W.E. UPJOHN INSTITUTE FOR EMPLOYMENT RESEARCH

February 22, 2019

YEAR TWO REPORT

Evaluating the Kansas City Scholars College Scholarship Program

Addressed to:

EWING MARION KAUFFMAN FOUNDATION

Brett Hembree
Senior Evaluation Analyst
4801 Rockhill Road
Kansas City, MO 64110-2046
Tel: 816-932-1117
bhembree@kauffman.org

Table of Contents

LIST OF FIGURES iii

LIST OF APPENDIX TABLES AND FIGURES iii

EXECUTIVE SUMMARY 1

1. INTRODUCTION 3

2. FORMATIVE EVALUATION FINDINGS 4

3. TRADITIONAL SCHOLARSHIP APPLICANTS AND AWARDEES 10
- Who Are These Students? 10
- How Did Students Learn about the Scholarship Program? 13
- What High School and Community Experiences Did Students Have? 14
- Where Do Students Aspire to Go to College? 16

4. ADULT LEARNER APPLICANTS AND AWARDEES 17
- Who Are the Adult Learners? 17
- How Did Adult Learners Find Out about the Scholarship Program? 18
- How Much Involvement Do Adult Learners Have with the Community, the Workforce, and with Family Responsibilities? 18
- What Previous Postsecondary Education Experiences Did Adult Learners Have? 19
- College Choices 21

5. COLLEGE SAVINGS MATCH AWARDEES 22
- Who Are These Students? 22
- How Did Students Learn about the CSM Program 24
- Where Do Students Aspire to Go to College? 26

6. COHORT 1 ADULT LEARNERS: IMPACT ANALYSIS 27

7. CONCLUSIONS 30
- Conclusions 30

8. DATA APPENDIX 32

9. METHODOLOGICAL APPENDIX AND ADDITIONAL TABLES 43

REFERENCES 47

LIST OF FIGURES

2.1 Focus Group and Interview Participant Summary 4
3.1 A Significant Majority of Submissions Are Persons of Color 10
3.2 Students Come from Low-to-Moderate Income Backgrounds 11
3.3 Scholarships Are Awarded to Students from All Counties, but Wyandotte (Kansas) and Jackson (Missouri) Predominate 12
3.4 Students Learned about KCS Primarily through School Sources 13
3.5 Awardees Had Substantially Higher GPAs Than Typical Applicants 14
3.6 Awardees Had ACT Scores Similar to Typical Applicants 15
4.1 Adult Learners by County 17
4.2 Most Adults Learned of KCS through Direct Word of Mouth Contact 18
4.3 Nearly Two-Thirds of Adult Learners are Employed Full Time 19
4.4 Distribution of Previously Sought and Intended Degrees for Adult Learners 20
4.5 Financial and Family-Related Issues Were the Largest Barriers to Success 20
5.1 College Savings Match (CSM) Program Awards Process. 22
5.2 Jackson County (MO) Had Relatively Few Matched Awards for Its Size 23
5.3 Applicants to the CSM Learned about It Mostly through School Sources 24
5.4 CSM Student GPAs Are High 25
6.1 KCS Adults Are More Likely to Reenroll in the Spring and Enroll Full-time 28
6.2 KCS Adults Enroll in 2.7 More Credits in the Spring Semester than Their Peers, Resulting in More Credits Earned 29
6.3 GPA Falls for Both Groups in the Spring, But More So For KCS Adults 29

LIST OF APPENDIX TABLES AND FIGURES

3.A.1 Characteristics of Traditional Scholarship-Eligible Submissions and Awardees 32
3.A.2 Academic Achievements, High School and Community Activities, Employment, and Family Commitment 33
3.A.3 College Choice Distributions, by Scholarship Receipt Scenario 34
3.A.7 Score Distribution of Eligible Submissions 35
4.A.1 Characteristics of Adult Learner Scholarship Awardees 36
4.A.2 Community Involvement, Employment, and Family Commitments of Adult Learners 37
4.A.3 College Choice Distributions among Adult Awardees, by Scholarship Receipt Scenario 38
5.A.1 Characteristics of CSM Seeded and Matched Awardees 39
5.A.2 GPA, High School and Community Activities, Employment, and Family Commitment 40
5.A.3 College Choice Distributions among CSM Awardees, by Match Receipt Scenario 41
5.A.5 Score Distribution of CSM Applicants 42
6.A.1 Characteristics of KCS C1 Adult Learners and Controls, before and after Matching 45
6.A.2 KCS Adult Learner Results: Robustness to Different Matching Techniques 46

EXECUTIVE SUMMARY

The Kansas City Scholars (KCS) program is an ambitious attempt to invigorate the college-going culture in greater Kansas City. Since its launch in 2016, KCS has become a vital and broadly recognized institution in the metro area, establishing collaborations with more than 120 high schools and nearly two dozen institutions of higher education. It has implemented two cycles of scholarship applications and awards. The three-pronged KCS scholarship program is designed not only to improve access to and completion of higher education, but to reduce opportunity gaps across age, income, and ethnicity.

Each year, the program targets 250 awards to 11th graders, 200 awards to adults aiming to return to college, and 500 savings accounts seeded for 9th graders, with 50 of these latter accounts coming with a four-to-one match. Across the three types of awards and two cohorts of winners, several insights have emerged.

KCS-wide Insights

- **The scholarship is largely reaching its intended audience:** Applicants and winners come from low to modest economic backgrounds, and financial need increased from the first to the second cohort.

- **However, men are underrepresented in the applicant and awardee pool:** Applicants are disproportionately women, ranging from two-thirds to three-quarters across the program; among winners, between three-quarters and nine-tenths are women.

- **The opportunity to win any of the scholarships shifts applicants' college choices from two-year colleges to four-year universities:** Across award types, the scenario of winning the scholarship boosts the share of those planning to attend a four-year university by 10 percentage points for adults and 30 percentage points for high schoolers.

Traditional Scholarship (11th graders) Insights

- **Students are more engaged with college-going:** They are thinking about college at earlier stages than before, are more confident that they will go to college, and have increased their efforts during their senior year of high school.

- **Most awardees come from Jackson County, Missouri, and Wyandotte County, Kansas:** These two counties account for two-thirds of applicants and three-quarters of awardees.

- **Students are most likely to learn about KCS through their schools:** Both applicants and awardees most frequently report that they heard about KCS through school-based contacts, although hearing about it from friends increased in the second year.

- **GPAs are high and increasing, although standardized test scores indicate some remediation may be needed:** Two-thirds of awardees had GPAs above 3.7, an increase from the first cohort. Although high school GPA is the strongest predictor of college success, more than a quarter of awardees had ACT scores below 20 in their junior year, less than the threshold typically indicating college readiness.

- **Applicants and awardees excel academically while holding down jobs:** Two-thirds of applicants and three-quarters of awardees work at least part time.

Adult Learner Scholarship Insights

- **The scholarship has led to significantly greater retention from fall to spring semester enrollment:** For the first cohort, awardees were about 20 percentage points more likely to be enrolled in spring 2018 than a statistically matched comparison group. Awardees completed an average of an additional one-half class that semester.

- **Adult learners show greater persistence, including some academically weaker students:** As of fall 2018, 70 of the 90 awardees are still progressing toward their degrees, and two have already earned them. The GPAs of awardees who continued into spring 2018 were slightly lower than the comparison group, suggesting greater persistence among weaker students.

- **Adult learners are overwhelmingly from Jackson County, Missouri:** More than 70 percent of awardees from both cohorts hail from the Jackson County, the main county encompassed by Kansas City, Missouri.

- **Adult learners are interested in career-oriented programs at local colleges:** Many express interest in business and entrepreneurship careers or in health careers. Roughly one-quarter work in the latter sector, and another quarter work in government or for nonprofits.

- **Adult learners need different supports for continued success:** Because many juggle their studies with work and family care, they report greater need for academic advising and college and career navigation available off campus and/or during nonbusiness hours.

Savings Account Insights

- **Getting 9th graders, their families, and college advisors to understand college savings accounts is a challenge:** Few students fully understand how their savings accounts work, and few families know the rudiments of sound financial investing. Moreover, high school college advisors often prioritize their help toward students applying for the traditional scholarship, with which they have more experience.

- **Matched savings accounts tend to be less balanced across both race and geography:** Unlike the recipients of other scholarships, students of color are underrepresented among matched savings accounts. Although 72 percent of seeded accounts are held by students of color, just 54 percent of matched accounts are. Moreover, students from Cass, Clay, and Platte Counties in Missouri hold just 10 percent of seeded accounts but 40 percent of matched accounts. This latter difference is due to the planned award strategy of assigning matched accounts by county.

1. Introduction

The Kansas City Scholars Program (KC Scholars, or KCS) officially launched in September 2016 with the intent of engaging broad community representation to increase the postsecondary attainment rate in the Kansas City region. The Ewing Marion Kauffman Foundation's initial investment in the three-pronged scholarship program recognized that the region's jobs will increasingly require some postsecondary credential. The scholarship's design entails a strategy to improve access to higher education, not only to reach the attainment goal but to reduce opportunity gaps across age, income, and ethnicity.

The KC Scholars program design targets low- and moderate-income students in public, charter, or private high schools or are home-schooled, as well as low- to moderate-income adults with some college and no degree. Two scholarship opportunities and a college savings plan are offered each year:

Traditional: 250 awards are targeted for currently enrolled 11th graders. Awardees will receive up to $10,000 per year, paid directly to the college, renewable for up to five years.

Adult learner: 200 awards are targeted for adults age 24 and older who have previously earned at least 12 college credits but did not receive a postsecondary degree or credential. Awardees will receive up to $5,000 per year, paid directly to the college, renewable for up to five years.

College savings match (CSM): 500 one-time awards are targeted for 9th graders, who will receive $50 in a 529 College Savings Plan. Among these, 50 are targeted to receive a four-to-one match, not to exceed $5,000, with the potential for an additional $2,000 for students who achieve college-ready milestones during high school.

In addition, the program offers support during high school, in the community, and through higher-education partners to facilitate successful enrollment and promote completion. As of fall 2018, the program has gone through two application-and-award cycles.

The Upjohn Institute is serving as an outside evaluator of the KC Scholars program. In that role, Institute staff members are conducting both formative (qualitative) and impact (quantitative) analyses. The former relies on two site visits each year, in which interviews or focus groups are conducted with all the scholarships' stakeholder groups. The impact analysis will examine the educational and labor-market outcomes of scholarship awardees.

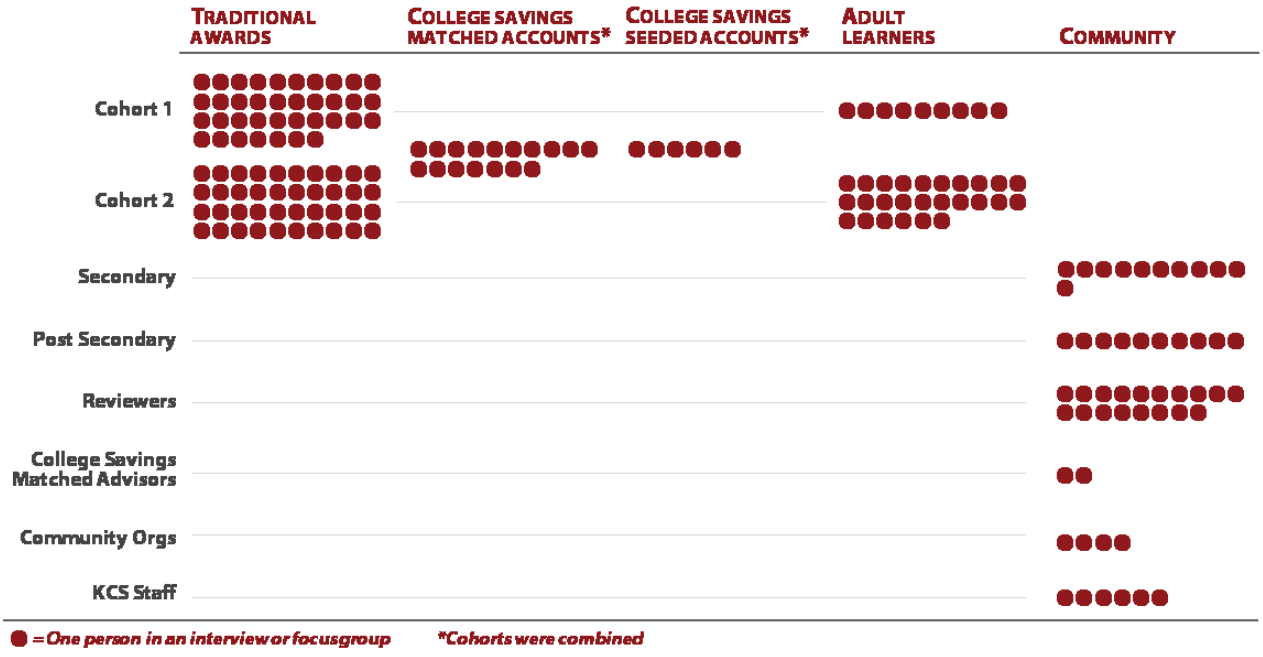
This document is the second annual report for the Upjohn evaluation. The next chapter provides summary information about the site visits that have been conducted during the second program year. The following three chapters analyze 1) the submission pool and awardees for the traditional scholarship, 2) the adult learner scholarship, and 3) the CSM components, respectively. The sixth chapter evaluates the impact of the adult learner scholarship on college-going for the first cohort. The final chapter provides a summary of the major findings and our recommendations for KC Scholars to consider.

2. Formative Evaluation Findings

Students and community members are remarkably enthusiastic about KCS, but planning, awareness, and understanding may need to start earlier—especially for the college savings match.

Upjohn Institute staff visited Kansas City in fall 2017 and again in spring 2018 to conduct focus groups and interviews. The first visit occurred September 12–14, 2017, as the first cohort of traditional students began their senior year of high school and as the adult awardees were well under way in their higher education enrollment. The second visit took place April 16–18, 2018, and included focus groups with 2017 awardees (referred to as Cohort 1) and with 2018 applicants (referred to as Cohort 2), who were awaiting the outcome of their applications. Regardless of the scholarship strand, all awardees expressed their appreciation for the scholarship and the opportunities it affords and most indicated that they "probably wouldn't be going to college" without the award.

Figure 2.1
Focus Group and Interview Participant Summary



Fall High School Visits

During the fall visit, the evaluation team visited four traditional public high schools and two charter high schools. While interviews included awardees and non-awardees, some of the more interesting discussions involved the latter group. For instance, at two schools with focus groups that included 11 unsuccessful applicants, the students came across as quite mature about this unfortunate outcome—they acknowledged that their perceived odds of receiving the scholarship were small. However, they felt that the process had given them skills and material to use in their future college and scholarship applications. Interestingly, most believed that it was an inadequate essay that kept them from being awarded the scholarship.

