COLLEGE PROMISE PROJECT

Evaluation of the Kansas City Scholars Program

Year 5 Impact Report

2022

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Contents

INTRODUCTION

The Kansas City Scholars Program (KC Scholars) was launched in 2016 to help low- and modest-income students[1] in the six-county Kansas City metropolitan area enroll in and complete higher education and, ultimately, to strengthen the regional economy.[2] The program targets students from 128 high schools and adults who are returning to college, and it seeks to reduce racial and ethnic gaps in higher education access and completion.

Overview

This is the second of two reports by the WestEd evaluation team that coincide with the Kansas City Scholar Program's fifth year of operation. The first report describes trends over time in applicant and awardee characteristics over the 5-year period, and summarizes the school- and student-level characteristics of the most recent cohort of 2021 awardees. This report is organized into two sections. The first section describes the impact of the program on college enrollment, persistence, and completion for Traditional awardees. Traditional awardees are program applicants who were offered a Traditional scholarship, regardless of whether they used the scholarship. The second section describes the impact of receiving an Adult Learner scholarship on persistence in and completion of college.

KC Scholars Program Components

There are three components to the KC Scholars program: Traditional, Adult Learner, and College Savings. This report includes analyses of awardees in the Traditional and Adult Learner components.

In the Traditional component, the program awards college scholarships of $5,000 to $10,000 per year to students in 11th grade.

In the Adult Learner component, the program provides college scholarships of $5,000 per year for learners aged 24 or older who have accumulated at least 12 college credits and have not earned an associate's or bachelor's degree. Beginning with Cohort 3 (the 2019 award cycle), applicants with an associate's degree became eligible to apply, which was not the case for the cohorts included in this report's analyses (Cohorts 1 and 2).

[1] The KC Scholars program defines low- or modest-income families as those with a Free Application for Federal Student Aid (FAFSA) expected family contribution (EFC) of $12,000 or less.

[2] The six counties served by KC Scholars are Cass, Clay, Jackson, and Platte in Missouri and Johnson and Wyandotte in Kansas.

TRADITIONAL SCHOLARSHIP IMPACT

Guiding Questions

- **To what extent does receiving a KC Scholars Traditional scholarship award impact college enrollment, persistence, and completion outcomes at KC Scholars partner postsecondary institutions?**
- **Does the impact vary by awardee characteristics or type of postsecondary institution?**

To answer these questions, analyses examined three cohorts of Traditional awardees, corresponding to the program's first, second, and third award cycles. Because students apply to the program in the spring semester of their junior year in high school and are notified of their awardee status that same term, Cohort 1 (corresponding to the 2017 award cycle) would be expected to enroll in college in fall 2018, Cohort 2 (corresponding to the 2018 award cycle) would be expected to enroll in college in fall 2019, and Cohort 3 (corresponding to the 2019 award cycle) would be expected to enroll in college in fall 2020.

Data

National Student Clearinghouse (NSC) StudentTracker data were used to identify the number of applicants and awardees who were enrolled in a degree or certificate program during the period that each cohort was expected to be in college. Table 1 shows the number of students included in each analytic sample and the corresponding period of expected college enrollment.

About the Data

KC Scholars administrative data from application records were matched with outcome data from the NSC StudentTracker database. The StudentTracker database contains term-by-term student-level enrollment records for more than 3,500 public and private colleges and universities, covering over 98 percent of all U.S. postsecondary enrollments. Of the 3,947 eligible applicants comprising Cohorts 1, 2, and 3, detailed enrollment records were located for 85 percent of students, or 3,364. The remaining 15 percent had no record of enrollment at any postsecondary institution in the StudentTracker database during the period examined (June 1, 2018 through January 6, 2022), including seven students whose information was blocked by a FERPA hold and whose enrollment status could not be verified.

TABLE 1

Number of Traditional Applicants and Awardees Included in the Analyses and Period of College Outcomes Examined, by Cohort and Year of Award

Cohort Number (Year of Award)	Applicants	Awardees	Period of College Outcomes Examined
Cohort 1 (2017)	1,017	278	Fall 2018–Fall 2021
Cohort 2 (2018)	1,323	546	Fall 2019–Fall 2021
Cohort 3 (2019)	1,443	778	Fall 2020–Fall 2021
Total	3,783	1,602	n/a

Note. This table represents the numbers of unique records used in the analyses after matching KC Scholars administrative data with outcome data from the NSC, excluding crossover cases and cases with missing data. Appendix A provides a detailed discussion of the process for determining the analytic samples. Cohorts 2 and 3 Traditional awardees include students who were awarded an institution-specific scholarship to attend the University of Missouri–Columbia or the University of Missouri–Kansas City.

Methods

To estimate the impact of receiving a Traditional scholarship offer on awardees' college enrollment, persistence, and completion outcomes, the WestEd evaluation team (hereafter referred to as the evaluation team), used a regression discontinuity design (RDD) to compare Traditional awardee outcomes with those of eligible applicants who were not awarded a scholarship. This approach was employed to generate plausibly causal estimates of an award offer because the program uses a points-based scoring system for ranking applicants. The difference in outcomes between the two groups can be reasonably attributed to the impact of being offered an award by comparing the average outcomes of applicants who scored just above the cut-off for receiving an award with those of the applicants who scored just below. See appendix A for more details on the methods employed for these analyses.

Outcomes Examined

Seven postsecondary outcomes for Traditional scholarship awardees were examined. For Cohort 1 awardees, who first entered college in the fall of 2018, the evaluation team analyzed the impact of a Traditional scholarship award on 3-year persistence (fall 2021) and completion (at any time through fall 2021) (table 2). For Cohort 2 awardees, who first entered college in the fall of 2019, the team analyzed the impact of a Traditional scholarship award on 2-year persistence (fall 2021). For Cohort 3 awardees, who first entered college in the fall of 2020, the team analyzed the impact of a Traditional scholarship award on postsecondary enrollment (fall 2020), enrollment in a 4-year institution (fall 2020), enrollment in a 2-year institution (fall 2020), and 1-year

Outcome Variables

The following seven outcome variables were included in the analyses.

Enrollment: Enrollment in the fall after high school graduation in one of the 17 postsecondary institutions that partner with KC Scholars

4-Year Institution: Enrollment in a 4-year postsecondary institution

2-Year Institution: Enrollment in a 2-year postsecondary institution

1-Year Persistence: Reenrollment 1 year from the initial enrollment term (i.e., second year of postsecondary enrollment)

2-Year Persistence: Reenrollment 2 years from the initial enrollment term (i.e., third year of postsecondary enrollment)

3-Year Persistence: Reenrollment 3 years from the initial enrollment term (i.e., fourth year of postsecondary enrollment)

Completion: Completion of a postsecondary program at any time since first entering postsecondary education

persistence (fall 2020). For each outcome, analyses estimated the average effect across all students and differential effects for the four subgroups of students who identified as Black/African American, Hispanic/Latino, male, and first-generation.

TABLE 2
Traditional Awardee Outcomes Examined, by Cohort

Outcome	Cohort
Enrollment	Cohort 3 (2019 awardees)
Enrollment in a 4-year institution	Cohort 3 (2019 awardees)
Enrollment in a 2-Year Institution	Cohort 3 (2019 awardees)
1-Year Persistence	Cohort 3 (2019 awardees)
2-Year Persistence	Cohort 2 (2018 awardees)
3-Year Persistence	Cohort 1 (2017 awardees)
Completion	Cohort 1 (2017 awardees)

Note. Not enough time has elapsed to examine the outcomes of 3-year persistence and completion for Cohorts 2 and 3. All outcomes are restricted to the 17 KC Scholars partner postsecondary institutions. See appendix A for a detailed description of the outcome measures.

Findings

The following findings reflect the results of examining the impact of Traditional scholarship awards on enrollment, persistence, and completion. Descriptive statistics for the outcomes are displayed in appendix A, tables A7 through A11; significant results are presented graphically in figures 1 through 3 and summarized in table 3.

Regardless of cohort and subgroup membership, Traditional awardees enrolled and persisted at higher rates than did non-awardees.

Traditional awardees had higher rates of enrollment and persistence at KC Scholar partner institutions compared with eligible applicants who were not offered a scholarship (appendix A, table A7). When disaggregating enrollment rates by institution type, the data further indicate that awardees enrolled in 4-year institutions at higher rates than did non-awardees and enrolled in 2-year institutions at lower rates than did non-awardees. These patterns are consistent across cohorts and student subgroups, irrespective of whether the differences between awardee and non-awardee rates were found to be statistically significant.

Cohort 3 awardees were significantly more likely than non-awardees to enroll in college and were more likely than non-awardees to enroll in 4-year institutions.

Traditional scholarship awardees from Cohort 3 (2019 awardees) had a 20 percentage-point higher probability of enrolling in college in the fall immediately following high school graduation compared with their non-awardee peers (figures 1 and 2, table 3, and appendix A, table A7). Specifically, after adjusting

for students' background characteristics and prior academic performance,[3] 70 percent of Cohort 3 awardees enrolled in a KC Scholar partner institution the fall following high school graduation compared with 50 percent of non-awardees.

Cohort 3 awardees also had a 36 percentage-point higher probability of 4-year college enrollment compared with their non-awardee peers. Specifically, 58 percent of awardees in this cohort enrolled in a 4-year KC Scholar partner institution the fall following high school graduation compared with 22 percent of non-awardees.

Cohort 3 Black/African American awardees were significantly more likely than Black/African American non-awardees to enroll in college and were more likely than Black/African American non-awardees to enroll in 4-year institutions.

Cohort 3 awardees who identified as Black/African American had a 24 percentage-point higher probability of college enrollment compared with their Black/African American peers who were not awardees (figures 1 and 2, table 3, and appendix A, table A8). Specifically, 67 percent of Black/African American awardees in this cohort enrolled in a KC Scholar partner institution the fall following high school graduation compared with 43 percent of Black/African American non-awardees.

Cohort 3 awardees who identified as Black/African American also had a 39 percentage-point higher probability of 4-year college enrollment compared to their Black/African American peers who were not awardees. Specifically, 59 percent of Black/African American awardees in this cohort enrolled in a 4-year KC Scholar partner institution the fall following high school graduation, compared to 20 percent of Black/African American non-awardees.

Cohort 3 first-generation awardees were significantly more likely than first-generation non-awardees to enroll in 4-year institutions.

Cohort 3 awardees who identified as first-generation students (defined by the program as neither parent having a 4-year degree) had a 41 percentage-point higher probability of 4-year college enrollment compared with their first-generation peers who were not awardees (figure 2, table 3, and appendix A, table A9). Specifically, 57 percent of first-generation awardees in this cohort enrolled in a 4-year KC Scholar partner institution the fall following high school graduation compared with 16 percent of first-generation non-awardees.

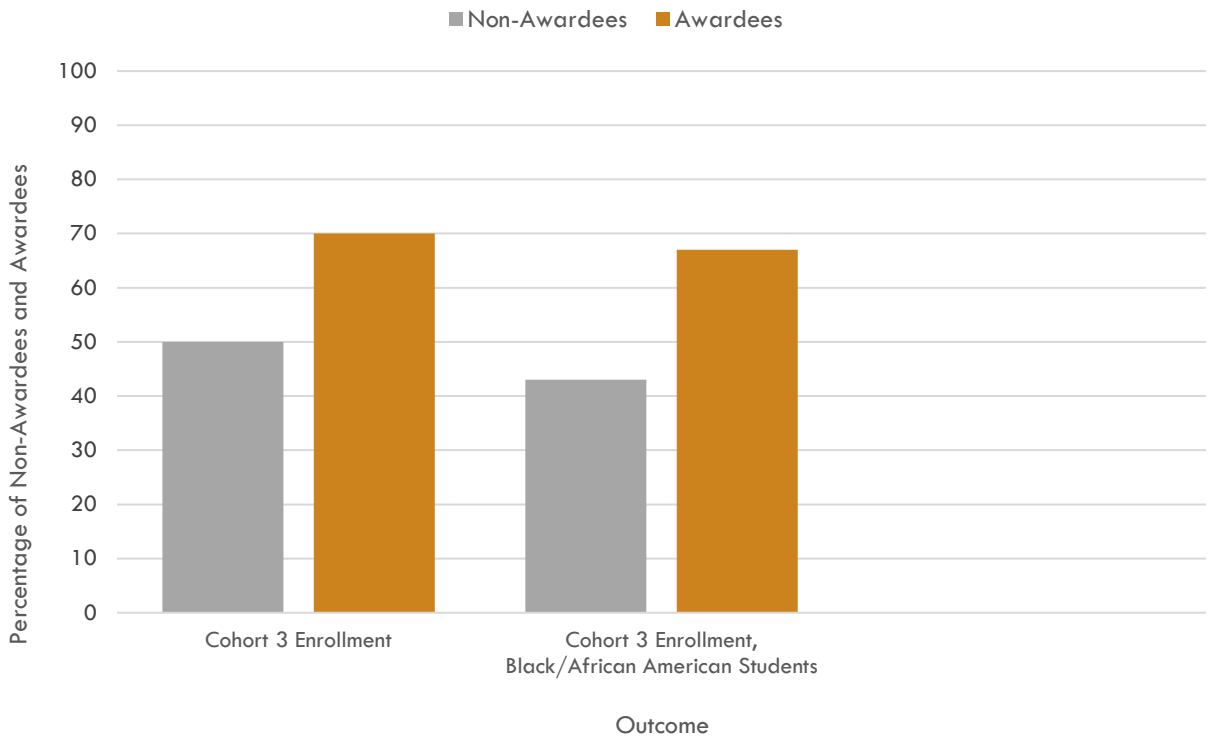
Cohort 1 Black/African American awardees were significantly more likely to persist into their fourth year of college compared with Black/African American non-awardees from the same cohort.

Traditional scholarship awardees from Cohort 1 (2017 awardees) who identified as Black/African American had a 37 percentage-point higher probability of persisting into their fourth year of higher education compared with their Black/African American peers from the same cohort who were not awardees (figure 3, table 3, and appendix A, table A8). Specifically, 58 percent of Black/African American awardees in this cohort were still enrolled in a partner KC Scholar institution 3 years after initial enrollment compared with 21 percent of Black/African American non-awardees. No statistically significant effects were detected for persistence outcomes in any other cohort or subgroup.

[3] All statistically significant model results are presented as the regression-adjusted treatment means after adjusting for students' race/ethnicity, gender, first-generation status, EFC, and high school GPA, using the conventional coefficient obtained from the RD models (appendix A, tables A12 to A46).

Figure 1

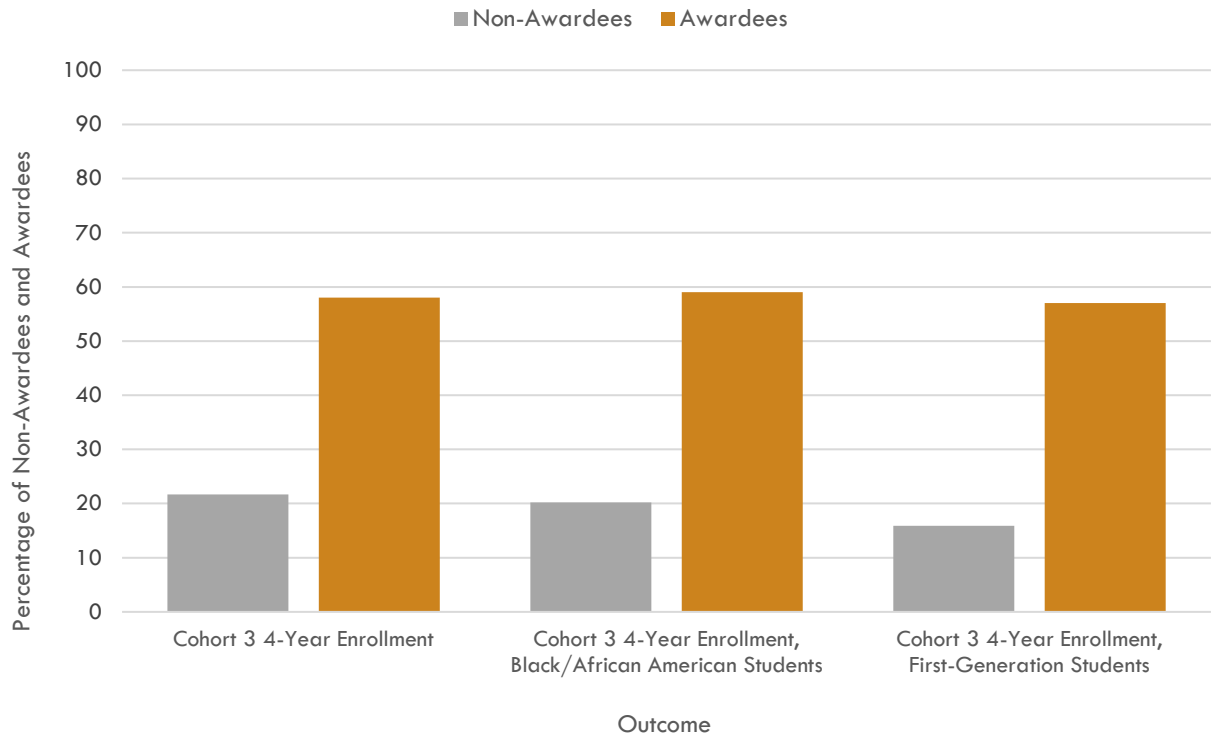
Percentage of Traditional Awardees and Non-Awardees Who Enrolled and Persisted in a KC Scholars Partner Institution: Cohort 3 Enrollment and Cohort 3 Enrollment, Black/African American Students



Note. This figure represents the evaluation team's analysis of data from the KC Scholars program and the NSC. Cohort 1 n = *1,017. Cohort 3* n = *1,443. Only statistically significant results from the models are displayed. Awardee percentages are the regression-adjusted treatment mean. No significant results were found for the Cohort 1 outcome of completion, the Cohort 2 outcome of 3-year persistence, the Cohort 3 outcome of 2-year enrollment, or the Cohort 3 outcome of 1-year persistence.*

Figure 2

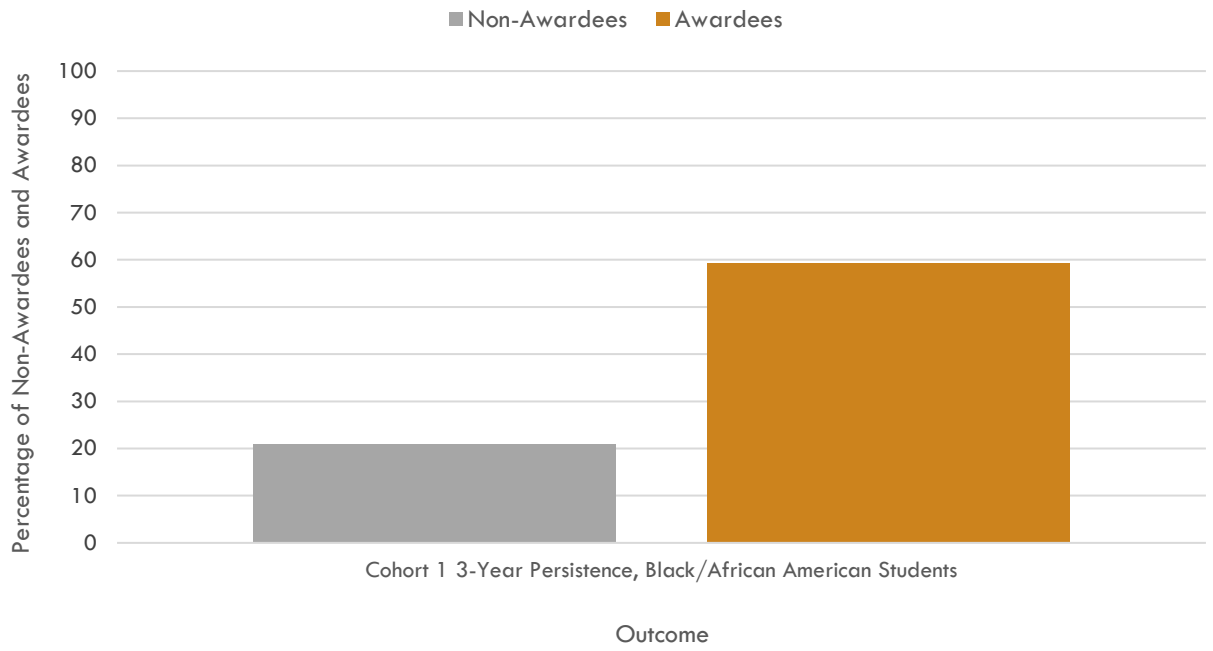
Percentage of Traditional Awardees and Non-Awardees Who Enrolled and Persisted in a KC Scholars Partner Institution: Cohort 3 4-Year Enrollment; Cohort 3 4-Year Enrollment, Black/African American Students; and Cohort 3 4-Year Enrollment, First-Generation Students



Note. This figure represents the evaluation team's analysis of data from the KC Scholars program and the NSC. Cohort 1 n = *1,017. Cohort 3* n = *1,443. Only statistically significant results from the models are displayed. Awardee percentages are the regression-adjusted treatment mean. No significant results were found for the Cohort 1 outcome of completion, the Cohort 2 outcome of 3-year persistence, the Cohort 3 outcome of 2-year enrollment, or the Cohort 3 outcome of 1-year persistence.*

Figure 3

Percentage of Traditional Awardees and Non-Awardees Who Enrolled and Persisted in a KC Scholars Partner Institution: Cohort 1 3-Year Persistence, Black/African American Students



Note. This figure represents the evaluation team's analysis of data from the KC Scholars program and the NSC. Cohort 1 n = *1,017. Cohort 3* n = *1,443. Only statistically significant results from the models are displayed. Awardee percentages are the regression-adjusted treatment mean. No significant results were found for the Cohort 1 outcome of completion, the Cohort 2 outcome of 3-year persistence, the Cohort 3 outcome of 2-year enrollment, or the Cohort 3 outcome of 1-year persistence.*

TABLE 3

Percentage of Traditional Awardees and Non-Awardees Who Enrolled and Persisted in a KC Scholars Partner Institution: Significant Results by Cohort and Subgroup

Outcome	Awardee	Non-Awardee
Cohort 3 enrollment	**70%**	**50%**
Cohort 3 enrollment, Black/African American students	**67%**	**43%**
Cohort 3 4-year enrollment	**58%**	**22%**
Cohort 3 4-year enrollment, Black/African American students	**59%**	**20%**
Cohort 3 4-year enrollment, first-generation students	**57%**	**16%**
Cohort 1 3-year persistence, Black/African American students	**58%**	**21%**

Note. This table represents the evaluation team's analysis of data from the KC Scholars program and the NSC. Cohort 1 n = *1,017. Cohort 3* n = *1,443. Only statistically significant results from the models are displayed. Awardee percentages are the regression-adjusted treatment mean. No significant results were found for the Cohort 1 outcome of completion, the Cohort 2 outcome of 2-year persistence, the Cohort 3 outcome of 2-year enrollment, or the Cohort 3 outcome of 1-year persistence.*

There were no statistically significant differences between Cohort 1 awardees and non-awardees for the outcome of completion.

More than 4 years after first receiving a scholarship offer, Cohort 1 awardees were no more likely than non-awardees to have attained a postsecondary degree or certificate from a partner KC Scholar institution (appendix A, table A7). Although some students in both groups had records of completing a postsecondary program at a KC Scholar institution during the time examined, the proportion of students completing the program in each group was small (9 percent of awardees versus 11 percent of non-awardees) and the differences were not significant.

Discussion

These analyses explored the relationship between receiving a KC Scholars Traditional scholarship award and enrollment, persistence, and completion at KC Scholars higher education partner institutions. Even before testing the statistical significance of the RD model results, several clear patterns emerge regarding the average differences in outcomes between awardee and non-awardee groups. Across the board, Traditional awardees enrolled and persisted at KC Scholar partner institutions at higher rates than did non-awardees. When disaggregating the data by institution type, awardees enrolled at 4-year institutions at higher rates than did non-awardees and enrolled at 2-year institutions at lower rates than did non-awardees. These results hold true across cohorts and subgroups, consistent with evaluation findings from the prior year.

