

# VARYING LEVELS OF SUCCESS

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**May 2024**

A coding error in this study's analysis was discovered in January 2024: Students without high school diplomas who were still enrolled in high school at the time of random assignment were miscategorized as nontraditional students. Once the error was corrected, the percentage of the sample that is nontraditional decreased by 3 percentage points, from 51 percent to 48 percent, and the percentages at individual colleges decreased by 0 percentage points to 8 percentage points. All other changes in this report that resulted from this correction are minor and do not change the findings substantively.

**September 2024**

A labeling error was discovered in September 2024. In Appendix Table C.1, the labels for Black or African American and White students were swapped. There were no significant differential effects and thus the error does not affect the text or findings. The current version of the table is labeled correctly.

# Varying Levels of SUCCESS

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# OVERVIEW

Community colleges and broad-access universities (those with minimally selective admissions policies) provide an opportunity for students across the United States to attain postsecondary degrees and economic mobility. However, graduation rates from such colleges are often low and there are many obstacles that can be difficult to overcome, especially for students who must balance work or family responsibilities, older students, students from low-income backgrounds, and students of color who face additional systemic barriers. Furthermore, the COVID-19 pandemic introduced unprecedented challenges for college students, making the pursuit of higher education even more difficult.

Since about 2000, researchers have been collecting evidence on what forms of support are effective in helping students earn their degrees. Evidence shows that interventions that include multiple program components that support students over several years are associated with larger impacts on student outcomes. Building on the existing body of research, MDRC designed and is evaluating the Scaling Up College Completion Efforts for Student Success (SUCCESS) program, a multifaceted student support program designed to effectively promote student success and be financially sustainable. SUCCESS combines evidence-based components, including coaches engaged in active outreach to students, monthly financial incentives for students who meet program requirements, strategies to encourage students to enroll full time, and a data-driven program management system.

Starting in 2019, 13 colleges across five states (California, Indiana, Minnesota, New Jersey, and Ohio), along with their state higher education agencies, have worked with MDRC to customize and launch SUCCESS. (Eleven of the 13 colleges are participating in the randomized controlled trial.) A previous brief presenting early findings from the first study cohort illustrated that the SUCCESS program in the 2020–2021 academic year, as adapted for the context of the pandemic, had no discernible effect on students' academic progress. This report provides updated insight into the SUCCESS program after one year of participation for the first three evaluation student cohorts, covering fall 2020 through summer 2022. The main implementation finding from that time period is that the program implementation varied by college and term, and did not fully align with the SUCCESS model, largely due to the adaptations implemented during the COVID-19 pandemic. However, students who were offered SUCCESS had a different college experience from students in the control group—they were more likely to be told about the importance of full-time enrollment and, on average, they had substantially more contact with their advisors or coaches.

Despite changes in the college experience across the study sites, analyses of academic data show that, on average, there are no discernible positive impacts on persistence or credit accumulation through one year for the full sample. There is, however, evidence that impacts on credit accumulation vary across colleges and cohorts. Exploratory analyses suggest that the quantity and quality of coaching, hearing that full-time enrollment is important, and taking courses in person may all be associated with improved academic outcomes. Given the pandemic's effect on program implementation and the broader context of students' lives, it is hard to know whether SUCCESS would have produced stronger effects if implemented as designed outside of the pandemic. Upcoming briefs will include findings from 11 colleges, will include longer follow-up for the initial colleges, and will continue to explore variation in implementation and effects on academics across colleges and entering cohorts.



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The Authors



Community colleges and broad-access universities (those with minimally selective admissions policies) provide an opportunity for students across the United States to attain postsecondary degrees and economic mobility. However, graduation rates from such colleges are often low and there are many obstacles to completing college that can be difficult to overcome, especially for students who must balance work or family responsibilities, older students, students from low-income backgrounds, and students of color who face additional systemic barriers.<sup>1</sup> A factor that often impedes students' academic progress is the cost of college, including tuition, transportation, textbooks, housing, and food. Other difficulties students may face include a lack of institutional support systems and developmental education requirements.<sup>2</sup> Furthermore, the COVID-19 pandemic introduced unprecedented challenges for college students, making the pursuit of higher education even more difficult and exacerbating pre-existing racial and economic inequity in graduation rates among college students.<sup>3</sup>

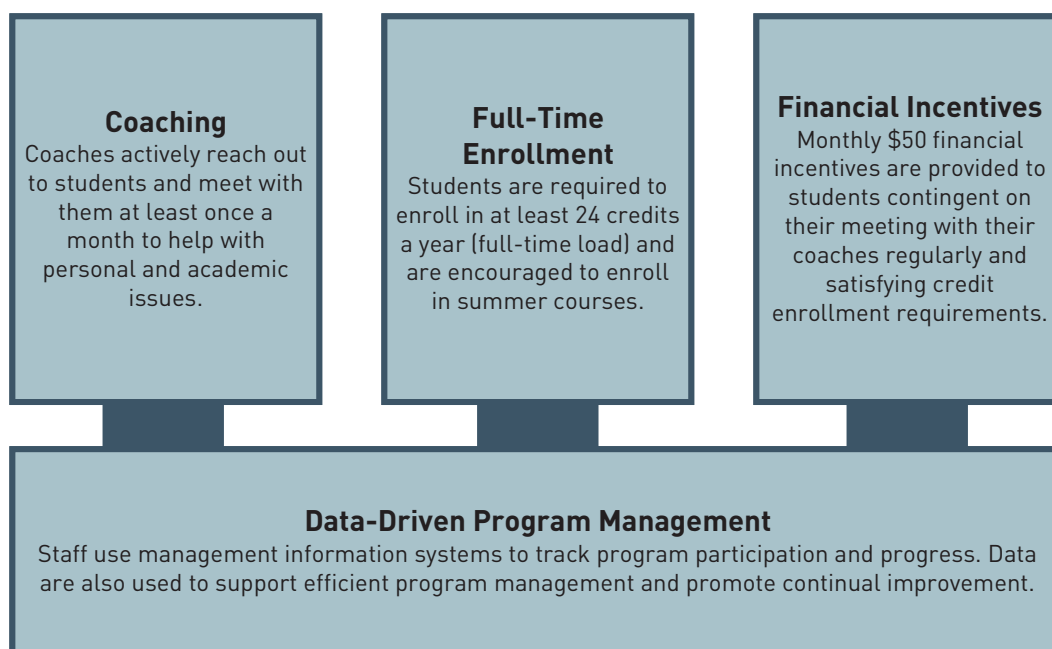
Since about 2000, researchers have been collecting evidence on what forms of support are effective in helping students attend and graduate from broad- and open-access institutions.<sup>4</sup> Evidence shows that interventions that include multiple program components that support students over several years are associated with larger impacts on student outcomes.<sup>5</sup> Comprehensive approaches to student success (CASS) models are evidence-based approaches that seek to increase college graduation rates. CASS models typically use the combination of frequent and “proactive” advising, financial support, real-time data, and other strategies to help students overcome barriers to completing college.<sup>6</sup> While CASS models have been found to help students remain enrolled, increase credit accumulation, and graduate, they can also be costly, and their proliferation has been impeded by concerns over financial sustainability.<sup>7</sup> Enabling more states and colleges to adopt proven programs that support students of color, students from low-income backgrounds, and adult learners will likely lead to improvements in racial and economic equity as well as overall college success rates.<sup>8</sup>

Building on the existing body of research, MDRC designed and is evaluating Scaling Up College Completion Efforts for Student Success (SUCCESS), a multifaceted student support program designed to effectively promote student success and to be financially sustainable. Prior to the SUCCESS demonstration that began in 2019, MDRC co-designed and evaluated Detroit Promise Path, a program that provided coaching and financial supports to community college students who were eligible for the Detroit Promise scholarship program. A randomized controlled trial of Detroit Promise Path showed an increase of 1.7 credits earned during the first year (an increase of 25 percent over the control condition of 6.9 credits).<sup>9</sup> SUCCESS extends