Other takeaways from these focus groups are as follows:

- The students appreciated the opportunity to learn about and focus on college choices through the scholarship application relatively early in their junior year rather than their senior year.
- Although most students named the quality of their essay as having been the likely determining factor in whether they received the scholarship, four students mentioned computer glitches in the application process and wondered whether this technical difficulty had hampered their chances.
- Students and high school representatives consistently cited College Advising Corps members and Gaining Early Awareness and Readiness for Undergraduate Program (GEAR UP) staff as instrumental in the scholarship application process.
- Most seniors had not yet started on their college applications, nor had they narrowed down which schools they would target for applications. This pattern held for all applicants with whom we spoke, regardless of award status. Regarding college funding, students cited their parents, family members, and savings as primary sources, and they seemed generally unaware of federal aid through the Free Application for Federal Student Aid (FAFSA), such as Pell Grants or other scholarships.
- CSM students did not fully understand the nature of their award. They expressed confusion about the match until the summer orientation, and even afterward their levels of understanding varied about how to contribute to the savings accounts and receive the match.
- High school liaisons indicated satisfaction with the application and award process. The schools used various methods to recognize the awardee, with most schools using the opportunity to further market the scholarship.

Spring High School Visits

Three traditional public high schools, a magnet public school, and a private school were visited and included both Cohort 1 and Cohort 2 students. Major takeaways include the following:

- Cohort 1 students did not report that winning the scholarship affected the classes they took in their senior year or the activities they engaged in, although a few students believed they were putting in more effort at school than they would have otherwise.
- None of the Cohort 2 awardees reported any technical problems with the application software. (This contrasted with last year's inaugural application period, in which several students did report

glitches.) The juniors appreciated the reminder emails they received, as well as the "save" function in the application.

- Almost all juniors in the focus groups had specific plans for college and majors, as well as career aspirations. The specificity was quite interesting: two young women from different schools each expressed the intent to become cardiothoracic surgeons.

- The juniors commented on how difficult and unusual it was to write about themselves in an essay.

Highlights from high school counselors, college advising corps staff, and a principal

- High school staff believed that the marketing materials provided by KCS were very helpful.

- They wished KCS staff could let them know which of their students had started applications to encourage and support completion.

- Counselors and advisors (and, indirectly, teachers) requested more training or information from KCS about the role of recommenders and about the prompts for their letters.

- In general, high school liaisons placed greater emphasis in their outreach on the traditional scholarships than on the CSMs. (This point was also reflected in the fall visit.)

Adult learner focus groups

The Upjohn team conducted evening focus groups with adult learner awardees from Cohort 1 in both the fall and the spring, and applicants from Cohort 2 in the spring. Major lessons learned from these focus groups include the following:

- Students cited financial barriers as the primary reason for having "stopped out" of college and not returning.

- Several Cohort 1 adults expressed confusion about the difference between the Kansas City Scholars and the Kauffman Scholars programs and felt this contributed to the lower-than-expected application rate.

- Cohort 1 adults were frustrated with the short turnaround time between notification of the award and registration for classes. Several adults mentioned the work of KC Degrees in helping ease this transition and navigate college bureaucracies. As with last year, learners expressed concern about turnover in KC Degrees navigator staff.

- Many Cohort 1 adults expressed an interest in starting their own businesses and were enrolled in business-related pathways. Health-related education was another popular option.

- Most Cohort 1 and 2 adults felt that there had been insufficient outreach about the new adult scholarship opportunity, especially outside of Jackson County.

- Adults from both cohorts expressed a strong preference for college choices in the immediate Kansas City area, both in intent and realization, although one individual from Cohort 2 was going to pursue an online program offered by Kansas State University.

- Cohort 1 awardees cited their assigned navigators at Johnson County Community College (JCCC) and Metropolitan Community College (MCC) as valuable resources as they balanced work, family, and school responsibilities.

Community organization interviews

The evaluation team also spoke with three community partners, but key takeaways were few. These partners were aware of the scholarship program during the design phase, but they struggled with effectively marketing the CSM and adult opportunities. Two marketed the traditional scholarship within their youth programming and assisted with application completion, essay reviews, and recommendations. As with the high school liaisons, these organizations also reported that it was challenging to explain the CSM component as a valuable tool for college savings, particularly to families.

Institutions of Higher Education (IHE) interviews. Our interviews with college liaisons yielded several insights:

- IHE representatives all highlighted their appreciation for the additional enrollments, increased diversity of the student body, increased marketing of their programs as viable options for students, and the deepened working relationships with other, nearby IHEs.

- Liaisons expressed few negative consequences or "costs" to involvement, and those that were voiced were minor. Most costs related to revising procedures regarding outreach and tracking, as well as a few individual issues with students that were anticipated. Some liaisons mentioned that if enrollment from the program were to ramp up drastically, costs could rise significantly, but they did not think such a large increase (relative to total enrollment) was likely.

- The student advocates at JCCC appeared well coordinated and offered specific supports for "stop-outs" returning to college as part of their pathways program. Both MCC and JCCC appreciated KCS's efforts to expand opportunities across the region and not just in the urban core.

- Although IHE liaisons acknowledged that the KCS program was still young, they offered a few suggestions:

    - Better information sharing between KCS and the IHEs, particularly about which students are considering which IHEs—information they believe could be securely transferred.

    - More assistance should be offered to students for speedily resolving past debts to obtain transcripts, as some thought that the six-week turnaround time between scholarship receipt and registration deadlines was far too short to help students get all their documents together.

529 plan administrators

Representatives of the Kansas and Missouri 529 college savings plans explained that they gave presentations about their plans to Cohort 1 awardees during June 2017 orientation meetings. These presentations lasted between a half hour and one hour, depending on the advisor. The advisors assisted in

establishing accounts in a computer lab. For efficiencies, this year's plan (2018) was to target 50 students rather than the 25 attendees last year. Advisors' office staff volunteer as assistants in these lab sessions. The advisors said that it was a daunting challenge to present full details about the 529 plans—the investment choices and tax consequences—to a relatively unsophisticated audience with limited investment experience. Simplifying initial presentations and offering subsequent investment literacy follow-up sessions for the coming summer sessions was offered as an improvement.

KCS STAFF

The initial meeting in the fall revealed that KCS was transitioning quickly from its inaugural year of operation and readying for another round of applications while supporting the previous year's awardees to help them succeed. Staff were readying program improvements to increase the application rates for the CSM and adult components.

During the spring interview, KCS staff highlighted their top five accomplishments and the following planned program improvements:

- Increasing staff capacity to meet the expanding program's needs.
- Increasing fund-raising further, since the demand for scholarships still exceeds available funds, especially for the traditional scholarships.
- Growing board membership from the 5 inaugural members to 15 members.
- Identifying and offering best practice financial literacy training.
- Assessing adult scholarship marketing. One change under consideration was expanding eligibility to individuals with associate's degrees who were interested in pursuing a bachelor's degree.

ESSAY REVIEWERS

The nine spring 2018 first-time KCS application reviewers we spoke with enjoyed their role, spoke very highly of its organization, and were excited to remain involved in the future. Volunteer backgrounds included bankers, high school and college employees, and local business owners. The reviewers reported that the two-hour training was helpful. They described the emphases of the training as being on objectivity and confidentiality, although some thought it was still easy to figure out who some students were based on what they had written.

Although the first-year reviewers were highly complementary of KCS, they had a few suggestions:

- Provide a more detailed rubric with better examples and a finer grading scale (e.g., 1–5).
- Consider providing the same rubric to students to enhance alignment between what students write and what they get graded on; similarly, allow reviewers to see the exact prompts that students see to better understand context.
- Implement a minimum word count to avoid (actual) answers such as "N/A" or "I don't know."
- Since reviewers thought recommendations were rarely as clearly written as the student essays, consider weighting recommendations less heavily.

- Improve the format and display of the review interface: selectable fonts, less-clunky interaction on mobile devices, preserved formatting for line spacing and special symbols, and a visually clear color scheme.

The nine highly engaged second-year reviewers offered a primary recommendation regarding the scoring rubric and providing further training. (In this regard, both first-time and returning reviewers largely agreed.) Essay prompt/questions were not aligned with the scoring rubric. For example, some thought that the rubric was unrealistic in terms of expectations relating to grammar, spelling, and following directions, and that the current scoring range of 1, 3, or 5 for this area did not fit the yes/no criterion. Many recalled voicing similar suggestions last year and expressed frustration that their feedback from last year was not incorporated into this year's review process. Moreover, two indicated they would not return if the rubric were not improved.

Other reviewer suggestions

- Ensure the application review is truly blind. Currently, most recommenders include students' full names, and some students include their names in their essays.

- Strengthen training on implicit bias. One suggestion for enhancement included adding more real-life examples that reviewers might encounter.

- Provide more guidance to recommenders as to how to write their recommendations. (This suggestion was echoed by high school counselors and advisors.) Recommenders often represented students poorly, both in terms of sloppy writing and vague content that did not promote the merits of students. They believed that recommenders should not be asked to write about students' academic strengths if they did not have knowledge of this area.

- Simplify essay prompts.

- Account for students who are English language learners, as they faced an unfair disadvantage with the essays, reviewers believed.

- Regarding the review interface, returning reviewers appreciated the larger font size but encouraged upgrades to expedite system response time.

- Clarify navigation across scholarship strands. It was unclear to many reviewers how to navigate between the different strands, and in several cases, they were not aware they had applications to review in other strands.

- Create a function to enable reviewers to sort applications (within a strand) by scores.

3. Traditional Scholarship Applicants and Awardees

Traditional awardees balance school achievement with work or other obligations, and they shift their college plans from community colleges to universities because of KCS.

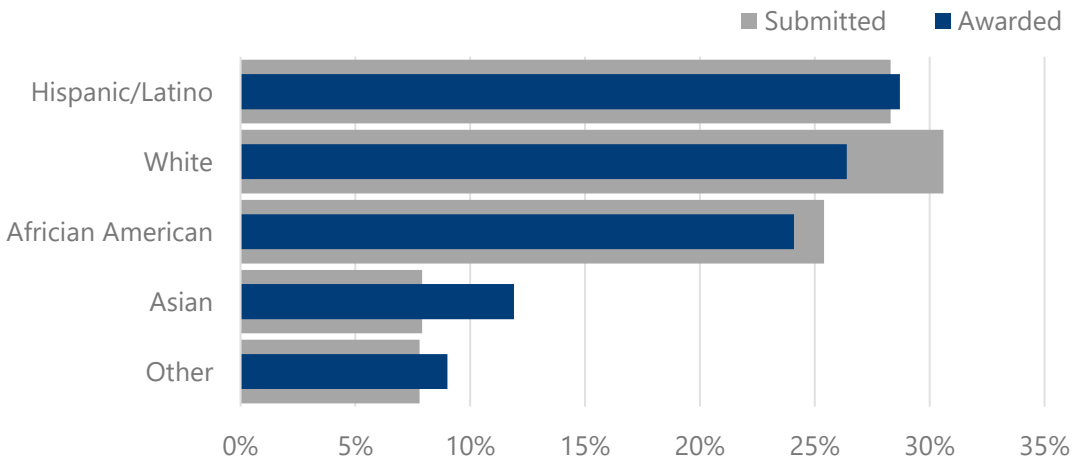
This chapter presents analyses of the characteristics of the students who were eligible for the traditional scholarship and completed their submissions as well as the subset of those who were actually awarded a scholarship. It highlights who they are, their sources of information about the KCS program, their high school academic and extracurricular experiences, and their college choices. For college choices, the application queries students about their first and second choices of colleges if they were to be awarded the scholarship, and their first and second choices if they were *not* to be awarded the scholarship. In addition to presenting the characteristics of the Cohort 2 students (i.e., 2018 applicants), the chapter compares them to the first cohort (2017 applicants).

Who Are These Students?

Appendix Table 3.A.1 provides detailed information about the characteristics of the submissions and awardees in both cohorts and, females predominate. There are twice as many females as males among the eligible submissions and among award winners. This gender breakdown is similar to that of Cohort 1.

Similar to the first cohort, African American and Hispanic/Latino (as well as white) eligible submissions in the second cohort each make up between 25 and 30 percent of the cohort, and about 8 percent identify themselves as Asian. The ethnic distribution for awardees is similar, although Asian students have a slightly higher share of the awards at nearly 12 percent. The percentage of awards for Hispanic/Latino students in Cohort 2 is now in line with their share of eligible submissions; for the previous cohort, the Hispanic/Latino share of awardees was much higher than the share of eligible submissions.

Figure 3.1
A Significant Majority of Submissions Are Persons of Color



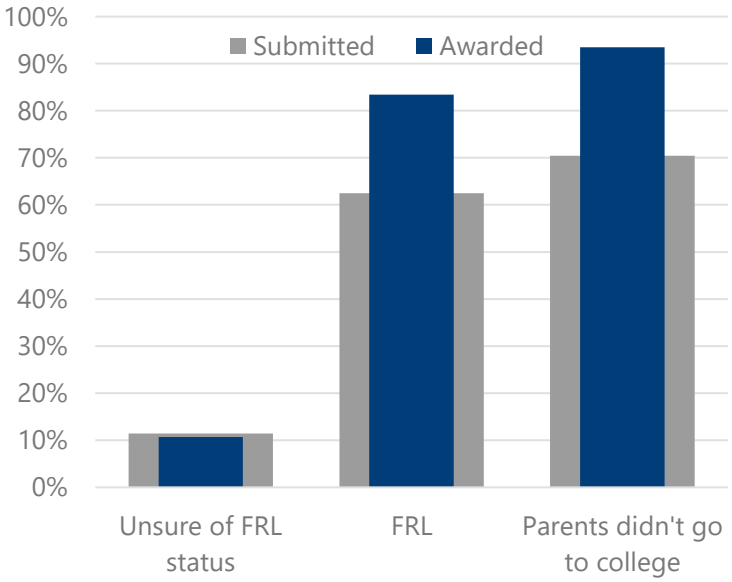
Technical Note: Terminology and Data Source

Two cohorts of applicants for the traditional scholarship have been processed: Cohort 1, students who applied in 2017, and Cohort 2, students who applied in 2018. As there are several stages from initial application to being awarded the scholarship, it is useful to define a few groups based on how far along the application pipeline they reach. For example, one part of the application includes basic academic and activity information. In our analyses, we refer to the individuals who complete and submit this part as "applicants." A second part of the application involves submitting written essays and two recommendations, as well as a transcript and test scores (if the ACT has been taken). The individuals who complete both the first and second parts of the application are referred to as "submissions." Not all submissions are eligible for the scholarship, however, since it requires a cumulative GPA of at least 2.5 and a maximum expected family contribution of $12,000. We refer to the submissions who meet the eligibility criteria as "eligible submissions." Among the eligible submissions, scholarships are awarded based on a rubric that calculates a score from the information provided in both parts of the application. The individuals with the highest scores are awarded the scholarship. We refer to these individuals as "awardees."