Moreover, some of the differences between awardee rates and non-awardee rates are large enough that they rise to the level of statistical significance, even when controlling for students' background characteristics and prior academic performance. Five outcomes tested across different cohorts and student subgroups were statistically significant in this year's evaluation compared with only two differences that met that threshold in last year's evaluation.

Specifically, Cohort 3 awardees were more likely than non-awardees from the same cohort to enroll in a partner KC Scholar institution and were more likely than non-awardees from the same cohort to enroll in a 4-year partner institution. Furthermore, Cohort 3 Black/African American awardees were more likely than Black/African American non-awardees from the same cohort to enroll in a partner institution and were more likely than Black/African American non-awardees from the same cohort to enroll in a 4-year partner institution. Cohort 3 first-generation awardees were also more likely than first-generation non-awardees from the same cohort to enroll in a 4-year partner institution. Additionally, significant results were found for the outcome of 3-year persistence: Cohort 1 Black/African American awardees were more likely to persist into their fourth year of college at a partner KC Scholar institution than were Black/African American non-awardees from the same cohort.

The results for Black/African American students are particularly clear when examined in the context of the 2 years of impact analyses conducted to date. First, the significant persistence effect for Cohort 1 Black/African American students observed in their third year of postsecondary enrollment appears to have continued into the fourth year of enrollment, suggesting that last year's result was not an abnormality but rather part of a larger trend among this group of students. Second, this year's results reveal new significant findings for college enrollment and enrollment in 4-year institutions among Cohort 3 Black/African American students. While last year's analysis also showed that Black/African American students enrolled in 4-year institutions at higher rates than did their Black/African American non-awardee peers, this year's results further validate that cross-cohort trend. The new evidence found this year demonstrates that enrollment effects for the latest cohort of Black/African American students are robust to the strict assumptions of the RD model, even when controlling for student characteristics.

Similarly, results for first-generation students follow a clear pattern. Previous evaluation findings showed that first-generation awardees enrolled at higher rates than did their non-awardee peers from the same cohorts, and Cohort 1 awardees, specifically, persisted into their third year of enrollment at statistically significantly higher rates than did their non-awardee peers. This year, statistically significant effects were

found for Cohort 3 first-generation students for the outcome of 4-year enrollment, supplying further evidence to support the trends observable in the descriptive data from previous years.

The absence of results for the outcome of completion is not surprising in the context of other evaluation findings about awardee students' higher rates of enrollment at 4-year institutions. Since the majority of Traditional awardees attend 4-year institutions, few students would have had the opportunity to complete a degree by the fall of 2021, their fourth year of postsecondary enrollment. The lack of significant differences between awardees and non-awardees most likely reflects the fact that not enough time has elapsed for completion trends to be observed.

ADULT LEARNER AWARD IMPACT

Guiding Question

To what extent does receiving a KC Scholars Adult Learner-award impact college persistence and completion outcomes?

Outcomes for four cohorts of Adult Learners were examined to determine the impact of receiving a KC Scholars Adult Learner award. Cohort 1 (2017 award cycle) reenrolled in college in the 2017/18 academic year; Cohort 2 (2018 award cycle) reenrolled in college in the 2018/19 academic year; Cohort 3 (2019 award cycle) reenrolled in college in the 2019/20 academic year; and Cohort 4 (2020 award cycle) reenrolled in college in the 2020/21 academic year.

Data

National Student Clearinghouse Research Center (NSCRC) staff played an integral role in developing the dataset for this analysis. After locating postsecondary records for Adult Learners using the NSC StudentTracker data, NSCRC identified a set of control students to match with each Adult Learner based on the year they reentered college, the college they enrolled in, their level of enrollment (full-time/part-time), and their gender, race/ethnicity, and age. The verification and matching processes yielded data on 892 students: 445 Adult Learners and 447 matched control students (table 4).

About the Data

KC Scholars administrative data from application records were matched with outcome data from the NSC StudentTracker database, which contains term-by-term student-level enrollment records for more than 3,500 public and private colleges and universities, covering over 98 percent of all U.S. postsecondary enrollments. After validating that the Adult Learners met the KC Scholars application criteria, NSCRC was able to locate control students with equivalent postsecondary reentry year, reentry college, enrollment status, gender, race/ethnicity, and age (+/–2 years) for 447 of the 624 Adult Learners: 69 Cohort 1 Adult Learners, 107 Cohort 2 Adult Learners, 136 Cohort 3 Adult Learners, and 135 Cohort 4 Adult Learners (table 4). Ultimately, NSCRC provided outcome data for 892 total students (445 Adult Learners and 447 control students).

TABLE 4

Number of Adult Learners and NSCRC-Matched Control Students Included in the Analyses, by Cohort

Cohort Number (Year of Award)	College Reentry Year	Adult Learners	NSCRC-Matched Control Students
Cohort 1	2017/18	91	69
Cohort 2	2018/19	137	107
Cohort 3	2019/20	196	136
Cohort 4	2020/21	200	135
Total	n/a	624 (445 with NSCRC matches)	447

Methods

To estimate the impact of receiving an Adult Learner award on college persistence and completion, the evaluation team fit a series of linear probability regression models that controlled for gender, race/ethnicity, age, the number of terms a student completed before reenrolling in college, and the college in which they reenrolled. In addition, the evaluation team estimated these models both across and within cohorts. For example, to estimate the impact of receiving an Adult Learner award on 1-year persistence, the evaluation team first fit a linear probability that included all students in the data from cohorts for which 1-year persistence was an outcome of interest (table 5). The evaluation team then fit a model that included only Cohort 4 Adult Learners. (One-year persistence for Cohort 1, 2, and 4 Adult Learners was not modeled separately because they were analyzed in the prior evaluation.)

The evaluation team relied on NSCRC researchers to construct the control group sample to mirror the Adult Learners on observable characteristics. The model estimates produced by regression models without covariates were not dissimilar from those with covariates included. For an added test of robustness, the two-step matching procedure was used to compare outcomes among Adult Learners and non-awardees with similar observable characteristics except for treatment status. The estimates produced from these matching models were largely similar to those produced by the linear probability estimates, with few variations. For parsimony and ease of interpretation, this report highlights the linear probability estimates. See appendix B for more details on the methods employed for these analyses and for the estimates produced by each model.

Outcomes Examined

Five postsecondary outcomes for KC Scholar Adult Learners are examined: 1-year persistence, 2-year persistence, certificate completion, associate's degree completion, and bachelor's degree completion. As previously mentioned, the evaluation team examined these outcomes both across (i.e., combined) and within cohorts (i.e., individual). Individual, cohort-specific analyses helped reveal the extent to which receiving an Adult Learner award was associated with the outcomes among only students within a specific awardee cohort. Combined, cross-cohort analyses helped reveal the extent to which receiving an Adult Learner award was associated with the outcomes among all students, regardless of cohort. The chief benefit of carrying out individual, cohort-specific analyses is that the findings are not muddied by cross-cohort differences. However, some drawbacks of individual, cohort-specific analyses are reduced sample size, less estimation precision (i.e., greater statistical noise), and a narrow (i.e., cohort-specific) view of the Adult Learner award's impact. The chief benefits of carrying out combined, cross-cohort analyses are increased estimation precision (i.e., less statistical noise) and a broad, overall view of the Adult Learner award's impact. One drawback of combined, cross-cohort analyses is potential estimation bias stemming

from unobserved differences in awardee cohorts over time. This said, the evaluation team controlled for awardee cohort in all combined empirical models.

For Cohort 1 and 2 awardees, the evaluation team carried out both individual and combined analyses of the impact of an Adult Learner award on bachelor's degree completion (table 5). For Cohort 1, 2, and 3 awardees, the evaluation team carried out individual and combined analyses of the impact of an Adult Learner award on associate's degree and certificate completion. For Cohort 3 awardees, the evaluation team carried out an individual analysis of 2-year persistence; the team then analyzed the impact of 2-year persistence among all students within Cohorts 1, 2, and 3. For Cohort 4 awardees, who first reentered college in the 2020/21 academic year, the team conducted individual analyses of the impact of the Adult Learner award on 1-year persistence. The team then carried out a similar analysis of 1-year persistence that combined Cohorts 1, 2, 3, and 4.

TABLE 5
Adult Learner Outcomes Examined, by Cohort

Outcome	Individual Analyses	Combined Analyses
1-year persistence	Cohort 4	Cohorts 1, 2, 3, & 4
2-year persistence	Cohort 3	Cohorts 1, 2, & 3
Certificate completion	Cohorts 1, 2, & 3	Cohorts 1, 2, & 3
AA/AS completion	Cohorts 1, 2, & 3	Cohorts 1, 2, & 3
BA/BS completion	Cohorts 1 & 2	Cohorts 1 & 2

Note. Not enough time has elapsed to examine the outcomes of BA/BS completion for Cohort 3 and 2-year persistence and completion for Cohort 4. All outcomes are restricted to the 17 KC Scholars partner postsecondary institutions. See appendix B for a detailed description of the outcome measures.

Findings

The following findings reflect the results of the impact analyses of receiving an Adult Learner award on persistence and completion. Descriptive statistics for the outcomes are displayed in appendix B, tables B1 through B4.

Adult Learners were significantly more likely than non-awardees to persist through the first year of college (1-year persistence).

Adult Learners in Cohort 4 persisted through their first year of academic study at a rate that was 32 percentage points higher than that of comparable non-awardees. Specifically, Adult Learners had a 1-year persistence rate of 68 percent compared with the non-awardee persistence rate of 36 percent (appendix B, table B4). This difference was statistically significant across all analytic techniques, even after controlling for race/ethnicity, gender, age, the number of terms a student completed before reenrolling, and the postsecondary institution the student attended (appendix B, tables B5 and B9).

Findings from previous evaluations also found that Adult Learners in Cohorts 1, 2, and 3 had higher persistence rates than did non-awardees (appendix B, tables B1 through B3, B6 through B8, B10, B12, B14, and B15). The differences were significant for Cohorts 2 and 3 but not for Cohort 1.

Similar results were found in the analysis that combined data across all four cohorts. Adult Learners across all cohorts had significantly higher 1-year persistence rates (72 percent) than did non-awardees (47 percent) (table 6 and appendix B, tables B1 through B4).

TABLE 6
Adult Learner Outcomes, by Cohort

Outcome	Combined Analyses	Average Awardee Outcome	Average Non-Awardee Outcome
1-year persistence	Cohorts 1, 2, 3, & 4	72%	47%
2-year persistence	Cohorts 1, 2, & 3	53%	31%
Certificate completion	Cohorts 1, 2, & 3	12%	7%
AA/AS completion	Cohorts 1, 2, & 3	17%	9%
BA/BS completion	Cohorts 1 & 2	18%	13%

Note. Not enough time has elapsed to examine the outcomes of BA/BS completion for Cohort 3 and 2-year persistence and completion for Cohort 4. All outcomes are restricted to the 17 KC Scholars partner postsecondary institutions. See appendix B for a detailed description of the outcome measures.

Adult Learners were significantly more likely than non-awardees to persist through 2 years of college (2-year persistence).

The 2-year persistence rate for Adult Learners in Cohort 3 was 58 percent, 32 percentage points higher than that of non-awardees who were enrolled in the same year (appendix B, table B3). This difference was found to be statistically significant (appendix B, tables B8 and B11). The previous evaluation found that the difference in 2-year persistence rates between Adult Learners and non-awardees was statistically significant for Cohort 1 but not for Cohort 2. The combined 2-year persistence rate for Adult Learners was 53 percent and 31 percent for non-awardees, a difference of 22 percentage points (table 6). This difference was statistically significant regardless of analytic technique (appendix B, tables B6 through B8).

Adult Learners were significantly more likely than non-awardees to earn an associate's degree.

Roughly 10 percent of Cohort 3 Adult Learners earned an associate's degree compared with just 5 percent of comparable non-awardees (appendix B, table B3). The extent to which this difference of 5 percentage points was statistically significant depended on the statistical technique used in the analysis. Significance was found in two of the matching models but not in the regression models (appendix B, tables B8 and B11).

When data on Adult Learners in Cohorts 1, 2, and 3 were combined, the difference was significant, regardless of the statistical technique used by the evaluation team (appendix B, tables B6 through B8). The average associate's degree completion rate for Adult Learners across the three cohorts was 17 percent compared to just 9 percent for non-awardees (table 6).

For each cohort and when all cohorts are combined, associate's degree completion among Adult Learners is greater than that of non-awardees. However, the statistical strength of the difference varies. The difference, when averaged across Cohorts 1, 2, and 3, is highly statistically significant, but the difference in the analysis of only Cohort 3 was sensitive to analytic technique, likely due to sample size.

Adult Learners were more likely than non-awardees to earn a certificate, but the difference was not significant.

The average rate of certificate completion for Adult Leaners in Cohort 3 was 7 percent, roughly 3 percentage points higher than that of non-awardees (appendix B, table B3). The difference between the Adult Learners and non-awardees was not statistically significant (appendix B, tables B8 and B11).

Previous analyses of each cohort separately yielded similar results for Cohorts 1 and 2: the certificate completion rates were greater for Adult Learners than for non-awardees, but the differences were not statistically significant.

Combining all three cohorts showed similar results to the cohort-specific findings. The average certificate completion rate was also higher for Adult Learners (12 percent) than for non-awardees (7 percent), but the difference between the two rates was not significant (table 6 and appendix B, tables B12 and B14).

Adult Learners in Cohorts 1 and 2 combined were more likely than non-awardees to earn a bachelor's degree, but the difference was not significant.

Not enough time elapsed after Adult Learners reentered school to measure bachelor's degree outcomes for Cohorts 3 and 4. From previous analyses, we know that Adult Learners have higher bachelor's completion rates than do non-awardees, but the differences are not significant. Specifically, 28 percent of Adult Learners and just 19 percent of non-awardees from Cohort 1 earned a bachelor's degree, and 11 percent of Adult Learners and 9 percent of non-awardees from Cohort 2 earned a bachelor's degree (appendix B, tables B1, B2, and B16 through B18). When Cohort 1 and Cohort 2 are combined, the average for Adult Learners who completed a bachelor's degree was 18 percent and the average for the non-awardees was 13 percent (table 6). The difference was not statistically significant (appendix B, table B18).

Discussion

This evaluation of the KC Scholars Adult Learners program analyzed the degree to which receiving an Adult Learner award was associated with postsecondary persistence and completion. Findings of this year's evaluation largely mirror the findings of the evaluation team's prior evaluation. With regard to persistence through students' first year of academic study after reenrolling in college, this evaluation of Adult Learners had statistically higher rates of 1-year college persistence, both overall and within only the most recent Adult Learner cohort. Similarly, when averaged across all applicable Adult Learner cohorts (2017–2019 Cohorts), Adult Learners had statistically higher rates of persistence through their second year of academic study. Adult Learners also had statistically higher rates of associate's degree completion. This was consistently true when Cohorts 1, 2, and 3 were pooled together, regardless of model specification. There was some inconsistency across model specifications when looking only among Cohort 3 (2019 awardees) Adult Learners.

Corresponding with the previous year's evaluation, Adult Learners had higher rates of certificate and bachelor's degree completion, although these differences were not statistically significant at conventional levels. Importantly, this is not to suggest that the Adult Learner award does not have a positive impact on certificate or bachelor's degree attainment. In fact, raw differences in achievement across the two groups indicate that Adult Learners are more likely than non-awardees to attain certificates and bachelor's degrees.

APPENDIX A. METHODOLOGICAL DETAILS FOR THE TRADITIONAL SCHOLARSHIP IMPACT ANALYSIS

Population and Sample

The Traditional scholarship target population was defined as first-time postsecondary students who were enrolled in the 11th grade at the time of scholarship application and who intended to matriculate into one of the 17 regional postsecondary institutions in the fall immediately following high school graduation.

Three cohorts of Traditional applicants and awardees were examined: Cohort 1, corresponding to award cycle 2017; Cohort 2, corresponding to award cycle 2018; and Cohort 3, corresponding to award cycle 2019. The KC Scholars program made award determinations for each cohort by using a points-based system for ranking applications. Additionally, for Cohorts 2 and 3, awardees include recipients of institution-specific awards offered to applicants who scored just below the cutoff point for the Traditional scholarship. These students were offered an award to attend either the University of Missouri–Columbia (MU) or the University of Missouri–Kansas City (UMKC) rather than an award that could be applied to any one of the program's 17 network colleges or universities. Because the students who were offered an MU- or UMKC-specific scholarship completed the same Traditional scholarship application as all other applicants, for purposes of analysis in this evaluation they were included in the same applicant pool and awardee cohort as students who received a Traditional scholarship to attend one of the 17 partner colleges or universities. The analyses for Cohorts 2 and 3 used the lowest application score received by MU/UMKC awardees as the threshold for setting the cut score.

The KC Scholars program provided data for a combined 3,947 students across the three cohorts (1,050 for Cohort 1; 1,391 for Cohort 2; and 1,506 for Cohort 3). These students were identified for the impact analyses because they completed their applications, were assigned a final score by program administrators, and were subsequently offered an award or not. Students' application records were merged with postsecondary outcome data from the NSC, resulting in matches for 3,364 (or 85 percent) of the original sample of 3,947 students. The remaining 583 students (or 15 percent of the original sample) did not have a record of postsecondary attendance in NSC's StudentTracker database for the time examined, the period beginning when awardees would have first enrolled in college and continuing until the most recent NSC data was available at the time of the analysis.[4]

Methods

The evaluation team used a regression discontinuity design (RDD) to estimate impacts on seven outcomes: postsecondary enrollment, enrollment in a 4-year institution, enrollment in a 2-year institution, 1-year persistence, 2-year persistence, 3-year persistence, and completion. When properly implemented, the RDD produces unbiased causal estimates of program effects that approximate the

[4] The StudentTracker database contains term-by-term student-level enrollment records for more than 3,500 public and private colleges and universities (including all 17 KC Scholars partner institutions), covering over 98% of all U.S. postsecondary enrollments. If a student record is not found in the database, it is highly likely that the individual was not enrolled in the covered postsecondary institutions during the time defined by the search. One exception is when either the individual or their institution has issued a FERPA hold to prevent the disclosure of their educational record data. This was the case for seven of the 3,947 students included in the NSC request, resulting in a non-match for these students. It is also possible that administrative errors related to the recording of students' names or birth dates (including potential name changes) could result in a non-match.

conditions of a randomized controlled trial.[5] RDD is valid in this case because assignment to treatment status was determined by a points-based scoring system for ranking applicants, the applicants were unable to manipulate the scores in response to the ranking system, and the program was oversubscribed, meaning that there were more eligible applicants than scholarships to be awarded.

The evaluation team used the cut scores established by the KC Scholars program to group applicants who scored at or above the cutoff into the treatment condition, which consisted of individuals who were awarded a KC Scholars Traditional scholarship, irrespective of eventual award uptake. The analysis compared the average outcomes of this group with the average outcomes of the non-awardees (i.e., those who scored below the cutoff). This approach produced "intention-to-treat" (ITT) estimates, which preserved the original sample of applicants without limiting the treatment group to only those who used the award, thus reducing the potential for bias and improving the statistical power of the design.[6]

The postsecondary outcome data was prepared for analysis by creating indicators for postsecondary enrollment at four distinct time points: (1) fall 2018, defined as the period from August 1, 2018, through December 31, 2018; (2) fall 2019, defined as the period from August 1, 2019, through December 31, 2019; (3) fall 2020, defined as the period from August 1, 2020, through December 31, 2020; and (4) fall 2021, defined as the period from August 1, 2021, through December 31, 2021.

Close examination of the data indicated that defining the enrollment periods within these intervals ensured that students were correctly counted as having enrolled, even if the institution reported a start date later in the term. Using this approach, each indicator was further restricted to enrollment at one of the 17 KC Scholars partner postsecondary institutions. After merging KC Scholars application data with the formatted NSC data, each student was assigned an indicator for attaining the outcomes of postsecondary enrollment, enrollment in a 4-year institution, enrollment in a 2-year institution, 1-year persistence, 2-year persistence, 3-year persistence, and completion based on their individual cohort membership. For example, a student belonging to Cohort 1 (with an expected high school graduation of spring/summer 2018) was considered to have immediately enrolled in college if the NSC data indicated their enrollment was at one of the 17 partner institutions in fall 2018. The outcomes were defined as follows:

- **Postsecondary enrollment**: College enrollment at any of the 17 KC Scholars partner postsecondary institutions in the fall following expected on-time high school graduation
- **4-year institution**: College enrollment at one of the 4-year KC Scholars institutions in the fall following expected on-time high school graduation
- **2-year institution**: College enrollment at one of the 2-year KC Scholars institutions in the fall following expected on-time high school graduation
- **1-year persistence**: Reenrollment in the fall of the second year of college at any of the 17 KC Scholars institutions (i.e., fall-to-fall persistence)
- **2-year persistence**: Reenrollment in the fall of the third year of college at any of the 17 KC Scholars institutions (i.e., fall-to-fall-to-fall persistence)
- **3-Year Persistence**: Reenrollment in the fall of the fourth year of college at any of the 17 KC Scholars institutions (i.e., fall-to-fall-to-fall-to-fall persistence)
- **Completion**: Completion of a postsecondary program at any time since first entering postsecondary education

[5] Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal inference*. Houghton Mifflin.

[6] Ranganathan, P., Pramesh, C. S., & Aggarwal, R. (2016). Common pitfalls in statistical analysis: Intention-to-treat versus per-protocol analysis. *Perspectives in clinical research*, *7*(3), 144–146. https://doi.org/10.4103/2229-3485.184823

After merging the data and operationalizing the outcomes, the evaluation team verified the treatment status of each individual and the completeness of the data. Cases were included in the analyses if

- their treatment status conformed to the cut score requirements defined by the program (i.e., they were not identified as crossover cases, meaning students who should have been in the treatment group based on their score but were assigned to the comparison group or vice versa, which may occur due to exceptions in the program selection process or administrative errors),[7] and
- they had complete data on the outcome measures and the five demographic measures used as covariates (gender, race/ethnicity, first-generation status, EFC, and high school GPA).

With respect to the first criterion, of the 3,947 students for whom data were obtained, 88 students (2 percent of the original sample) were flagged as crossover cases across the three cohorts. Because these students constituted less than 5 percent of the sample and excluding them would not materially affect the impact estimates, they were removed from all subsequent analyses, consistent with the recommendations in the RDD literature for handling crossover cases.[8] This approach preserved the integrity of the "sharp" discontinuity needed to conduct the RDD analysis, which allowed the evaluation team to accurately estimate the RDD models. Figures A1, A2, and A3 confirm the presence of this sharp discontinuity in the data.

From the remaining sample of 3,859 students who were not identified as crossover cases, 76 students (2 percent of this sample) did not have complete data due to missing values on one or more of the variables. Consequently, these students were removed from the analyses because the RDD called for estimating the models based on a complete-cases framework.

After making these adjustments, the final analytic samples included 1,017 students in Cohort 1; 1,323 students in Cohort 2; and 1,443 students in Cohort 3. Baseline equivalence testing was conducted on these samples to determine the extent to which treatment and comparison students were different on observable characteristics. As expected, Traditional awardees and non-awardees differed significantly on characteristics such as the groups' racial/ethnic compositions, the proportion of first-generation students in each group, and the average EFC (tables A1 through A3 and A7 through A11). The results are consistent with the logic of how the program awards points to applicants in the application process. For example, compared with non-awardees, awardees would be expected to have lower EFCs and larger proportions of first-generation students because having these attributes translates into higher scores on the KC Scholars rubric.