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1. Cox (2016).
  2. The Institute for College Access and Success (2019); Nomi (2005).
  3. Daly, Buckman, and Seitelman (2020).
  4. Weiss, Bloom, and Singh (2022).
  5. See, for example, Dawson, Kearney, and Sullivan (2020); Ratledge, O'Donoghue, Cullinan, and Camo-Biogradlija (2019); Weiss, Bloom, and Singh (2022).
  6. Dawson, Kearney, and Sullivan (2020).
  7. Dawson, Kearney, and Sullivan (2020).
  8. The Institute for College Access and Success (2019).
  9. Ratledge, O'Donoghue, Cullinan, and Camo-Biogradlija (2019).

this work by testing a similar set of supports in multiple contexts with varying populations.<sup>10</sup> The main goal of SUCCESS is to develop and evaluate an evidence-based CASS program that provides support for students, while being affordable and sustainable for colleges. As illustrated in Figure 1, SUCCESS combines evidence-based components, including coaches engaged in active outreach to students, monthly financial incentives for students who meet program requirements, strategies to encourage students to enroll full time, and a data-driven program management system.<sup>11</sup>

**Figure 1. SUCCESS Program Model**



The SUCCESS evaluation began with the fall 2020 cohort of students at seven colleges (with four additional colleges joining the study over the next two years). While the colleges had operated pilot SUCCESS programs prior to the start of the evaluation, the onset of the COVID-19 pandemic in spring 2020 caused unprecedented and unpredictable changes and stresses to the colleges, the faculty and staff members, and the students. Despite these challenges, the colleges managed to adapt the program into a different, virtual version, while simultaneously converting almost all of the colleges' normal operations to virtual operations.

- 
10. Unlike Detroit Promise Path, SUCCESS is not tied to a Promise Path scholarship. However, with existing financial aid, including Promise scholarships at some of the sites, many SUCCESS students likely pay little to no tuition.
  11. Some colleges use the term "advisors" or "navigators" to describe this role. For simplicity, this report uses the term "coaches" to apply to all of these roles.

A previous brief presenting early findings from the first study cohort (see Appendix Table A.1 for cohort and group definitions) illustrated that in the 2020–2021 academic year SUCCESS, as adapted for the context of the pandemic, had no discernible effect on students' academic progress. This report provides updated insight into SUCCESS after one year of participation for the first three evaluation student cohorts, covering fall 2020 through summer 2022, including implementation, academic impact, and preliminary cost findings. While the research team initially planned to only focus on the pooled sample in this report, notable differences in program implementation and impacts emerged across colleges and cohorts. To make this work more informative, this report also includes analyses that explore associations between (1) program implementation and impacts on academic progress, and (2) program context and impacts on academic progress.<sup>12</sup>

The main implementation finding from this period is that the program's implementation varied by college and term, and did not fully align with the original SUCCESS model, largely due to the adaptations implemented during the COVID-19 pandemic. That noted, students who were offered SUCCESS had a different college experience from students in the control group—they were more likely to be told about the importance of full-time enrollment and, on average, they had substantially more contact with their coaches.

Despite changes in the college experience across the study sites, analyses of academic data show that, on average, there are no discernible positive impacts on persistence or credit accumulation through one year for the full sample. There is, however, evidence that impacts on credit accumulation vary across colleges and cohorts. Impacts on credit accumulation tended to be larger for groups that:

- reported higher in-person course attendance,
- experienced larger increases in advising contacts,
- reported larger increases in coaching quality, and
- were more likely to receive messaging about the importance of full-time enrollment.

These exploratory analyses *suggest* that SUCCESS may have had some positive effects where it was better implemented. Given the pandemic's effects on program implementation and the broader context of students' lives, it is hard to know whether SUCCESS would have produced stronger effects if implemented as designed outside of the pandemic. Upcoming briefs will include findings from all 11 colleges and longer follow-up for the initial colleges, and will continue to explore variation in implementation and effects on academics across colleges and entering cohorts.

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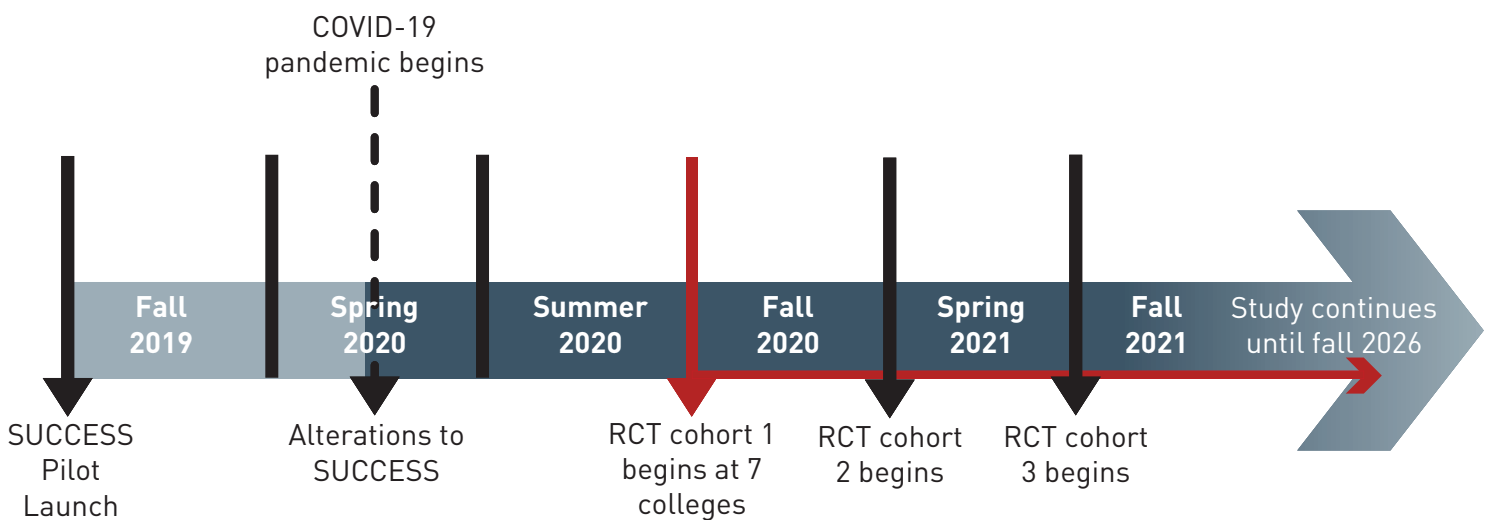
**12.** This predictor analysis examined whether the impact on the number of contacts with a coach/advisor, quality of coaching, and stronger messaging regarding full-time enrollment were correlated with improved academic success. The analysis also examined whether in-person coaching and in-person course-taking was correlated with improved academic success.

## About the Demonstration

Starting in 2019, 13 institutions across 5 states (California, Indiana, Minnesota, New Jersey, and Ohio), along with their state higher education agencies, have worked with MDRC to customize and launch SUCCESS. Eleven of the 13 colleges are participating in the randomized controlled trial. The colleges represent a mix of two- and four-year institutions in urban, suburban, and rural settings. A full list of colleges that have implemented SUCCESS can be found [here](#). These geographically diverse institutions and states boast varied student populations and differ in the centralization of their higher education governance. As a prerequisite to participation in SUCCESS, each college and state committed to supporting programs that align with SUCCESS goals and agreed to scale operations to serve additional students. MDRC subsequently provided technical assistance to each college over a period of about two years.

During the second semester of the first pilot programs, the COVID-19 pandemic interrupted the educational learning environment for students around the country, as seen in Figure 2.<sup>13</sup> Coursework and activities shifted online, or were canceled altogether, reducing on-campus activity for most students. Students and staff members also encountered new difficulties at school and at home, trying to adapt to new online formats while facing public health and financial challenges.<sup>14</sup> While the first pilot cohort experienced the initial pandemic-related changes in spring 2020, the disruptions to higher education persisted across academic terms to various degrees for subsequent cohorts.