For purposes of analysis, the Kansas City Scholars program provided de-identified application data for its three components. These data had 1,800 records for the Cohort 2 traditional scholarship applicants (11th graders in 2017–2018). Of these, there were 1,396 eligible submissions, from which the KCS program awarded 345 scholarships. All of these counts are larger than the previous year's—i.e., Cohort 1—in which there were 1,473 applications, 1,050 eligible submissions, and 285 awardees.

Over two-thirds of eligible submissions indicate that their parents lack a college degree; this share jumps to almost 85 percent for awardees. Almost two-thirds of eligible submissions report eligibility for free or reduced-price lunch (FRL), and another 11 percent report that they are unsure of their FRL status. Among awardees, three-quarters indicate FRL eligibility, and about 10 percent report that they are unsure.[1] These distributions were quite similar in the first year.

Figure 3.2
Students Come from Low-to-Moderate-Income Backgrounds



The measure of financial need used by the program is the expected family contribution (EFC) as determined by the applicant's FAFSA or FAFSA4caster. Lower EFCs imply greater financial need, and to be eligible for the traditional scholarship, the EFC must not exceed 12000. Among eligible submissions, the average EFC for the second cohort was 2090; among awardees it was 795. In the previous year, these averages were somewhat higher, at 2619 and 1136.

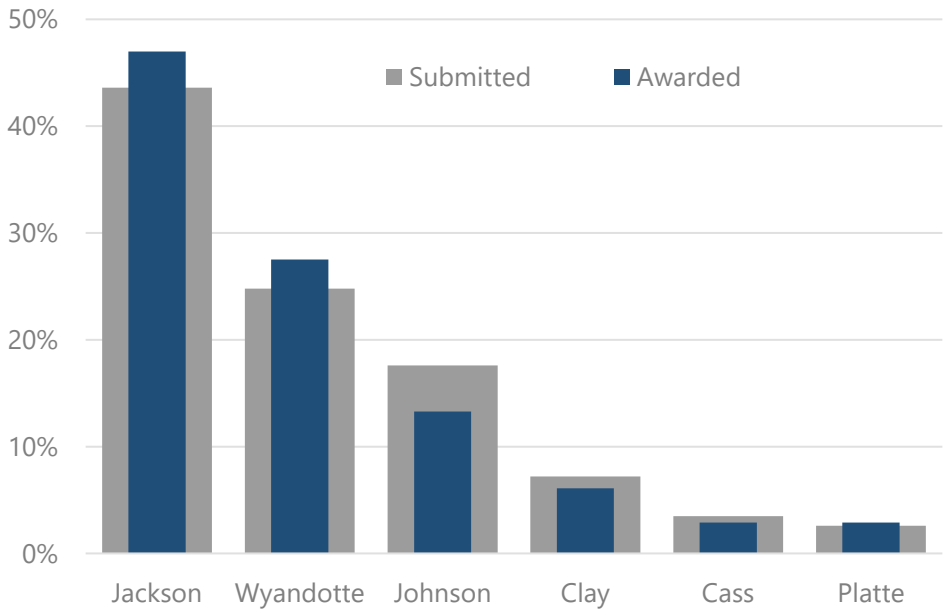
Jackson County had by far the largest share of eligible submissions and scholarship winners. Appendix Table 3.A.1 shows that Jackson was followed by Wyandotte, Johnson, Clay, Cass, and Platte. To put these shares in perspective, the table compares them to the

[1] The rubric used to rate submissions adds points for students whose parents lack a college degree, are eligible for FRL, and have lower expected family contributions. Thus, differences in these measures between submissions and awardees are expected.

shares of public school enrollment for both 11th graders and K–12 FRL-eligible students.[2] While Jackson and Wyandotte Counties together have approximately 45 percent of 11th grade public school students, they have about 75 percent of traditional scholarship–eligible submissions and awardees. Wyandotte in particular has less than 10 percent of 11th graders and less than 17 percent of the region's K–12 FRL-eligible students, but it has about a quarter of submissions and awards. These geographic distributions are similar to last year's.

Figure 3.3

Scholarships Are Awarded to Students from All Counties, but Wyandotte (Kansas) and Jackson (Missouri) Predominate



[2] According to the National Center for Education Statistics' Common Core of Data for 2015–2016, there are about 20,600 public school 11th graders in the six counties. The percentages were split thus: 6.3 percent (Cass), 14.0 percent (Clay), 32.6 percent (Jackson), 33.2 percent (Johnson), 5.6 percent (Platte), and 8.3 percent (Wyandotte). According to the same source, there are about 131,000 K–12 public school students eligible for free or reduced-price lunch, split this way: 4.8 (Cass), 10.2 (Clay), 46.4 (Jackson), 18.3 (Johnson), 3.4 (Platte), and 16.8 (Wyandotte). FRL eligibility by grade level is unfortunately unavailable.

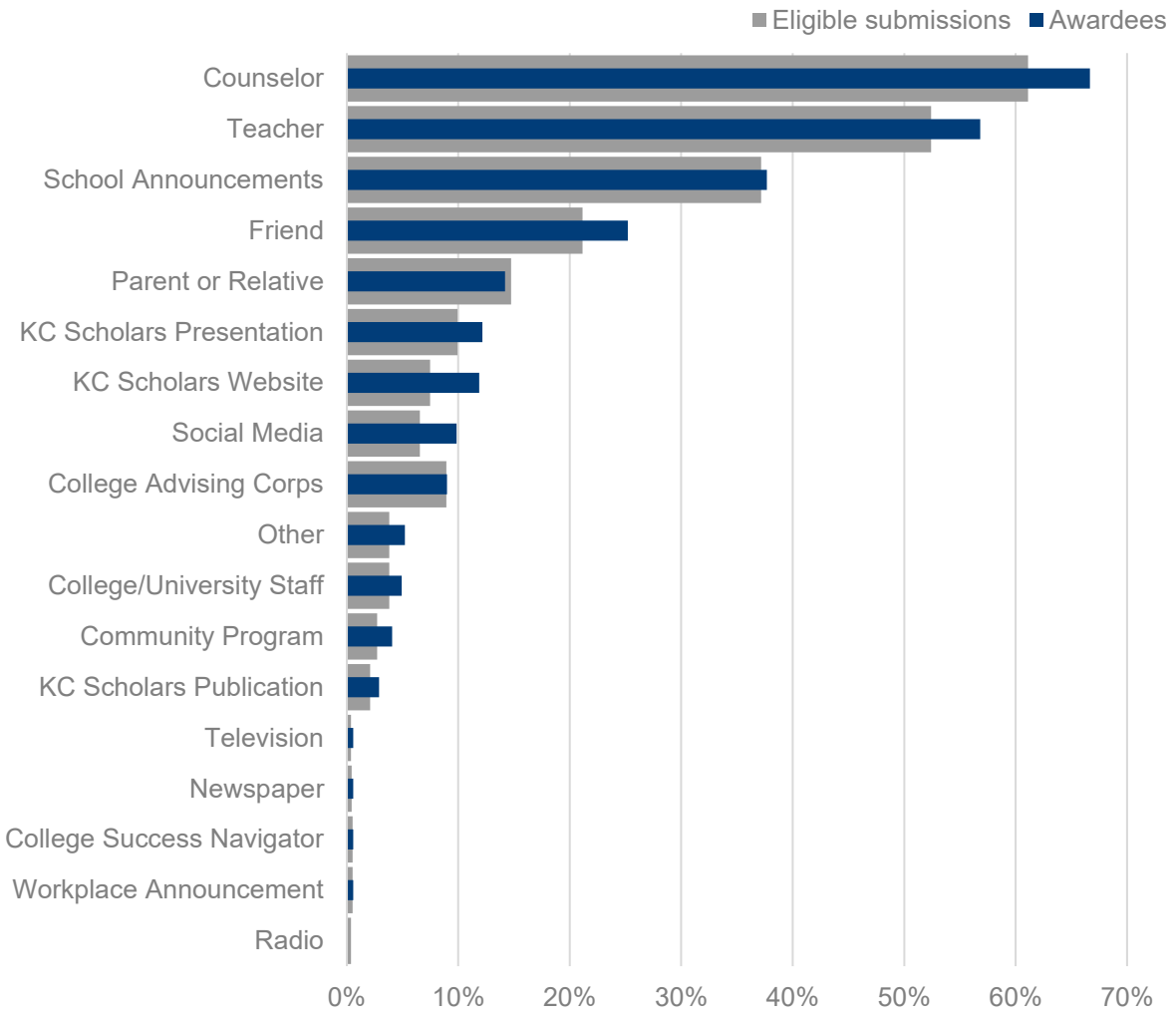
How Did Students Learn about the Scholarship Program?

The application asks students how they learned of the program. Figure 3.4 provides detailed information about the responses of the eligible submissions and awardees. Significant highlights include the following:

- **The source picked most frequently among eligible submissions was "counselor," followed by "teacher" and "school announcements."** (Students could choose more than one.) These shares cannot be directly compared to last year's data because the response categories have changed.

- **For this cohort, word of mouth and KC Scholars activities became more prevalent.** Whereas about 15 percent of awardees picked "friends" as a source last year, 25 percent did this year. Similarly, although 18.3 percent of awardees mentioned the sources of "KCS website," "KCS publication," or "KCS presentation" last year, 27 percent did so this year, with a particularly sharp gain for the KCS website.

Figure 3.4
Students Learned about KCS Primarily through School Sources

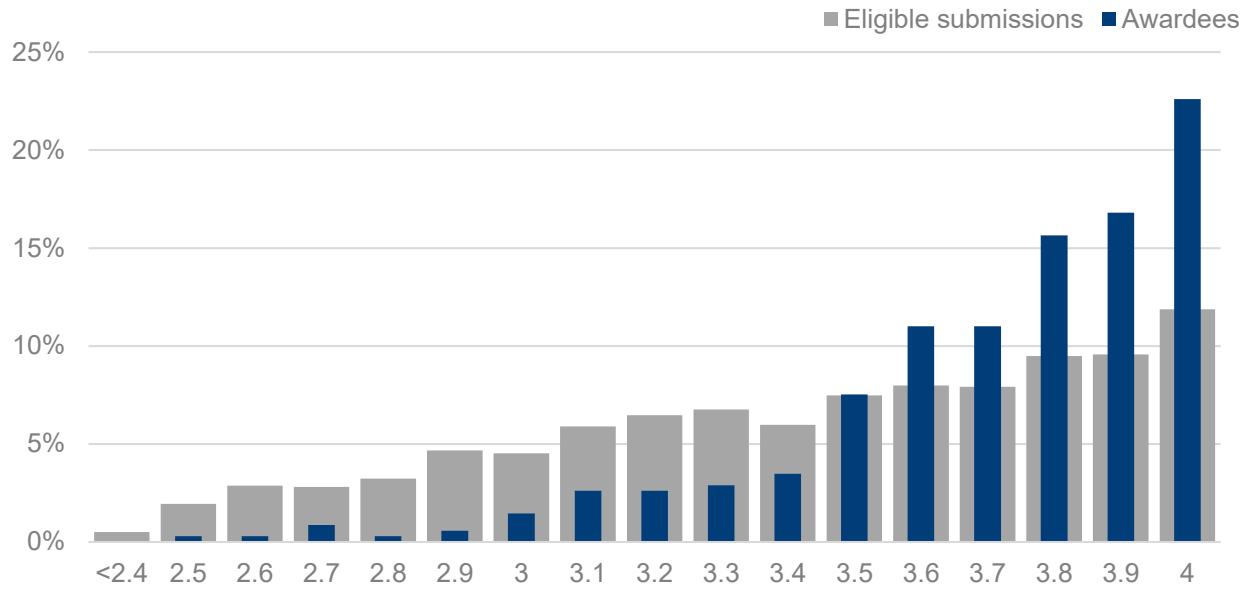


What High School and Community Experiences Did Students Have?

Appendix Table 3.A.2 shows students' experiences in high school, their community activity participation and leadership, and their weekly hours of family commitments. The scoring rubric gives weight to all three items, favoring applicants with higher GPAs, those with more community activities and leadership, those currently employed, and those with more hours of required family commitment.

Figure 3.5 shows that GPAs among eligible submissions were high: an average of 3.44, with almost 12 percent attaining a 4.0. The GPAs of awardees were even higher: an average of 3.71, with over 22 percent at 4.0. In fact, about two-thirds (66.1 percent) of awardees had GPAs above 3.7, compared to 39 percent of eligible submissions. Moreover, average GPA among eligible submissions was up 0.04 points compared to the first cohort; among winners, it was up 0.10 points.

Figure 3.5
Awardees Had Substantially Higher GPAs Than Typical Applicants



- **ACT scores of eligible submissions and awardees are approximately equal.** About one-third of eligible submissions submitted ACT scores. Figure 3.6 shows that these scores have an approximately normal distribution, with an average of 22.4. About one-third of these students received the scholarship, and the figure also displays their score distribution. Interestingly, the distributions are quite similar, suggesting that in practice, GPA carries more weight in determining scholarship receipt.