However, according to RDD assumptions, these differences should disappear at smaller bandwidths around the cut score, such that students just below the cut score and students just above it differ only in their treatment status. The evaluation team conducted multiple iterations of these baseline equivalence statistics under different bandwidth restrictions and was able to verify that the differences observed in the full samples become less and less significant when those samples are restricted to students closer to the cut score (figures A5 through A10 and tables A4 through A6). This pattern increased the analysts' confidence that any observed effects from the impact models are due to the impact of a Traditional scholarship offer rather than to some other factor, such as an applicant's EFC. Although restricting the sample size in this manner minimizes the bias associated with the impact estimates, the trade-off is that it increases variance and reduces power such that it may be more difficult to detect a significant result.

[7] Shadish et al. (2002).

[8] Shadish et al. (2002).

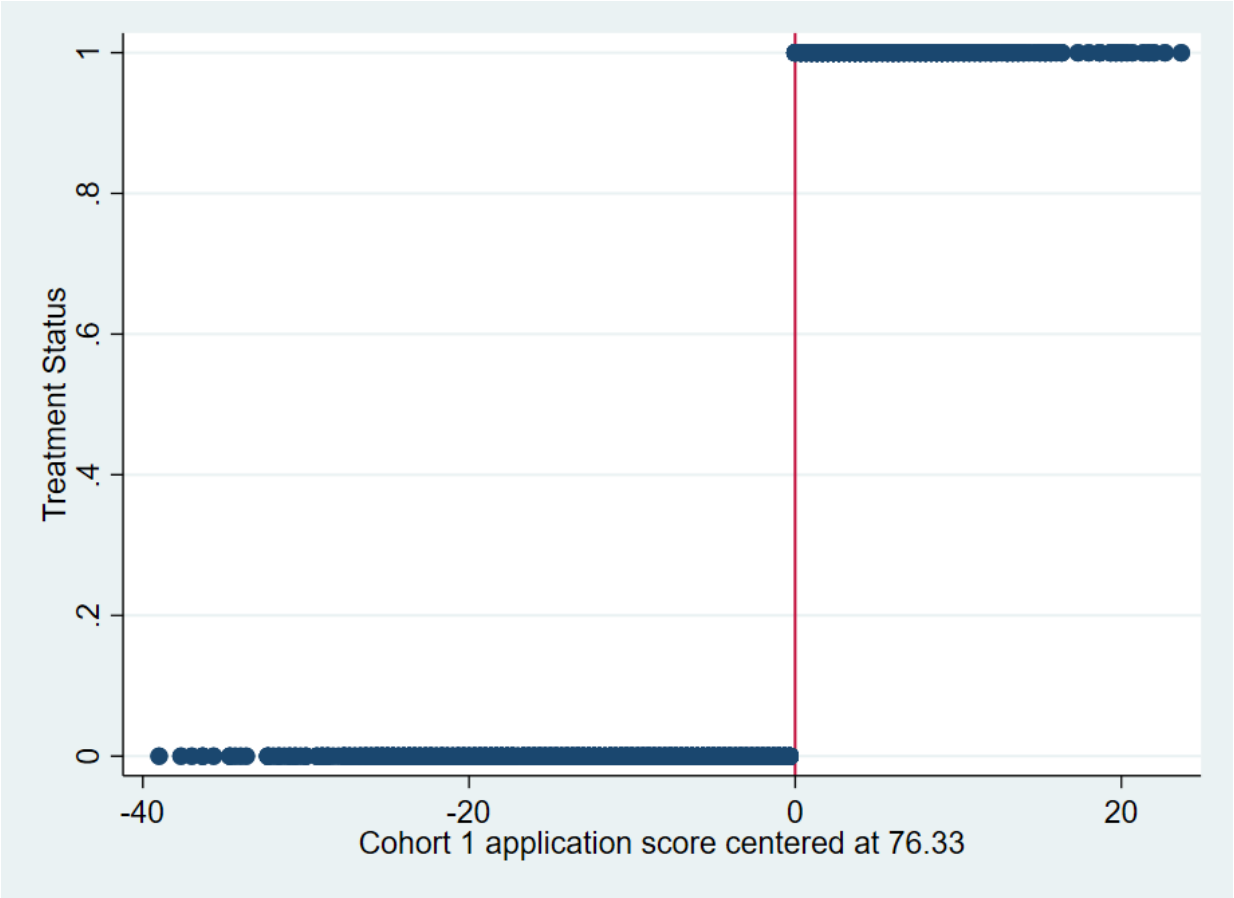
After confirming that the resulting analytic samples conformed to a sharp discontinuity, the evaluation team estimated a series of impact models for each outcome. Following best practices in the RDD literature,[9] the team tested a range of different bandwidth and model specifications in order to find the right balance of minimizing bias while maintaining a large enough sample size to estimate the treatment effect (tables A12 through A46). Because RDD produces valid estimates for the *marginal* student (i.e., the student right at the cut score), the evaluation team's final models focused on bandwidths that were sufficiently close to the threshold, then multiplied each bandwidth by a factor of 2 to achieve a broader sample with more observations (and thus more variation). The inclusion of covariates for students' race/ethnicity, gender, EFC, first-generation status, and high school GPA was intended to mitigate any additional bias resulting from increasing the bandwidth by controlling for those characteristics in the impact estimations. Following the precedent set in the previous evaluation of the program, the evaluation team used a bandwidth multiple of 2 and robust standard errors and *p*-values when estimating treatment effects, which results in more conversative estimates of statistical significance and is an appropriate use of the RDD models.[10]

Consequently, the final results reflect an estimation strategy that sought to minimize bias and produce accurate estimates of the local average treatment effect. Under such conditions, significant results can be reasonably attributed to the effect of receiving a Traditional scholarship offer. By contrast, insignificant results, even if seemingly large in magnitude, indicate that any observed differences between awardees and non-awardees could be driven by factors other than selection into the program.

[9] Jacob, R., Zhu, P., Somers, M., & Bloom, H. (2012). *A practical guide to regression discontinuity*. MDRC; Cattaneo, M. D., Idrobo, N., & Titiunik, R. (2019). *A practical introduction to regression discontinuity designs: Foundations*. Cambridge University Press; Goodman, J., Melkers, J., & Pallais, A. (2019). Can online delivery increase access to education? *Journal of Labor Economics*, *37*(1), 1–34.

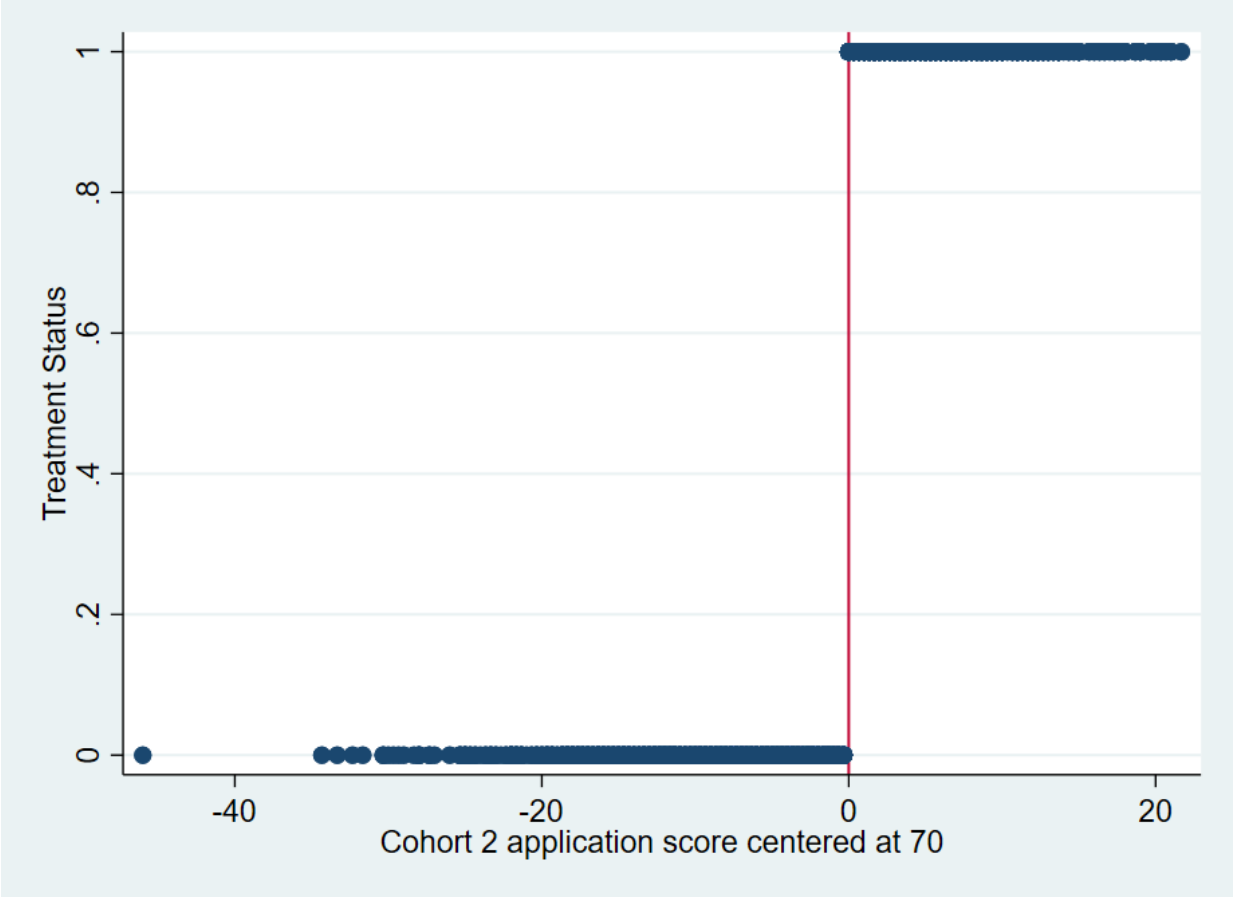
[10] Cattaneo et al. (2019).

Figure A1
The Treatment Statuses of Students in Cohort 1 Conform to a Sharp Discontinuity



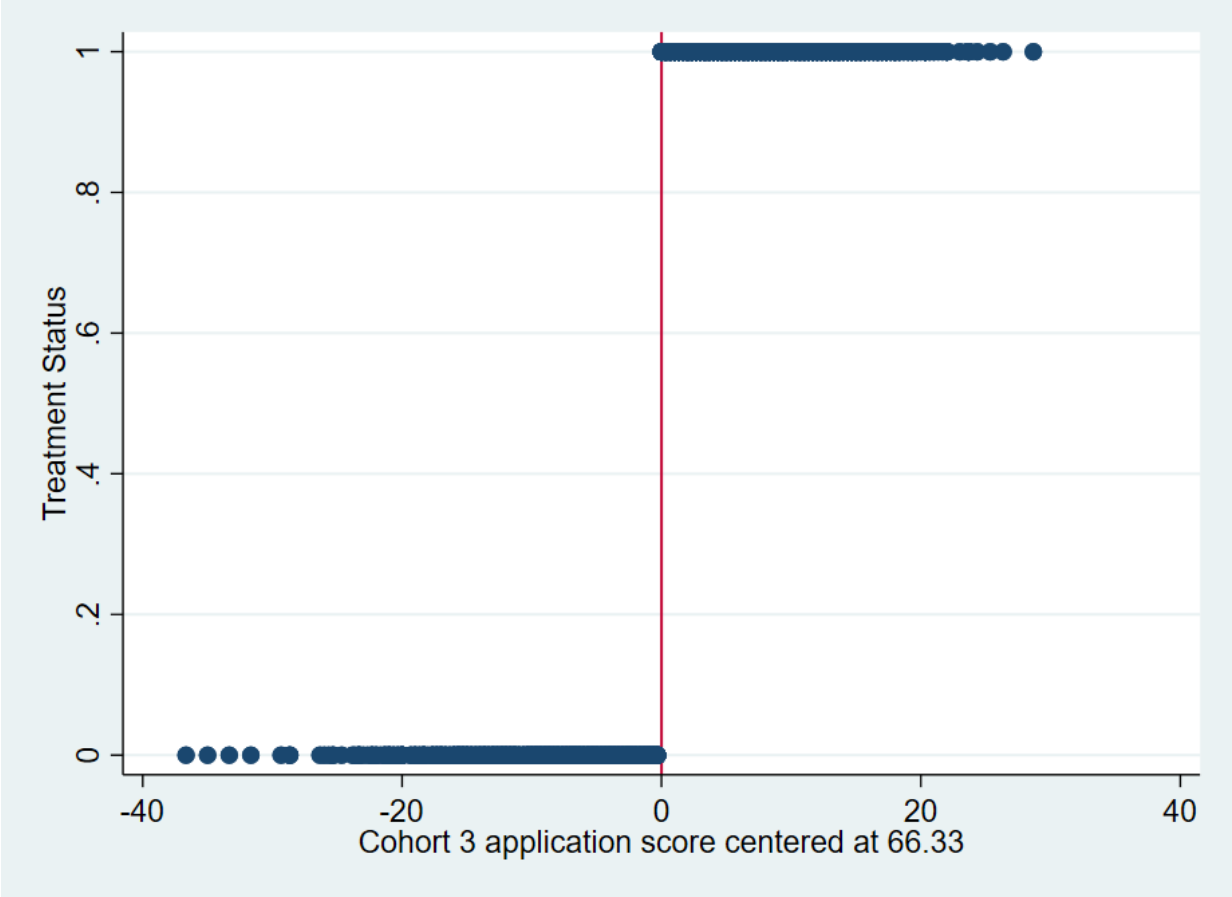
Note. This figure shows that Cohort 1 students who scored below the 2017 award cycle cut score of 76.33 were all assigned to the comparison, or non-awardee, group and that students who scored at or above the cut score were all assigned to the treatment, or awardee, group. The x-axis plots the applicants' scores in terms of the distance from the cut score, with a positive value indicating a score above the cut score and a negative value indicating a score below the cut score. The y-axis plots the applicants' awardee status as a dichotomous variable, where 1 indicates membership in the treatment group and 0 indicates membership in the comparison group.

Figure A2
The Treatment Statuses of Students in Cohort 2 Conform to a Sharp Discontinuity



Note. This figure shows that Cohort 2 students who scored below the 2018 award cycle cut score of 70 were all assigned to the comparison, or non-awardee, group and that students who scored at or above the cut score were all assigned to the treatment, or awardee, group. The x-axis plots the applicants' scores in terms of the distance from the cut score, with a positive value indicating a score above the cut score and a negative value indicating a score below the cut score. The y-axis plots the applicants' awardee status as a dichotomous variable, where 1 indicates membership in the treatment group and 0 indicates membership in the comparison group.

Figure A3
The Treatment Statuses of Students in Cohort 3 Conform to a Sharp Discontinuity



Note. This figure shows that Cohort 3 students who scored below the 2019 award cycle cut score of 66.33 were all assigned to the comparison, or non-awardee, group and that students who scored at or above the cut score were all assigned to the treatment, or awardee, group. The x-axis plots the applicants' scores in terms of the distance from the cut score, with a positive value indicating a score above the cut score and a negative value indicating a score below the cut score. The y-axis plots the applicants' awardee status as a dichotomous variable, where 1 indicates membership in the treatment group and 0 indicates membership in the comparison group.

TABLE A1

Baseline Equivalence Results for the Full Impact Analysis Samples, Cohort 1

Characteristic	Non-awardee Mean	Non-awardee Std. Dev.	Non-awardee *N*	Awardee Mean	Awardee Std. Dev.	Awardee *N*	Mean Difference	*p*-value	Effect Size (Hedges' g)
White, not Hispanic	0.32	0.47	739	0.24	0.43	278	–0.08	0.01	0.19
Black/African American	0.29	0.45	739	0.24	0.43	278	–0.05	0.11	0.11
Hispanic/Latino	0.22	0.42	739	0.35	0.48	278	0.13	0.00	–0.29
Asian	0.09	0.28	739	0.12	0.33	278	0.03	0.10	–0.12
Other	0.08	0.26	739	0.05	0.22	278	–0.03	0.15	0.10
Male	0.32	0.47	739	0.27	0.45	278	–0.04	0.18	0.09
Parent without 4-year degree	0.65	0.48	739	0.83	0.38	278	0.19	0.00	–0.41
Expected family contribution	3,221	3,731	739	1,110	2,004	278	–2,111	0.00	0.63
High school GPA	3.31	0.45	739	3.61	0.36	278	0.30	0.00	–0.69

Note. Mean figures are in proportions, with the exception of Expected Family Contribution, which is in dollars, and High School GPA, which is in grade points.

TABLE A2

Baseline Equivalence Results for the Full Impact Analysis Samples, Cohort 2

Characteristic	Non-awardee Mean	Non-awardee Std. Dev.	Non-awardee *N*	Awardee Mean	Awardee Std. Dev.	Awardee *N*	Mean Difference	*p*-value	Effect Size (Hedges' g)
White, not Hispanic	0.33	0.47	777	0.31	0.46	546	–0.01	0.63	0.03
Black/African American	0.28	0.45	777	0.24	0.43	546	–0.04	0.12	0.09
Hispanic/Latino	0.28	0.45	777	0.28	0.45	546	0.00	0.96	–0.00
Asian	0.06	0.24	777	0.11	0.31	546	0.05	0.00	–0.17
Other	0.06	0.24	777	0.06	0.25	546	0.00	0.79	–0.01
Male	0.38	0.49	777	0.25	0.44	546	–0.12	0.00	0.27
Parent without 4-year degree	0.64	0.48	777	0.79	0.41	546	0.15	0.00	–0.34
Expected family contribution	2,823	3,610	777	1,186	2,334	546	–1,637	0.00	0.52
High school GPA	3.28	0.43	777	3.67	0.30	546	0.39	0.00	–1.03

Note. Mean figures are in proportions, with the exception of Expected Family Contribution, which is in dollars, and High School GPA, which is in grade points.

TABLE A3

Baseline Equivalence Results for the Full Impact Analysis Samples, Cohort 3

Characteristic	Non-awardee Mean	Non-awardee Std. Dev.	Non-awardee *N*	Awardee Mean	Awardee Std. Dev.	Awardee *N*	Mean Difference	*p*-value	Effect Size (Hedges' g)
White, not Hispanic	0.29	0.45	665	0.27	0.45	778	–0.02	0.53	0.03
Black/African American	0.32	0.47	665	0.25	0.43	778	–0.07	0.00	0.15
Hispanic/Latino	0.26	0.41	665	0.30	0.46	778	0.08	0.00	–0.19
Asian	0.07	0.25	665	0.10	0.30	778	0.03	0.05	–0.10
Other	0.11	0.31	665	0.08	0.27	778	–0.03	0.08	0.09
Male	0.37	0.48	665	0.26	0.44	778	–0.12	0.00	0.26
Parent without 4-year degree	0.63	0.48	665	0.80	0.40	778	0.17	0.00	–0.39
Expected family contribution	3,621	5,973	665	2,608	26,933	778	–1,013	0.342	0.050
High school GPA	3.194	0.434	665	3.603	0.332	778	0.409	0.000	–1.070

Note. Mean figures are in proportions, with the exception of Expected Family Contribution, which is in dollars, and High School GPA, which is in grade points.

TABLE A4

Baseline Equivalence Results for the Restricted Samples of Students with Application Scores +/–1 Point Around the Cut Score, Cohort 1

Characteristic	Non-awardee mean	Non-awardee std. dev.	Non-awardee *N*	Awardee mean	Awardee std. dev.	Awardee *N*	Mean difference	*p*-value	Effect size (Hedges' g)
White, not Hispanic	0.24	0.43	46	0.29	0.46	21	0.05	0.69	–0.10
Black/African American	0.24	0.43	46	0.33	0.48	21	0.09	0.43	–0.21
Hispanic/Latino	0.17	0.38	46	0.14	0.36	21	–0.03	0.75	0.08
Asian	0.20	0.40	46	0.10	0.30	21	–0.10	0.31	0.27
Other	0.15	0.36	46	0.14	0.36	21	–0.01	0.92	0.03
Male	0.26	0.44	46	0.29	0.46	21	0.02	0.83	–0.05
Parent Without 4-Year Degree	0.74	0.44	46	0.71	0.46	21	–0.02	0.83	0.05
Expected Family Contribution	1,082	1,668	46	1,274	2,383	21	191	0.71	–0.10
High School GPA	3.55	0.37	46	3.56	0.37	21	0.01	0.88	–0.04

Note. Mean figures are in proportions, with the exception of Expected Family Contribution, which is in dollars, and High School GPA, which is in grade points.

TABLE A5

Baseline Equivalence Results for the Restricted Samples of Students with Application Scores +/–1 Point Around the Cut Score, Cohort 2

Characteristic	Non-awardee mean	Non-awardee std. dev.	Non-awardee *N*	Awardee mean	Awardee std. dev.	Awardee *N*	Mean difference	*p*-value	Effect size (Hedges' g)
White, not Hispanic	0.23	0.43	47	0.46	0.50	46	0.22	0.02	–0.47
Black/African American	0.23	0.43	47	0.20	0.40	46	–0.04	0.66	0.09
Hispanic/Latino	0.40	0.50	47	0.20	0.40	46	–0.21	0.03	0.46
Asian	0.04	0.20	47	0.13	0.34	46	0.09	0.13	–0.31
Other	0.09	0.28	47	0.02	0.15	46	-0.06	0.18	0.28
Male	0.34	0.48	47	0.37	0.49	46	0.03	0.77	–0.06
Parent Without 4-Year Degree	0.85	0.36	47	0.61	0.49	46	–0.24	0.01	0.56
Expected Family Contribution	1,445	2,013	47	1,791	2,957	46	346	0.51	–0.14
High School GPA	3.46	0.43	47	3.60	0.34	46	0.14	0.09	–0.35

Note. Mean figures are in proportions, with the exception of Expected Family Contribution, which is in dollars, and High School GPA, which is in grade points.