Figure 2. SUCCESS Timeline



NOTE: RCT stands for randomized controlled trial.

13. Pilot cohorts are not included in the evaluation.

14. Additional details about how the pandemic impacted students and SUCCESS can be found in an earlier brief from January 2022, "Supporting College Students During the Pandemic."



## Study Design

MDRC is evaluating whether SUCCESS affected students' academic outcomes through a randomized controlled trial. Students were recruited into the study in cohorts, enrolling up to five months before the start of each student's first semester participating in the study. Students were then randomly assigned to either the program group, which can receive services from and participate in SUCCESS, or the control group, which may not participate in SUCCESS but may continue receiving standard school services. By comparing the outcomes of students in both groups, the causal impact of the opportunity to participate in SUCCESS can be estimated. As part of the evaluation, MDRC is conducting implementation research to gain an in-depth understanding of program implementation, its fidelity to the intended model, and the contrast in the services offered to the program and control groups. MDRC is also conducting cost research to assess SUCCESS's sustainability and potential for expansion. This work will continue through 2026 and will collect data on all study students for at least three years after they enroll in the program.

## College Sample and Timing

As shown in Table 1, the randomized controlled trial includes 11 SUCCESS colleges across five states. This report presents a one-year follow-up of study participants from the first round of seven colleges that began implementing SUCCESS in fall 2020, including students from the fall 2020, spring 2021, and fall 2021 cohorts in the sample. See Appendix Table A.1 for more details about when cohorts were recruited for each college.

**Table 1. SUCCESS Colleges Participating in the Evaluation**

STUDY LAUNCH	College	State
<b>Round 1: Fall 2020</b>	Bakersfield College	CA
	Ivy Tech Bloomington	IN
	Ivy Tech Indianapolis	IN
	Ivy Tech Kokomo	IN
	Essex County College	NJ
	Passaic County Community College	NJ
	Stark State College	OH
<b>Round 2: Fall 2021</b>	Owens Community College	OH
<b>Round 3: Fall 2022</b>	Anoka-Ramsey Community College	MN
	Hennepin Technical College	MN
	Bemidji State University	MN

## Data Sources

This report uses data from several sources.

**BASELINE INFORMATION FORM:** Students in the study filled out a baseline survey before random assignment, providing demographic and other information.

**COLLEGE TRANSCRIPT AND DEGREE DATA:** Academic data were collected from the participating colleges.

**ONE-YEAR STUDENT SURVEY:** A survey was administered to study participants approximately one year after they were randomly assigned. The survey covered topics such as sample members' participation in and experiences with student services, among other things.

**IMPLEMENTATION DATA:** The report uses qualitative information on program operations to study program implementation.

**COST DATA:** Expenditure data are used to estimate the costs of implementing the program.

## Program Eligibility Criteria, Sample Recruitment, and Sample Characteristics

SUCCESS targets degree- or certificate-seeking students in their first year of college who are willing to enroll in school full time. Some of the participating colleges have additionally focused on recruiting students of color, students from low-income backgrounds, and students who were the first in their families to attend college. A total of 2,972 students are in the sample included in this report: 1,693 students in the program group and 1,279 students in the control group. As shown in Table 2, the sample is racially diverse, with Hispanic, Black, and White students each making up between 25 percent and 38 percent of the sample. The evaluation sample is roughly evenly split between students under age 20 and those 20 or older, between employed and unemployed students, and between traditional and nontraditional students (defined as those who were 25 or older, worked 35 or more hours per week, had children, or did not receive a high school diploma and were not enrolled in high school at the time of random assignment). Women also outnumber men in the sample by more than a two-to-one margin, and approximately one-fourth of the sample are parents.

These overall proportions, however, mask variations across colleges. (See Appendix Table A.3.) The proportion of Black students varies among colleges, ranging from 4 percent to 73 percent; the proportion of Hispanic students from 4 percent to 93 percent; and the proportion of White students from less than 1 percent to 78 percent. Nontraditional and employed students make up from 13 percent to 76 percent and 28 percent to 71 percent of the sample, respectively, just as the percentage of students 19 or younger ranges between 17 percent and 96 percent.<sup>15</sup>

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15. An omnibus F-test showed that differences in baseline characteristics between program group students and control group students were statistically significant ( $p = 0.094$ ). (See Appendix Table A.2.) Impact analyses presented in this report control for these baseline characteristics.

**Table 2. Selected SUCCESS Sample Characteristics**

CHARACTERISTIC	PERCENTAGE	SAMPLE SIZE
Race/ethnicity		
Hispanic/Latino	38	2,937
Black or African American	28	2,937
White	25	2,937
American Indian or Alaska Native	0	2,937
Asian or Pacific Islander	4	2,937
Multiracial	3	2,937
Another race/ethnicity not listed above	1	2,937
Age		
19 or younger	49	2,972
20 to 23 years old	18	2,972
24 or older	34	2,972
Gender		
Male	31	2,961
Female	68	2,961
Nonbinary	0	2,961
Nontraditional <sup>a</sup>	51	2,862
Employed	52	2,890
Parent	24	2,873
Sample size	2,972	

SOURCE: MDRC's baseline information form collected during study intake.

NOTES: Rounding may cause slight discrepancies in sums and differences.

Sample sizes may vary because of missing values.

Distributions may not add to 100 percent because of rounding.

<sup>a</sup>Nontraditional students are defined as those who were 25 or older, worked 35 or more hours per week, had children, or did not receive a high school diploma and were not enrolled in high school at the time of random assignment. Students are listed as nontraditional if they fit into any of these categories.

## Implementation of the SUCCESS Program

As mentioned above, the colleges began piloting their programs in 2019. The COVID-19 pandemic began in early 2020 and by the fall 2020 semester, when students in the research sample had begun to take part in SUCCESS, all the colleges had modified their programs. The pandemic affected college operations in multiple ways, including forcing most course instruction online and limiting in-person campus services. Some colleges implemented hiring freezes, during which some SUCCESS staff members were asked to do work outside of the programs and were stretched thin. This section describes the key changes in the programs during the pandemic and discusses some key differences in the experiences of program group students and control group students during their first year in the study.

### Key Changes in the SUCCESS Programs

This section describes the key changes in the SUCCESS programs, in the context of the pandemic. The information is based on knowledge from research team members who worked closely with the colleges, interviews with SUCCESS staff members and students during the fall 2021 semester, and periodic brief surveys of SUCCESS program coordinators.<sup>16</sup>

- **MOST COACHING WAS VIRTUAL.** The original SUCCESS model required two in-person coaching sessions per month during students' first semester in the program. In later semesters, the model called for two sessions per month for students identified by program staff members as having "high need," such as those struggling academically or experiencing personal issues. Other students were required to meet in person with coaches once a month and have another check-in by telephone, email, or text. By fall 2020, the SUCCESS programs had shifted to providing virtual coaching via videoconference and telephone. A few programs allowed briefer interactions, such as back-and-forth email exchanges, to qualify as coaching sessions. Over time, as the pandemic evolved and college practices shifted, programs provided more in-person coaching. Six of the seven colleges reported, however, that they provided the majority of their SUCCESS coaching virtually throughout the period covered in this report (fall 2020 through summer 2022). Even with much of the coaching being virtual, students who were interviewed for the research tended to say they highly valued the coaching and reported receiving help with both academic and personal issues.
- **MOST COLLEGES DID NOT FULLY ENFORCE THE FULL-TIME ENROLLMENT REQUIREMENT.** The original SUCCESS model called for programs to require students to enroll full time during the fall and spring semesters and to encourage students to take courses during summer and winter sessions (at schools that offer such sessions).<sup>17</sup> While some SUCCESS programs required full-time enrollment even early in the pandemic, most programs relaxed the requirement and allowed part-time students to participate in SUCCESS and receive monthly

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16. This section draws from updated information in Sommo, Lepe, and Ratledge (2022).