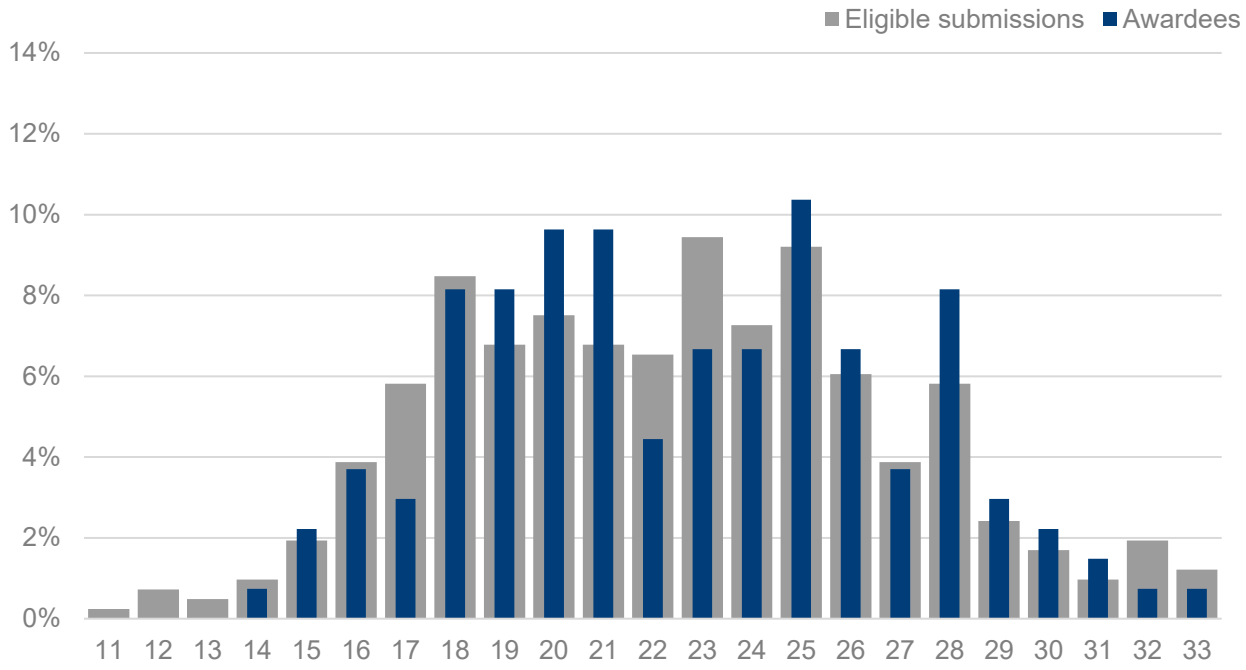
- **Students are active leaders in school, church, or community activities.** As shown in Appendix Table 3.A.2, a large share of eligible submissions report involvement in at least two activities in school, church, or the community. About half of these indicate that they hold or have held a leadership role in at least one of the activities, which run the gamut from National Honor Society to church choir to a community theater group, and many more types. Among awardees, about 90 percent report involvement in at least two community

activities, and about two-thirds of those students are or were leaders in those activities. These numbers are slightly higher than last year's.

- **Approximately two-thirds of eligible submissions and three-quarters of awardees work part time or were employed in summer jobs.** Appendix Table 3.A.2 shows distributions of employment for these two groups of students. These distributions are virtually identical to those from the first cohort.

- **Around half of the students have no required family commitments.** Appendix Table 3.A.2 shows that over half (54.3 percent) of eligible submissions report having no required family commitment. Just under a quarter (22.9 percent) indicate 1–5 hours per week of family commitment. Among awardees, just under half (44 percent) report no commitment, and almost one-third have commitments of at least six hours per week. In the first cohort, the selection criteria weighted family commitment higher, and the differences between eligible submissions and awardees was greater.

Figure 3.6
Awardees Had ACT Scores Similar to Typical Applicants



Technical Note:
Selection of Awardees

The KCS program received approximately seven times as many applications (1,800), and over five times as many eligible submissions (1,391), as its planned number of awardees (250) for the traditional scholarships. As part of the review process, community reviewers use a scoring rubric that assigns points to various items from the application, as discussed above, and to two essay responses and two recommendations. These essays and recommendations are scored by community members, with each student's material reviewed by a three-member panel, whose scores are then averaged.

According to program design, the 250 submissions with the highest scores across the application components, essays, and recommendations (a maximum possible 100 points) are awarded the scholarship. This year, the program awarded 345 scholarships, with the "cut score" being 74.67. Although the maximum score was 91.67 and the minimum was 24.00, most scores fell between 50 and 80. Appendix Figure 3.A.4 shows the distribution of scores for eligible submissions, with a vertical line indicating the cut score.

Where Do Students Aspire to Go to College?

The scholarship is available to students who enroll at one of 17 IHEs. The application asks each student to indicate his or her first and second choice of college, under the scenarios of being awarded or not being awarded the scholarship.

- **The possibility of obtaining the scholarship shifts many students' choices from two-year colleges to four-year universities**. Appendix Table 3.A.3 shows the college preferences (combining first and second choices) among eligible submissions and among awardees under each scenario.

- In the scenario of receiving the scholarship, the institutions with the five largest shares are all four-year universities: University of Kansas, University of Missouri–Kansas City, Kansas State University, University of Missouri at Columbia, and University of Central Missouri. These five universities account for around 70 percent of total responses, with community college campuses drawing under 10 percent. Under the scenario of *not* receiving the scholarship, the community college share balloons to about 30 percent, and the share for the five universities falls to around 40 percent.

- **These college choice distributions are very similar to those from the first cohort.**

4. Adult Learner Applicants and Awardees

Adult learner awardees are often women of color from Kansas City proper who want to pursue career-oriented programs while balancing significant family obligations.

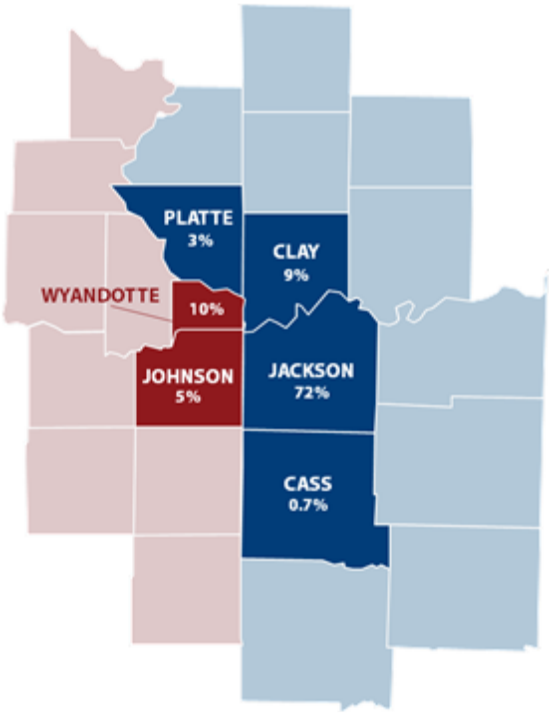
KCS records indicate there were 137 applicants (eligible submissions) for the second cohort of the adult learner scholarship; all became awardees. This chapter describes the characteristics of these adults, their sources of information about the KCS program, the information that they provided about their community involvement and family responsibilities, their previous postsecondary experiences, and their college choices. The appendix to this chapter provides additional information.

Who Are the Adult Learners?

Appendix Table 4.A.1 provides further information about the characteristics of the adult learners, but highlights include:

- **Most of them live in Jackson County.** Almost three-quarters of adult learners are from Jackson County, Missouri, an even higher share than last year's cohort. About three-quarters of awardees attended high school in the Kansas City area.
- **They vary widely in age.** The average age among awardees is 39, with about two in five being at least 40. The oldest adult learner is 69.
- **Women predominate**. Over nine-tenths of adult learners are women, an even higher share than last year's three-quarters.
- **Most are African American**. More than three of five awardees self-identify as African American. Fewer than one-fifth are white, and the remaining one-sixth are of another ethnicity or identify as multiracial. This cohort's ethnic distribution closely resembles last year's, although there was a slight increase in the share of persons of color.

Figure 4.1
Adult Learners by County

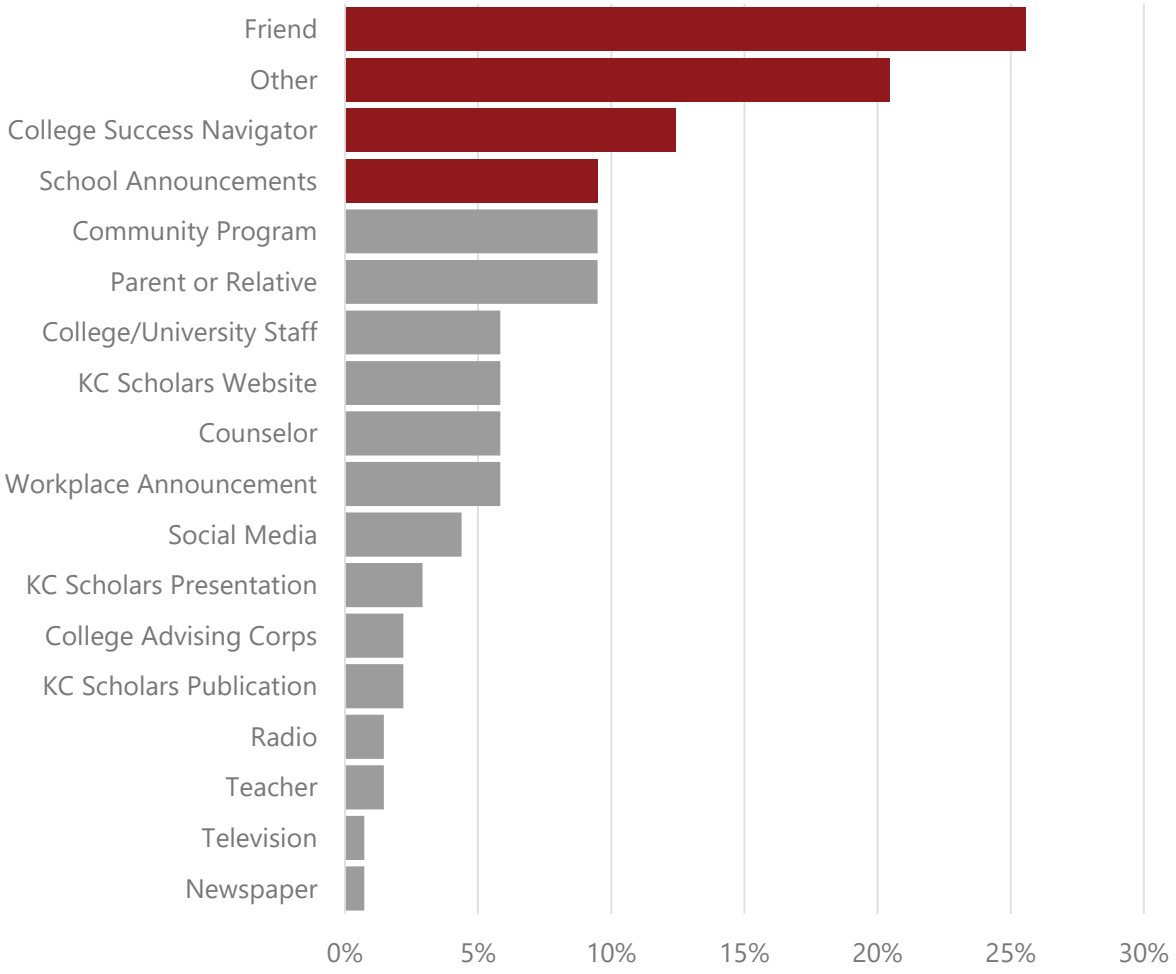


- **Adult learners show significant financial need.** KCS determines financial need through the EFC as determined by the applicant's FAFSA or FAFSA4caster. Lower EFCs imply greater financial need. The average EFC for adult learners was $2,008, about 5 percent higher than last year.

How Did Adult Learners Find Out about the Scholarship Program?

The scholarship application asks how individuals learned of the program. Adult learners reported a variety of sources of information, as shown in Figure 4.2.

Figure 4.2
Most Adults Learned of KCS through Direct Word-of-Mouth Contact



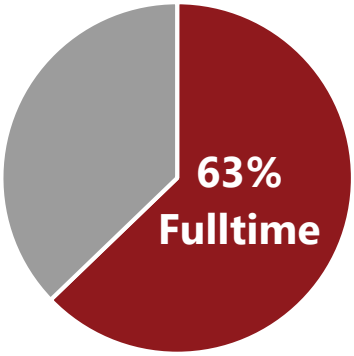
How Much Involvement Do Adult Learners Have with the Community, the Workforce, and with Family Responsibilities?

The application also asks about applicants' involvement in community activities, employment, and time spent on required family commitments. The responses, which are tallied in Appendix Table 4.A.2, sharply contrast with those of traditional scholarship applicants.

- **Adults had little involvement in community activities.** Nearly half of adult learners report no community activities, and 22 percent are involved in only a single activity. Nonetheless, this year's cohort had slightly more involvement in community activities than last year's.

- **Family commitments are significant.** About three-quarters have at least some family commitments, with about one-third spending 11 or more hours per week in such commitments. In most cases, these commitments consisted of child or elder care.

Figure 4.3
Nearly Two-Thirds of Adult Learners are Employed Full Time



- **Employment in health care, nonprofits, and education/government is typical.** Just under two-thirds are employed full time, and about one-fifth indicate part-time work. Nearly all of the remainder had worked previously but were not currently employed.

  Based on interpretation of the individual's current employer from the application (when applicable), we estimate that at least 22 percent of employed awardees work in health care, 10 percent work for nonprofits such as the YMCA, and over 15 percent work for school districts or government entities.

What Previous Postsecondary Education Experiences Did Adult Learners Have?

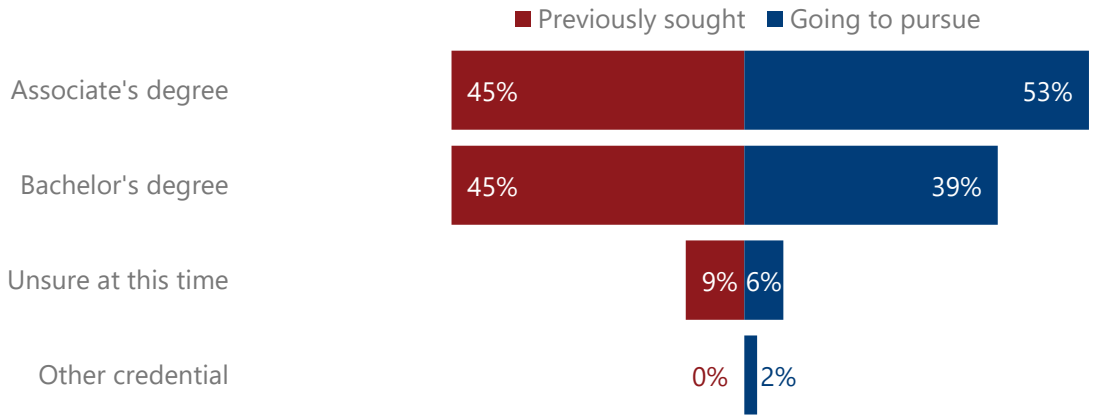
Since the purpose of the adult learner scholarships is to incentivize adults to reenroll in postsecondary education, eligibility depends on some previous college course taking. The application thus asks about prior postsecondary enrollment, including institution name, major and degree sought, credits earned, cumulative GPA earned, and reason(s) for noncompletion.