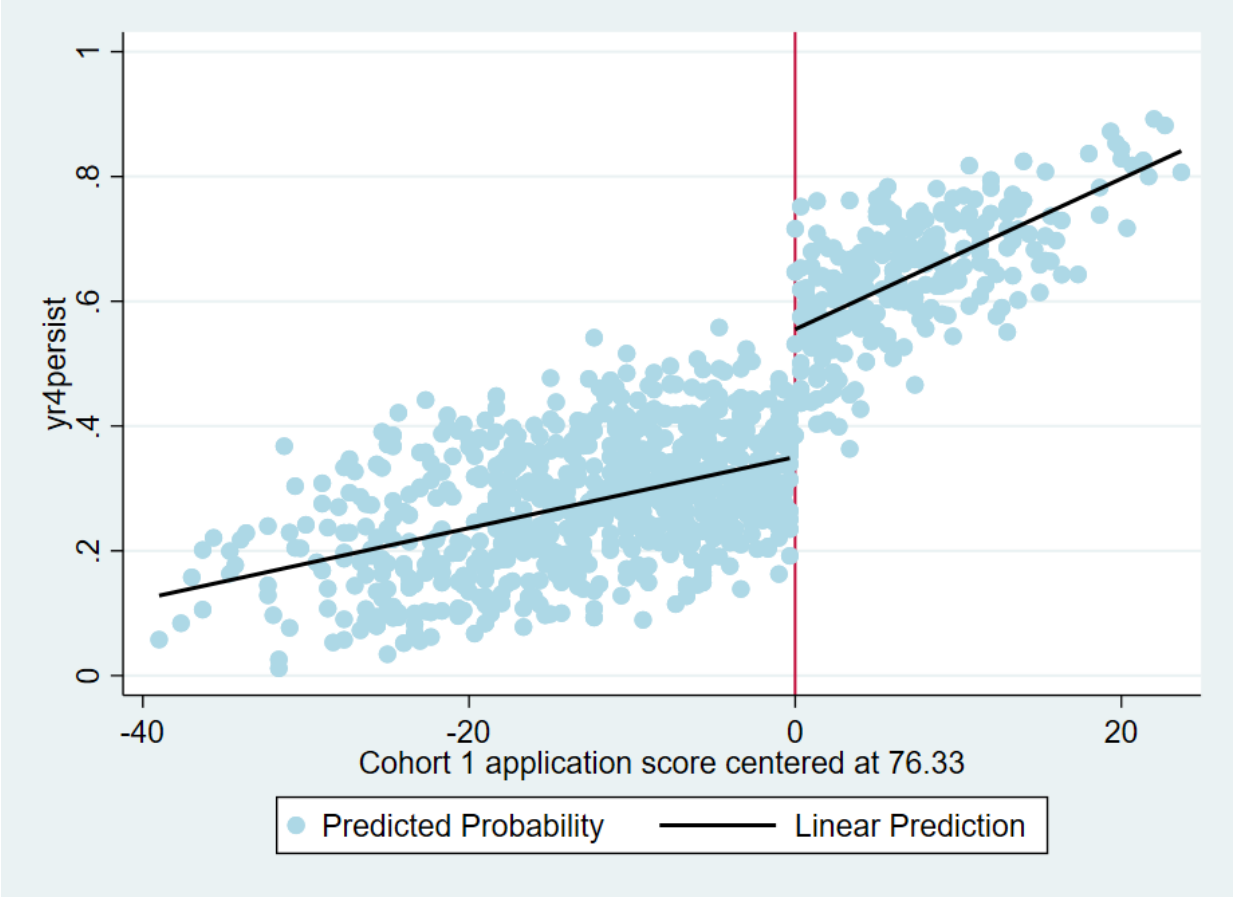
TABLE A6

Baseline Equivalence Results for the Restricted Samples of Students with Application Scores +/–1 Point Around the Cut Score, Cohort 3

Characteristic	Non-awardee mean	Non-awardee std. dev.	Non-awardee *N*	Awardee mean	Awardee std. dev.	Awardee *N*	Mean difference	*p*-value	Effect size (Hedges' g)
White, not Hispanic	0.39	0.492	54	0.313	0.468	48	-0.076	0.425	0.158
Black/African American	0.296	0.461	54	0.292	0.459	48	-0.005	0.960	0.010
Hispanic/Latino	0.241	0.432	54	0.208	0.410	48	-0.032	0.699	0.076
Asian	0.019	0.136	54	0.104	0.309	48	0.086	0.068	–0.364
Other	0.056	0.231	54	0.083	0.279	48	0.028	0.584	–0.108
Male	0.333	0.476	54	0.333	0.476	48	0.000	1.000	0.000
Parent Without 4-Year Degree	0.593	0.496	54	0.542	0.504	48	–0.051	0.608	0.101
Expected Family Contribution	2,177	3,749	54	2,438	3,935	48	261	0.733	–0.067
High School GPA	3.381	0.378	54	3.588	0.308	48	0.206	0.003	–0.589

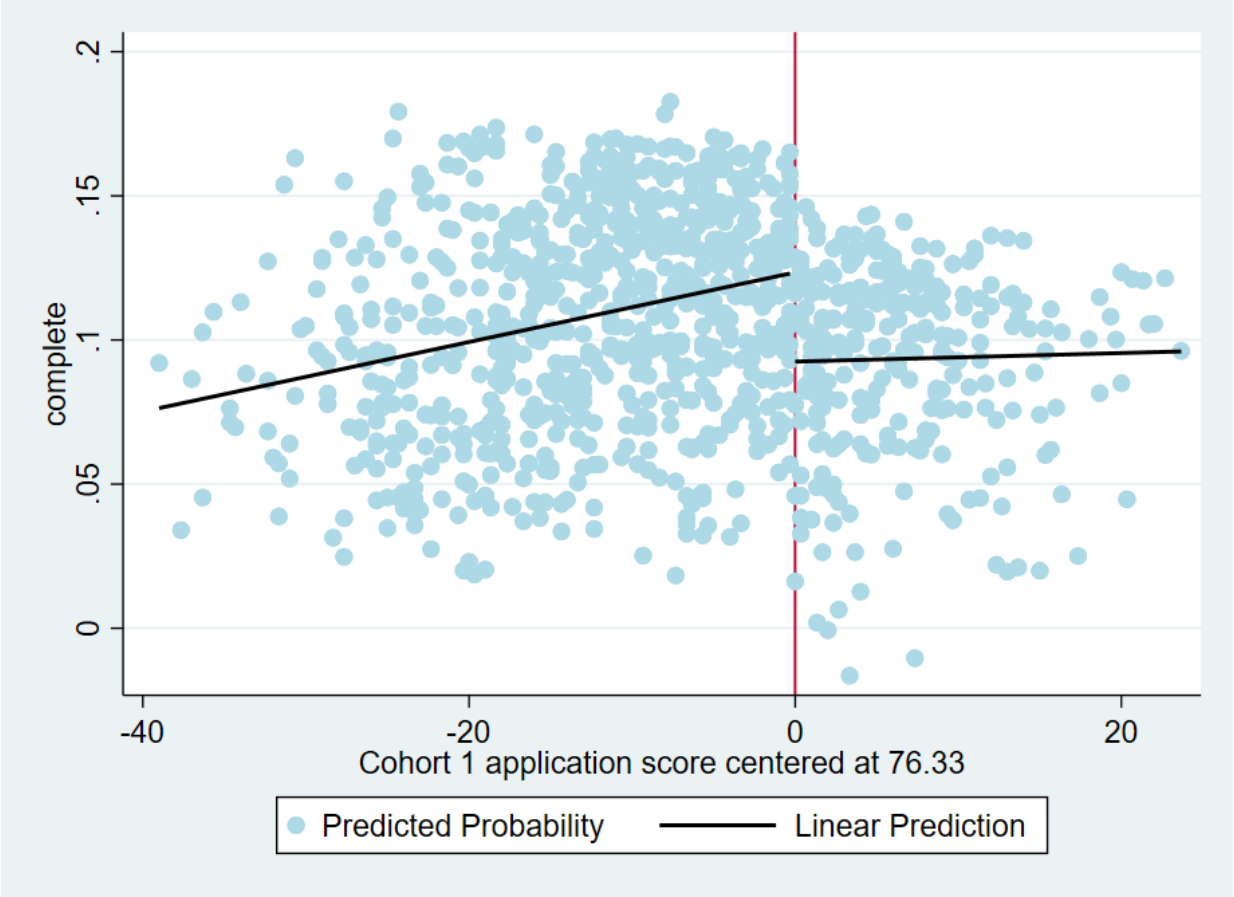
Note. Mean figures are in proportions, with the exception of Expected Family Contribution, which is in dollars, and High School GPA, which is in grade points.

Figure A4
Visual Evidence of a Discontinuity at the Cut Score for the Outcome of 3-Year Persistence (Cohort 1, Full Sample)



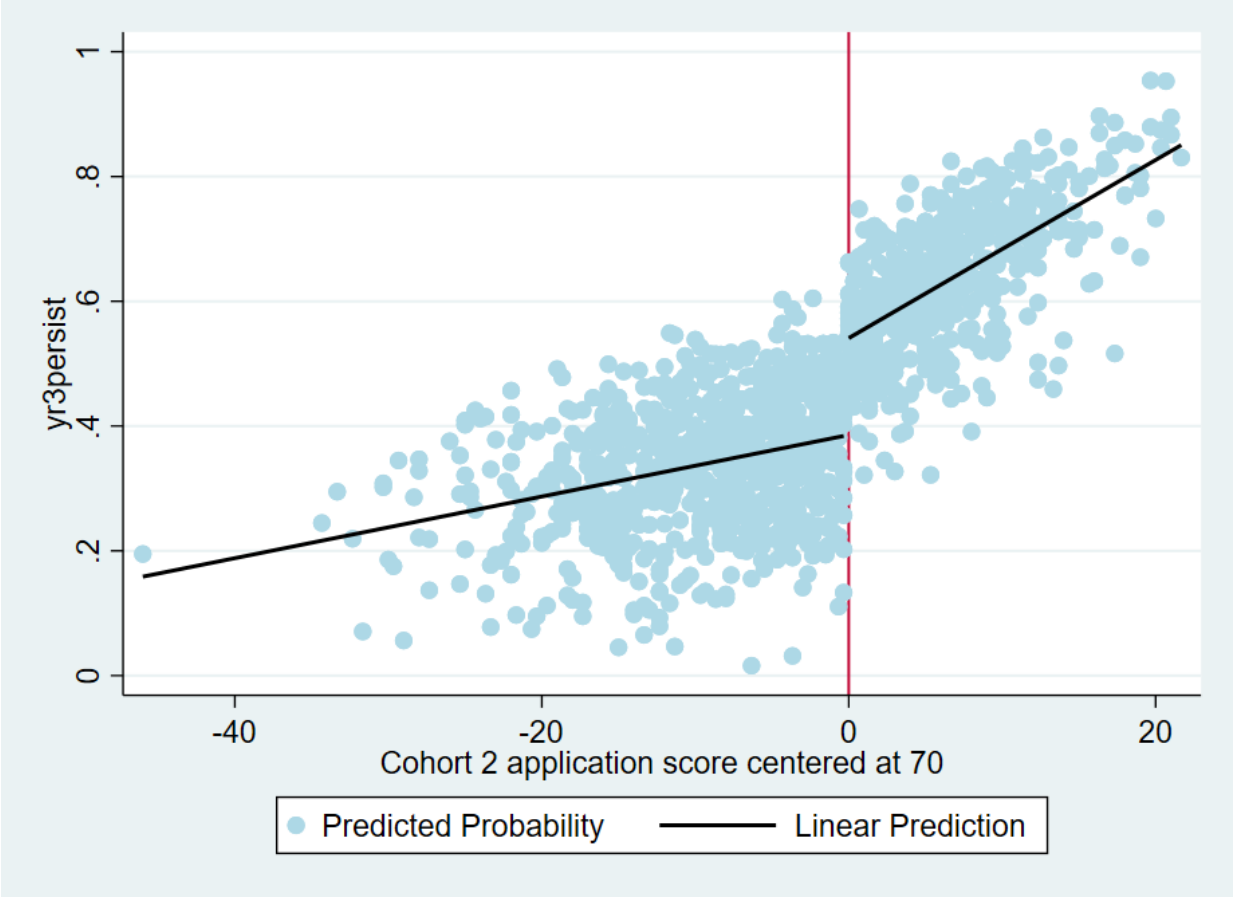
Note. This figure plots the predicted probabilities obtained from a regression discontinuity model estimated on the full sample of Cohort 1 students for the outcome of 3-year persistence, prior to testing the sensitivity of the estimates at smaller bandwidths. The underlying model estimates the probability of achieving the outcome, adjusting for race/ethnicity, gender, first-generation status, EFC, and high school GPA. The x-axis plots applicants' scores in terms of the distance from the cut score. The y-axis plots the predicted probabilities obtained from the model.

Figure A5
Visual Evidence of a Discontinuity at the Cut Score for the Outcome of Completion (Cohort 1, Full Sample)



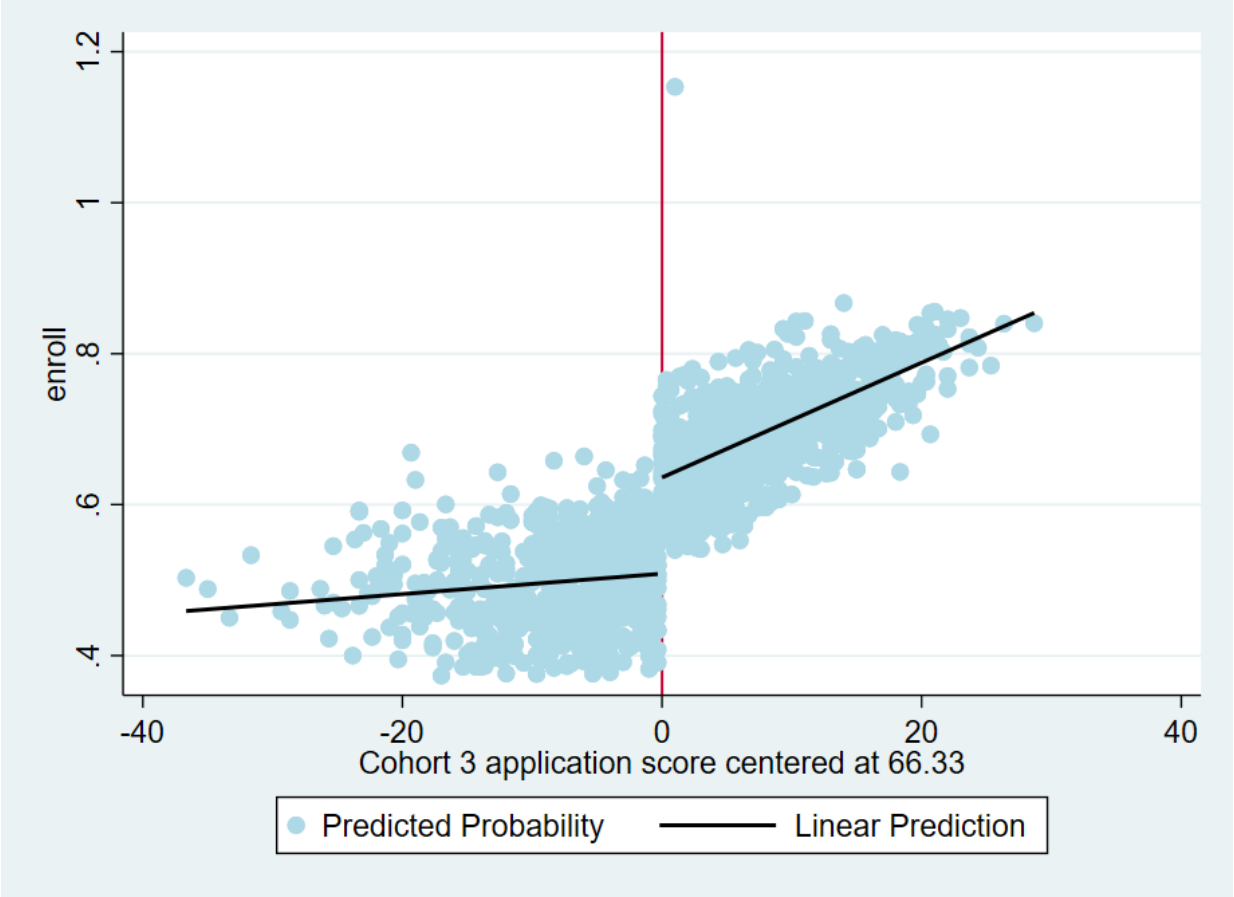
Note. This figure plots the predicted probabilities obtained from a regression discontinuity model estimated on the full sample of Cohort 1 students for the outcome of completion, prior to testing the sensitivity of the estimates at smaller bandwidths. The underlying model estimates the probability of achieving the outcome, adjusting for race/ethnicity, gender, first-generation status, EFC, and high school GPA. The x-axis plots applicants' scores in terms of the distance from the cut score. The y-axis plots the predicted probabilities obtained from the model.

Figure A6
Visual Evidence of a Discontinuity at the Cut Score for the Outcome of 2-Year Persistence (Cohort 2, Full Sample)



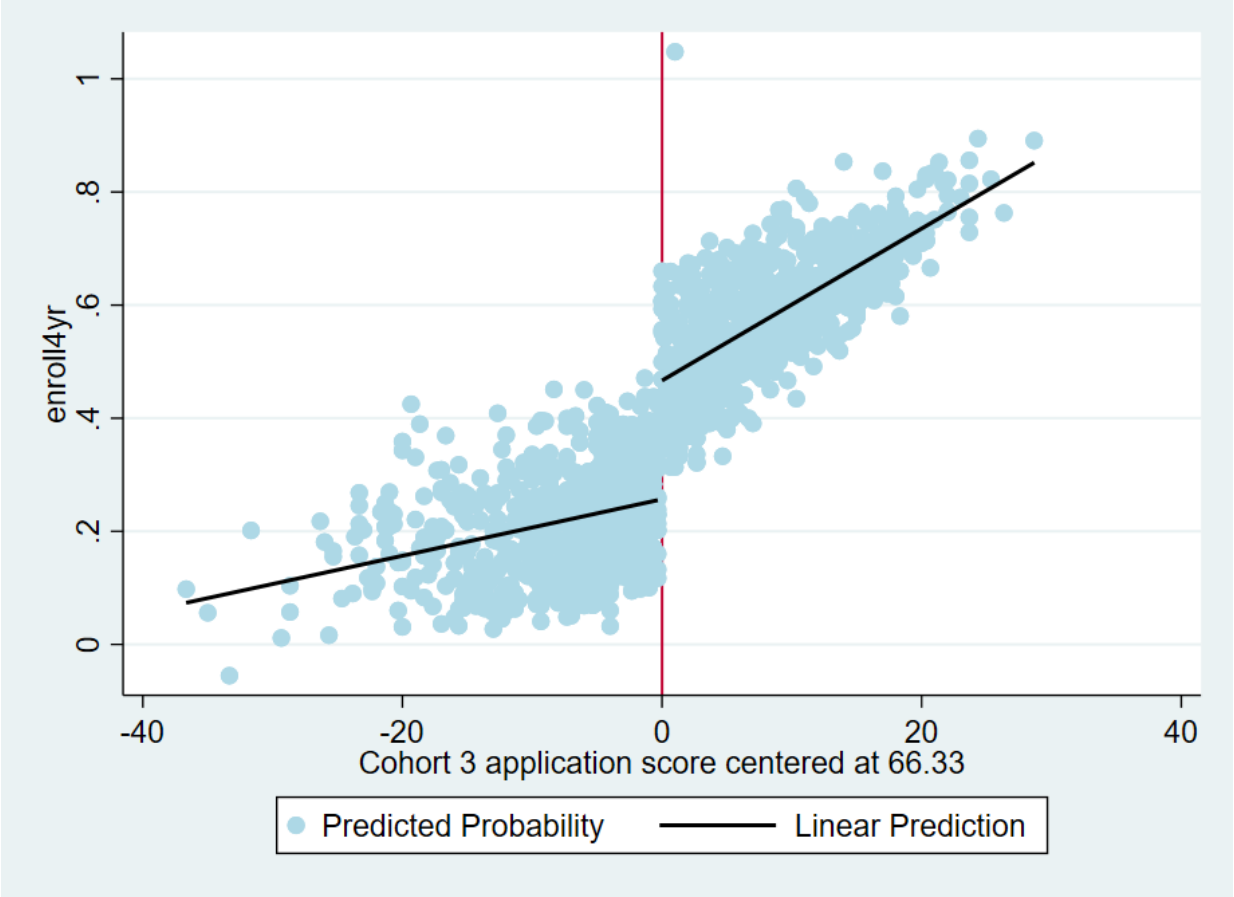
Note. This figure plots the predicted probabilities obtained from a regression discontinuity model estimated on the full sample of Cohort 2 students for the outcome of 2-year persistence, prior to testing the sensitivity of the estimates at smaller bandwidths. The underlying model estimates the probability of achieving the outcome, adjusting for race/ethnicity, gender, first-generation status, EFC, and high school GPA. The x-axis plots applicants' scores in terms of the distance from the cut score. The y-axis plots the predicted probabilities obtained from the model.

Figure A7
Visual Evidence of a Discontinuity at the Cut Score for the Outcome of Enrollment (Cohort 3, Full Sample)



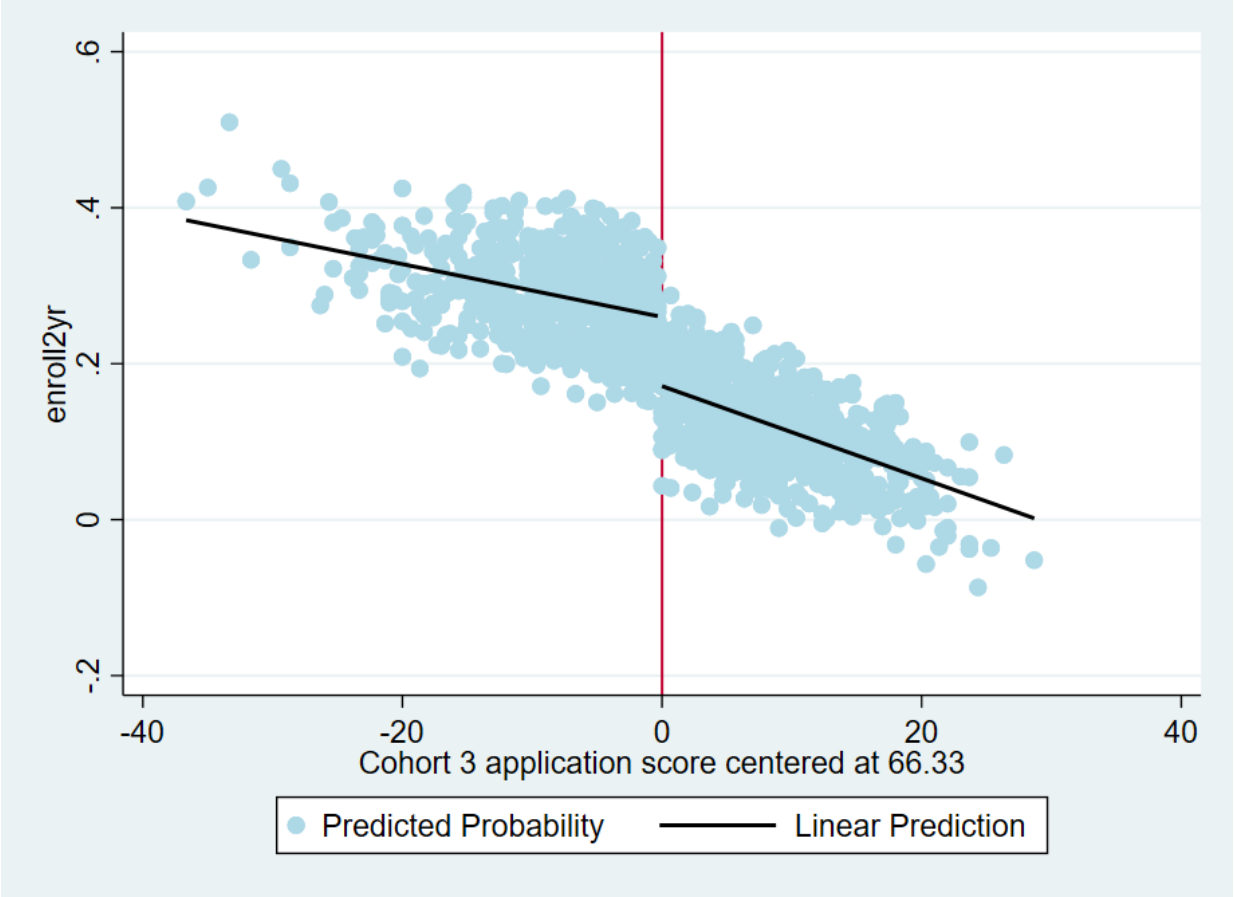
Note. This figure plots the predicted probabilities obtained from a regression discontinuity model estimated on the full sample of Cohort 3 students for the outcome of enrollment, prior to testing the sensitivity of the estimates at smaller bandwidths. The underlying model estimates the probability of achieving the outcome adjusting for race/ethnicity, gender, first-generation status, EFC, and high school GPA. The x-axis plots applicants' scores in terms of the distance from the cut score. The y-axis plots the predicted probabilities obtained from the model.