17. Full-time enrollment was typically defined as 12 credits per semester but in some cases was defined as 24 credits per academic year.

incentives. Colleges were more likely to make this decision when their students reported struggling with the demands of all-virtual courses. Some colleges consistently encouraged enrollment in the summer, but most were less insistent or only encouraged it for some students. Colleges reported that the condensed courses typically offered in shorter summer semesters could be even more challenging for students to handle online and some students reported being burned out from the past virtual semesters. Data from a brief survey of SUCCESS program coordinators indicates that at each of the seven colleges between 1 percent and 24 percent of SUCCESS students were enrolled only part time during the fall 2021 semester but were still allowed to receive financial incentives.

- **MOST COLLEGES RELAXED THE REQUIREMENTS FOR FINANCIAL INCENTIVES.** The original model included a \$50 monthly incentive, to be paid in person, for students who enrolled in college full time and met their coaching requirements. Some colleges adhered to the model, but most relaxed the requirements and paid incentives to students as long as they met their coaching requirement. (As noted above, the coaching requirement itself was also relaxed, and in some cases, for example, could be met by interactions over email.) In fall 2020, all programs had shifted to disbursing the incentives remotely, including using virtual gift cards or depositing money into students' college accounts. Over time, programs began disbursing some incentives in person.
- **DATA-DRIVEN PROGRAM MANAGEMENT DID NOT CHANGE DURING THE PANDEMIC.** The SUCCESS model includes use of a management information system (MIS) to track students' interactions with the programs and identify areas for improvement. The programs did not notably alter their use of the SUCCESS MIS during the pandemic.

Overall, during the follow-up period discussed in this report—in the context of the COVID-19 pandemic—the colleges operated programs that did not fully align with the original SUCCESS model. Most of the coaching was virtual and most of the colleges allowed flexibility in enrollment requirements and incentive payments.

## An Initial Look at the Service Contrast

In a randomized controlled trial, it is important to examine the differences between the experiences of program group students and control group students, or the service contrast. It is these differences in experiences that can cause differences in later outcomes, like academic progress or college completion. In order to assess key dimensions of the service contrast, a survey was administered to all sample members approximately one year after they were randomly assigned. About 67 percent of the students in the evaluation sample responded to the survey.<sup>18</sup> The survey covered an array of topics including sample members' experiences with student services, engagement in college, and employment. This report provides an initial look at the service contrast, focusing on a few measures about the full-time enrollment requirement and coaching components of SUCCESS.

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18. A full survey response bias analysis can be found in Appendix B.

As Table 3 shows, program group students were more likely than control group students to report that they heard the message about the importance of enrolling full time: 52 percent of program group students said on the survey that they often or very often heard the message, compared with 38 percent of the control group students. This difference is substantial but was likely limited by the changes in how colleges implemented the full-time requirement, as discussed above.

The table also shows that, on average, program group students reported having twice as many contacts with a coach or advisor during their first year than control group students: 16 sessions compared with 8 sessions. This reflects the SUCCESS programs' focus on frequent contact. As discussed above, much of the coaching was virtual. Additionally, on average, program group students rated their coaching/advising as higher quality during their first year than control group students. See Appendix B for the list of questions that the survey asked to assess coaching/advising quality.

**Table 3. Students' Experiences with Full-Time Enrollment Messaging and Coaching or Advising in Year 1**

RESPONSE	SAMPLE SIZE	PROGRAM GROUP	CONTROL GROUP	DIFFERENCE	P-VALUE
Often or very often heard college faculty/staff members speak about the importance of enrolling in school full time (%)	1,950	52.12	37.99	14.16 ***	0.000
Average number of times student spoke with an advisor in the first year	1,933	16.21	8.01	8.20 ***	0.000
Quality-of-advising scale (avg.)	1,612	3.51	3.27	0.23 ***	0.000
Sample size (total = 1,950)	1,950	1,147	803		

SOURCE: MDRC's one-year student survey.

NOTES: Rounding may cause slight discrepancies in sums and differences.

Sample sizes may vary because of missing values.

Estimates are adjusted by college, cohort, gender, race/ethnicity, age, parental status, employment status, living situation, high school education, first-generation student status, and whether the students intended to enroll full time at the time of random assignment.

Statistical significance levels are indicated as: \*\*\* = 1 percent; \*\* = 5 percent; \* = 10 percent.

The quality-of-advising scale is a weighted average of a student's response to five questions administered in the SUCCESS program's one-year student survey. Additional details can be found in Appendix B.

These three measures suggest that program group students did indeed have different experiences than control group students. (A future report will examine a wider array of survey questions to more fully assess the service contrast at the heart of the study.)<sup>19</sup>

As a later section in this report shows, the service contrast on these measures differs across colleges and cohorts. That section examines the relationship between that variation, along with the variation of a few other indicators of program implementation and context, and impacts on credits earned.

## Academic Impact Findings

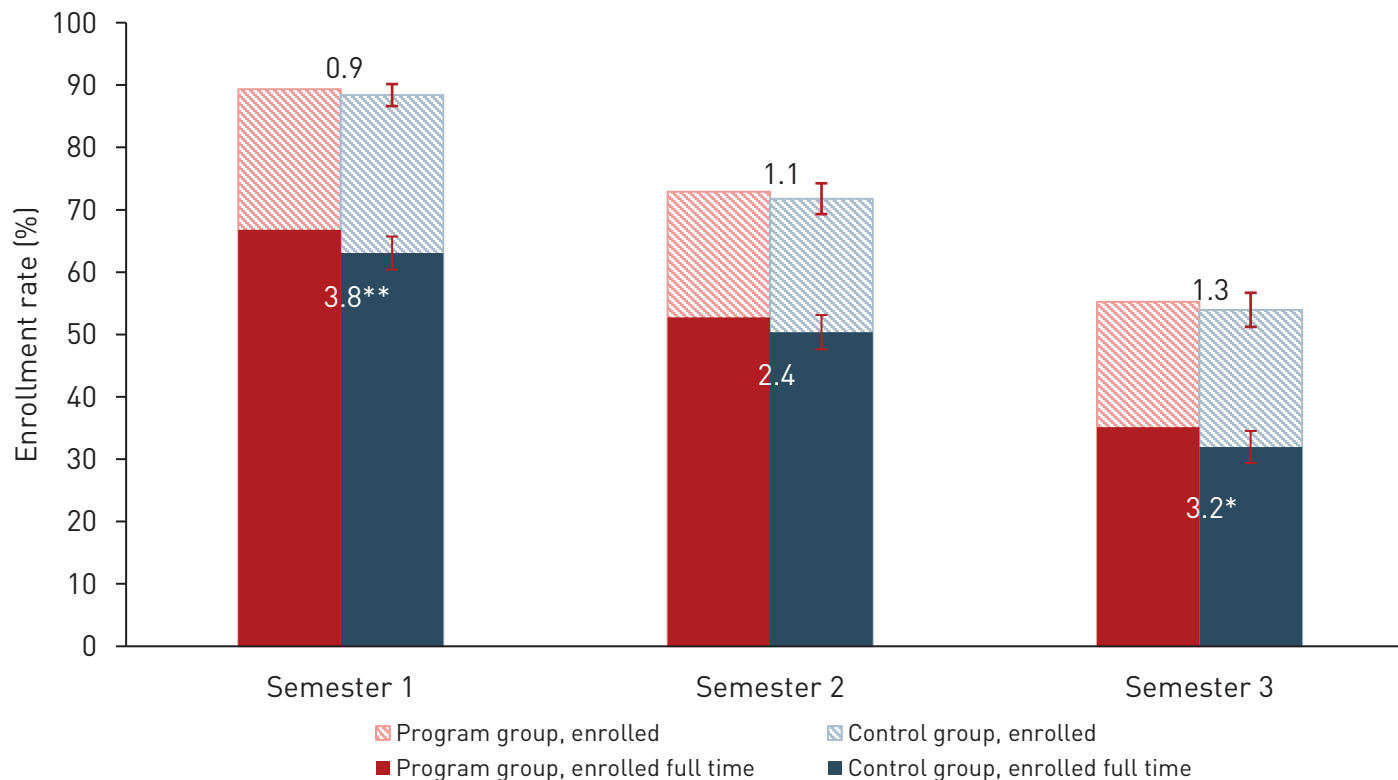
This section presents the estimated effects of SUCCESS on enrollment, full-time enrollment, and credits attempted through three semesters and credits earned through two semesters for the fall 2020, spring 2021, and fall 2021 cohorts at the first seven evaluation colleges that implemented SUCCESS. Estimated effects for the full sample are presented first, followed by estimated effects for subgroups defined by race/ethnicity, traditional student status, college of random assignment, and college of random assignment by cohort.<sup>20</sup> In addition, this section includes an exploratory analysis to examine how the variation in model implementation and college environment may relate to effects on credits earned by college and cohort.

