted, by First-Generation Status

Note: The figure shows the number of credits first-generation and non-first-generation students with similar characteristics are predicted to attempt in their first-term of enrollment. The vertical line demarcates cohorts enrolling pre- and post-Promise Differences adjust for student demographics, academic preparedness, financial resources, and institutional characteristics.

Credits Attempted: We find that following Promise-initiation, both first-generation and non-first-generation students attempted more credits in their first-term (Figure 1). First-generation students attempted about 0.6 more credits and non-first-generation students attempted about 0.4 more credits. The estimated increase in credits attempted for first-generation students following Promise was significantly greater than the predicted increase for non-first-generation students.
First-generation students earned significantly greater credits following Promise initiation, earning approximately 0.48 more credits. However, when credit earnings were adjusted for the number of credits students attempt in the term, there was no change in the credits earned by first-generation or non-first-generation students post-Promise, as shown in Figure 2.

Credits Earned: First-generation students earned significantly greater credits following Promise initiation, earning approximately 0.48 more credits. However, when credit earnings were adjusted for the number of credits students attempt in the term, there was no change in the credits earned by first-generation or non-first-generation students post-Promise, as shown in Figure 2.

GPA: We observed a decrease in first-generation students’ first-term GPA by 0.1 points following Promise initiation (Figure 3). This is noteworthy as first-generation students’ average pre-Promise GPA was already lower than that of their non-first-generation peers by about 0.17 points. The post-Promise dip in the GPA of first-generation students widened this gap. There was no change in non-first-generation students’ GPA following Promise initiation.

Did results change if students who completed Promise requirements were excluded from the analysis?

Tennessee Promise Students (TPS) were defined as students who were eligible for the Tennessee Promise; these students completed all requirements of the Tennessee Promise program and enrolled full-time in the fall in a Tennessee public two- or four-year institution (see Appendix for details). If differences in post-Promise outcomes change when TPS were excluded from the analysis, this would indicate that changes in outcomes occur amongst TPS. But, if post-Promise differences do not change once TPS are excluded, this would indicate that changes in outcomes were driven by changes to the types of students enrolling after Promise and/or by changes in student behavior following the initiation of Promise.

Once TPS were excluded, the results remained similar, though the post-Promise increases in credits attempted were smaller in magnitude and not statistically significant. Importantly, the predicted dip in GPA for first-generation students post-Promise remains negative, significant, and slightly higher in magnitude, suggesting that non-TPS were earning lower GPAs.

Decreases in the magnitude of coefficients upon removal of TPS suggests that first-generation TPS are more likely to attempt and earn more credits, potentially explaining some of the changes in credits earned post-Promise. However, there remained a post-Promise bump in credits attempted for non-TPS first-generation students, as well as a significant decrease in GPA, suggesting that exposure to the TN Promise created changes for first-generation students more broadly.

To what extent did post-Promise outcomes change for first-generation and non-first-generation students enrolling in community colleges?

Credits Attempted: Following Promise initiation, both first-generation and non-first-generation students in community colleges attempted more credits in their first term. First-generation students in community colleges were predicted to attempt 1.2 more credits following Promise, while non-first-generation students in community colleges were predicted to attempt 1.1 more credits (Figure 4). The estimated increase in credits attempted for non-first-generation students following Promise was not significantly greater than the predicted increase for first-generation students.

Credits Earned: For both first-generation and non-first-generation students in community colleges, there was no significant difference in their credits earned (after adjusting for credits attempted) in the years following Promise.
First-generation and non-first-generation students enrolling in community colleges earned lower GPAs following Promise (Figure 5). First-generation students earned GPAs 0.13 points lower while non-first-generation students earned GPAs 0.11 points lower. The estimated decrease in GPA for first-generation students following Promise was not significantly less than the predicted decrease for first-generation students.