- **Many had previously attended community colleges in the Kansas City area.** Forty percent of adults had attended a Kansas City–area community college, and another 6 percent attended community colleges elsewhere in the country.

- **Almost two-thirds had enrolled at two or more IHEs.** A predominant share of these additional institutions are Kansas City area community colleges.

- **Adult learners are split about equally between associate's and bachelor's degree programs.** More than 90 percent had previously pursued a bachelor's or associate's degree, with roughly half in each. The remainder had not been in a degree program. Figure 4.4 shows the distributions of previously sought and intended degrees.

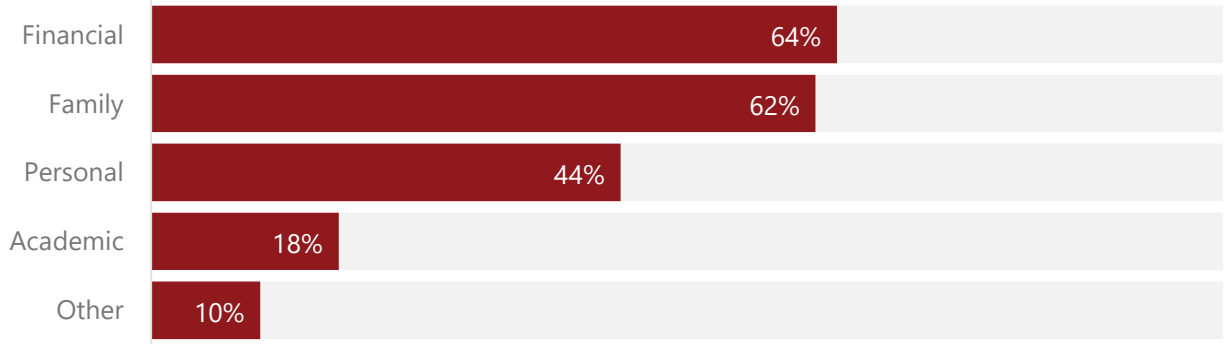
Figure 4.4
Distribution of Previously Sought and Intended Degrees for Adult Learners



- **Prior GPAs were modest.** Over half of adult learners report a GPA for their prior postsecondary career below 2.5, although the average is 2.7. Most had earned at least 20 credits.

- **Adults cited financial and family-related reasons as the main causes for not completing a degree.** The application asks respondents for up to five different reasons why they did not complete their prior postsecondary education: academic, family, financial, personal, or other reasons. As shown in Figure 4.5 more than three in five adults cited both family and financial reasons to explain their noncompletion. This breakdown is similar to last year's, although the share citing family reasons was somewhat larger this year, and the share denoting financial reasons somewhat smaller.

Figure 4.5
Financial and Family-Related Issues Were the Largest Barriers to Success



*Note: Percentages sum to greater than 100 because respondents could respond with multiple reasons.

College Choices

The scholarship is available to adult learners who reenroll in a postsecondary program at one of the participating institutions. The application asks each adult to indicate his or her first and second choice of college, under the scenarios of receiving or not receiving the scholarship. As with the traditional students, the possibility of obtaining the scholarship shifts many adult learners' choices from two-year colleges to four-year universities, although not to the same extent. Appendix Table 4.A.3 shows the adults' college preferences (combining first and second choices) for both scenarios.

- **In the scenario of winning the scholarship, adults prefer four-year universities in the Kansas City area.** Just over half of the expressed preferences under the receiving scenario are four-year institutions. Five of the nine most frequent choices are four-year universities: University of Missouri–Kansas City, Park University, Avila University, University of Central Missouri, and Western Governors University, all of which are within commuting distance of Kansas City or have online programs.

- **In the scenario of not being awarded the scholarship, the preference for four-year universities drops.** This percentage drops to under 40, with a particularly large drop at the University of Missouri–Kansas City.

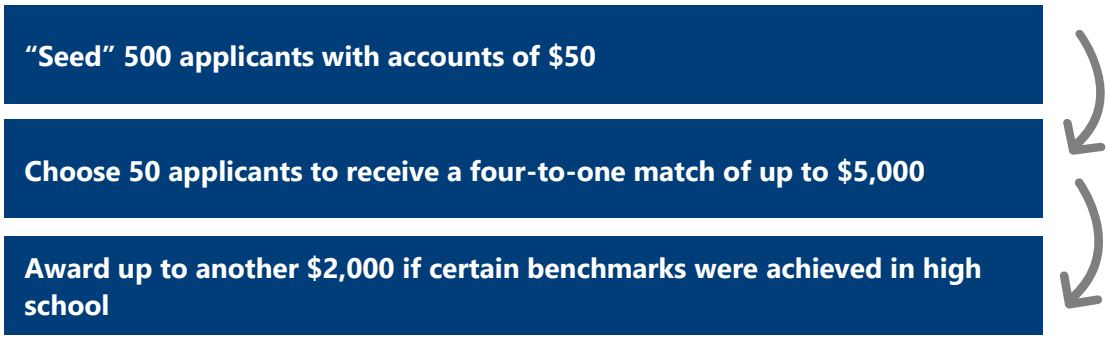
5. College Savings Match Awardees

High school freshmen are excited to learn about college opportunities, but getting 9th graders, their families, and college advisors to understand college savings accounts is a challenge.

The design of the CSM calls for "seeding" 500 applicants with accounts of $50 and choosing 50 applicants to receive a four-to-one match of up to $5,000, plus up to another $2,000 if certain benchmarks are achieved in high school. Because there were fewer applicants than the targeted number this year, KCS increased the number who would receive the four-to-one match and seeded the remaining applicants with $50 accounts. This chapter describes these two groups: 1) the 69 students who received matched college savings accounts and 2) the 264 students who received seeded accounts.[3] We refer to the former as "matched awardees" and the latter as "seeded awardees." This chapter describes the characteristics of awardees, their sources of information about KCS, their self-reported high school experiences and community and family involvement, and their college preferences.

Figure 5.1

College Saving Match (CSM) Awards Process



Who Are These Students?

The applications for the CSMs are submitted when students are in 9th grade. Appendix Table 5.A.1 provides additional information from those applications, but highlights include the following:

- **Students receiving seeded accounts are predominantly female; matched awardees are so to an even greater degree.** Almost three-quarters of matched awardees are female—slightly higher than the two-thirds of seeded awardees.

[3] KC Scholars provided us with data on 438 submissions. Of these submissions, 105 withdrew from their matched or seeded awards. We believe it would be worthwhile to follow up with this group, as they would appear to be leaving free money behind.

- **African Americans are underrepresented among the matched awardees.** Almost half of matched awardees identify as white, much greater than their share among seeded awardees of about one quarter. In contrast, nearly one in eight matched awardees are African American, compared to one in three seeded awardees. Whites are thus overrepresented among matched awardees, and African Americans are underrepresented. Asians and Latinos have similar shares of matched and seeded awardees.

The majority of students come from low to modest socioeconomic backgrounds. More than three in five students—both matched and seeded awardees—indicate their parents do not have a college degree. A similar share report eligibility for free or reduced-price lunch (with 17 percent unsure of their status). The measure of financial need used by the program is the EFC as determined by the applicant's FAFSA or FAFSA4caster. Lower EFCs imply greater financial need, and for one to be eligible for the savings account, EFC must not exceed 12000. For seeded awardees, the average EFC was 2633; for matched awardees, it was 1696.

- **The percentage of College Savings Match awards provided to student from Jackson County was lower than for both the traditional and adult scholarships.** Unlike the other two scholarships, KCS ensures that each county in the region is awarded a similar share of the matched awards.
- As shown in Appendix Table 5.A.1, Jackson County had nearly half of seeded awardees but fewer than one-third of matched awardees. Conversely, Cass, Clay, and Platte Counties had much larger shares of matched than seeded awardees.

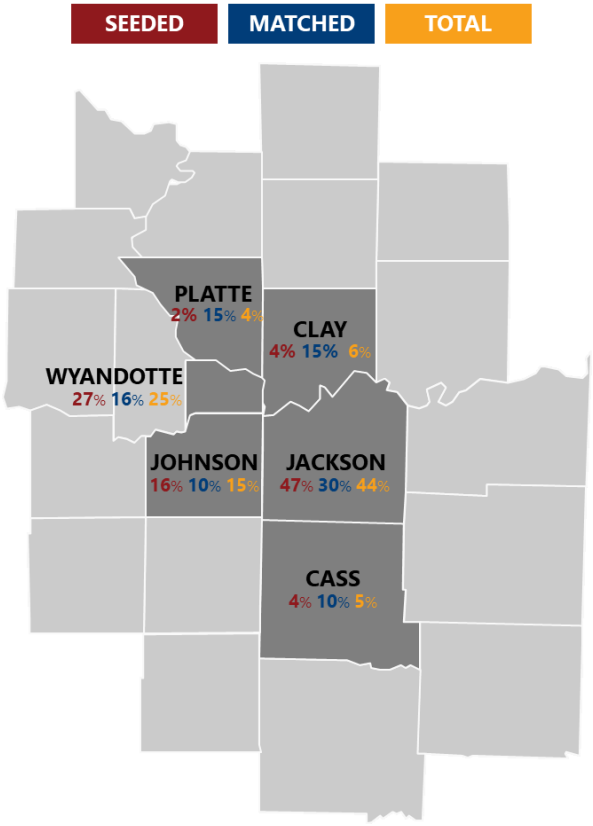


Figure 5.2
Jackson County (MO) Had Relatively Few Matched Awards for Its Size

How Did Students Learn about the CSM Program

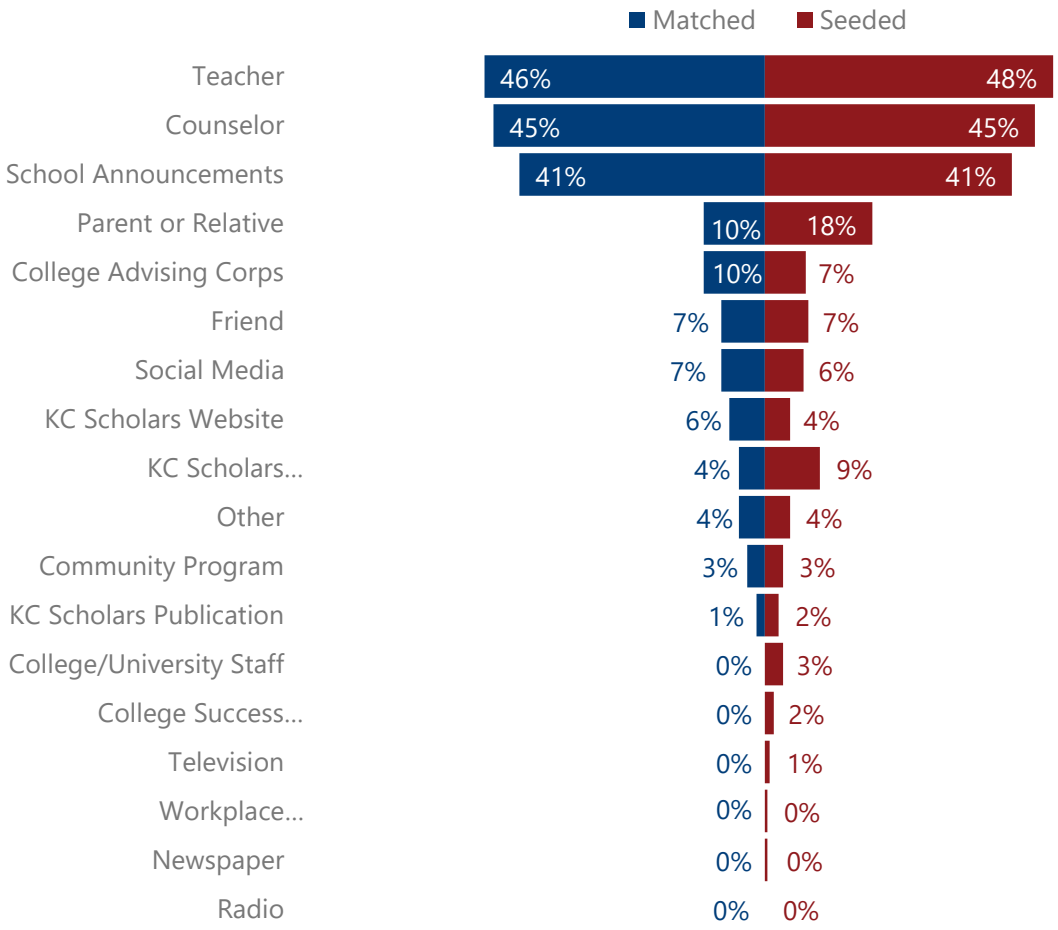
The application asks students how they learned of the program. Figure 5.3 provides detailed information about the responses of the matched and seeded awardees. Significant highlights include the following:

- **As with the traditional scholarship, information from school sources predominated.** The sources noted most frequently in the CSM applications are "teacher," "counselor," and "school announcements." At least 40 percent of both matched and seeded awardees selected each of these choices. These shares cannot be directly compared to last year's data because the response categories changed.

- **"Parent or relative" is the most common non-school-related source of information.** Ten percent of matched and 18 percent of seeded awardees cited this option.

- **The KC Scholars website, presentations, and publications are minor sources of information for CSM awardees.** Each of these is noted by roughly 5 percent of students.

Figure 5.3
Applicants to the CSM Learned about It Mostly through School Sources



What High School and Community Experiences Did Students Have?

Appendix Table 5.A.2 shows students' experiences in high school, their community activity participation and leadership, and their weekly hours of family commitments. The scoring rubric gives weight to all three items, favoring applicants with higher GPAs, those with more community activities and leadership, those currently employed, and those with more hours of required family commitment. (Note that applications were submitted during the second semester of 9th grade, with most students 14 or 15 years old, so the GPA represents a single semester of work, and students have had a limited time to get involved in activities.)