### Full Sample Findings

Figure 3 shows the estimated effects of SUCCESS on enrollment and full-time enrollment through the first three semesters of participation in the program. While SUCCESS did not discernably increase enrollment in the first three semesters (effect estimates of around 1 percentage point with p-values ranging from 0.436 to 0.476), the program did increase the percentage of students who enrolled full time by an estimated 2 to 4 percentage points in each semester (p-values ranging from 0.017 to 0.173).<sup>21</sup> These estimated effects on full-time enrollment are smaller than those for the other four comprehensive student support programs MDRC has studied that promoted full-time enrollment at community colleges.<sup>22</sup> This suggests that for students experiencing SUCCESS during this timeframe, the incentives, sup-

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19. A future report will include a detailed implementation analysis for all 11 colleges that are part of the SUCCESS evaluation. The research will draw on multiple data sources, including interviews with SUCCESS staff members and students, a survey administered to program group students and control group students a year after they entered the study, and data from the colleges on participation in coaching and providing incentives.
  20. All subgroups were prespecified in the analysis plan available at: <https://osf.io/u97ng>.
  21. The p-value indicates the likelihood of estimating an effect of this magnitude or larger in absolute value if the intervention had zero effect (that is, if the estimated effect had occurred by chance). Estimated effects on key academic outcomes are also presented in Appendix Table C.2 with the information required by What Works Clearinghouse.
  22. These programs include CUNY'S Accelerated Study in Associate Programs (ASAP), ASAP Ohio, Detroit Promise Path, and Performance Based Scholarships + Supports. See Richburg-Hayes et al. (2009); Patel and Valenzuela (2013); Weiss, Ratledge, Sommo, and Gupta (2019); Miller, Headlam, Manno, and Cullinan (2020); and Ratledge et al. (2021).

**Figure 3. Student Enrollment, by Semester**



SOURCE: MDRC calculations using transcript data from the study colleges.

NOTES: Estimates are adjusted by college, cohort, gender, race/ethnicity, age, parental status, employment status, living situation, high school education, first-generation student status, and whether the students intended to enroll full time at the time of random assignment.

Statistical significance levels are indicated as: \*\*\* = 1 percent; \*\* = 5 percent; \* = 10 percent.

The red lines on each blue bar indicate 95 percent confidence intervals for the control group estimates.

Third semester data was collected near the beginning of the semester. As such, enrollment and credits attempted in the third semester may not include short (e.g., 4-week) courses that occurred in the second half of the semester.

Full time is defined as enrollment in 12 or more credits.

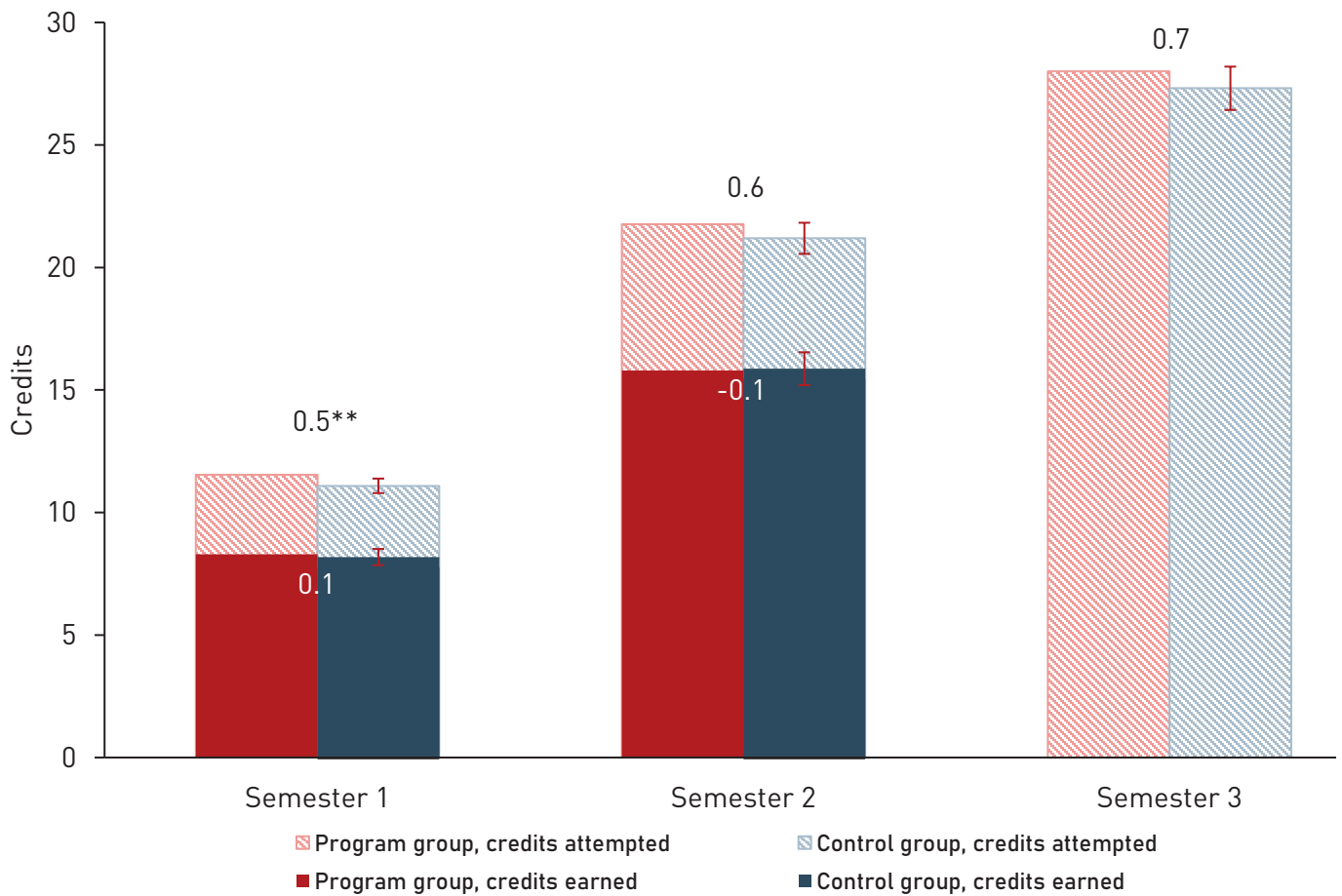
ports, or full-time encouragement were not strong enough on average to achieve substantial impacts on enrollment and full-time enrollment.

Figure 4 shows the estimated effects of SUCCESS on cumulative credits attempted through three semesters and cumulative credits earned through two semesters.<sup>23</sup> In their first semester in the program, program group students attempted approximately half a credit more than control group students ( $p = 0.014$ ). Program group students slightly increased this gap

**23.** Third semester data was collected near the beginning of the semester, making the number of credits earned in the third semester unavailable.