Figure A8
Visual Evidence of a Discontinuity at the Cut Score for the Outcome of 3-Year Enrollment (Cohort 3, Full Sample)



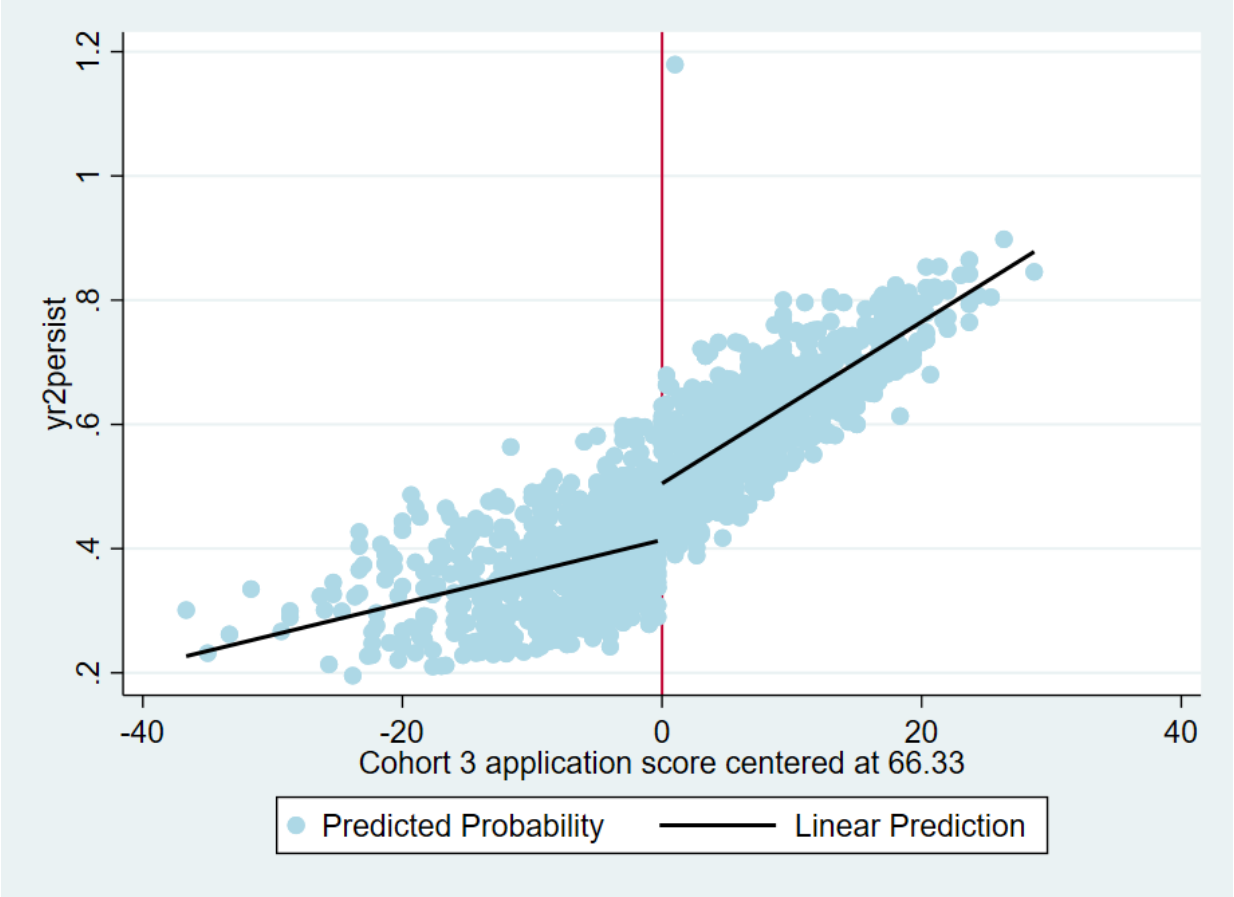
Note. This figure plots the predicted probabilities obtained from a regression discontinuity model estimated on the full sample of Cohort 3 students for the outcome of 4-year enrollment, prior to testing the sensitivity of the estimates at smaller bandwidths. The underlying model estimates the probability of achieving the outcome adjusting for race/ethnicity, gender, first-generation status, EFC, and high school GPA. The x-axis plots applicants' scores in terms of the distance from the cut score. The y-axis plots the predicted probabilities obtained from the model.

Figure A9
Visual Evidence of a Discontinuity at the Cut Score for the Outcome of 2-Year Enrollment (Cohort 3, Full Sample)



Note. This figure plots the predicted probabilities obtained from a regression discontinuity model estimated on the full sample of Cohort 3 students for the outcome of 2-year enrollment, prior to testing the sensitivity of the estimates at smaller bandwidths. The underlying model estimates the probability of achieving the outcome adjusting for race/ethnicity, gender, first-generation status, EFC, and high school GPA. The x-axis plots applicants' scores in terms of the distance from the cut score. The y-axis plots the predicted probabilities obtained from the model.

Figure A10
Visual Evidence of a Discontinuity at the Cut Score for the Outcome of 2-Year Persistence (Cohort 3, Full Sample)



Note. This figure plots the predicted probabilities obtained from a regression discontinuity model estimated on the full sample of Cohort 3 students for the outcome of 2-year persistence, prior to testing the sensitivity of the estimates at smaller bandwidths. The underlying model estimates the probability of achieving the outcome adjusting for race/ethnicity, gender, first-generation status, EFC, and high school GPA. The x-axis plots applicants' scores in terms of the distance from the cut score. The y-axis plots the predicted probabilities obtained from the model.

TABLE A7

Descriptive Statistics for the Outcomes of Postsecondary Enrollment, Persistence, and Completion, by Cohort: All Students

Outcome	Cohort 1 Non-Awardees	Cohort 1 Awardees	Cohort 2 Non-Awardees	Cohort 2 Awardees	Cohort 3 Non-Awardees	Cohort 3 Awardees
Enrollment	0.58 (0.49)	0.82 (0.39)	0.55 (0.50)	0.81 (0.40)	0.50 (0.50)	0.70 (0.46)
2-Year Enrollment	0.27 (0.44)	0.06 (0.25)	0.27 (0.45)	0.10 (0.31)	0.29 (0.45)	0.12 (0.33)
4-Year Enrollment	0.32 (0.47)	0.75 (0.43)	0.28 (0.45)	0.70 (0.46)	0.22 (0.41)	0.58 (0.49)
1-Year Persistence	0.48 (0.50)	0.77 (0.42)	0.43 (0.50)	0.72 (0.45)	0.37 (0.48)	0.61 (0.49)
2-Year Persistence	0.36 (0.48)	0.70 (0.46)	0.34 (0.47)	0.63 (0.48)	—	—
3-Year Persistence	0.28 (0.45)	0.64 (0.48)	—	—	—	—
Completion	0.11 (0.31)	0.09 (0.29)	—	—	—	—

Note. Estimates are the unadjusted group means for each cohort–outcome combination; standard deviations are in parentheses beneath each estimate. Cells marked "—" indicate that the outcome was not estimated for the given cohort–outcome combination. For example, the outcome of completion was estimated only for Cohort 1.

TABLE A8

Descriptive Statistics for the Outcomes of Postsecondary Enrollment, Persistence, and Completion, by Cohort: Black/African American Students

Outcome	Cohort 1 Non-Awardees	Cohort 1 Awardees	Cohort 2 Non-Awardees	Cohort 2 Awardees	Cohort 3 Non-Awardees	Cohort 3 Awardees
Enrollment	0.51 (0.50)	0.78 (0.42)	0.46 (0.50)	0.76 (0.43)	0.43 (0.50)	0.67 (0.47)
2-Year Enrollment	0.23 (0.42)	0.06 (0.24)	0.19 (0.39)	0.08 (0.27)	0.24 (0.43)	0.09 (0.29)
4-Year Enrollment	0.28 (0.45)	0.72 (0.45)	0.27 (0.45)	0.69 (0.47)	0.20 (0.40)	0.59 (0.49)
1-Year Persistence	0.42 (0.49)	0.73 (0.45)	0.34 (0.48)	0.65 (0.48)	0.32 (0.47)	0.59 (0.49)
2-Year Persistence	0.27 (0.45)	0.66 (0.48)	0.27 (0.45)	0.60 (0.49)	—	—
3-Year Persistence	0.21 (0.41)	0.58 (0.50)	—	—	—	—
Completion	0.07 (0.26)	0.09 (0.29)	—	—	—	—

Note. Estimates are the unadjusted group means for each cohort–outcome combination; standard deviations are in parentheses beneath each estimate. Cells marked "—" indicate that the outcome was not estimated for the given cohort–outcome combination. For example, the outcome of completion was estimated only for Cohort 1.

TABLE A9

Descriptive Statistics for the Outcomes of Postsecondary Enrollment, Persistence, and Completion, by Cohort: First-Generation Students

Outcome	Cohort 1 Non-Awardees	Cohort 1 Awardees	Cohort 2 Non-Awardees	Cohort 2 Awardees	Cohort 3 Non-Awardees	Cohort 3 Awardees
Enrollment	0.58 (0.49)	0.84 (0.37)	0.55 (0.50)	0.83 (0.38)	0.46 (0.50)	0.70 (0.46)
2-Year Enrollment	0.29 (0.45)	0.08 (0.27)	0.30 (0.46)	0.12 (0.33)	0.30 (0.46)	0.13 (0.34)
4-Year Enrollment	0.30 (0.46)	0.76 (0.43)	0.26 (0.44)	0.71 (0.45)	0.16 (0.37)	0.57 (0.50)
1-Year Persistence	0.47 (0.50)	0.78 (0.41)	0.41 (0.49)	0.74 (0.44)	0.32 (0.47)	0.61 (0.49)
2-Year Persistence	0.33 (0.47)	0.71 (0.45)	0.31 (0.46)	0.63 (0.48)	—	—
3-Year Persistence	0.24 (0.43)	0.65 (0.48)	—	—	—	—
Completion	0.10 (0.30)	0.10 (0.29)	—	—	—	—

Note. Estimates are the unadjusted group means for each cohort–outcome combination; standard deviations are in parentheses beneath each estimate. Cells marked "—" indicate that the outcome was not estimated for the given cohort–outcome combination. For example, the outcome of completion was estimated only for Cohort 1.

TABLE A10

Descriptive Statistics for the Outcomes of Postsecondary Enrollment, Persistence, and Completion, by Cohort: Hispanic/Latino Students

Outcome	Cohort 1 Non-Awardees	Cohort 1 Awardees	Cohort 2 Non-Awardees	Cohort 2 Awardees	Cohort 3 Non-Awardees	Cohort 3 Awardees
Enrollment	0.65 (0.48)	0.87 (0.34)	0.65 (0.48)	0.84 (0.37)	0.54 (0.50)	0.71 (0.45)
2-Year Enrollment	0.34 (0.48)	0.08 (0.28)	0.36 (0.48)	0.12 (0.33)	0.34 (0.47)	0.14 (0.35)
4-Year Enrollment	0.31 (0.46)	0.78 (0.41)	0.29 (0.46)	0.72 (0.45)	0.20 (0.40)	0.57 (0.50)
1-Year Persistence	0.49 (0.50)	0.81 (0.39)	0.50 (0.50)	0.77 (0.42)	0.39 (0.49)	0.63 (0.48)
2-Year Persistence	0.33 (0.47)	0.73 (0.45)	0.37 (0.48)	0.61 (0.49)	—	—
3-Year Persistence	0.24 (0.43)	0.69 (0.47)	—	—	—	—
Completion	0.12 (0.33)	0.10 (0.31)	—	—	—	—

Note. Estimates are the unadjusted group means for each cohort–outcome combination; standard deviations are in parentheses beneath each estimate. Cells marked "—" indicate that the outcome was not estimated for the given cohort–outcome combination. For example, the outcome of completion was estimated only for Cohort 1.

TABLE A11

Descriptive Statistics for the Outcomes of Postsecondary Enrollment, Persistence, and Completion, by Cohort: Male Students

Outcome	Cohort 1 Non-Awardees	Cohort 1 Awardees	Cohort 2 Non-Awardees	Cohort 2 Awardees	Cohort 3 Non-Awardees	Cohort 3 Awardees
Enrollment	0.56 (0.50)	0.76 (0.43)	0.53 (0.50)	0.73 (0.44)	0.50 (0.50)	0.73 (0.45)
2-Year Enrollment	0.25 (0.44)	0.08 (0.27)	0.24 (0.43)	0.09 (0.28)	0.24 (0.43)	0.12 (0.32)
4-Year Enrollment	0.31 (0.46)	0.68 (0.47)	0.29 (0.45)	0.65 (0.48)	0.26 (0.44)	0.61 (0.49)
1-Year Persistence	0.45 (0.50)	0.68 (0.47)	0.40 (0.49)	0.64 (0.48)	0.35 (0.48)	0.64 (0.48)
2-Year Persistence	0.36 (0.48)	0.62 (0.49)	0.30 (0.46)	0.56 (0.50)	—	—
3-Year Persistence	0.30 (0.46)	0.57 (0.50)	—	—	—	—
Completion	0.09 (0.29)	0.11 (0.31)	—	—	—	—

Note. Estimates are the unadjusted group means for each cohort–outcome combination; standard deviations are in parentheses beneath each estimate. Cells marked "—" indicate that the outcome was not estimated for the given cohort–outcome combination. For example, the outcome of completion was estimated only for Cohort 1.

TABLE A12

Effect of Traditional Scholarship Awards on 3-Year Persistence, by Estimation Approach: Cohort 1

Cohort 1: 3-Year Persistence	Conventional Impact Estimate (Impact)	Conventional Impact Estimate (Standard Error)	Conventional Impact Estimate (*p*-value)	Robust Bias-Corrected Impact Estimate (Impact)	Robust Bias-Corrected Impact Estimate (Standard Error)	Robust Bias-Corrected Impact Estimate (*p*-value)
Optimal bandwidth	0.15	0.10	0.131	0.03	0.15	0.836
Optimal bandwidth x 2	0.18	0.07	0.017	0.13	0.11	0.239
Optimal bandwidth x 3	0.20	0.06	0.003	0.15	0.09	0.102
Optimal bandwidth w/covars	0.19	0.09	0.044	0.11	0.14	0.420
Optimal bandwidth x 2 w/covars*	**0.19***	0.07	0.006	0.16	**0.10***	**0.114***
Optimal bandwidth x 3 w/covars	0.21	0.06	0.001	0.17	0.09	0.049

Note. Coefficients in the table represent regression discontinuity estimates and their associated standard errors and p-values. Figures in the Conventional Impact Estimates columns were generated from conventional ordinary least squares estimation procedures; figures in the Robust Bias-Corrected Estimates columns were generated from robust, bias-corrected local polynomial regressions (Cattaneo et al., 2019). Each postsecondary outcome was estimated at optimal bandwidths around the discontinuity, using methods outlined in Cattaneo et al. (2019), at two multiples around the optimal bandwidths and both with and without covariates.

**Preferred model specifications are represented in bold text.*

TABLE A13

Effect of Traditional Scholarship Awards on Completion, by Estimation Approach: Cohort 1

Cohort 1: Completion	Conventional Impact Estimate (Impact)	Conventional Impact Estimate (Standard Error)	Conventional Impact Estimate (*p*-value)	Robust Bias-Corrected Impact Estimate (Impact)	Robust Bias-Corrected Impact Estimate (Standard Error)	Robust Bias-Corrected Impact Estimate (*p*-value)
Optimal bandwidth	–0.06	0.06	0.385	–0.08	0.10	0.386
Optimal bandwidth x 2	–0.04	0.05	0.358	–0.05	0.07	0.497
Optimal bandwidth x 3	–0.02	0.04	0.552	–0.06	0.06	0.323
Optimal bandwidth w/covars	–0.03	0.06	0.599	–0.06	0.09	0.476
Optimal bandwidth x 2 w/covars*	**–0.04***	0.05	0.395	–0.03	**0.07***	**0.622***
Optimal bandwidth x 3 w/covars	–0.02	0.04	0.556	–0.05	0.06	0.396

Note. Coefficients in the table represent regression discontinuity estimates and their associated standard errors and p-values. Figures in the Conventional Impact Estimates columns were generated from conventional ordinary least squares estimation procedures; figures in the Robust Bias-Corrected Estimates columns were generated from robust, bias-corrected local polynomial regressions (Cattaneo et al., 2019). Each postsecondary outcome was estimated at optimal bandwidths around the discontinuity, using methods outlined in Cattaneo et al. (2019), at two multiples around the optimal bandwidths and both with and without covariates.

**Preferred model specifications are represented in bold text.*

TABLE A14

Effect of Traditional Scholarship Awards on 2-Year Persistence, by Estimation Approach: Cohort 2

Cohort 2: 2-Year Persistence	Conventional Impact Estimate (Impact)	Conventional Impact Estimate (Standard Error)	Conventional Impact Estimate (*p*-value)	Robust Bias-Corrected Impact Estimate (Impact)	Robust Bias-Corrected Impact Estimate (Standard Error)	Robust Bias-Corrected Impact Estimate (*p*-value)
Optimal bandwidth	0.09	0.08	0.263	0.15	0.11	0.195
Optimal bandwidth x 2	0.12	0.06	0.031	0.08	0.08	0.355
Optimal bandwidth x 3	0.15	0.05	0.004	0.09	0.07	0.227
Optimal bandwidth w/covars	0.05	0.08	0.517	0.09	0.11	0.443
Optimal bandwidth x 2 w/covars*	**0.09***	0.06	0.108	0.04	**0.08***	**0.659***
Optimal bandwidth x 3 w/covars	0.12	0.05	0.017	0.05	0.07	0.479

Note. Coefficients in the table represent regression discontinuity estimates and their associated standard errors and p-values. Figures in the Conventional Impact Estimates columns were generated from conventional ordinary least squares estimation procedures; figures in the Robust Bias-Corrected Estimates columns were generated from robust, bias-corrected local polynomial regressions (Cattaneo et al., 2019). Each postsecondary outcome was estimated at optimal bandwidths around the discontinuity, using methods outlined in Cattaneo et al. (2019), at two multiples around the optimal bandwidths and both with and without covariates.

**Preferred model specifications are represented in bold text.*

TABLE A15

Effect of Traditional Scholarship Awards on Enrollment, by Estimation Approach: Cohort 3

Cohort 3: Enrollment	Conventional Impact Estimate (Impact)	Conventional Impact Estimate (Standard Error)	Conventional Impact Estimate (*p*-value)	Robust Bias-Corrected Impact Estimate (Impact)	Robust Bias-Corrected Impact Estimate (Standard Error)	Robust Bias-Corrected Impact Estimate (*p*-value)
Optimal bandwidth	0.16	0.08	0.052	0.19	0.12	0.116
Optimal bandwidth x 2	0.11	0.06	0.052	0.17	0.09	0.046
Optimal bandwidth x 3	0.11	0.05	0.033	0.12	0.07	0.086
Optimal bandwidth w/covars	0.16	0.08	0.047	0.16	0.12	0.169
Optimal bandwidth x 2 w/covars*	**0.12***	0.06	0.042	0.17	**0.08***	**0.047***
Optimal bandwidth x 3 w/covars	0.11	0.05	0.027	0.13	0.07	0.074

Note. Coefficients in the table represent regression discontinuity estimates and their associated standard errors and p-values. Figures in the Conventional Impact Estimates columns were generated from conventional ordinary least squares estimation procedures; figures in the Robust Bias-Corrected Estimates columns were generated from robust, bias-corrected local polynomial regressions (Cattaneo et al., 2019). Each postsecondary outcome was estimated at optimal bandwidths around the discontinuity, using methods outlined in Cattaneo et al. (2019), at two multiples around the optimal bandwidths and both with and without covariates.

**Preferred model specifications are represented in bold text.*

TABLE A16

Effect of Traditional Scholarship Awards on 2-Year Enrollment, by Estimation Approach: Cohort 3

Cohort 3: 2-Year Enrollment	Conventional Impact Estimate (Impact)	Conventional Impact Estimate (Standard Error)	Conventional Impact Estimate (*p*-value)	Robust Bias-Corrected Impact Estimate (Impact)	Robust Bias-Corrected Impact Estimate (Standard Error)	Robust Bias-Corrected Impact Estimate (*p*-value)
Optimal bandwidth	–0.07	0.06	0.228	–0.08	0.08	0.322
Optimal bandwidth x 2	–0.09	0.04	0.030	–0.06	0.06	0.305
Optimal bandwidth x 3	–0.10	0.04	0.008	–0.08	0.05	0.136
Optimal bandwidth w/covars	–0.07	0.06	0.191	–0.09	0.08	0.288
Optimal bandwidth x 2 w/covars*	**–0.09***	0.04	0.041	–0.06	**0.06***	**0.288***
Optimal bandwidth x 3 w/covars	–0.09	0.04	0.014	–0.08	0.05	0.144

Note. Coefficients in the table represent regression discontinuity estimates and their associated standard errors and p-values. Figures in the Conventional Impact Estimates columns were generated from conventional ordinary least squares estimation procedures; figures in the Robust Bias-Corrected Estimates columns were generated from robust, bias-corrected local polynomial regressions (Cattaneo et al., 2019). Each postsecondary outcome was estimated at optimal bandwidths around the discontinuity, using methods outlined in Cattaneo et al. (2019), at two multiples around the optimal bandwidths and both with and without covariates.

**Preferred model specifications are represented in bold text.*

TABLE A17

Effect of Traditional Scholarship Awards on 4-Year Enrollment, by Estimation Approach: Cohort 3

Cohort 3: 4-Year Enrollment	Conventional Impact Estimate (Impact)	Conventional Impact Estimate (Standard Error)	Conventional Impact Estimate (*p*-value)	Robust Bias-Corrected Impact Estimate (Impact)	Robust Bias-Corrected Impact Estimate (Standard Error)	Robust Bias-Corrected Impact Estimate (*p*-value)
Optimal bandwidth	0.21	0.08	0.006	0.28	0.12	0.019
Optimal bandwidth x 2	0.19	0.06	0.001	0.22	0.08	0.008
Optimal bandwidth x 3	0.20	0.05	0.000	0.18	0.07	0.008
Optimal bandwidth w/covars	0.22	0.07	0.003	0.25	0.11	0.024
Optimal bandwidth x 2 w/covars*	**0.19***	0.05	0.001	0.22	**0.08***	**0.005***
Optimal bandwidth x 3 w/covars	0.19	0.05	0.000	0.19	0.07	0.004

Note. Coefficients in the table represent regression discontinuity estimates and their associated standard errors and p-values. Figures in the Conventional Impact Estimates columns were generated from conventional ordinary least squares estimation procedures; figures in the Robust Bias-Corrected Estimates columns were generated from robust, bias-corrected local polynomial regressions (Cattaneo et al., 2019). Each postsecondary outcome was estimated at optimal bandwidths around the discontinuity, using methods outlined in Cattaneo et al. (2019), at two multiples around the optimal bandwidths and both with and without covariates.

**Preferred model specifications are represented in bold text.*

TABLE A18

Effect of Traditional Scholarship Awards on 1-Year Persistence, by Estimation Approach: Cohort 3

Cohort 3: 1-Year Persistence	Conventional Impact Estimate (Impact)	Conventional Impact Estimate (Standard Error)	Conventional Impact Estimate (*p*-value)	Robust Bias-Corrected Impact Estimate (Impact)	Robust Bias-Corrected Impact Estimate (Standard Error)	Robust Bias-Corrected Impact Estimate (*p*-value)
Optimal bandwidth	0.12	0.08	0.133	0.11	0.12	0.367
Optimal bandwidth x 2	0.07	0.06	0.207	0.15	0.09	0.081
Optimal bandwidth x 3	0.06	0.05	0.246	0.08	0.07	0.237
Optimal bandwidth w/covars	0.13	0.08	0.091	0.07	0.11	0.513
Optimal bandwidth x 2 w/covars*	**0.08***	0.06	0.171	0.15	**0.08***	**0.063***
Optimal bandwidth x 3 w/covars	0.06	0.05	0.181	0.09	0.07	0.194

Note. Coefficients in the table represent regression discontinuity estimates and their associated standard errors and p-values. Figures in the Conventional Impact Estimates columns were generated from conventional ordinary least squares estimation procedures; figures in the Robust Bias-Corrected Estimates columns were generated from robust, bias-corrected local polynomial regressions (Cattaneo et al., 2019). Each postsecondary outcome was estimated at optimal bandwidths around the discontinuity, using methods outlined in Cattaneo et al. (2019), at two multiples around the optimal bandwidths and both with and without covariates.