Figure 4: Predicted First-Term Credits Attempted in Community Colleges, by First-Generation Status

Note: The figure shows the number of credits first-generation and non-first-generation students with similar characteristics are predicted to attempt in their first-term of enrollment in community colleges. The vertical line demarcates cohorts enrolling pre- and post-Promise. Differences adjust for student demographics, academic preparedness, financial resources, and institutional characteristics.

Figure 5: Predicted First-Term GPA in Community Colleges, by First-Generation Status

Note: The figure shows the GPA first-generation and non-first-generation students with similar characteristics are predicted to earn in their first-term of enrollment in community colleges. The vertical line demarcates cohorts enrolling pre- and post-Promise. Differences adjust for student demographics, academic preparedness, financial resources, and institutional characteristics.

As shown in Figure 6, non-first-generation students enrolling in four-year colleges in Tennessee attempted significantly more credits following Promise initiation, though the magnitude of the increase is small (0.12 more credits). While first-generation students in four-year colleges were predicted to attempt slightly more credits, this increase was not statistically significant. Additionally, no significant change in credits earned or GPA was observed for students in either group enrolling in four-year colleges.

Results examining differences in community colleges and four-year institutions suggest that changes to student outcomes in the post-Promise period are driven by changes to students enrolling in community colleges. That almost no changes were observed amongst students enrolling in four-year universities is noteworthy.

Despite these students receiving information about college access and potentially even greater funding from the Promise program—as all students in the sample were eligible to apply for the Promise—eligibility did not appear to shift the first-term outcomes of students in four-year universities, though the change in composition of students enrolling post-Promise may explain these null results. In contrast, students enrolling in community colleges experienced increases in credits attempted and earned without necessarily having received Promise funding.
Did results examining differences by institution type change if students who completed Promise requirements were excluded from the analysis?

Once TPS were excluded, both first-generation and non-first-generation students enrolling in community colleges were still predicted to attempt more credits (though the increase in credits they attempted was smaller), but were no longer predicted to earn more credits. Excluding TPS, non-first-generation students in community colleges were no longer predicted to earn lower GPAs. However, first-generation students in community colleges were still predicted to earn lower GPAs, and there was an even greater predicted decrease in their post-Promise GPA. Specifically, after excluding TPS, first-generation students in community colleges were predicted to earn GPAs 0.17 points lower.

With respect to four-year institutions, non-first-generation students were still predicted to attempt 0.13 more credits post-Promise after TPS are excluded. There was no change with respect to first-generation students' credits or GPA earnings in four-year colleges once TPS were excluded.

Conclusion

Results from this brief show that first-generation students attempted and earned more credits, yet earned lower GPAs, following the initiation of the Tennessee Promise. These changes appeared to be driven by changes at the community college level. When Tennessee Promise Students were excluded, increases in credits attempted were smaller, but the decrease in first-generation students' post-Promise GPA remained the same. This shows that, while first-generation TPS were more likely to attempt and earn more credits, even non-TPS, first-generation students attempted more credits following the initiation of the Tennessee Promise. However, on average, these students did not experience an increase in credits earned or GPA.

Taken together, findings have three key implications.

(1) Promise Programs Are Well-Positioned to Support Historically Underserved Students. In improving students' access to information on college, providing financial resources, shifting the expectations around college-going, and shifting the conversation around college access, the Tennessee Promise created a constellation of supports for students in Tennessee. For first-generation students, who are in particular need of financial and informational resources, programs like the Tennessee Promise may offer much needed support. The Tennessee Promise and other college programs may consider ways to expand and direct resources to first-generation students and other historically underserved populations.

(2) Being Eligible to Apply for Promise May Be Beneficial For Students. Even if students did not complete all requirements to be eligible to receive funding, or completed all requirements but did not ultimately receive any Promise funding (e.g., if Pell or state aid covered their tuition), students may still benefit from being eligible to apply for the Tennessee Promise. Students who are eligible to apply have access to many supports, ranging from receiving information on the Tennessee Promise, the FAFSA and college access, to engaging in workshops and receiving mentorship. As first-generation students have a demonstrated need for financial and informational supports, they may especially benefit from engagement with the supports created by Tennessee Promise.