**Figure 4. Cumulative Credits Attempted and Earned, by Semester**



SOURCE: MDRC calculations using transcript data from the study colleges.

NOTES: NOTES: Estimates are adjusted by college, cohort, gender, race/ethnicity, age, parental status, employment status, living situation, high school education, first-generation student status, and whether the students intended to enroll full time at the time of random assignment.

Statistical significance levels are indicated as: \*\*\* = 1 percent; \*\* = 5 percent; \* = 10 percent.

The red lines on each blue bar indicate 95 percent confidence intervals for the control group estimates.

Third semester data was collected near the beginning of the semester. As such, the number of credits earned in the third semester is not available. Furthermore, the number of credits attempted in the third semester may not include short (e.g., 4-week) courses that occurred in the second half of the semester.

Credits earned in spring and summer semesters are combined.

in cumulative credits attempted in semesters two ( $p = 0.135$ ) and three ( $p = 0.195$ ) to approximately three quarters of a credit by the end of the third semester.<sup>24</sup> Despite program group students attempting more credits than control group students in each semester, both groups had earned a similar number of credits by the end of the first ( $p = 0.637$ ) and second ( $p = 0.833$ ) semesters, indicating program group students converted credits attempted to credits earned at a lower rate than control group students.

An exploratory analysis of the effect of SUCCESS on credential attainment, including associate degrees and certificates, through the first two semesters of participation in the program was conducted to aid in the interpretation of the effects on cumulative credits earned. By the end of the second semester, similar percentages (approximately 7 percent to 8 percent) of program group students and control group students had earned a credential ( $p = 0.403$ ), the majority of which were certificates. A more comprehensive analysis of credential attainment will be presented in a future report.

## Subgroup Findings

When examining the estimated effect of SUCCESS on cumulative credits earned through two semesters disaggregated by race/ethnicity, the effect was estimated to be near zero (less than one credit) for the three racial/ethnic groups examined ( $p$ -values ranging from 0.243 to 0.761), and the variation in estimated effects was not more than would be expected due to random chance ( $p = 0.613$ ).<sup>25</sup> The effect of SUCCESS on cumulative credits earned through two semesters was estimated to be 0.6 credits for nontraditional students ( $p = 0.296$ ) and -1.0 credits for traditional students ( $p = 0.131$ ). The difference in these estimated effects was larger than would be expected due to random chance ( $p = 0.070$ ), suggesting SUCCESS may have been more effective for nontraditional students than traditional students (as shown in Appendix Table C.1).<sup>26</sup>

## Effects by College and Cohort

While all the programs were designed with the same four components at their core, the programs at each college were adapted to their particular environments, staffing decisions, and available services. In addition, each college was affected by and responded to the pandemic in different ways. As discussed above, this led to variations in the service contrast that students experienced across the colleges. Perhaps unsurprisingly, there is evidence that SUCCESS's effect on credit accumulation varied across colleges.<sup>27</sup>

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24. Estimated effects were less statistically significant in each subsequent semester, despite being larger, due to increases in the standard deviation of the outcome.
  25. The Q-statistic and associated  $p$ -value were used to make this determination, as described in Bloom, Raudenbush, Weiss, and Porter (2017) and Weiss et al. (2017).
  26. Differences in estimated effects for traditional and nontraditional students within colleges were slightly larger, on average, than the difference in estimated effects for traditional and nontraditional students in the full sample, indicating this finding is not due to nontraditional students being disproportionately enrolled in colleges with more positive estimated effects.
  27. The variation in estimated effects of the program on cumulative credits earned across the seven colleges was more than would be expected due to random chance if the true effect were the

Furthermore, largely driven by the pandemic, colleges and their SUCCESS programs underwent changes over time during the study period. Within each college, each cohort of students also experienced a unique set of challenges and adaptations, leading to variation not only between colleges but within colleges across cohorts. For example, a college's fall 2020 cohort may have experienced more flexibility around the full-time requirement than the fall 2021 cohort. Figure 5 shows the variation in estimated impacts on cumulative credits earned through the first year by 18 unique groups of students, disaggregated by college and cohort of random assignment and hereby referred to as "groups."<sup>28</sup> Effect estimates varied by group from -3.49 to 6.14 credits accumulated through one year.<sup>29</sup> Much of the variability in these 18 effect estimates reflects estimation error; however, the observed variation in effect estimates is more than would be expected due to random chance (p-value = 0.055). The majority of this variation is attributable to variation by college, with the remainder attributable to variation by cohort within each college.

This raises the question—what distinguishes the groups at the top of Figure 5, where effect estimates are positive, from those at the bottom of Figure 5, where effect estimates are negative? This section examines how the variation in model implementation and college environment may relate to effects on credits earned by group.<sup>30</sup>

The research team looked at six potential predictors of variation in SUCCESS's effectiveness across groups. Four measures focus on program implementation and service contrast, including the impact on messaging around the full-time requirement, number of contacts a student had with a coach or advisor, quality of coaching received, and an overall program implementation score, a composite measure that takes a weighted average of the previous

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same at each college (p = 0.068). Appendix Figure C.1 shows the estimated college-level distribution of the effects of SUCCESS on cumulative credits earned, the study's confirmatory outcome, through two semesters for each of the first seven colleges that implemented SUCCESS. The effect of SUCCESS on the confirmatory outcome was estimated to be positive and greater than one credit for one college, negative and greater than one credit for one college, and less than one credit for the other five colleges. Adjusted Empirical Bayes estimated effects, which use data from all colleges to better predict the true distribution of effects at a given college, are presented in Appendix Figure C.1. While Empirical Bayes estimated effects provide the best prediction of the true effect at a given college, they tend to underestimate the distribution of true effects and, thus, were adjusted to appropriately represent the estimated distribution of true effects, as described by Bloom, Raudenbush, Weiss, and Porter (2017).

**28.** Seven colleges recruited two or three cohorts each, resulting in a total of 18 groups of students.

**29.** The effect estimates in Figure 5 were calculated using a fixed effects estimator,  

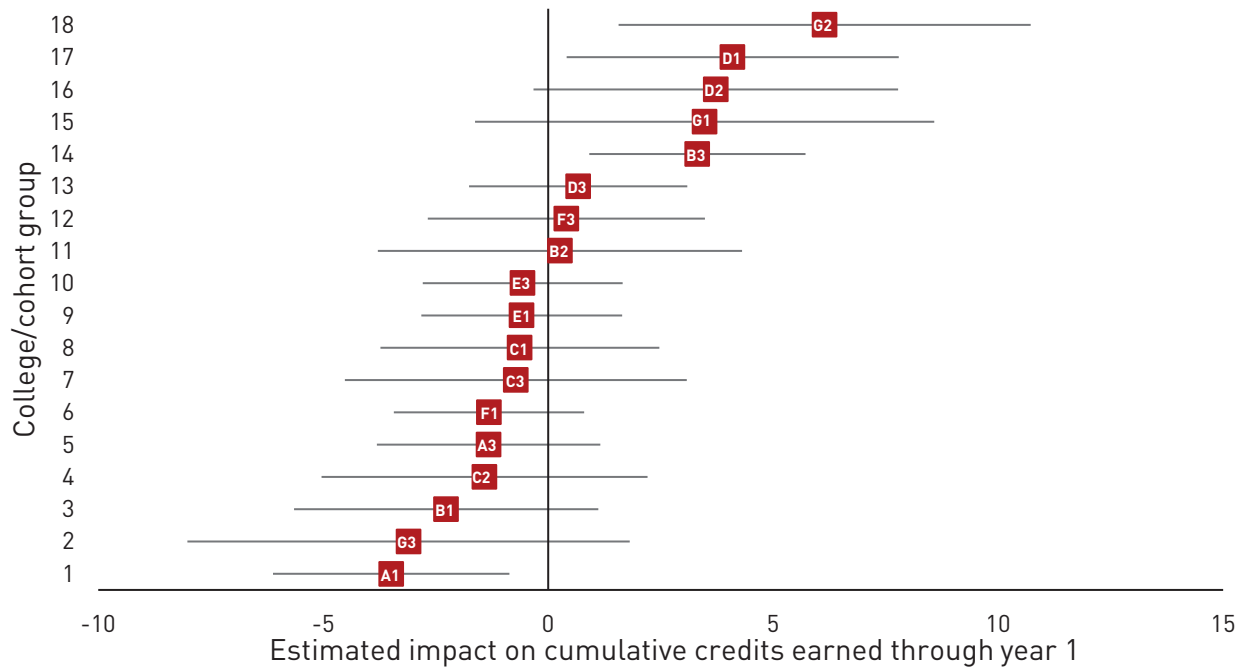
$$Y = \sum_{j=1}^{21} \alpha_j * Block_j + \sum_{k=1}^{18} \beta_k * P * Group + \gamma * Covariates + \varepsilon.$$
 $Y$  is the outcome of interest.