**Preferred model specifications are represented in bold text.*

TABLE A19

Effect of Traditional Scholarship Awards on 3-Year Persistence, by Estimation Approach: Cohort 1, Black/African American Students

Cohort 1: 3-Year Persistence	Conventional Impact Estimate (Impact)	Conventional Impact Estimate (Standard Error)	Conventional Impact Estimate (*p*-value)	Robust Bias-Corrected Impact Estimate (Impact)	Robust Bias-Corrected Impact Estimate (Standard Error)	Robust Bias-Corrected Impact Estimate (*p*-value)
Optimal bandwidth	0.61	0.22	0.005	0.68	0.29	0.018
Optimal bandwidth x 2	0.39	0.16	0.017	0.62	0.22	0.006
Optimal bandwidth x 3	0.34	0.14	0.017	0.46	0.19	0.018
Optimal bandwidth w/covars	0.57	0.21	0.005	0.72	0.27	0.008
Optimal bandwidth x 2 w/covars*	**0.38***	0.15	0.012	0.58	**0.21***	**0.007***
Optimal bandwidth x 3 w/covars	0.36	0.13	0.007	0.47	0.18	0.010

Note. Coefficients in the table represent regression discontinuity estimates and their associated standard errors and p-values. Figures in the Conventional Impact Estimates columns were generated from conventional ordinary least squares estimation procedures; figures in the Robust Bias-Corrected Estimates columns were generated from robust, bias-corrected local polynomial regressions (Cattaneo et al., 2019). Each postsecondary outcome was estimated at optimal bandwidths around the discontinuity, using methods outlined in Cattaneo et al. (2019), at two multiples around the optimal bandwidths and both with and without covariates.

**Preferred model specifications are represented in bold text.*

TABLE A20

Effect of Traditional Scholarship Awards on Completion, by Estimation Approach: Cohort 1, Black/African American Students

Cohort 1: Completion	Conventional Impact Estimate (Impact)	Conventional Impact Estimate (Standard Error)	Conventional Impact Estimate (*p*-value)	Robust Bias-Corrected Impact Estimate (Impact)	Robust Bias-Corrected Impact Estimate (Standard Error)	Robust Bias-Corrected Impact Estimate (*p*-value)
Optimal bandwidth	–0.06	0.09	0.479	–0.12	0.13	0.352
Optimal bandwidth x 2	–0.07	0.07	0.302	–0.07	0.09	0.416
Optimal bandwidth x 3	–0.06	0.06	0.270	–0.07	0.08	0.355
Optimal bandwidth w/covars	0.00	0.09	0.956	–0.05	0.13	0.695
Optimal bandwidth x 2 w/covars*	**–0.03***	0.07	0.603	–0.03	**0.09***	**0.770***
Optimal bandwidth x 3 w/covars	–0.03	0.05	0.624	–0.02	0.08	0.777

Note. Coefficients in the table represent regression discontinuity estimates and their associated standard errors and p-values. Figures in the Conventional Impact Estimates columns were generated from conventional ordinary least squares estimation procedures; figures in the Robust Bias-Corrected Estimates columns were generated from robust, bias-corrected local polynomial regressions (Cattaneo et al., 2019). Each postsecondary outcome was estimated at optimal bandwidths around the discontinuity, using methods outlined in Cattaneo et al. (2019), at two multiples around the optimal bandwidths and both with and without covariates.

**Preferred model specifications are represented in bold text.*

TABLE A21

Effect of Traditional Scholarship Awards on 2-Year Persistence, by Estimation Approach: Cohort 2, Black/African American Students

Cohort 2: 2-Year Persistence	Conventional Impact Estimate (Impact)	Conventional Impact Estimate (Standard Error)	Conventional Impact Estimate (*p*-value)	Robust Bias-Corrected Impact Estimate (Impact)	Robust Bias-Corrected Impact Estimate (Standard Error)	Robust Bias-Corrected Impact Estimate (*p*-value)
Optimal bandwidth	–0.01	0.19	0.945	0.03	0.27	0.897
Optimal bandwidth x 2	0.04	0.13	0.745	–0.11	0.19	0.562
Optimal bandwidth x 3	0.12	0.11	0.277	–0.04	0.17	0.808
Optimal bandwidth w/covars	–0.08	0.17	0.618	0.02	0.25	0.928
Optimal bandwidth x 2 w/covars*	**0.00***	0.12	0.978	–0.15	**0.18***	**0.406***
Optimal bandwidth x 3 w/covars	0.08	0.10	0.417	–0.08	0.16	0.617

Note. Coefficients in the table represent regression discontinuity estimates and their associated standard errors and p-values. Figures in the Conventional Impact Estimates columns were generated from conventional ordinary least squares estimation procedures; figures in the Robust Bias-Corrected Estimates columns were generated from robust, bias-corrected local polynomial regressions (Cattaneo et al., 2019). Each postsecondary outcome was estimated at optimal bandwidths around the discontinuity, using methods outlined in Cattaneo et al. (2019), at two multiples around the optimal bandwidths and both with and without covariates.

**Preferred model specifications are represented in bold text.*

TABLE A22

Effect of Traditional Scholarship Awards on Enrollment, by Estimation Approach: Cohort 3, Black/African American Students

Cohort 3: Enrollment	Conventional Impact Estimate (Impact)	Conventional Impact Estimate (Standard Error)	Conventional Impact Estimate (*p*-value)	Robust Bias-Corrected Impact Estimate (Impact)	Robust Bias-Corrected Impact Estimate (Standard Error)	Robust Bias-Corrected Impact Estimate (*p*-value)
Optimal bandwidth	0.31	0.16	0.059	0.39	0.24	0.104
Optimal bandwidth x 2	0.30	0.12	0.009	0.30	0.17	0.081
Optimal bandwidth x 3	0.22	0.10	0.023	0.35	0.14	0.014
Optimal bandwidth w/covars	0.29	0.15	0.059	0.33	0.23	0.143
Optimal bandwidth x 2 w/covars*	**0.28***	0.11	0.013	0.33	**0.16***	**0.044***
Optimal bandwidth x 3 w/covars	0.21	0.09	0.023	0.31	0.14	0.023

Note. Coefficients in the table represent regression discontinuity estimates and their associated standard errors and p-values. Figures in the Conventional Impact Estimates columns were generated from conventional ordinary least squares estimation procedures; figures in the Robust Bias-Corrected Estimates columns were generated from robust, bias-corrected local polynomial regressions (Cattaneo et al., 2019). Each postsecondary outcome was estimated at optimal bandwidths around the discontinuity, using methods outlined in Cattaneo et al. (2019), at two multiples around the optimal bandwidths and both with and without covariates.

**Preferred model specifications are represented in bold text.*

TABLE A23

Effect of Traditional Scholarship Awards on 2-Year Enrollment, by Estimation Approach: Cohort 3, Black/African American Students

Cohort 3: 2-Year Enrollment	Conventional Impact Estimate (Impact)	Conventional Impact Estimate (Standard Error)	Conventional Impact Estimate (*p*-value)	Robust Bias-Corrected Impact Estimate (Impact)	Robust Bias-Corrected Impact Estimate (Standard Error)	Robust Bias-Corrected Impact Estimate (*p*-value)
Optimal bandwidth	–0.09	0.10	0.354	–0.08	0.10	0.447
Optimal bandwidth x 2	–0.05	0.08	0.509	–0.07	0.10	0.512
Optimal bandwidth x 3	–0.10	0.07	0.174	–0.03	0.10	0.722
Optimal bandwidth w/covars	–0.08	0.09	0.396	–0.07	0.10	0.508
Optimal bandwidth x 2 w/covars*	**–0.07***	0.08	0.381	–0.04	**0.10***	**0.683***
Optimal bandwidth x 3 w/covars	–0.10	0.07	0.145	–0.05	0.09	0.592

Note. Coefficients in the table represent regression discontinuity estimates and their associated standard errors and p-values. Figures in the Conventional Impact Estimates columns were generated from conventional ordinary least squares estimation procedures; figures in the Robust Bias-Corrected Estimates columns were generated from robust, bias-corrected local polynomial regressions (Cattaneo et al., 2019). Each postsecondary outcome was estimated at optimal bandwidths around the discontinuity, using methods outlined in Cattaneo et al. (2019), at two multiples around the optimal bandwidths and both with and without covariates.

**Preferred model specifications are represented in bold text.*

TABLE A24

Effect of Traditional Scholarship Awards on 4-Year Enrollment, by Estimation Approach: Cohort 3, Black/African American Students

Cohort 3: 4-Year Enrollment	Conventional Impact Estimate (Impact)	Conventional Impact Estimate (Standard Error)	Conventional Impact Estimate (*p*-value)	Robust Bias-Corrected Impact Estimate (Impact)	Robust Bias-Corrected Impact Estimate (Standard Error)	Robust Bias-Corrected Impact Estimate (*p*-value)
Optimal bandwidth	0.31	0.14	0.031	0.41	0.21	0.055
Optimal bandwidth x 2	0.32	0.10	0.002	0.33	0.15	0.030
Optimal bandwidth x 3	0.30	0.09	0.000	0.32	0.13	0.013
Optimal bandwidth w/covars	0.29	0.12	0.019	0.31	0.18	0.090
Optimal bandwidth x 2 w/covars*	**0.29***	0.09	0.001	0.33	**0.13***	**0.014***
Optimal bandwidth x 3 w/covars	0.29	0.08	0.000	0.30	0.12	0.009

Note. Coefficients in the table represent regression discontinuity estimates and their associated standard errors and p-values. Figures in the Conventional Impact Estimates columns were generated from conventional ordinary least squares estimation procedures; figures in the Robust Bias-Corrected Estimates columns were generated from robust, bias-corrected local polynomial regressions (Cattaneo et al., 2019). Each postsecondary outcome was estimated at optimal bandwidths around the discontinuity, using methods outlined in Cattaneo et al. (2019), at two multiples around the optimal bandwidths and both with and without covariates.

**Preferred model specifications are represented in bold text.*

TABLE A25

Effect of Traditional Scholarship Awards on 1-Year Persistence, by Estimation Approach: Cohort 3, Black/African American Students

Cohort 3: 1-Year Persistence	Conventional Impact Estimate (Impact)	Conventional Impact Estimate (Standard Error)	Conventional Impact Estimate (*p*-value)	Robust Bias-Corrected Impact Estimate (Impact)	Robust Bias-Corrected Impact Estimate (Standard Error)	Robust Bias-Corrected Impact Estimate (*p*-value)
Optimal bandwidth	0.19	0.16	0.230	0.22	0.24	0.355
Optimal bandwidth x 2	0.19	0.12	0.098	0.22	0.17	0.193
Optimal bandwidth x 3	0.12	0.10	0.228	0.24	0.14	0.092
Optimal bandwidth w/covars	0.16	0.15	0.276	0.12	0.22	0.571
Optimal bandwidth x 2 w/covars*	**0.17***	0.11	0.124	0.20	**0.16***	**0.221***
Optimal bandwidth x 3 w/covars	0.10	0.09	0.270	0.21	0.14	0.118

Note. Coefficients in the table represent regression discontinuity estimates and their associated standard errors and p-values. Figures in the Conventional Impact Estimates columns were generated from conventional ordinary least squares estimation procedures; figures in the Robust Bias-Corrected Estimates columns were generated from robust, bias-corrected local polynomial regressions (Cattaneo et al., 2019). Each postsecondary outcome was estimated at optimal bandwidths around the discontinuity, using methods outlined in Cattaneo et al. (2019), at two multiples around the optimal bandwidths and both with and without covariates.

**Preferred model specifications are represented in bold text.*

TABLE A26

Effect of Traditional Scholarship Awards on 3-Year Persistence, by Estimation Approach: Cohort 1, First-Generation Students

Cohort 1: 3-Year Persistence	Conventional Impact Estimate (Impact)	Conventional Impact Estimate (Standard Error)	Conventional Impact Estimate (*p*-value)	Robust Bias-Corrected Impact Estimate (Impact)	Robust Bias-Corrected Impact Estimate (Standard Error)	Robust Bias-Corrected Impact Estimate (*p*-value)
Optimal bandwidth	0.16	0.12	0.165	0.08	0.17	0.658
Optimal bandwidth x 2	0.18	0.09	0.034	0.13	0.12	0.280
Optimal bandwidth x 3	0.20	0.07	0.006	0.15	0.11	0.162
Optimal bandwidth w/covars	0.22	0.10	0.037	0.18	0.16	0.266
Optimal bandwidth x 2 w/covars*	**0.22***	0.08	0.006	0.19	**0.11***	**0.090***
Optimal bandwidth x 3 w/covars	0.24	0.07	0.001	0.19	0.10	0.050

Note. Coefficients in the table represent regression discontinuity estimates and their associated standard errors and p-values. Figures in the Conventional Impact Estimates columns were generated from conventional ordinary least squares estimation procedures; figures in the Robust Bias-Corrected Estimates columns were generated from robust, bias-corrected local polynomial regressions (Cattaneo et al., 2019). Each postsecondary outcome was estimated at optimal bandwidths around the discontinuity, using methods outlined in Cattaneo et al. (2019), at two multiples around the optimal bandwidths and both with and without covariates.

**Preferred model specifications are represented in bold text.*

TABLE A27

Effect of Traditional Scholarship Awards on Completion, by Estimation Approach: Cohort 1, First-Generation Students

Cohort 1: Completion	Conventional Impact Estimate (Impact)	Conventional Impact Estimate (Standard Error)	Conventional Impact Estimate (*p*-value)	Robust Bias-Corrected Impact Estimate (Impact)	Robust Bias-Corrected Impact Estimate (Standard Error)	Robust Bias-Corrected Impact Estimate (*p*-value)
Optimal bandwidth	–0.05	0.08	0.588	–0.05	0.13	0.696
Optimal bandwidth x 2	–0.06	0.06	0.300	–0.04	0.09	0.616
Optimal bandwidth x 3	–0.05	0.05	0.304	–0.07	0.07	0.371
Optimal bandwidth w/covars	–0.01	0.08	0.912	–0.01	0.12	0.933
Optimal bandwidth x 2 w/covars*	**–0.05***	0.06	0.415	–0.02	**0.09***	**0.849***
Optimal bandwidth x 3 w/covars	–0.04	0.05	0.357	–0.05	0.07	0.494

Note. Coefficients in the table represent regression discontinuity estimates and their associated standard errors and p-values. Figures in the Conventional Impact Estimates columns were generated from conventional ordinary least squares estimation procedures; figures in the Robust Bias-Corrected Estimates columns were generated from robust, bias-corrected local polynomial regressions (Cattaneo et al., 2019). Each postsecondary outcome was estimated at optimal bandwidths around the discontinuity, using methods outlined in Cattaneo et al. (2019), at two multiples around the optimal bandwidths and both with and without covariates.

**Preferred model specifications are represented in bold text.*

TABLE A28

Effect of Traditional Scholarship Awards on 2-Year Persistence, by Estimation Approach: Cohort 2, First-Generation Students

Cohort 2: 2-Year Persistence	Conventional Impact Estimate (Impact)	Conventional Impact Estimate (Standard Error)	Conventional Impact Estimate (*p*-value)	Robust Bias-Corrected Impact Estimate (Impact)	Robust Bias-Corrected Impact Estimate (Standard Error)	Robust Bias-Corrected Impact Estimate (*p*-value)
Optimal bandwidth	0.16	0.11	0.130	0.25	0.16	0.117
Optimal bandwidth x 2	0.13	0.08	0.092	0.12	0.11	0.269
Optimal bandwidth x 3	0.14	0.06	0.028	0.12	0.09	0.192
Optimal bandwidth w/covars	0.10	0.10	0.300	0.19	0.15	0.193
Optimal bandwidth x 2 w/covars*	**0.08***	0.07	0.286	0.07	**0.11***	**0.518***
Optimal bandwidth x 3 w/covars	0.10	0.06	0.127	0.07	0.09	0.422

Note. Coefficients in the table represent regression discontinuity estimates and their associated standard errors and p-values. Figures in the Conventional Impact Estimates columns were generated from conventional ordinary least squares estimation procedures; figures in the Robust Bias-Corrected Estimates columns were generated from robust, bias-corrected local polynomial regressions (Cattaneo et al., 2019). Each postsecondary outcome was estimated at optimal bandwidths around the discontinuity, using methods outlined in Cattaneo et al. (2019), at two multiples around the optimal bandwidths and both with and without covariates.

**Preferred model specifications are represented in bold text.*

TABLE A29

Effect of Traditional Scholarship Awards on Enrollment, by Estimation Approach: Cohort 3, First-Generation Students

Cohort 3: Enrollment	Conventional Impact Estimate (Impact)	Conventional Impact Estimate (Standard Error)	Conventional Impact Estimate (*p*-value)	Robust Bias-Corrected Impact Estimate (Impact)	Robust Bias-Corrected Impact Estimate (Standard Error)	Robust Bias-Corrected Impact Estimate (*p*-value)
Optimal bandwidth	0.14	0.09	0.150	0.14	0.14	0.336
Optimal bandwidth x 2	0.12	0.07	0.064	0.12	0.10	0.212
Optimal bandwidth x 3	0.14	0.06	0.019	0.12	0.09	0.171
Optimal bandwidth w/covars	0.13	0.10	0.184	0.12	0.15	0.422
Optimal bandwidth x 2 w/covars*	**0.12***	0.07	0.075	0.12	**0.10***	**0.232***
Optimal bandwidth x 3 w/covars	0.13	0.06	0.023	0.11	0.09	0.191

Note. Coefficients in the table represent regression discontinuity estimates and their associated standard errors and p-values. Figures in the Conventional Impact Estimates columns were generated from conventional ordinary least squares estimation procedures; figures in the Robust Bias-Corrected Estimates columns were generated from robust, bias-corrected local polynomial regressions (Cattaneo et al., 2019). Each postsecondary outcome was estimated at optimal bandwidths around the discontinuity, using methods outlined in Cattaneo et al. (2019), at two multiples around the optimal bandwidths and both with and without covariates.

**Preferred model specifications are represented in bold text.*

TABLE A30

Effect of Traditional Scholarship Awards on 2-Year Enrollment, by Estimation Approach: Cohort 3, First-Generation Students

Cohort 3: 2-Year Enrollment	Conventional Impact Estimate (Impact)	Conventional Impact Estimate (Standard Error)	Conventional Impact Estimate (*p*-value)	Robust Bias-Corrected Impact Estimate (Impact)	Robust Bias-Corrected Impact Estimate (Standard Error)	Robust Bias-Corrected Impact Estimate (*p*-value)
Optimal bandwidth	–0.06	0.08	0.483	–0.05	0.12	0.676
Optimal bandwidth x 2	–0.09	0.06	0.144	–0.05	0.09	0.575
Optimal bandwidth x 3	–0.08	0.05	0.142	–0.09	0.07	0.220
Optimal bandwidth w/covars	–0.07	0.08	0.379	–0.08	0.12	0.488
Optimal bandwidth x 2 w/covars*	**–0.08***	0.06	0.182	–0.06	**0.09***	**0.514***
Optimal bandwidth x 3 w/covars	–0.07	0.05	0.187	–0.09	0.07	0.235

Note. Coefficients in the table represent regression discontinuity estimates and their associated standard errors and p-values. Figures in the Conventional Impact Estimates columns were generated from conventional ordinary least squares estimation procedures; figures in the Robust Bias-Corrected Estimates columns were generated from robust, bias-corrected local polynomial regressions (Cattaneo et al., 2019). Each postsecondary outcome was estimated at optimal bandwidths around the discontinuity, using methods outlined in Cattaneo et al. (2019), at two multiples around the optimal bandwidths and both with and without covariates.

**Preferred model specifications are represented in bold text.*

TABLE A31

Effect of Traditional Scholarship Awards on 4-Year Enrollment, by Estimation Approach: Cohort 3, First-Generation Students

Cohort 3: 4-Year Enrollment	Conventional Impact Estimate (Impact)	Conventional Impact Estimate (Standard Error)	Conventional Impact Estimate (*p*-value)	Robust Bias-Corrected Impact Estimate (Impact)	Robust Bias-Corrected Impact Estimate (Standard Error)	Robust Bias-Corrected Impact Estimate (*p*-value)
Optimal bandwidth	0.20	0.08	0.016	0.19	0.13	0.138
Optimal bandwidth x 2	0.21	0.06	0.000	0.19	0.09	0.033
Optimal bandwidth x 3	0.21	0.05	0.000	0.20	0.08	0.008
Optimal bandwidth w/covars	0.20	0.08	0.013	0.19	0.12	0.113
Optimal bandwidth x 2 w/covars*	**0.20***	0.06	0.001	0.18	**0.08***	**0.031***
Optimal bandwidth x 3 w/covars	0.20	0.05	0.000	0.19	0.07	0.009

Note. Coefficients in the table represent regression discontinuity estimates and their associated standard errors and p-values. Figures in the Conventional Impact Estimates columns were generated from conventional ordinary least squares estimation procedures; figures in the Robust Bias-Corrected Estimates columns were generated from robust, bias-corrected local polynomial regressions (Cattaneo et al., 2019). Each postsecondary outcome was estimated at optimal bandwidths around the discontinuity, using methods outlined in Cattaneo et al. (2019), at two multiples around the optimal bandwidths and both with and without covariates.

**Preferred model specifications are represented in bold text.*

TABLE A32

Effect of Traditional Scholarship Awards on 1-Year Persistence, by Estimation Approach: Cohort 3, First-Generation Students

Cohort 3: 1-Year Persistence	Conventional Impact Estimate (Impact)	Conventional Impact Estimate (Standard Error)	Conventional Impact Estimate (*p*-value)	Robust Bias-Corrected Impact Estimate (Impact)	Robust Bias-Corrected Impact Estimate (Standard Error)	Robust Bias-Corrected Impact Estimate (*p*-value)
Optimal bandwidth	0.17	0.09	0.070	0.12	0.14	0.410
Optimal bandwidth x 2	0.11	0.07	0.091	0.18	0.10	0.072
Optimal bandwidth x 3	0.11	0.06	0.048	0.12	0.08	0.141
Optimal bandwidth w/covars	0.16	0.09	0.087	0.09	0.14	0.503
Optimal bandwidth x 2 w/covars*	**0.11***	0.06	0.101	0.16	**0.10***	**0.091***
Optimal bandwidth x 3 w/covars	0.11	0.06	0.055	0.12	0.08	0.157

Note. Coefficients in the table represent regression discontinuity estimates and their associated standard errors and p-values. Figures in the Conventional Impact Estimates columns were generated from conventional ordinary least squares estimation procedures; figures in the Robust Bias-Corrected Estimates columns were generated from robust, bias-corrected local polynomial regressions (Cattaneo et al., 2019). Each postsecondary outcome was estimated at optimal bandwidths around the discontinuity, using methods outlined in Cattaneo et al. (2019), at two multiples around the optimal bandwidths and both with and without covariates.

**Preferred model specifications are represented in bold text.*

TABLE A33

Effect of Traditional Scholarship Awards on 3-Year Persistence, by Estimation Approach: Cohort 1, Hispanic/Latino Students

Cohort 1: 3-Year Persistence	Conventional Impact Estimate (Impact)	Conventional Impact Estimate (Standard Error)	Conventional Impact Estimate (*p*-value)	Robust Bias-Corrected Impact Estimate (Impact)	Robust Bias-Corrected Impact Estimate (Standard Error)	Robust Bias-Corrected Impact Estimate (*p*-value)
Optimal bandwidth	0.35	0.20	0.087	0.28	0.34	0.424
Optimal bandwidth x 2	0.28	0.14	0.045	0.31	0.22	0.152
Optimal bandwidth x 3	0.27	0.12	0.023	0.28	0.17	0.106
Optimal bandwidth w/covars	0.39	0.19	0.046	0.28	0.33	0.396
Optimal bandwidth x 2 w/covars*	**0.29***	0.13	0.029	0.33	**0.21***	**0.118***
Optimal bandwidth x 3 w/covars	0.28	0.12	0.017	0.30	0.17	0.074

Note. Coefficients in the table represent regression discontinuity estimates and their associated standard errors and p-values. Figures in the Conventional Impact Estimates columns were generated from conventional ordinary least squares estimation procedures; figures in the Robust Bias-Corrected Estimates columns were generated from robust, bias-corrected local polynomial regressions (Cattaneo et al., 2019). Each postsecondary outcome was estimated at optimal bandwidths around the discontinuity, using methods outlined in Cattaneo et al. (2019), at two multiples around the optimal bandwidths and both with and without covariates.