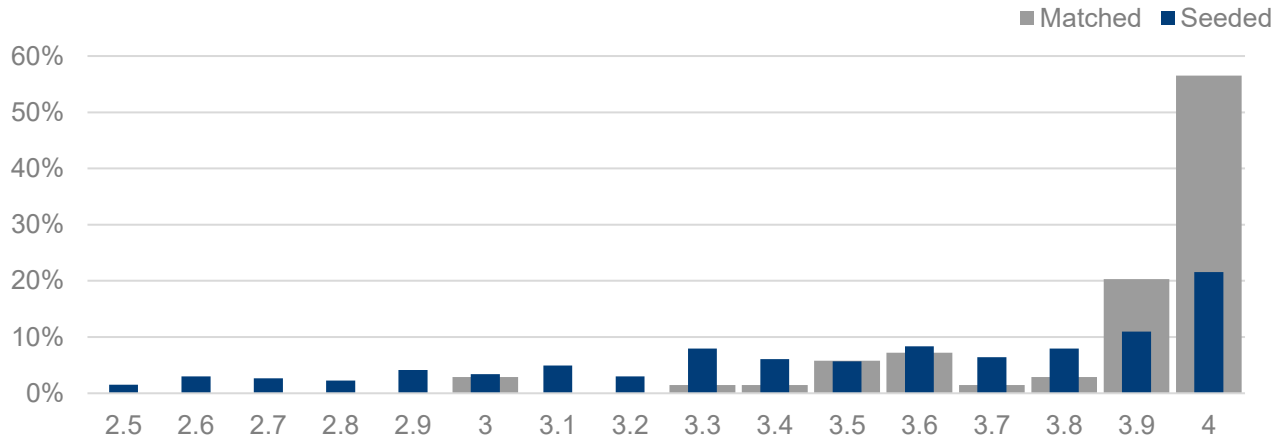
- **GPAs are high.** As with the traditional scholarship, eligibility is limited to students with a GPA of at least 2.5. Among all awardees, the average GPA is 3.62, and almost 30 percent have at least a 4.0. As GPA is a factor that helps determine who gets the match, the average GPA of matched awardees (3.86) is higher than that of seeded awardees (3.56). Moreover, more than half of matched awardees reported a GPA of at least 4.0, compared to about one-fourth of seeded awardees. (Figure 5.4)

- **Matched awardees have much higher rates of activity participation than seeded awardees.** More than 90 percent of matched awardees report involvement in at least two activities in school, church, or the community. Just under half of these indicated that they hold or had held a leadership role.

- **Few matched or seeded awardees have been employed.** Given the age of applicants, it is not surprising that more than 80 percent of both awardee groups held no current or past employment.

- **Family commitment time is relatively low for both types of awardees.** Almost one-third of matched awardees spend more than five hours per week on family commitments, but less than one-sixth of seeded awardees do. Nonetheless, nearly half of awardees indicated no required commitment, and one-third indicated just 1–5 hours per week.

Figure 5.4
CSM Student GPAs Are High



Where Do Students Aspire to Go to College?

Adult learner awardees were about 20 percentage points more likely to be enrolled in their second semester than a statistically matched comparison group.

Technical Note: Selection of Matched Awardees

The scoring rubric used to select which applicants receive the match assigns points to various items from the application, as discussed above, and to an essay response and a recommendation. These essays and recommendations are scored by community members, with each student's material reviewed by a three-member panel, whose scores are then averaged. The maximum possible total score is 100.

Although the CSM design, in its conception, was intended to award 50 matches, the program awarded 69 matches in 2018.[1] The score that was needed to win a match—the "cut score"—was set separately for each county, and it ranged from 58 in Platte County to approximately 76 in Jackson, Johnson, and Wyandotte Counties.[2] Across all applications, the maximum score was 95.0 and the minimum was 38.7. Appendix Figure 5.A.5 shows the distribution of applicant scores, with vertical lines denoting the cut scores for each county.

———

[1] Initially, 71 submissions were chosen for the match, but 8 of these withdrew. Of the 8 students chosen to backfill, 2 withdrew.
[2] We could find no rationale for the differentiation in county cut scores in the program descriptions.

The matching incentive is available to students who enroll at one of 17 IHEs. The application asks each student to indicate his or her first and second choice of college, under the scenarios of receiving or not receiving the matching account.

As with the traditional and adult scholarships, the possibility of obtaining the match shifts student choices from two-year colleges to four-year universities. Appendix Table 5.A.3 shows the college preferences (combining first and second choices) among seeded and matched awardees under each scenario.

In the scenario of receiving the matched account, the institutions with the five largest shares are all four-year universities: University of Kansas, University of Missouri–Kansas City, Kansas State University, University of Missouri at Columbia, and University of Central Missouri. These five universities account for around 70 percent of total responses, with community college campuses drawing 10 percent of responses. Under the scenario of *not* receiving the match, the community college share increases to over a quarter, and the share for the five universities falls to around 40 percent. These shares are nearly identical to those from the traditional scholarship.

6. COHORT 1 ADULT LEARNERS: IMPACT ANALYSIS

Of the 90 adult learners from the first cohort awarded scholarships in the spring of 2017, 72 enrolled at just five campuses during the 2017–2018 school year: 1) Johnson County Community College; 2) Kansas City, Kansas, Community College; 3) Metropolitan Community College–Penn Valley; 4) Park University; and 5) University of Missouri–Kansas City.[4] The remaining 18 adult learners enrolled at more than a dozen other institutions, typically just one or two per school.

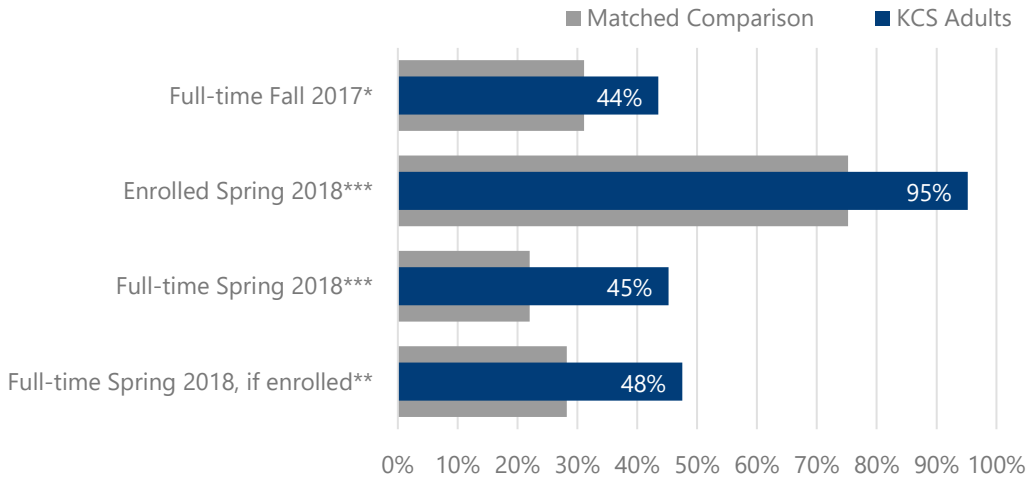
To evaluate the impact of the KCS adult learner scholarship on postsecondary outcomes for 2017–2018, we implement a matching approach, described in detail in the appendix. The matching approach compares adult scholarship recipients with similar non-KCS scholarship students who enroll at the same institutions, based on characteristics such as gender, race and ethnicity, age, family structure, and financial need. Using this comparison group, we examine several key retention outcomes, including enrollment in the spring semester, credits attempted and earned in both the fall and spring semesters, and GPA in both semesters. Unfortunately, we cannot examine the important impact of any reenrollment at all: by necessity, the comparison sample comprises adults who had already reenrolled in the fall of 2017. Instead, we can look at full-time enrollment for both semesters.

Figure 6.1 shows the full-time enrollment rates in fall 2017 for KCS adults and the matched comparison group. Whereas 31.1 percent of the comparison group members were enrolled full time, 43.5 percent of KCS adults were, a statistically significant difference (at the 10 percent level) of 12 percentage points. More salient however, is whether the student returned to enroll in the spring of 2018, an early indicator of retention and progress toward degree. For the KCS adults, 95 percent met this benchmark, exceeding the matched comparison group by a highly statistically significant 20 percentage points. The KCS adults were also 23 percentage points more likely (in this case, *twice* as likely) to enroll full time in the spring. The last set of bars considers full-time status only for those who enrolled in the spring. The 19-percentage-point advantage for the KCS adults indicates that the overall advantage for full-time spring enrollment is not merely due to the overall enrollment advantage, but also indicates a persistent shift toward full-time enrollment for KCS adults.

[4] Originally, 91 scholarships were awarded, but one person became ineligible after moving outside the Kansas City area.

Figure 6.1

KCS Adults Are More Likely to Reenroll in the Spring and Enroll Full-time



NOTE: * significant at the 0.10 level; ** significant at the 0.05 level; *** significant at the 0.01 level.

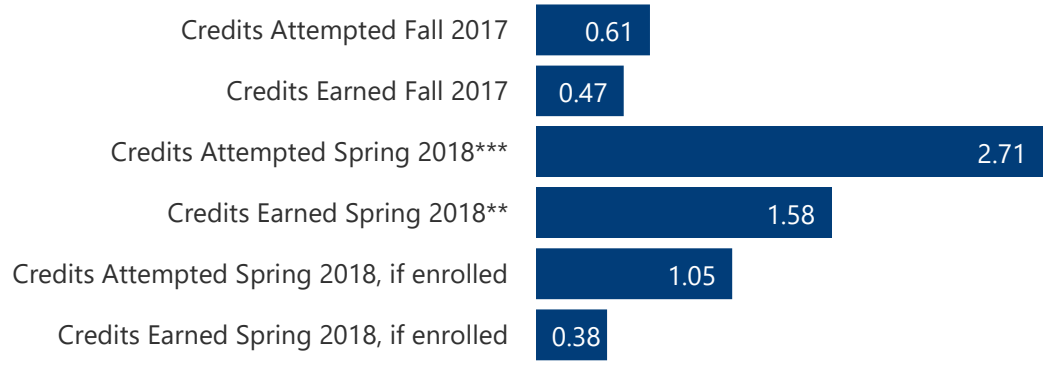
Figure 6.2 displays the difference between KCS adults and the matched comparison group in the number of credits attempted and earned each semester. The credits-attempted outcome is a more fine-grained measure of enrollment intensity than the full-time-status measure in Figure 6.1. For fall 2017, KCS adults have a slight 0.6 credit advantage over the matched comparison, but the difference is not statistically significant. For the spring, however, KCS adults take 2.7 credits more than the comparison group, almost an entire class's worth, and the impact is highly significant. Interestingly, the difference is driven by a decline in the credits attempted by the matched comparison, while the KCS adults take a similar number of credits as in the fall.

However, KCS adults do not appear to *earn* more credits than the matched comparison group in the fall—the 0.47 credit advantage is small and statistically insignificant—and this perhaps is not surprising given the small difference in credits attempted that semester. In the spring, on the other hand, KCS adults earn 1.6 credits (about half a class) more than the matched comparison. The last bar shows that this difference shrinks to a statistically insignificant 0.4 credits conditional on spring enrollment. Put differently, the KCS program does not appear to increase the likelihood a student passes her classes; rather, the impact on credits earned is driven by the KCS program inducing a greater likelihood of spring enrollment.[5]

[5] It is worth noting that the matched comparison students who enroll in the spring may be positively selected (for example, in terms of motivation or drive), and this may result in the estimated difference for the last bar being biased downward. For this reason, we view the results conditional on spring enrollment as more descriptive than causal.

Figure 6.2

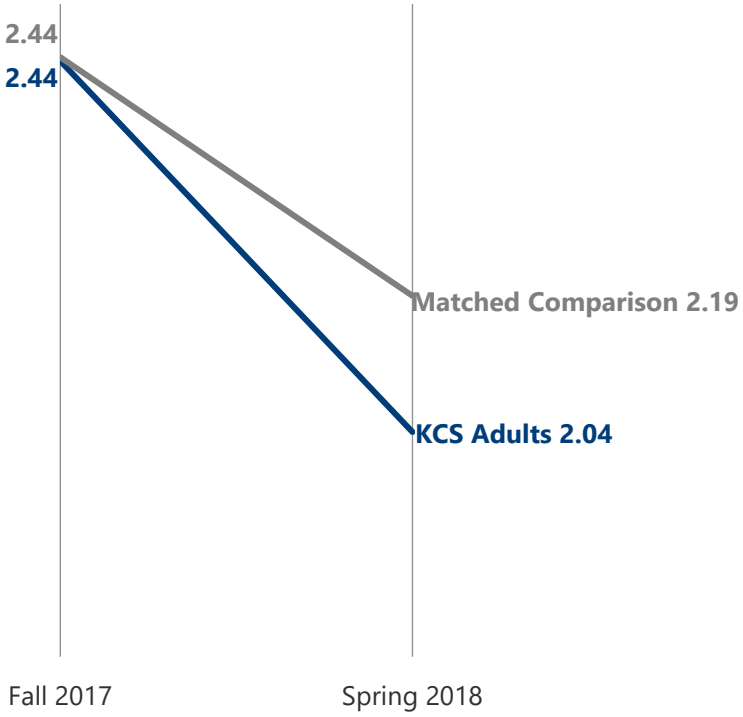
KCS Adults Enroll in 2.7 More Credits in the Spring Semester than Their Peers, Resulting in More Credits Earned



NOTE: ** significant at the 0.05 level; *** significant at the 0.01 level.

Figure 6.3

GPA Falls for Both Groups in the Spring, But More So For KCS Adults



Finally, Figure 6.3 shows student GPAs each semester (necessarily conditioning on enrollment). For the fall, there is no difference in GPA between the KCS adults and the matched comparison: both have GPAs of 2.44. For the spring, the GPAs of both groups fall, but more so for the KCS adults. Whereas GPA declines to 2.19 for the comparison group, it slips to 2.04—a C average—for KCS adults. The resulting GPA gap of 0.15 points is modest and not statistically significant, but it is suggestive that the enrollment impacts of the scholarship are possibly concentrated among slightly weaker students, who are induced to continue with their studies rather than "stop out." It is less likely that the scholarship reduces GPA for a given student, although this claim is impossible to test. With an additional cohort to expand the sample size and additional information on past collegiate experience from the application, it should be feasible next year to investigate the types of students on which the KCS program has the largest effects.

7. Conclusions

This chapter highlights the conclusions from the analyses. Most of the conclusions presented here pertain to a single component of the program; however, as noted below, some pertain to two or all three components.

Conclusions

- The intent of the scholarship is to facilitate college enrollments of students from families of low-to-moderate means. Compared to those from 2017, the eligible submissions for the traditional scholarship and the CSM in 2018 both have slightly higher GPAs and slightly lower expected family contributions. This suggests that the targeting of the program has improved.

- The modest changes this year to the traditional scholarship rubric resulted in the ethnicities of awardees being closer to those of eligible submissions than they were last year. Hours of family commitment were weighted more heavily in the rubric then, and the strong correlation between Hispanic/Latinos and hours of family commitment resulted in a disproportionately high share of awardees with that ethnicity. This overrepresentation did not occur this year, as Latinos received the award in proportion to their submissions.

- Women substantially outnumber men among submissions and awardees of both the traditional scholarship and the CSM.[6] Among eligible submissions, the shares of women for these components are 67.5 and 67.2 percent, respectively; among awardees, the shares are 76.2 and 73.9 percent. Moreover, more than 92 percent of this year's adult learner cohort is female.