**Block<sub>j</sub>** is a vector of 21 indicators, which are set to one if a student is in block **j** and zero otherwise. Students were randomly assigned within Block, which are defined by each unique college by cohort combination. One college with three cohorts further stratified by gender.

**Group** is a vector of 18 indicators, which are set to one if a student was randomly assigned in college by cohort **k**. **P** is program indicator, set to one if a student was randomly assigned to the program group and zero otherwise. **Covariates** is a vector of covariates, used to improve the precision of the impact estimators.

**30.** Similar to the analysis by college, the small sample sizes of these groups, and the small number of groups, limit the statistical power of tests.

**Figure 5. Estimated Impacts on Cumulative Credits Earned, by Group**



SOURCE: MDRC calculations using transcript data from the study colleges.

NOTES: Estimates are adjusted by college, cohort, gender, race/ethnicity, age, parental status, employment status, living situation, high school education, first-generation status, and whether the students intended to enroll full time at the time of random assignment.

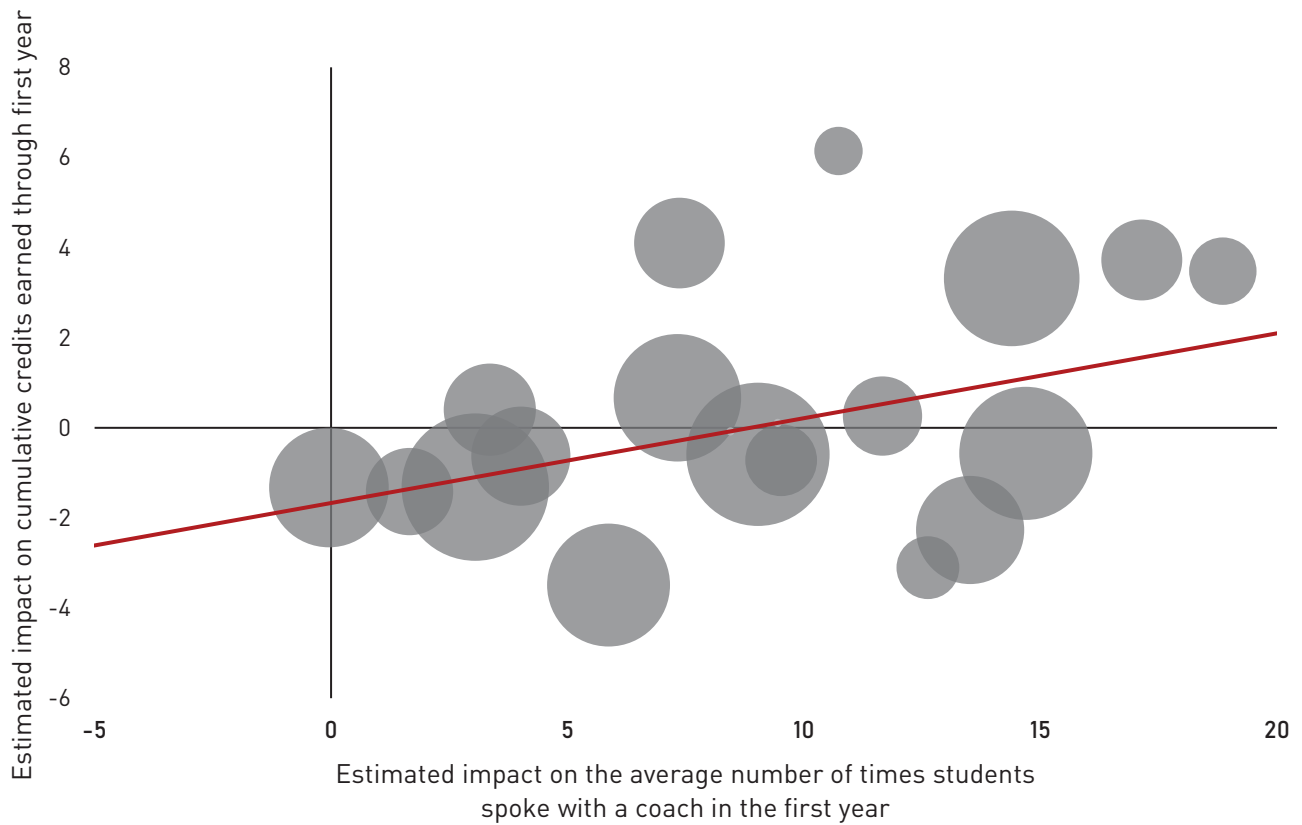
Red squares represent the estimated impact for each college/cohort group and corresponding bars indicate the 90 percent confidence interval.

three. Two measures look at contextual changes brought on by the pandemic; one considers the proportion of students that reported taking at least some in-person courses and the other the proportion of in-person SUCCESS coaching.<sup>31</sup> Each of these six measures were calculated specific to the first year of the study for students in each group. The measures were then plotted against the corresponding estimated impacts on cumulative credits earned for each group and estimated their predictive relationships.

To illustrate, Figure 6 highlights one measure, the program’s estimated impact on the number of contacts students had with a coach or advisor in their first year, as an example. The estimated effects on cumulative credits earned for each group are plotted on the y-axis against the estimated impacts on number of contacts on the x-axis. Consider the bubble at the far right of Figure 6, which represents one group. On average, students in this group experienced an estimated 17 more contacts with their coach or advisor during the first year, than they

**31.** In-person coursework is defined as a course having any in-person requirement.

**Figure 6. Estimated Impacts on Credits Earned, by the Estimated Impact on Number of Coaching Contacts**



SOURCE: MDRC calculations using transcript data from the study colleges and MDRC’s one-year student survey.

NOTES: Estimates are adjusted by college, cohort, gender, race/ethnicity, age, parental status, employment status, living situation, high school education, first-generation status, and whether the students intended to enroll full time at the time of random assignment.

Each bubble represents one college/cohort group. Bubble size represents group sample size (ranging from 35 to 325).

would have in the absence of SUCCESS. The estimated impact on cumulative credits earned for this group was around four credits. The red line over the figure illustrates the predictive relationship between SUCCESS’s average effect on number of contacts with an advisor and SUCCESS’s average effect on credits earned; for each five additional contacts SUCCESS caused students to have with a coach or advisor, the average estimated impact on cumulative credits earned is 0.94 credits greater. Figures for all six measures of variation can be found in Appendix D. (See Appendix Figure D.1.)

The program’s estimated impacts on the number of coaching contacts and the quality of coaching students received for each group were found to be associated with a greater estimated impact on cumulative credits earned through the first year (p-values of 0.023 and

0.043, respectively).<sup>32</sup> Similarly, the impact on full-time enrollment messaging, the group's overall program implementation score, and the percentage of in-person courses demonstrated positive relationships with impacts on credits earned (p-values of 0.074, 0.023, and 0.115).<sup>33</sup> While this analysis cannot confirm a causal link between these measures and a more positive impact on credits earned, it can contribute to the discussion and understanding of how to best advance and scale up the SUCCESS model.