**Preferred model specifications are represented in bold text.*

TABLE A34

Effect of Traditional Scholarship Awards on Completion, by Estimation Approach: Cohort 1, Hispanic/Latino Students

Cohort 1: Completion	Conventional Impact Estimate (Impact)	Conventional Impact Estimate (Standard Error)	Conventional Impact Estimate (*p*-value)	Robust Bias-Corrected Impact Estimate (Impact)	Robust Bias-Corrected Impact Estimate (Standard Error)	Robust Bias-Corrected Impact Estimate (*p*-value)
Optimal bandwidth	–0.23	0.14	0.106	–0.32	0.22	0.149
Optimal bandwidth x 2	–0.20	0.11	0.063	–0.24	0.15	0.111
Optimal bandwidth x 3	–0.15	0.09	0.097	–0.26	0.13	0.039
Optimal bandwidth w/covars	–0.19	0.14	0.176	–0.30	0.22	0.179
Optimal bandwidth x 2 w/covars*	**–0.19***	0.11	0.067	–0.22	**0.15***	**0.127***
Optimal bandwidth x 3 w/covars	–0.15	0.09	0.097	–0.25	0.13	0.044

Note. Coefficients in the table represent regression discontinuity estimates and their associated standard errors and p-values. Figures in the Conventional Impact Estimates columns were generated from conventional ordinary least squares estimation procedures; figures in the Robust Bias-Corrected Estimates columns were generated from robust, bias-corrected local polynomial regressions (Cattaneo et al., 2019). Each postsecondary outcome was estimated at optimal bandwidths around the discontinuity, using methods outlined in Cattaneo et al. (2019), at two multiples around the optimal bandwidths and both with and without covariates.

**Preferred model specifications are represented in bold text.*

TABLE A35

Effect of Traditional Scholarship Awards on 2-Year Persistence, by Estimation Approach: Cohort 2, Hispanic/Latino Students

Cohort 2: 2-Year Persistence	Conventional Impact Estimate (Impact)	Conventional Impact Estimate (Standard Error)	Conventional Impact Estimate (*p*-value)	Robust Bias-Corrected Impact Estimate (Impact)	Robust Bias-Corrected Impact Estimate (Standard Error)	Robust Bias-Corrected Impact Estimate (*p*-value)
Optimal bandwidth	–0.07	0.17	0.671	–0.09	0.25	0.710
Optimal bandwidth x 2	–0.07	0.13	0.594	–0.12	0.19	0.516
Optimal bandwidth x 3	–0.03	0.11	0.763	–0.10	0.16	0.518
Optimal bandwidth w/covars	–0.06	0.16	0.720	–0.07	0.23	0.767
Optimal bandwidth x 2 w/covars*	**–0.05***	0.12	0.708	–0.12	**0.18***	**0.509***
Optimal bandwidth x 3 w/covars	–0.02	0.10	0.873	–0.08	0.15	0.614

Note. Coefficients in the table represent regression discontinuity estimates and their associated standard errors and p-values. Figures in the Conventional Impact Estimates columns were generated from conventional ordinary least squares estimation procedures; figures in the Robust Bias-Corrected Estimates columns were generated from robust, bias-corrected local polynomial regressions (Cattaneo et al., 2019). Each postsecondary outcome was estimated at optimal bandwidths around the discontinuity, using methods outlined in Cattaneo et al. (2019), at two multiples around the optimal bandwidths and both with and without covariates.

**Preferred model specifications are represented in bold text.*

TABLE A36

Effect of Traditional Scholarship Awards on Enrollment, by Estimation Approach: Cohort 3, Hispanic/Latino Students

Cohort 3: Enrollment	Conventional Impact Estimate (Impact)	Conventional Impact Estimate (Standard Error)	Conventional Impact Estimate (*p*-value)	Robust Bias-Corrected Impact Estimate (Impact)	Robust Bias-Corrected Impact Estimate (Standard Error)	Robust Bias-Corrected Impact Estimate (*p*-value)
Optimal bandwidth	–0.08	0.19	0.656	0.02	0.27	0.937
Optimal bandwidth x 2	–0.10	0.13	0.448	–0.07	0.20	0.711
Optimal bandwidth x 3	–0.09	0.11	0.407	–0.09	0.17	0.570
Optimal bandwidth w/covars	–0.12	0.18	0.506	–0.01	0.25	0.964
Optimal bandwidth x 2 w/covars*	**–0.11***	0.13	0.369	–0.09	**0.19***	**0.643***
Optimal bandwidth x 3 w/covars	–0.10	0.11	0.362	–0.11	0.16	0.497

Note. Coefficients in the table represent regression discontinuity estimates and their associated standard errors and p-values. Figures in the Conventional Impact Estimates columns were generated from conventional ordinary least squares estimation procedures; figures in the Robust Bias-Corrected Estimates columns were generated from robust, bias-corrected local polynomial regressions (Cattaneo et al., 2019). Each postsecondary outcome was estimated at optimal bandwidths around the discontinuity, using methods outlined in Cattaneo et al. (2019), at two multiples around the optimal bandwidths and both with and without covariates.

**Preferred model specifications are represented in bold text.*

TABLE A37

Effect of Traditional Scholarship Awards on 2-Year Enrollment, by Estimation Approach: Cohort 3, Hispanic/Latino Students

Cohort 3: 2-Year Enrollment	Conventional Impact Estimate (Impact)	Conventional Impact Estimate (Standard Error)	Conventional Impact Estimate (*p*-value)	Robust Bias-Corrected Impact Estimate (Impact)	Robust Bias-Corrected Impact Estimate (Standard Error)	Robust Bias-Corrected Impact Estimate (*p*-value)
Optimal bandwidth	–0.13	0.15	0.380	–0.12	0.24	0.628
Optimal bandwidth x 2	–0.11	0.11	0.322	–0.15	0.16	0.369
Optimal bandwidth x 3	–0.12	0.09	0.215	–0.09	0.13	0.492
Optimal bandwidth w/covars	–0.12	0.15	0.410	–0.10	0.24	0.666
Optimal bandwidth x 2 w/covars*	**–0.10***	0.11	0.350	–0.13	**0.16***	**0.404***
Optimal bandwidth x 3 w/covars	–0.11	0.09	0.233	–0.08	0.13	0.536

Note. Coefficients in the table represent regression discontinuity estimates and their associated standard errors and p-values. Figures in the Conventional Impact Estimates columns were generated from conventional ordinary least squares estimation procedures; figures in the Robust Bias-Corrected Estimates columns were generated from robust, bias-corrected local polynomial regressions (Cattaneo et al., 2019). Each postsecondary outcome was estimated at optimal bandwidths around the discontinuity, using methods outlined in Cattaneo et al. (2019), at two multiples around the optimal bandwidths and both with and without covariates.

**Preferred model specifications are represented in bold text.*

TABLE A38

Effect of Traditional Scholarship Awards on 4-Year Enrollment, by Estimation Approach: Cohort 3, Hispanic/Latino Students

Cohort 3: 4-Year Enrollment	Conventional Impact Estimate (Impact)	Conventional Impact Estimate (Standard Error)	Conventional Impact Estimate (*p*-value)	Robust Bias-Corrected Impact Estimate (Impact)	Robust Bias-Corrected Impact Estimate (Standard Error)	Robust Bias-Corrected Impact Estimate (*p*-value)
Optimal bandwidth	0.05	0.16	0.778	0.09	0.24	0.708
Optimal bandwidth x 2	0.01	0.11	0.900	0.01	0.17	0.946
Optimal bandwidth x 3	0.04	0.10	0.721	0.00	0.15	0.976
Optimal bandwidth w/covars	0.02	0.17	0.901	0.07	0.24	0.761
Optimal bandwidth x 2 w/covars*	**–0.01***	0.12	0.910	0.02	**0.18***	**0.896***
Optimal bandwidth x 3 w/covars	0.02	0.10	0.848	–0.03	0.15	0.865

Note. Coefficients in the table represent regression discontinuity estimates and their associated standard errors and p-values. Figures in the Conventional Impact Estimates columns were generated from conventional ordinary least squares estimation procedures; figures in the Robust Bias-Corrected Estimates columns were generated from robust, bias-corrected local polynomial regressions (Cattaneo et al., 2019). Each postsecondary outcome was estimated at optimal bandwidths around the discontinuity, using methods outlined in Cattaneo et al. (2019), at two multiples around the optimal bandwidths and both with and without covariates.

**Preferred model specifications are represented in bold text.*

TABLE A39

Effect of Traditional Scholarship Awards on 1-Year Persistence, by Estimation Approach: Cohort 3, Hispanic/Latino Students

Cohort 3: 1-Year Persistence	Conventional Impact Estimate (Impact)	Conventional Impact Estimate (Standard Error)	Conventional Impact Estimate (*p*-value)	Robust Bias-Corrected Impact Estimate (Impact)	Robust Bias-Corrected Impact Estimate (Standard Error)	Robust Bias-Corrected Impact Estimate (*p*-value)
Optimal bandwidth	–0.07	0.17	0.683	–0.16	0.25	0.506
Optimal bandwidth x 2	–0.07	0.12	0.569	–0.04	0.18	0.826
Optimal bandwidth x 3	–0.05	0.11	0.627	–0.08	0.15	0.598
Optimal bandwidth w/covars	–0.08	0.16	0.645	–0.18	0.24	0.450
Optimal bandwidth x 2 w/covars*	**–0.09***	0.12	0.457	–0.08	**0.17***	**0.640***
Optimal bandwidth x 3 w/covars	–0.06	0.10	0.538	–0.11	0.15	0.462

Note. Coefficients in the table represent regression discontinuity estimates and their associated standard errors and p-values. Figures in the Conventional Impact Estimates columns were generated from conventional ordinary least squares estimation procedures; figures in the Robust Bias-Corrected Estimates columns were generated from robust, bias-corrected local polynomial regressions (Cattaneo et al., 2019). Each postsecondary outcome was estimated at optimal bandwidths around the discontinuity, using methods outlined in Cattaneo et al. (2019), at two multiples around the optimal bandwidths and both with and without covariates.

**Preferred model specifications are represented in bold text.*

TABLE A40

Effect of Traditional Scholarship Awards on 3-Year Persistence, by Estimation Approach: Cohort 1, Male Students

Cohort 1: 3-Year Persistence	Conventional Impact Estimate (Impact)	Conventional Impact Estimate (Standard Error)	Conventional Impact Estimate (*p*-value)	Robust Bias-Corrected Impact Estimate (Impact)	Robust Bias-Corrected Impact Estimate (Standard Error)	Robust Bias-Corrected Impact Estimate (*p*-value)
Optimal bandwidth	–0.11	0.19	0.554	–0.42	0.30	0.165
Optimal bandwidth x 2	0.11	0.15	0.464	–0.15	0.21	0.482
Optimal bandwidth x 3	0.19	0.13	0.156	0.00	0.18	0.991
Optimal bandwidth w/covars	0.00	0.16	0.992	–0.31	0.23	0.178
Optimal bandwidth x 2 w/covars*	**0.11***	0.14	0.441	–0.06	**0.20***	**0.751***
Optimal bandwidth x 3 w/covars	0.17	0.13	0.190	0.01	0.18	0.938

Note. Coefficients in the table represent regression discontinuity estimates and their associated standard errors and p-values. Figures in the Conventional Impact Estimates columns were generated from conventional ordinary least squares estimation procedures; figures in the Robust Bias-Corrected Estimates columns were generated from robust, bias-corrected local polynomial regressions (Cattaneo et al., 2019). Each postsecondary outcome was estimated at optimal bandwidths around the discontinuity, using methods outlined in Cattaneo et al. (2019), at two multiples around the optimal bandwidths and both with and without covariates.

**Preferred model specifications are represented in bold text.*

TABLE A41

Effect of Traditional Scholarship Awards on Completion, by Estimation Approach: Cohort 1, Male Students

Cohort 1: Completion	Conventional Impact Estimate (Impact)	Conventional Impact Estimate (Standard Error)	Conventional Impact Estimate (*p*-value)	Robust Bias-Corrected Impact Estimate (Impact)	Robust Bias-Corrected Impact Estimate (Standard Error)	Robust Bias-Corrected Impact Estimate (*p*-value)
Optimal bandwidth	–0.07	0.10	0.504	–0.17	0.13	0.202
Optimal bandwidth x 2	0.01	0.08	0.945	–0.10	0.11	0.385
Optimal bandwidth x 3	0.01	0.07	0.858	–0.03	0.10	0.739
Optimal bandwidth w/covars	–0.04	0.10	0.686	–0.11	0.12	0.364
Optimal bandwidth x 2 w/covars*	**0.00***	0.08	0.969	–0.07	**0.10***	**0.528***
Optimal bandwidth x 3 w/covars	0.01	0.07	0.917	–0.03	0.09	0.749

Note. Coefficients in the table represent regression discontinuity estimates and their associated standard errors and p-values. Figures in the Conventional Impact Estimates columns were generated from conventional ordinary least squares estimation procedures; figures in the Robust Bias-Corrected Estimates columns were generated from robust, bias-corrected local polynomial regressions (Cattaneo et al., 2019). Each postsecondary outcome was estimated at optimal bandwidths around the discontinuity, using methods outlined in Cattaneo et al. (2019), at two multiples around the optimal bandwidths and both with and without covariates.

**Preferred model specifications are represented in bold text.*

TABLE A42

Effect of Traditional Scholarship Awards on 2-Year Persistence, by Estimation Approach: Cohort 2, Male Students

Cohort 2: 2-Year Persistence	Conventional Impact Estimate (Impact)	Conventional Impact Estimate (Standard Error)	Conventional Impact Estimate (*p*-value)	Robust Bias-Corrected Impact Estimate (Impact)	Robust Bias-Corrected Impact Estimate (Standard Error)	Robust Bias-Corrected Impact Estimate (*p*-value)
Optimal bandwidth	0.01	0.13	0.928	0.10	0.18	0.563
Optimal bandwidth x 2	0.04	0.10	0.716	–0.04	0.13	0.778
Optimal bandwidth x 3	0.10	0.09	0.255	–0.04	0.12	0.733
Optimal bandwidth w/covars	–0.03	0.13	0.835	0.12	0.17	0.505
Optimal bandwidth x 2 w/covars*	**–0.04***	0.10	0.716	–0.07	**0.14***	**0.628***
Optimal bandwidth x 3 w/covars	0.04	0.09	0.619	–0.12	0.12	0.334

Note. Coefficients in the table represent regression discontinuity estimates and their associated standard errors and p-values. Figures in the Conventional Impact Estimates columns were generated from conventional ordinary least squares estimation procedures; figures in the Robust Bias-Corrected Estimates columns were generated from robust, bias-corrected local polynomial regressions (Cattaneo et al., 2019). Each postsecondary outcome was estimated at optimal bandwidths around the discontinuity, using methods outlined in Cattaneo et al. (2019), at two multiples around the optimal bandwidths and both with and without covariates.

**Preferred model specifications are represented in bold text.*

TABLE A43

Effect of Traditional Scholarship Awards on Enrollment, by Estimation Approach: Cohort 3, Male Students

Cohort 3: Enrollment	Conventional Impact Estimate (Impact)	Conventional Impact Estimate (Standard Error)	Conventional Impact Estimate (*p*-value)	Robust Bias-Corrected Impact Estimate (Impact)	Robust Bias-Corrected Impact Estimate (Standard Error)	Robust Bias-Corrected Impact Estimate (*p*-value)
Optimal bandwidth	0.05	0.15	0.728	0.15	0.21	0.472
Optimal bandwidth x 2	0.08	0.11	0.458	0.05	0.16	0.726
Optimal bandwidth x 3	0.07	0.09	0.460	0.07	0.13	0.580
Optimal bandwidth w/covars	0.05	0.14	0.729	0.14	0.21	0.482
Optimal bandwidth x 2 w/covars*	**0.08***	0.10	0.431	0.04	**0.15***	**0.776***
Optimal bandwidth x 3 w/covars	0.07	0.09	0.442	0.08	0.13	0.527

Note. Coefficients in the table represent regression discontinuity estimates and their associated standard errors and p-values. Figures in the Conventional Impact Estimates columns were generated from conventional ordinary least squares estimation procedures; figures in the Robust Bias-Corrected Estimates columns were generated from robust, bias-corrected local polynomial regressions (Cattaneo et al., 2019). Each postsecondary outcome was estimated at optimal bandwidths around the discontinuity, using methods outlined in Cattaneo et al. (2019), at two multiples around the optimal bandwidths and both with and without covariates.

**Preferred model specifications are represented in bold text.*

TABLE A44

Effect of Traditional Scholarship Awards on 2-Year Enrollment, by Estimation Approach: Cohort 3, Male Students

Cohort 3: 2-Year Enrollment	Conventional Impact Estimate (Impact)	Conventional Impact Estimate (Standard Error)	Conventional Impact Estimate (*p*-value)	Robust Bias-Corrected Impact Estimate (Impact)	Robust Bias-Corrected Impact Estimate (Standard Error)	Robust Bias-Corrected Impact Estimate (*p*-value)
Optimal bandwidth	–0.05	0.08	0.556	0.08	0.10	0.446
Optimal bandwidth x 2	–0.03	0.07	0.669	–0.08	0.09	0.358
Optimal bandwidth x 3	–0.01	0.06	0.819	–0.05	0.08	0.556
Optimal bandwidth w/covars	–0.04	0.08	0.611	0.11	0.10	0.292
Optimal bandwidth x 2 w/covars*	**–0.04***	0.07	0.576	–0.09	**0.09***	**0.322***
Optimal bandwidth x 3 w/covars	–0.01	0.06	0.822	–0.05	0.08	0.518

Note. Coefficients in the table represent regression discontinuity estimates and their associated standard errors and p-values. Figures in the Conventional Impact Estimates columns were generated from conventional ordinary least squares estimation procedures; figures in the Robust Bias-Corrected Estimates columns were generated from robust, bias-corrected local polynomial regressions (Cattaneo et al., 2019). Each postsecondary outcome was estimated at optimal bandwidths around the discontinuity, using methods outlined in Cattaneo et al. (2019), at two multiples around the optimal bandwidths and both with and without covariates.

**Preferred model specifications are represented in bold text.*

TABLE A45

Effect of Traditional Scholarship Awards on 4-Year Enrollment, by Estimation Approach: Cohort 3, Male Students

Cohort 3: 4-Year Enrollment	Conventional Impact Estimate (Impact)	Conventional Impact Estimate (Standard Error)	Conventional Impact Estimate (*p*-value)	Robust Bias-Corrected Impact Estimate (Impact)	Robust Bias-Corrected Impact Estimate (Standard Error)	Robust Bias-Corrected Impact Estimate (*p*-value)
Optimal bandwidth	0.11	0.15	0.465	0.08	0.21	0.697
Optimal bandwidth x 2	0.10	0.11	0.338	0.13	0.15	0.397
Optimal bandwidth x 3	0.08	0.09	0.359	0.11	0.13	0.398
Optimal bandwidth w/covars	0.11	0.14	0.423	0.07	0.20	0.716
Optimal bandwidth x 2 w/covars*	**0.10***	0.10	0.316	0.14	**0.15***	**0.358***
Optimal bandwidth x 3 w/covars	0.08	0.09	0.350	0.12	0.13	0.355

Note. Coefficients in the table represent regression discontinuity estimates and their associated standard errors and p-values. Figures in the Conventional Impact Estimates columns were generated from conventional ordinary least squares estimation procedures; figures in the Robust Bias-Corrected Estimates columns were generated from robust, bias-corrected local polynomial regressions (Cattaneo et al., 2019). Each postsecondary outcome was estimated at optimal bandwidths around the discontinuity, using methods outlined in Cattaneo et al. (2019), at two multiples around the optimal bandwidths and both with and without covariates.

**Preferred model specifications are represented in bold text.*

TABLE A46

Effect of Traditional Scholarship Awards on 1-Year Persistence, by Estimation Approach: Cohort 3, Male Students

Cohort 3: 1-Year Persistence	Conventional Impact Estimate (Impact)	Conventional Impact Estimate (Standard Error)	Conventional Impact Estimate (*p*-value)	Robust Bias-Corrected Impact Estimate (Impact)	Robust Bias-Corrected Impact Estimate (Standard Error)	Robust Bias-Corrected Impact Estimate (*p*-value)
Optimal bandwidth	0.07	0.13	0.576	0.10	0.19	0.588
Optimal bandwidth x 2	0.06	0.10	0.558	0.08	0.14	0.559
Optimal bandwidth x 3	0.07	0.09	0.420	0.06	0.12	0.620
Optimal bandwidth w/covars	0.07	0.13	0.597	0.12	0.19	0.533
Optimal bandwidth x 2 w/covars*	**0.07***	0.10	0.498	0.10	**0.14***	**0.492***
Optimal bandwidth x 3 w/covars	0.07	0.09	0.433	0.07	0.12	0.578

Note. Coefficients in the table represent regression discontinuity estimates and their associated standard errors and p-values. Figures in the Conventional Impact Estimates columns were generated from conventional ordinary least squares estimation procedures; figures in the Robust Bias-Corrected Estimates columns were generated from robust, bias-corrected local polynomial regressions (Cattaneo et al., 2019). Each postsecondary outcome was estimated at optimal bandwidths around the discontinuity, using methods outlined in Cattaneo et al. (2019), at two multiples around the optimal bandwidths and both with and without covariates.

**Preferred model specifications are represented in bold text.*

APPENDIX B. METHODOLOGICAL DETAILS FOR THE ADULT LEARNER AWARD IMPACT ANALYSIS

Population and Sample

The Adult Learner target population was defined as postsecondary students who had previously stopped attending college but subsequently reenrolled in college and intended to pursue an academic credential after reentry. To be eligible for a KC Scholars Adult Learner award, students had to be at least 24 years old; live in one of the six eligible counties (Wyandotte, Johnson, Cass, Clay, Jackson, Platte); have an EFC of $12,000 or less; previously earned at least 12 college credits at an accredited, Title IV, postsecondary institution; and be lawfully present in the United States or be DACA eligible/approved.

There were 624 Adult Learners from four cohorts who were examined: Cohort 1, corresponding to award cycle 2017; Cohort 2, corresponding to award cycle 2018; Cohort 3, corresponding to award cycle 2019; and Cohort 4, corresponding to award cycle 2020.

Students in Cohort 1 reentered college in the 2017/18 academic year; students in Cohort 2 reentered college in the 2018/19 academic year; students in Cohort 3 reentered college in the 2019/20 academic year; and students in Cohort 4 reentered college in the 2020/21 academic year. The evaluation team provided the NSCRC data on the 624 Adult Learners to ascertain postsecondary enrollment, persistence, and completion data and to generate a sample of comparison students against whom the evaluation team could contrast postsecondary outcomes.

Using the students' birthdates and first, middle, and last names, NSCRC staff located 445 of the 624 Adult Learners in the NSC's StudentTracker database. Successful matches were found for 69 students in Cohort 1 (2017), 107 students in Cohort 2 (2018), 136 students in Cohort 3 (2019), and 135 in Cohort 4 (2020). NSCRC then ensured these matches met the following conditions:

- Students were enrolled either full-time or part-time between July 1 of the award cycle year and March 1 of the following year.
- Students were not enrolled at any level between July 1 and November 1 of the year preceding a given award cycle.
- Students were enrolled at any level (to include completion of associate's level degrees) prior to July 1 of the year preceding a given award cycle.
- Students did not complete a bachelor's level degree or higher prior to July of the year preceding a given award cycle.

KC Scholar Adult Learner awardees in each cohort were descriptively very similar to their matched controls.

Methods

Five postsecondary outcomes were examined:

1-year persistence: Reenrollment 1 year from students' first reenrollment term (e.g., fall to fall, spring to spring, summer to summer)

1-year persistence: Reenrollment 2 years from students' first reenrollment term (e.g., fall to fall, spring to spring, summer to summer)

Certificate completion: Successful completion of a certificate after college reentry. Sample certificates in the data included various certificates of completion, short-term certificates, vocational certificates, and technical certificates.