(3) Students Enrolling Following Promise Are Different—and Need Support. As we describe in a previous brief, students enrolling after Promise were more likely to be Black or Hispanic first-generation students and had lower ACT scores compared to those enrolling prior to Promise initiation. As a program seeking to improve students' access to higher education attainment, it is beneficial that this change in the composition of students was observed, as it indicates an increase in enrollment amongst students who may not previously have enrolled.

However, these students may experience challenges completing a larger course load, as suggested by the lower GPAs and the lack of change in credits earned and may need added supports. Potential supports may include wraparound services such as peer and faculty networks, tutoring services, and academic guidance, which may be offered independently, or through programs like Nashville GRAD and Knox Promise.
References


First-Generation College Students:
The Free Application for Federal Student Aid (FAFSA) asks families to provide the highest level of schooling completed by parents. Families may select: (1) Middle school/Jr. High, (2) High School, (3) College or beyond, or (4) Other/unknown (treated as non-college-going). A degree-holding parent was defined as one whose highest level of schooling was “college or beyond”. First-generation students were defined as students with one degree-holding parent or students without a degree-holding parent. Since a goal of this study was to examine the difference students from historically underserved populations, a broader definition of first-generation was used. TDOE defines first-generation students as students without a degree-holding parent. Of the 187,117 students in the sample, 121,336 were first-generation. See Joshi and Heinrich (2021) for additional sample descriptives.

Tennessee Promise Students (TPS):
TPS are students who are eligible for Promise; these are students who completed all requirements of the Tennessee Promise program, including applying for the program, filing the FAFSA by the required deadline, attending workshops, engaging with their assigned mentor, completing community service hours, and enrolling full-time in a Promise-eligible institution between the 2015-16 through the 2017-18 school years. Data on TPS were provided by THEC as a binary indicator of eligibility.

Demographic Characteristics: Student race is a categorical variable describing whether a student is recorded as Black, White, Hispanic, Asian, or other race/ethnicity. Student sex is a binary indicator equaling 1 when a student is female and 0 if male.

Academic Preparedness: ACT composite score is a continuous variable ranging from 1 to 36. Dual enrollment is a binary indicator equal to 1 if a student ever dual enrolled in college coursework during high school. Earning Advanced Placement (AP) credits is an indicator equaling 1 if a student earned any AP credits during high school, as available in the data. Age of first enrollment includes two indicators for whether a student enrolls at age 17, or between ages 19-24.

Financial Resources: Students’ access to financial resources was measured using data from the FAFSA form, which provides information about students’ access to family resources and their eligibility for various federal and state awards and scholarships. Expected family contributions (EFC) towards postsecondary education is calculated using a formula revised annually by the U.S. federal government (see here for EFC formula guide). Parental adjusted gross income (AGI) is reported using information from federal tax forms and includes wages, alimony, Social Security, and business income. Binary indicators for students’ eligibility for frequently accessed federal- and state-level scholarships and grants were also included. These include measures for whether a student was eligible for the Pell grant, a state needs-based grant (TSAA), the Tennessee HOPE scholarship, the HOPE Access grant, the Tennessee HOPE Aspire award, and the General Assembly Merit (GAM) scholarship. Indicators denote eligibility, and not necessarily take-up, of the award. For more information visit the following: Pell, TSAA, HOPE, Aspire, Access, GAM.

Institutional Characteristics: Students’ institution is the public institution of enrollment in their first term, excluding terms of dual enrollment in college or high school. Students in the sample attended 1 of 22 Tennessee public two- or four-year institutions in their first term. Students’ major is a categorical variable of students’ major in the first term, created by categorizing over 280 major codes into 7 common areas of study using CIP codes.