- In focus groups that collectively included several dozen students, applicants for the traditional scholarship and the CSM suggested that winning (or the potential of winning) an award did not influence their course taking or involvement in school activities. Nonetheless, some traditional scholarship awardees said they had invested more effort in school, both to increase their chances of acceptance at their chosen college and for acclimation to the work that they anticipated in college. Among non-awardees, many students still voiced positive feelings about the program because it had induced them to investigate and consider college options in 11th grade, earlier than the 12th grade norm, which they felt was typical for their high schools. They appreciated the practice of scholarship essay writing and the challenge of writing about oneself.

- The matching analysis for the adult learners shows that the program had a large and positive impact on college retention for the first cohort of winners, who were approximately 20 percentage points more likely to be enrolled in the spring than the comparison group. This enrollment advantage translated to an average of an additional one-half class successfully completed that second semester.

[6] This pattern is common for scholarships that are both need- and merit-based. For example, 70–71 percent of Dell applicants and scholars are women (Page et al. 2017), as are 62–67 percent of Buffett scholars (Angrist et al. 2016). Nevertheless, KCS awardees are even more likely to be women than applicants are.

- For high school students, the predominant sources of information about the traditional scholarship and CSM are through teachers, counselors, or general school announcements. Compared to last year, however, a significantly higher percentage of students this year learned of the program through friends or through the KCS website. This suggests that as the scholarship program anchors itself in the community, word of mouth is becoming an important and growing information channel. Interestingly, none of the high school students indicated that they had learned of the program on the radio.

- For adult learners, most submissions came from Jackson County. In focus groups, the adults suggested that more outreach through radio, newspapers, and social media would attract greater interest from adults in other counties.

- Many of the students participating in the college savings part of the scholarship, either with matched or seeded accounts, acknowledged in focus groups that they and their parents did not fully understand the details of their accounts. They indicated uncertainty about how to deposit funds, although their parents may be more knowledgeable than they themselves are.

- A substantial share of the CSM awardees withdrew from the program quickly: 11.3 percent of students with incentive matches and 23.7 percent of those with seeded accounts did so. This may stem from confusion over the program, but it likely warrants additional follow-up.

- Many of the first- and second-year volunteer reviewers who participated in focus groups had rather adamant recommendations for improving the review process. Their primary concern was that the rubric did not always reflect the essay prompts/questions. For example, some thought the rubric was unrealistic in terms of expectations relating to grammar, spelling, and following directions. Moreover, reviewers argued that the current scoring system of 1, 3, or 5 did not fit the rubric's yes/no direction. Additional suggestions included the following:

    - Institute a screening process to ensure that neither recommenders nor students include students' names on their essays.

    - Strengthen training on implicit bias, perhaps by adding more real-life examples that reviewers might encounter.

    - Provide more guidance to recommenders on writing their recommendations, including determining whether they are qualified; reviewers said that recommenders often represented students poorly, both through sloppy writing and through vague content unrelated to students' academic merits.

    - Simplify essay prompts.

    - Account for English-language-learner applicants, who reviewers believed were at an unfair disadvantage with the essays.

8. Data Appendix

Table 3.A.1

Characteristics of Traditional Scholarship-Eligible Submissions and Awardees

Characteristic	Eligible submissions (%)	Awardees (%)
Gender		
Female	67.5	76.2
Male	32.5	23.8
Ethnicity		
African American	25.4	24.1
Asian	7.9	11.9
Hispanic/Latino	28.3	28.7
White	30.6	26.4
Other/multiracial/no response	7.8	8.9
Parent has four-year degree		
Yes	29.6	15.9
No	70.4	84.1
Free or reduced-price lunch eligibility		
Yes	62.5	75.1
No	26.2	15.4
Unsure/don't know	11.4	9.6
Avg. expected family contribution	$2,090	$795
County of Residence		
Cass (Mo.)	3.5	2.9
Clay (Mo.)	7.2	6.1
Jackson (Mo.)	43.6	47.0
Johnson (Kan.)	17.6	13.3
Platte (Mo.)	2.6	2.9
Wyandotte (Kan.)	24.8	27.5
Other	0.7	0.3

NOTE: Table entries are percentages except for expected family contribution. Totals may not sum to 100.0 because of rounding. Sample sizes are 1,396 for eligible submissions and 345 for awardees.

Table 3.A.2

Academic Achievements, High School and Community Activities, Employment, and Family Commitment

Characteristic	Eligible submissions (%)	Awardees (%)
High school GPA		
Mean	3.44	3.77
4.0 or higher	11.9	22.6
ACT score		
Mean	22.4	22.7
≥ 28	14.0	16.3
School, church, community activity participation		
Two or more and leadership role in at least one	34.2	54.2
Two or more; no leadership role	37.5	35.9
One activity	17.8	9.0
No school, church, or community activity	10.5	0.9
Employment experience		
Currently working more than one job	2.2	3.8
Currently working full time	0.8	1.2
Currently working part time	42.8	57.1
Previously but not currently working	16.1	12.5
Never worked	38.1	25.5
Hours of family commitment per week		
11 or more	8.1	15.4
6–10	14.7	16.2
1–5	22.9	23.8
No required commitment	54.3	44.6

NOTE: Table entries are percentages except for average GPA and ACT scores. Totals may not sum to 100.0 because of rounding. Sample sizes for ACT score results are 413 for eligible submissions and 135 for awardees. For all other characteristics, sample sizes are 1,396 for eligible submissions and 345 for awardees.

Table 3.A.3

College Choice Distributions, by Scholarship Receipt Scenario

Institution	Eligible submissions (%)		Awardees (%)	
	Win	Don't win	Win	Don't win
Avila University	2.7	2.6	1.7	2.8
Baker University	3.7	1.5	2.3	1.6
Donnelly College	0.4	1.4	0.1	1.2
Johnson County Community College	4.3	12.0	2.2	8.8
Kansas City Art Institute	2.3	1.2	2.6	1.4
Kansas City, Kansas, Community College	2.7	9.7	1.4	10.0
Kansas State University	13.8	6.5	12.8	6.7
Lincoln University	1.4	1.2	1.7	1.2
Metro CC–Blue River	0.6	1.9	0.9	1.7
Metro CC–Business Tech	0.2	0.6	0.0	0.4
Metro CC–Longview	0.9	3.5	0.9	2.5
Metro CC–Maple Woods	0.4	1.9	0.0	1.7
Metro CC–Penn Valley	0.7	3.8	0.3	4.9
Park University	4.1	2.9	4.4	2.6
Rockhurst University	4.3	2.3	6.7	2.9
University of Central Missouri	7.2	5.8	5.8	5.5
University of Kansas	19.2	8.3	20.3	8.8
University of Missouri at Columbia	11.4	4.9	13.2	6.8
University of Missouri–Kansas City	17.6	12.4	21.2	13.2
Western Governors University	0.1	0.1	0.1	0.0
William Jewell College	1.9	1.0	1.4	1.3
Other	0.0	14.6	0.0	13.9

NOTE: The sample size for eligible submissions is 2,782; for awardees, it is 690. (First and second choices are combined.)

Figure 3.A.7

Score Distribution of Eligible Submissions

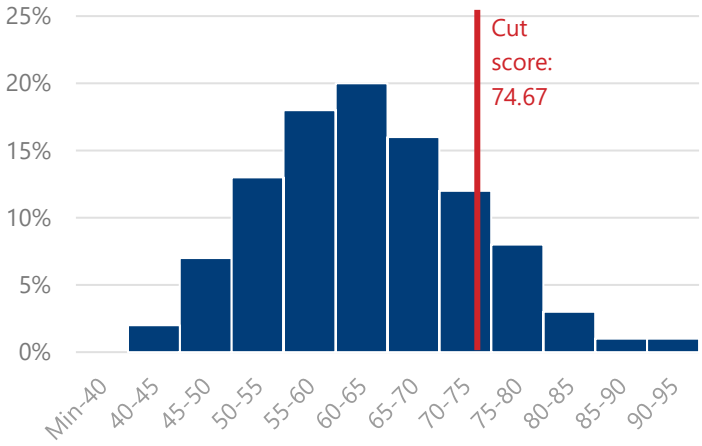


Table 4.A.1

Characteristics of Adult Learner Scholarship Awardees

Characteristic	%
Gender	
Female	90.4
Male	9.6
Ethnicity	
African American	62.0
Hispanic/Latino	6.6
White	17.5
Other/multiracial/no response	13.8
Age	
24–30	27.2
31–40	34.6
41–50	23.5
Over 50	14.7
Average (years)	38.5
Avg. expected family contribution	$2,008
County of Residence	
Cass (Mo.)	0.7
Clay (Mo.)	8.8
Jackson (Mo.)	72.3
Johnson (Kan.)	5.1
Platte (Mo.)	2.9
Wyandotte (Kan.)	10.2

NOTE: Totals may not sum to 100.0 because of rounding. Sample size is 137.

Table 4.A.2

COMMUNITY INVOLVEMENT, EMPLOYMENT, AND FAMILY COMMITMENTS OF ADULT LEARNERS

Characteristic	%
Prior postsecondary GPA	
2.50 or less	54.7
2.51–3.0	26.3
3.01–3.5	13.9
3.51 or above	5.1
Average	2.71
School, church, community activity participation	
Two or more and leadership role in at least one	14.6
Two or more; no leadership role	19.0
One activity	21.9
No school, church, or community activity	44.5
Employment experience	
Currently working more than one job	9.5
Currently working full time	53.3
Currently working part time	18.2
Previously employed, but not currently working	13.9
Never worked	2.2
Hours of family commitment per week	
11 or more	32.1
6–10	19.0
1–5	22.6
No required commitment	26.3

NOTE: Totals may not sum to 100.0 because of rounding. Sample size is 137.

Table 4.A.3

College Choice Distributions among Adult Awardees, by Scholarship Receipt Scenario

School	Win (%)	Don't win (%)
Avila University	4.7	4.0
Baker University	2.6	0.7
Donnelly College	0.7	1.8
Johnson County Community College	8.0	7.3
Kansas City Art Institute	1.5	0.4
Kansas City, Kansas, Community College	6.2	4.7
Kansas State University	0.4	0.0
Lincoln University	0.4	0.4
Metro CC–Blue River	2.6	4.4
Metro CC–Business Tech	2.2	1.8
Metro CC–Longview	9.1	9.9
Metro CC–Maple Woods	3.3	4.4
Metro CC–Penn Valley	17.9	21.9
Park University	8.8	6.2
Rockhurst University	1.8	0.4
University of Central Missouri	4.7	2.2
University of Kansas	2.9	2.6
University of Missouri at Columbia	0.7	1.1
University of Missouri–Kansas City	16.4	9.5
Western Governors University	4.4	3.6
William Jewell College	0.7	0.7
Other	0.0	12.0

NOTE: The sample size for each scenario (combined first and second choices) is 274.

Table 5.A.1

Characteristics of CSM Seeded and Matched Awardees

Characteristic	Seeded awardees (%)	Matched awardees (%)
Gender		
Female	67.6	73.9
Male	32.4	26.1
Ethnicity		
African American	32.6	11.6
Asian	5.3	5.8
Hispanic/Latino	26.9	23.2
White	28.0	46.4
Other/multiracial/no response	7.2	13.0
Parent has 4-year degree		
Yes	37.2	37.7
No	62.8	62.3
Free or reduced-price lunch eligibility		
Yes	61.6	58.0
No	23.1	24.6
Unsure/don't know	15.3	17.4
Avg. expected family contribution	$2,633	$1,696
County of Residence		
Cass (Mo.)	4.2	10.1
Clay (Mo.)	3.8	14.5
Jackson (Mo.)	47.0	30.4
Johnson (Kan.)	15.9	10.1
Platte (Mo.)	1.5	14.5
Wyandotte (Kan.)	26.9	15.9
Other	0.8	4.3

NOTE: Table entries are percentages except for expected family contribution. Totals may not sum to 100.0 because of rounding. Sample sizes are 264 for seeded awardees and 69 for matched awardees.

Table 5.A.2

GPA, High School and Community Activities, Employment, and Family Commitment

Characteristic	Seeded awardees (%)	Matched awardees (%)
9th Grade GPA		
Mean	3.56	3.86
Percent 4.0 or higher	26.7	55.6
School, church, community activity participation		
Two or more and leadership role in at least one	18.7	42.0
Two or more; no leadership role	39.3	50.7
One activity	22.8	5.8
No school, church, or community activity	19.2	1.4
Employment experience		
Currently working more than one job	0.7	1.4
Currently working full time	0.0	0.0
Currently working part time	7.5	17.4
Previously, but not currently working	2.7	0.0
Never worked	89.0	81.2
Hours of family commitment per week		
11 or more	6.4	17.4
6 to 10	11.6	14.5
1 to 5	32.2	39.1
No required commitment	49.8	29.0

NOTE: Table entries are percentages except for GPA mean. Totals may not sum to 100.0 because of rounding. Sample sizes are 264 for seeded awardees and 69 for matched awardees.

Table 5.A.3

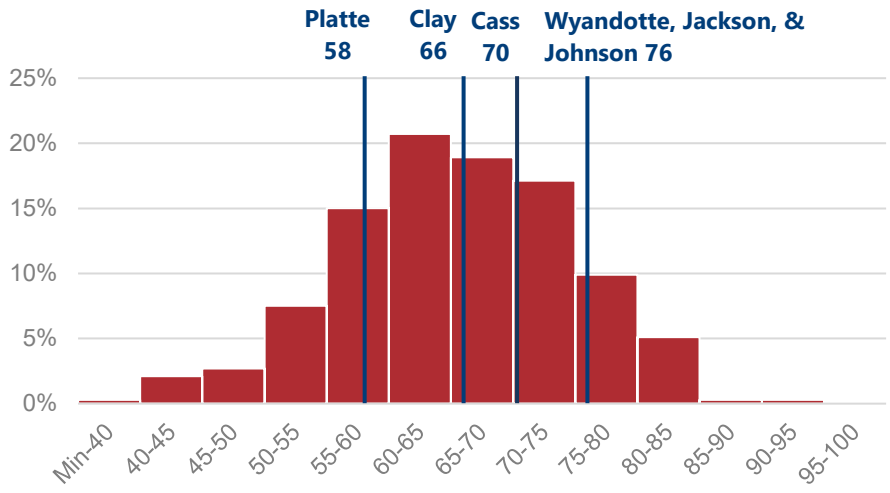
College Choice Distributions among CSM Awardees, by Match Receipt Scenario

College	Win (%)	Don't win (%)
Avila University	1.8	2.0
Baker University	4.2	2.7
Donnelly College	0.9	2.1
Johnson County Community College	3.6	9.3
Kansas City Art Institute	2.3	2.0
Kansas City, Kansas, Community College	2.9	6.8
Kansas State University	14.7	7.2
Lincoln University	2.4	1.7
Metro CC–Blue River	0.5	0.5
Metro CC–Business Tech	0.3	1.2
Metro CC–Longview	1.1	3.0
Metro CC–Maple Woods	1.1	2.4
Metro CC–Penn Valley	0.5	3.2
Park University	3.8	2.6
Rockhurst University	4.5	2.3
University of Central Missouri	6.3	5.4
University of Kansas	20.1	11.4
University of Missouri at Columbia	12.8	6.0
University of Missouri–Kansas City	15.1	10.1
Western Governors University	0.2	0.0
William Jewell College	1.4	1.2
Other	0.0	17.3

NOTE: The sample size for each scenario (combined first and second choices) is 666.