AA/AS completion: Successful completion of an associate's degree of arts (AA) or science (AS) after reentry. Sample AA and AS degrees completed by students in the sample included Associate of Science, Associate of Arts, Associate of General Studies, and Associate of Applied Technology.

BA/BS completion: Successful completion of a bachelor's degree of arts (BA) or science (BS) after reentry. Sample BA and BS degrees completed by students in the sample included Bachelor of Health Science, Bachelor of Liberal Arts, Bachelor of Business Administration, and Bachelor of Social Work.

Because the NSCRC matched Adult Learner awardees with non-awardees in the StudentTracker database based on gender, race/ethnicity, and age, the two groups of students (Adult Learner and control groups) were virtually identical on the observed covariates of gender, race, and age (tables B1 through B4). Slight variation between the groups was observed on the measure capturing the number of academic terms a student had completed prior to reentry. The greatest degree of variation between the groups of students was found in the five outcome measures. The evaluation team used a series of linear probability regression models to ascertain the degree to which receiving a KC Scholars Adult Learner award could explain this variation.

Impact estimates from linear probability models that did not include controls for gender, race/ethnicity, age, terms completed prior to reentry, and the colleges in which students reenrolled were not dissimilar from models that included these measures. Still, models with these measures were preferred because they increased the models' explanatory power and improved precision. Tables B5, B10 through B12, and B16 through B18 contain the estimates from the preferred linear probability model specifications. These models estimated the relationship between receiving a KC Scholars Adult Learner award and the probabilities of each of the five binary postsecondary outcomes, conditioned on students' gender, race/ethnicity, age, a squared age term, the number of academic terms students completed prior to reentry, and dummy indicators for the colleges in which the students reenrolled. Models that included students from multiple cohorts included indicators for cohort membership. Estimated standard errors were robust to heteroscedasticity, meaning that the standard errors are correct whether there is heteroscedasticity or not.

For an added test of robustness, the evaluation team employed a two-step matching procedure, though there was little indication that doing so was necessary given the similarities between the two samples. First, the evaluators sought to reduce potential imbalance on the covariates using coarsened exact matching (CEM), which reduced the analytic data to only student data for which an exact match existed. Practically speaking, this temporary "coarsening" of the covariates was done by restructuring them into meaningful categorical groups or bins, which was especially important for the continuously measured covariates, such as age and terms prior to reentry. Data could then be more easily placed into matching groups or cells and matched to similar students falling within the same coarsened cells. Data that were successfully matched were retained; those that could not be matched were discarded, though given the a priori NSCRC matching procedure, only 27 students (3 percent) were discarded.

A series of propensity score matching methods were then performed to estimate the impact of receiving a KC Scholars Adult Learner award on the five postsecondary outcomes. Propensity score methods (PSM) of impact analysis first estimate a treatment probability for each student based on observed covariates. Depending on the matching algorithm (e.g., nearest neighbor, kernel weighting), PSM then matches data with similar estimated treatment probabilities, compares their outcomes of students, and then calculates an average treatment effect. This process was carried out for four different matching algorithms (tables B6 through B9 and B13 through B15). Average treatment effects on the treated cases of these matching models were largely similar to the evaluation team's preferred linear probability models, with some

exceptions. For example, although linear probability models found a statistical association between receiving an Adult Learner award and 1-year persistence among Cohort 2 awardees, this association was not significant in estimates produced from nearest neighbor matching techniques. That said, nearest neighbor matching techniques did find a statistically significant positive association between receiving an Adult Learner award and associate's degree completion among Cohort 2 awardees. Linear probability models did not find this association to be significant. As another example, although linear probability models did not find the association between associate's degree completion and receiving an Adult Learner award among Cohort 3 Adult Learner awardees to be significant statistically at conventional levels, impact estimates produced from nearest neighbor and Mahalanobis matching techniques did find this relationship to be marginally significant statistically. Because these matching techniques approximate standard errors on treatment effects assuming homoscedasticity of the outcome variable within treated and control groups, and because the linear probability model specifications were not based on this assumption, the evaluation team has greater confidence in the linear probability estimates.

TABLE B1

Descriptive Statistics of Analytic Data, by Treatment Status, Cohort 1

Characteristic	Control Group (Mean)	Control Group (SD)	Control Group (*n*)	Adult Learner Awardees (Mean)	Adult Learner Awardees (SD)	Adult Learner Awardees (*n*)
1-year persistence	0.58	0.50	69	0.71	0.46	69
2-year persistence	0.30	0.46	69	0.54	0.50	69
Earned certificate	0.10	0.30	69	0.22	0.42	69
Earned AA/AS degree	0.16	0.37	69	0.29	0.46	69
Earned BA/BS degree	0.19	0.39	69	0.28	0.45	69
Female	0.73	0.45	69	0.73	0.45	69
White	0.22	0.42	69	0.22	0.42	69
Black	0.66	0.48	69	0.67	0.47	69
Latinx	0.09	0.29	69	0.09	0.29	69
Asian	0.00	0.00	69	0.00	0.00	69
Other	0.03	0.17	69	0.01	0.12	69
Age at reentry	34.43	8.66	69	34.41	8.66	69
Terms prior to reentry	8.10	6.81	69	9.36	7.57	69

TABLE B2

Descriptive Statistics of Analytic Data, by Treatment Status, Cohort 2

Characteristic	Control Group (Mean)	Control Group (SD)	Control Group (*n*)	Adult Learner Awardees (Mean)	Adult Learner Awardees (SD)	Adult Learner Awardees (*n*)
1-year persistence	0.53	0.50	107	0.68	0.47	107
2-year persistence	0.37	0.49	107	0.47	0.50	107
Earned certificate	0.09	0.29	107	0.10	0.31	107
Earned AA/AS degree	0.10	0.31	107	0.18	0.38	107
Earned BA/BS degree	0.09	0.29	107	0.11	0.32	107
Female	0.88	0.33	107	0.88	0.33	107
White	0.12	0.33	107	0.15	0.36	107
Black	0.68	0.47	107	0.66	0.47	107
Latinx	0.06	0.23	107	0.05	0.21	107
Asian	0.01	0.10	107	0.01	0.10	107
Other	0.13	0.34	107	0.13	0.34	107
Age at reentry	36.99	9.59	107	36.93	9.55	107
Terms prior to reentry	8.10	6.81	107	9.36	7.57	107

TABLE B3

Descriptive Statistics of Analytic Data, by Treatment Status, Cohort 3

Characteristic	Control Group (Mean)	Control Group (SD)	Control Group (*n*)	Adult Learner Awardees (Mean)	Adult Learner Awardees (SD)	Adult Learner Awardees (*n*)
1-year persistence	0.49	0.50	136	0.80	0.40	136
2-year persistence	0.26	0.44	136	0.58	0.50	136
Earned certificate	0.04	0.19	136	0.07	0.26	136
Earned AA/AS degree	0.05	0.22	136	0.10	0.30	136
Female	0.80	0.40	136	0.80	0.40	136
White	0.22	0.42	136	0.23	0.42	136
Black	0.57	0.50	136	0.58	0.50	136
Latinx	0.08	0.27	136	0.08	0.27	136
Asian	0.00	0.00	136	0.00	0.00	136
Other	0.13	0.33	136	0.11	0.31	136
Age at reentry	36.58	8.38	136	36.54	8.40	136
Terms prior to reentry	8.10	6.81	136	9.36	7.57	136

TABLE B4

Descriptive Statistics of Analytic Data, by Treatment Status, Cohort 4

Characteristic	Control Group (Mean)	Control Group (SD)	Control Group (*n*)	Adult Learner Awardees (Mean)	Adult Learner Awardees (SD)	Adult Learner Awardees (*n*)
1-year persistence	0.36	0.48	135	0.68	0.47	133
Female	0.80	0.40	135	0.80	0.40	133
White	0.16	0.37	135	0.16	0.37	133
Black	0.66	0.47	135	0.67	0.47	133
Latinx	0.09	0.29	135	0.09	0.29	133
Asian	0.01	0.09	135	0.01	0.09	133
Other	0.08	0.28	135	0.08	0.26	133
Age at reentry	35.68	8.86	135	35.67	8.87	133
Terms prior to reentry	8.10	6.81	135	9.36	7.57	133

TABLE B5
Cohort 4 (2020) Conditional Linear Probability Estimates

Variables	1-Year Persistence
KC Scholar	0.32*** (–0.06)
Race/ethnicity = 2, Black	–0.11 (–0.09)
Race/ethnicity = 3, Hispanic	–0.19 (–0.13)
Race/ethnicity = 4, Asian	0.25 (–0.19)
Race/ethnicity = 5, Multiracial	–0.08 (–0.13)
Female	–0.04 (–0.08)
Age at reentry	–0.03 (–0.02)
c.age#c.age	0.00 (0.00)
Terms prior to reentry	–0.01* (–0.01)
School dummies	Yes
Observations	268
R-squared	0.21

Note. Robust standard errors in parentheses; *** p<*0.001*, ** p<*0.01*, * p<*0.05*.

TABLE B6

Adult Learner Impact Estimates from Two-Step Matching Process, by Matching Algorithm, Cohort 1

Matching Results	1 Nearest Neighbor (Impact)	1 Nearest Neighbor (SE)	5 Nearest Neighbor (Impact)	5 Nearest Neighbor (SE)	Kernal (Impact)	Kernal (SE)	5 Mahalanobis (Impact)	5 Mahalanobis (SE)
1-year persistence	0.19	–0.13	0.10	–0.08	0.12	–0.10	0.11	–0.09
2-year persistence	0.31**	–0.13	0.23**	–0.11	0.23***	–0.09	0.20**	–0.08
Certificate completion	0.09	–0.09	0.10*	–0.06	0.13**	–0.05	0.13*	–0.07
AA/AS completion	0.21**	–0.10	0.16**	–0.08	0.16**	–0.07	0.17**	–0.07
BA/BS completion	0.09	–0.09	0.10	–0.09	0.08	–0.10	0.11	–0.08

Note. *** p<0.001, ** p<0.01, * p<0.05.

TABLE B7

Adult Learner Impact Estimates from Two-Step Matching Process, by Matching Algorithm, Cohort 2

Matching Results	1 Nearest Neighbor (Impact)	1 Nearest Neighbor (SE)	5 Nearest Neighbor (Impact)	5 Nearest Neighbor (SE)	Kernal (Impact)	Kernal (SE)	5 Mahalanobis (Impact)	5 Mahalanobis (SE)
1-year persistence	0.19	–0.13	0.17**	–0.08	0.17**	–0.07	0.15*	–0.09
2-year persistence	0.14	–0.11	0.11	–0.08	0.12*	–0.06	0.12	–0.09
Certificate completion	–0.04	–0.06	0.02	–0.04	0.01	–0.04	0.00	–0.05
AA/AS completion	0.03	–0.06	0.09*	–0.05	0.09**	–0.04	0.08	–0.06
BA/BS completion	0.00	–0.06	–0.01	–0.05	0.01	–0.05	0.02	–0.04

Note. *** p<0.001, ** p<0.01, * p<0.05.

TABLE B8

Adult Learner Impact Estimates from Two-Step Matching Process, by Matching Algorithm, Cohort 3

Matching Results	1 Nearest Neighbor (Impact)	1 Nearest Neighbor (SE)	5 Nearest Neighbor (Impact)	5 Nearest Neighbor (SE)	Kernal (Impact)	Kernal (SE)	5 Mahalanobis (Impact)	5 Mahalanobis (SE)
1-year persistence	0.37***	–0.08	0.39***	–0.07	0.36***	–0.06	0.32***	–0.06
2-year persistence	0.33***	–0.07	0.35***	–0.06	0.34***	–0.06	0.33***	–0.07
Certificate completion	0.05	–0.04	0.05	–0.04	0.04	–0.03	0.04	–0.03
AA/AS completion	0.03	–0.04	0.05*	–0.03	0.05	–0.03	0.06*	–0.03

Note. *** p<0.001, ** p<0.01, * p<0.05.

TABLE B9

Adult Learner Impact Estimates from Two-Step Matching Process, by Matching Algorithm, Cohort 4

Matching Results	1 Nearest Neighbor (Impact)	1 Nearest Neighbor (SE)	5 Nearest Neighbor (Impact)	5 Nearest Neighbor (SE)	Kernal (Impact)	Kernal (SE)	5 Mahalanobis (Impact)	5 Mahalanobis (SE)
1-year persistence	0.29***	–0.08	0.31***	–0.06	0.31***	–0.07	0.32***	–0.06

Note. *** p<0.001, ** p<0.01, * p<0.05.

TABLE B10

All Cohorts (2017 through 2020) Conditional Linear Probability Estimates

Variable	1-Year Persistence
KC Scholar	0.26*** (–0.03)
Race/ethnicity = 2, Black	–0.07 (–0.05)
Race/ethnicity = 3, Hispanic	–0.10 (–0.07)
Race/ethnicity = 4, Asian	0.29** (–0.11)
Race/ethnicity = 5, Multiracial	–0.11 (–0.07)
Female	0.03 (–0.04)
Age at reentry	0.01 (–0.01)
c.age#c.age	0.00 (0.00)
Terms prior to reentry	–0.01** (0.00)
Cohort dummies	Yes
School dummies	Yes
Observations	892
R-squared	0.13

Note. Robust standard errors in parentheses; *** p<0.001, ** p<0.01, * p<0.05.

TABLE B11
Cohort 3 (2019) Conditional Linear Probability Estimates

Variable	2-Year Persistence	Earned Certificate	Earned AA/AS Degree
KC Scholar	0.34***	0.03	0.05
	(–0.06)	(–0.03)	(–0.03)
Race/ethnicity = 2, Black	–0.10	–0.13*	–0.10
	(–0.08)	(–0.06)	(–0.06)
Race/ethnicity = 3, Hispanic	–0.21	–0.14**	–0.06
	(–0.12)	(–0.05)	(–0.07)
Race/ethnicity = 5, Multiracial	–0.21	–0.11	–0.13*
	(–0.11)	(–0.06)	(–0.06)
Female	0.11	–0.04	–0.05
	(–0.08)	(–0.05)	(–0.05)
Age at reentry	–0.06	–0.01	0.01
	(–0.03)	(–0.02)	(–0.01)
c.age#c.age	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)
Terms prior to reentry	–0.01	0.00	0.00
	(–0.01)	(0.00)	(0.00)
School dummies	Yes	Yes	Yes
Observations	272	272	272
R-squared	0.22	0.12	0.12

Note. Robust standard errors in parentheses; *** p<0.001, ** p<0.01, * p<0.05.

TABLE B12

Cohorts 1, 2, and 3 (2017, 2018 and 2019) Conditional Linear Probability Estimates

Variable	2-Year Persistence	Earned Certificate	Earned AA/AS Degree
KC Scholar	0.25*** (–0.04)	0.04 (–0.02)	0.08** (–0.03)
Race/ethnicity = 2, Black	–0.3 (–0.06)	–0.06 (–0.04)	–0.08 (–0.04)
Race/ethnicity = 3, Hispanic	0.03 (–0.09)	–0.07 (–0.05)	–0.09 (–0.06)
Race/ethnicity = 4, Asian	–0.73*** (–0.14)	–0.09 (–0.06)	–0.24** (–0.08)
Race/ethnicity = 5, Multiracial	–0.13 (–0.08)	–0.06 (–0.04)	–0.02 (–0.06)
Female	0.09 (–0.05)	–0.01 (–0.03)	0.02 (–0.04)
Age at reentry	–0.01 (–0.02)	0.01 (–0.01)	0.02 (–0.01)
c.age#c.age	0.00 (0.00)	0.00 (0.00)	–0.00* (0.00)
Terms prior to reentry	–0.01** (0.00)	0.00 (0.00)	0.00 (0.00)
Cohort dummies	Yes	Yes	Yes
School dummies	Yes	Yes	Yes
Observations	624	624	624
R-squared	0.12	0.11	0.11

*Note. Robust standard errors in parentheses; *** p<0.001, ** p<0.01, * p<0.05.*

TABLE B13

Adult Learner Impact Estimates from Two-Step Matching Process, by Matching Algorithm: Cohorts 1 and 2 (2017 and 2018)

Matching Result	1 Nearest Neighbor (Impact)	1 Nearest Neighbor (SE)	5 Nearest Neighbor (Impact)	5 Nearest Neighbor (SE)	Kernal (Impact)	Kernal (SE)	5 Mahalanobis (Impact)	5 Mahalanobis (SE)
BA/BS completion	0.01	–0.06	0.05	–0.05	0.04	–0.04	0.04	–0.04

Note. *** p<0.001, ** p<0.01, * p<0.05.

TABLE B14

Adult Learner Impact Estimates from Two-Step Matching Process, by Matching Algorithm: Cohorts 1, 2, and 3 (2017, 2018, and 2019)

Matching Results	1 Nearest Neighbor (Impact)	1 Nearest Neighbor (SE)	5 Nearest Neighbor (Impact)	5 Nearest Neighbor (SE)	Kernal (Impact)	Kernal (SE)	5 Mahalanobis (Impact)	5 Mahalanobis (SE)
2-Year persistence	0.22***	–0.06	0.24***	–0.04	0.24***	–0.04	0.24***	–0.05
Certificate completion	0.00	–0.03	0.05	–0.03	0.05*	–0.02	0.05*	–0.03
AA/AS completion	0.04	–0.04	0.08**	–0.04	0.08***	–0.03	0.09***	–0.03

Note. *** p<0.001, ** p<0.01, * p<0.05.

TABLE B15

Adult Learner Impact Estimates from Two-Step Matching Process, by Matching Algorithm: All Cohorts (2017 through 2020)

Matching Results	1 Nearest Neighbor (Impact)	1 Nearest Neighbor (SE)	5 Nearest Neighbor (Impact)	5 Nearest Neighbor (SE)	Kernal (Impact)	Kernal (SE)	5 Mahalanobis (Impact)	5 Mahalanobis (SE)
1-Year persistence	0.21***	–0.06	0.26***	–0.04	0.26***	–0.04	0.28***	–0.04

Note. *** p<0.001, ** p<0.01, * p<0.05.

TABLE B16
Cohort 1 (2017) Conditional Linear Probability Estimates

Variable	Earned Certificate	Earned AA/AS Degree	Earned BA/BS Degree
KC Scholar	0.12 (–0.07)	0.15* (–0.07)	0.09 (–0.07)
Race/ethnicity = 2, Black	–0.05 (–0.10)	–0.11 (–0.10)	–0.12 (–0.09)
Race/ethnicity = 3, Hispanic	–0.05 (–0.17)	–0.08 (–0.18)	–0.13 (–0.19)
Race/ethnicity = 5, Multiracial	0.05 (–0.34)	–0.09 (–0.36)	–0.20 (–0.10)
Female	0.10 (–0.08)	0.16 (–0.09)	0.09 (–0.09)
Age at reentry	–0.02 (–0.05)	–0.07 (–0.04)	–0.04 (–0.03)
c.age#c.age	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Terms prior to reentry	0.00 (–0.01)	–0.01 –(0.01)	0.00 –(0.01)
School dummies	Yes	Yes	Yes
Observations	138	138	138
R-squared	0.15	0.25	0.32

Note. Robust standard errors in parentheses; *** p<*0.001*, ** p<*0.01*, * p<*0.05*.

TABLE B17
Cohort 2 (2018) Conditional Linear Probability Estimates

Variable	Earned Certificate	Earned AA/AS Degree	Earned BA/BS Degree
KC Scholar	–0.01 (–0.04)	0.06 (–0.05)	0.00 (–0.04)
Race/ethnicity = 2, Black	0.03 (–0.07)	0.00 (–0.07)	–0.07 (–0.07)
Race/ethnicity = 3, Hispanic	0.08 (–0.11)	–0.06 (–0.09)	0.03 (–0.16)
Race/ethnicity = 4, Asian	–0.05 (–0.09)	–0.13 (–0.11)	–0.08 (–0.11)
Race/ethnicity = 5, Multiracial	0.03 (–0.07)	0.17 (–0.11)	–0.09 (–0.08)
Female	0.03 (–0.05)	–0.01 (–0.07)	0.05 (–0.08)
Age at reentry	0.04* (–0.02)	0.06** (–0.02)	0.00 (–0.02)
c.age#c.age	–0.01** (0.00)	–0.00** (0.00)	0.00 (0.00)
Terms prior to reentry	0.01* (0.00)	0.00 –(0.01)	0.01 –(0.01)
School dummies	Yes	Yes	Yes
Observations	214	214	214
R-squared	0.21	0.12	0.23

*Note. Robust standard errors in parentheses; *** p<0.001, ** p<0.01, * p<0.05.*

TABLE B18

Cohorts 1 and 2 (2017 and 2018) Conditional Linear Probability Estimates

Variable	Earned BA/BS Degree	Earned Academic Credential
KC Scholar	0.03 (–0.04)	0.02 (–0.05)
Race/ethnicity = 2, Black	–0.08 (–0.05)	–0.15* (–0.07)
Race/ethnicity = 3, Hispanic	–0.01 (–0.11)	0.06 (–0.14)
Race/ethnicity = 4, Asian	–0.06 (–0.09)	–0.47*** (–0.13)
Race/ethnicity = 5, Multiracial	–0.11 (–0.06)	–0.09 (–0.11)
Female	0.06 (–0.05)	0.14 (–0.07)
Age at reentry	–0.01 (–0.02)	0.02 (–0.02)
c.age#c.age	0.00 (0.00)	0.00 (0.00)
Terms prior to reentry	0.01 (0.00)	0.01 –(0.01)
Cohort dummies	Yes	Yes
School dummies	Yes	Yes
Observations	352	352
R-squared	0.28	0.13

Note. Robust standard errors in parentheses; *** p<0.001, ** p<0.01, * p<0.05.

APPENDIX C. DESCRIPTIONS AND NUMERIC VALUES FOR FIGURES 1 TO 3

Figure 1
Percentage of Traditional Awardees and Non-Awardees Who Enrolled and Persisted in a KC Scholars Partner Institution: Cohort 3 Enrollment and Cohort 3 Enrollment, Black/African American Students
Overview and Presentation

A vertical bar chart displays the percentage of Traditional awardees and non-awardees in Cohort 3—all students and, specifically, Black/African American students—who enrolled and persisted in a KC Scholars partner institution. The bars are color-coded to differentiate data for awardees and non-awardees.

Values

Numeric values presented on the image:

Cohort and Outcome	Awardees	Non-Awardees
Cohort 3 enrollment	**70%**	**50%**
Cohort 3 enrollment, Black/African American students	**67%**	**43%**

Figure 2

Percentage of Traditional Awardees and Non-Awardees Who Enrolled and Persisted in a KC Scholars Partner Institution: Cohort 3 4-Year Enrollment; Cohort 3 4-Year Enrollment, Black/African American Students; and Cohort 3 4-Year Enrollment, First-Generation Students

Overview and presentation

A vertical bar chart displays the percentage of Traditional awardees and non-awardees in Cohort 3—all students, Black/African American students, and first-generation students—who enrolled and persisted in a 4-year KC Scholars partner institution. The bars are color-coded to differentiate data for awardees and non-awardees.

Values

Numeric values presented on the image:

Cohort and Outcome	Awardees	Non-Awardees
Cohort 3 4-year enrollment	58%	22%
Cohort 3 4-year enrollment, Black/African American students	59%	20%
Cohort 3 4-year enrollment, first-generation students	57%	16%

Figure 3

Percentage of Traditional Awardees and Non-Awardees Who Enrolled and Persisted in a KC Scholars Partner Institution: Cohort 1 3-Year Persistence, Black/African American Students

Overview and presentation

A vertical bar chart displays the percentage of Traditional awardees and non-awardees in Cohort 1 who identified as Black/African American and who persisted into their fourth year of college at a KC Scholars partner institution. The bars are color-coded to differentiate data for awardees and non-awardees.

Values

Numeric values presented on the image:

Cohort and Outcome	Awardees	Non-Awardees
Cohort 1 3-year persistence, Black/African American students	58%	21%

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