Figure 5.A.5

Score Distribution of CSM Applicants



NOTE: The blue vertical lines denote the cut scores by county. From left to right, they are: Platte (58), Clay (66), Cass (70.33), Wyandotte (75.67), Jackson (76), and Johnson (76.67). Note that these latter three counties are represented in the single vertical blue line located on the right side.

9. Methodological Appendix and Additional Tables

This chapter uses a statistical matching procedure to estimate the impact of the KCS adult scholarship on academic outcomes for the first cohort, comparing KCS adult learners to a comparison group of enrolled students. While it would have been ideal to use a regression discontinuity design, comparing adult learners who scored just above the scholarship score cutoff with those applicants who scored just below, this design was not feasible, since all adult scholarship applicants who completed the application and met baseline eligibility requirements received the scholarship. By matching adult scholarship recipients with similar adults who did not receive the KCS award, we can still investigate several important postsecondary outcomes. A preferred matching comparison group would be other adults, at least age 24, who had previously enrolled at a college, who had an expected family contribution (EFC) of no more than $12,000, and who had expressed interest in returning to college—in other words, adults who could have applied for the KCS scholarship but did not. Unfortunately, such a comparison group with records at the individual level is not available. Instead, our matching approach compares adult scholarship recipients with similar non-KCS scholarship students who enroll at the same institutions.

More specifically, our comparison sample is drawn from the five institutions mentioned at the beginning of the chapter, which have the greatest number of KCS adult learners. We asked each of these postsecondary campuses to provide anonymized enrollment data (including enrollment intensity, credits attempted and earned, and GPA for each semester) for 10 randomly chosen, non-scholarship adult students for each KCS adult learner at their school for the 2017–2018 school year.[7] The non-scholarship comparison students had to fit criteria analogous to the KCS awardees: they had to be at least age 24, with an EFC of no more than $12,000 (and have completed the FAFSA), and have a previous enrollment spell either at the current or another college.

This approach yielded 720 comparison students for the 72 KCS adult awardees. However, we learned that not all comparison students actually met the eligibility criteria. Due to some confusion about the age criterion, more than one-third of the students provided by the five campuses were younger than 24. Since age was one of the requested characteristics, along with other demographics intended for the matching procedure, we could impose the age criterion ourselves, and when we did so, we were left with 452 comparison students. Additionally, 2 of the 72 KCS awardees had enrolled in the spring but not the fall. We thus dropped these two students from the comparison, leaving us with 70.

These 70 KCS students and 452 comparison students formed the basis for our matching procedure. The first two columns of Appendix Table 6.A.1 compare the characteristics of these two groups. Although their measures of financial need are quite similar, with an average EFC of about $2,000, there are several notable differences across other demographics. First, the KCS students are three years older than the comparison students, on average. Second, while both groups are about equally likely to have dependents, the KCS students are much less likely to be married (12.9 vs. 27.0 percent) and more likely to be single parents (41.4 vs. 30.8 percent). Third, and perhaps constituting the largest difference, KCS adults are much more likely to be African American (65.7 vs. 23.7 percent) and less likely to be either white (20.0 vs. 54.4 percent) or Latino (7.1 vs. 13.5

[7] These students must have enrolled in the fall term, although they may or may not have enrolled at the same institution in the spring term.

percent). The KCS awardees are also slightly more likely to be women (75.7 vs. 70.1 percent), although this last difference is not statistically significant.

To the extent that any of these differences in characteristics are also correlated with college outcomes, comparing the two groups may not yield the true impact of the KCS scholarship. To make the groups more comparable, we implement a two-step matching procedure. The first step involves a process called *coarsened exact matching*, or CEM.[8] This process creates cells based on several characteristics of the "treated" group—in this case, KCS adults. We define cells based on all combinations of sex, age groups (24–44, 45–64, and 65 and older), racial groups (white, African American, Hispanic/Latino, and other), and household structure groups (married with kids, married without kids, single with dependents, single without dependents, and another category for those with missing information).[9] For example, one such cell would be women who were between the ages of 24 and 44, were African American, and were single without dependents. CEM ensures that there is at least one "treated" (KCS adult) and at least one "control" (comparison student) in each cell; cells that contain treated individuals but no control individuals, or vice versa, or are completely empty, are flagged as incomplete and are excluded from subsequent analysis.[10] In this way, we are more confident that the controls are good counterfactual comparisons for the treated.

Not all KCS adults or comparison students are in overlapping cells: 62 of 70 KCS adults and 297 of 452 comparison students qualify according to the procedure. The distribution of characteristics of the individuals selected by CEM are shown in the middle columns of Appendix Table 6.A.1. Although there are still large differences between the groups for race/ethnicity and age, the differences by household structure have narrowed and are no longer statistically significant. Moreover, the exclusion of eight individuals from the KCS adult sample did not appreciably affect the distribution of characteristics, as can be seen by comparing the first and third columns. Thus, there should be little concern that the sample used for the analysis is not representative of all KCS adults at the five campuses.

The second step of the matching procedure applies a technique called kernel matching to the KCS adults and comparison students selected by CEM. Kernel matching is a form of propensity score matching, which uses observable characteristics to predict the likelihood of being in the treated group (e.g., KCS adults) for all analysis units (treated and comparison). The statistical technique yields a propensity score between 0 and 1 for all individuals, and the intuition is that individuals with propensity scores close to one another are more similar. If every treated individual is compared to the control (comparison) individual with the closest propensity score, the approach is called "nearest-neighbor matching." If every treated individual is instead compared to the k control individuals with the closest proximity score, where k is a positive integer, the approach is called "k-nearest-neighbor matching." Generally, a larger k results in a more precisely estimated treatment effect, but since some of the comparisons are not as close of a match, the estimate may be biased. Kernel matching tries to improve on this trade-off by using multiple control individuals but giving more weight to the controls with the propensity scores closest to the treated individual.
To calculate the propensity score, we use several of the characteristics from the CEM procedure, including the intersection of sex, race/ethnicity, and household structure, but we also incorporate a quartic polynomial in age and categorical EFC groupings, including an EFC of 0, 1–2,000, 2,001–5,000, or 5,001–12,000. After the propensity score is calculated and the kernel weights applied, one

[8] See Iacus, King, and Porro (2012).
[9] We infer household structure from the reported number of adults and dependents in the household.
[10] We attempted to also include the campus in the CEM cells, but some campuses had too few KCS adults to allow for viable comparisons when the other characteristics were also included.

can compare the characteristics again between the 62 KCS adults and the 297 matched comparison students, as shown in the last pair of columns in Appendix Table 6.A.1.[11] By weighting the control group, all remaining differences in characteristics—notably the differences in age and race/ethnicity from the preceding column pairs—are now small and statistically insignificant. Put differently, the characteristics between the two groups are now balanced, which should give credence for the matching estimates that compare the postsecondary outcomes between the two groups.

In Appendix Table 6.A.2, we show that the kernel-matching estimates are robust to alternative matching estimators, including nearest-neighbor (especially when multiple neighbors are used) and Mahalanobis matching, which finds neighbors based on standardized differences in characteristics rather than on a propensity score.

Table 6.A.1

CHARACTERISTICS OF KCS C1 ADULT LEARNERS AND CONTROLS, BEFORE AND AFTER MATCHING

	All eligible individuals		After coarsened exact matching (CEM)		+ After kernel matching	
	Treated	Controls	Treated	Controls	Treated	Controls
Female	0.757	0.701	0.766	0.681	0.758	0.732
White	0.200	0.544***	0.210	0.559***	0.210	0.232
African American	0.657	0.237***	0.694	0.343***	0.694	0.681
Hispanic/Latino	0.071	0.135*	0.032	0.030	0.032	0.032
Other/unknown	0.071	0.084	0.065	0.067	0.065	0.055
Married w/ kids	0.129	0.270***	0.145	0.121	0.145	0.153
Married w/o kids	0.043	0.033	0.016	0.010	0.016	0.017
Single, dependents	0.414	0.308*	0.452	0.404	0.452	0.452
Single, no dependents	0.357	0.376	0.371	0.461	0.371	0.365
Missing family status	0.057	0.013	0.016	0.003	0.016	0.013
Age	35.8	32.8***	35.2	31.6***	35.2	35.1
EFC ($)	1,930	2,037	1,944	1,989	N/A[a]	N/A[a]
Zero EFC	0.536	0.504	0.548	0.545	0.548	0.546
$$2,000 EFC	0.174	0.162	0.177	0.131	0.177	0.185
$2,001–$5,000 EFC	0.116	0.164	0.100	0.152	0.097	0.086
$5,001+ EFC	0.174	0.170	0.177	0.172	0.177	0.182
Sample size	70	452	62	297	62	297

NOTE: The table shows the fraction of the sample with the specified demographic characteristics of KCS Cohort 1 adult learners and anonymous individuals used as possible controls; all are drawn from the five campuses with the greatest number of adult learners (see text for details). The first pair of data columns include all individuals who meet the minimum requirements for eligibility—they are at least age 24, had enrolled in college previously, and had completed the FAFSA with an EFC of no more than 12,000—and who were enrolled in the fall of 2017. The second pair of data columns include individuals who could be matched, treatment to control, within cells defined by age group (25–44, 45–64, 65+), race/ethnicity (as shown in the table), and household structure (as shown in the table). The third pair of data columns show characteristics of the analytic sample, which applies kernel-weighted matching techniques to individuals in the second pair of columns to find the best set of controls for each KCS adult learner according to propensity score. * significant at the 0.10 level; ** significant at the 0.05 level; *** significant at the 0.01 level.

[a] EFC is entered as a categorical variable during kernel matching; thus, means are not calculated.

[11] To calculate the propensity scores and the matching treatment effects of the KCS program, we use the Stata command -psmatch2- (Leuven and Sianesi 2003).

Table 6.A.2

KCS Adult Learner Results: Robustness to Different Matching Techniques

	Kernel		1 nearest neighbor		5 nearest neighbors		1 NN Mahalanobis		5 NN Mahalanobis	
	Effect	SE	Effect	SE	Effect	SE	Effect	SE	Effect	SE
Full time: Fall 2017	0.124*	(0.075)	0.079	(0.099)	0.089	(0.080)	0.079	(0.093)	0.108	(0.078)
Enrolled: Spring 2018	0.200***	(0.047)	0.095	(0.066)	0.175***	(0.053)	0.175**	(0.072)	0.197***	(0.049)
Full time: Spring 2018	0.233***	(0.074)	0.111	(0.100)	0.210***	(0.077)	0.254***	(0.090)	0.210***	(0.074)
Full time: Spring 2018, if enrolled	0.192**	(0.082)	0.183*	(0.104)	0.193**	(0.084)	0.267***	(0.099)	0.170**	(0.082)
Credits attempted: F17	0.608	(0.536)	0.087	(0.734)	0.130	(0.575)	−0.468	(0.717)	0.251	(0.509)
Credits earned: F17	0.469	(0.654)	−0.214	(0.881)	−0.178	(0.691)	−0.722	(0.892)	0.359	(0.658)
Credits attempted: S18	2.709***	(0.745)	2.145**	(0.998)	2.437***	(0.808)	2.758***	(1.070)	2.706***	(0.702)
Credits earned: S18	1.577**	(0.789)	1.306	(1.044)	1.289	(0.845)	2.177**	(1.007)	1.745**	(0.729)
Credits att.: S18, if enrolled	1.051	(0.685)	1.042	(0.980)	0.927	(0.703)	1.407	(0.914)	1.064	(0.663)
Credits earned: S18, enrolled	0.376	(0.818)	0.398	(1.130)	−0.134	(0.834)	0.831	(0.975)	0.254	(0.746)
GPA: Fall 2017	−0.004	(0.186)	−0.145	(0.251)	0.003	(0.200)	−0.137	(0.246)	0.121	(0.179)
GPA: Spring 2018	−0.146	(0.235)	−0.111	(0.302)	−0.184	(0.242)	−0.182	(0.290)	−0.150	(0.231)

NOTE: The table displays the impact of KCS on adult learners for the same outcomes shown in Figures 6.1 through 6.3, but for alternative matching techniques. The matching technique used in Figures 6.1 through 6.3, kernel matching, is shown in the first pair of data columns; the effects correspond to the difference between treated and matched control students, and standard errors are shown in parentheses. The next four pairs of columns show the alternative matching techniques: 1) single nearest neighbor based on propensity score, 2) five nearest neighbors based on propensity score, 3) single nearest neighbor based on Mahalanobis distance, and 4) five nearest neighbors based on Mahalanobis distance. For explanations of these techniques, please see the text. * significant at the 0.10 level; ** significant at the 0.05 level; *** significant at the 0.01 level.

References

Angrist, Joshua, David Autor, Sally Hudson, and Amanda Pallais. 2016. "Evaluating Post-Secondary Aid: Enrollment, Persistence, and Projected Completion Effects." NBER Working Paper No. 23015. Cambridge, MA: National Bureau of Economic Research.

Iacus, Stefano M., Gary King, and Giuseppe Porro. 2012. "Causal Inference without Balance Checking: Coarsened Exact Matching." *Political Analysis* 20(1): 1–24.

Leuven, Edwin, and Barbara Sianesi. 2003. "PSMATCH2: Stata Module to Perform Full Mahalanobis and Propensity Score Matching, Common Support Graphing, and Covariate Imbalance Testing." Statistical Software Components S432001. Version 4.0.12. Boston, MA: Boston College Department of Economics.

Page, Lindsay C., Stacy S. Kehoe, Benjamin L. Castleman, and Gumilang A. Sahadewo. 2017. "More than Dollars for Scholars: The Impact of the Dell Scholars Program on College Access, Persistence, and Degree Attainment." *Journal of Human Resources* 54(3).