There is no discernible evidence of a positive predictive relationship between intervention impacts and the amount of in-person coaching. However, despite showing no discernible relationship between the variability in in-person coaching and estimated impacts, this should not be seen as a test of the efficacy of remote coaching. A full table of the analysis for all predictive relationships can be found in Appendix Table D.1.

These analyses suggest that groups that had larger estimated program impacts on the number of contacts students had with an advisor or coach, the quality of coaching students received, and full-time enrollment messaging had greater estimated impacts on cumulative credits earned through the first year, on average. Groups that reported a higher proportion of in-person courses in the first year also tended to have higher estimated impacts on cumulative credits earned. Differences in program model implementation across colleges and cohorts may explain some of the variation in SUCCESS's effectiveness. However, the sample size for each college and cohort-specific combination remains small and the analysis nonexperimental. Future reports will expand on variation in program implementation and model fidelity with more comprehensive data and measures on how each college's program operated for each cohort.

## Cost Analysis

SUCCESS was designed to be an affordable and comprehensive student support program. The model includes a smaller set of components than some other CASS programs and allows for some flexibility in their implementation. Thus, the cost analysis is a key component of the SUCCESS evaluation.

Cost data was collected from each college in the study shortly following the end of fiscal years 2021 and 2022.<sup>34</sup> Data included information on employee salaries and benefits, the

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32. Estimated impacts on enrollment were positively correlated with impacts on the number of coaching contacts ( $p = 0.188$ ,  $r = 0.33$ ) and impacts on cumulative credits earned through the first year ( $p = 0.087$ ,  $r = 0.43$ ). Thus, a portion of the relationship between impacts on the number of coaching contacts and impacts on cumulative credits earned may be explained by impacts on enrollment.
  33. The three measures of program implementation and service contrast were correlated with each other (p-values between 0.002 and 0.126), thus it is difficult to tell if these measures independently contribute to more positive effects, or if general program implementation (or another underlying feature) is driving these results.
  34. The Implementation of the SUCCESS Programs section above describes numerous changes to SUCCESS in response to the COVID-19 pandemic. Cost data from fiscal years 2021 and 2022 reflect these changes and may not represent the costs of SUCCESS in previous or future years.

percentage of time each employee spent on SUCCESS, financial incentives disbursed, fees for management information systems, and fees for other supplies. See Appendix E for more information on the data and methods used in the cost analysis.

Only the direct costs of SUCCESS (that is, costs associated with providing program services) from the perspective of the college are presented in this report. A more comprehensive cost analysis including indirect costs (that is, costs incurred as a result of a change in student behavior induced by SUCCESS) and other perspectives will be presented in a future report.

The estimated direct costs of SUCCESS were \$1,146 a year for each student offered the program (in 2022 dollars). Personnel accounted for 78 percent of the costs, financial incentives accounted for 19 percent, and materials and facilities accounted for the remaining 3 percent. Direct costs per student per year were similar for five of the seven colleges, estimated between \$1,116 and \$1,210. Direct costs per student per year were estimated at approximately \$700 for one college, at which the program coordinator spent less time on the program than other coordinators, and at approximately \$2,000 for the smallest college in the study that had fewer students over which to spread fixed costs.

## Conclusion and Next Steps

The SUCCESS demonstration set out to support colleges and state agencies in creating multi-component programs based on the evidence of what works for students, while also keeping costs manageable. As of spring 2023, 13 colleges across five states (including two colleges that are not participating in the randomized controlled trial) have participated in SUCCESS and have collectively served nearly 3,000 students. Colleges continued operating their programs throughout the pandemic, demonstrating a commitment to supporting their students with the SUCCESS model.

This report presents one-year findings from the randomized controlled trial for the first seven colleges that joined the research study, which includes results from fall 2020 through summer 2022. This timeframe largely overlaps with the peak period of the COVID-19 pandemic, a time when students and staff members had to contend with unprecedented and unpredictable changes and stresses. The pandemic interrupted operations at all levels across all colleges, reducing course availability, limiting access to essential referrals and services, and at points, forcing all instruction and support services into online formats. While the SUCCESS programs continued to operate during this time, the programs were not fully aligned with the original SUCCESS model as colleges made necessary adjustments to reflect the contexts they were working in. Key differences included virtual coaching instead of in-person coaching and most colleges not strictly messaging or enforcing the full-time enrollment requirement. Though the model was not fully implemented as designed, program group students reported having a different experience than control group students. They had more and better-quality contacts with coaches/advisors and were more likely to be encouraged to enroll full time.

While the program group students had a different experience, the pooled impact findings show that, on average, SUCCESS did not lead to improvements on persistence or credit ac-

cumulation during this timeframe. There is evidence of variation on credit accumulation across colleges and cohorts. To unpack this variation, an exploratory analysis showed that the number of contacts with a coach, the quality of coaching, and stronger messaging regarding full-time enrollment are all correlated with improved impacts on academic success. These findings suggest that how coaching is implemented matters. Practitioners looking to implement programs like SUCCESS may have greater effects if they focus on improving both the quality and quantity of coaching, and if they keep the full-time enrollment message at the forefront. In addition, taking one or more courses in person was also correlated with impacts on earning credits. On the other hand, the analysis also showed that in-person coaching was not correlated with improved outcomes. This suggests that coaching frequency and content may be more important than mode (that is, whether coaching is in person or virtual). This will continue to be explored in future reports.

In late 2025, MDRC will release a report that includes implementation, impact, and cost findings from 11 study colleges. It will continue to explore the drivers of cross-college and cross-cohort variation in program impacts, including contextual differences, program implementation, and service contrast. In addition, the report will analyze findings for priority subgroups, including students of color, nontraditional students, and whether the students began the program during or after peak pandemic conditions.



## Appendix A

# Study Sample Information



**Appendix Table A.1. SUCCESS Timeline of Cohort Random Assignment and Follow-Up**

			2020–2021		2021–2022		2022–2023		2023–2024		2024–2025		2025–2026	
			F20	S21	F21	S22	F22	S23	F23	S24	F24	S25	F25	S26
Round 1		Cohort 1	Y1		Y2		Y3		Y4		Y5		Y6	
		Cohort 2		Y1		Y2		Y3		Y4		Y5		Y6
		Cohort 3			Y1		Y2		Y3		Y4		Y5	
Round 2		Cohort 4			Y1		Y2		Y3		Y4		Y5	
		Cohort 5				Y1		Y2		Y3		Y4		
Round 3		Cohort 6				Y1		Y2		Y3		Y4		
		Cohort 7						Y1		Y2		Y3		

NOTES: Light gray indicates the group or cohort is included in this brief.

Round 1 colleges include: Bakersfield College (CA), Ivy Tech Bloomington (IN), Ivy Tech Indianapolis (IN), Ivy Tech Kokomo (IN), Essex County College (NJ), Passaic County College (NJ), and Stark State College (OH). Round 2 includes Owens Community College (OH) and Round 3 includes Bemidji State University (MN), Anoka-Ramsey Community College (MN), and Hennepin Technical College (MN).

Of the colleges in this brief, Essex County College, Passaic County College, Stark State College, and Ivy Tech Kokomo recruited three cohorts (fall 2020–cohort 1, spring 2021–cohort 2, fall 2021–cohort 3); Bakersfield College, Ivy Tech Bloomington, and Ivy Tech Indianapolis recruited two cohorts (fall 2020–cohort 1, fall 2021–cohort 3).

**Appendix Table A.2. Selected SUCCESS Sample Characteristics, by Research Group**

CHARACTERISTIC (%)	FULL SAMPLE	PROGRAM GROUP	CONTROL GROUP	DIFFERENCE	P-VALUE
Gender					
Male	31.3	30.7	32.1	-1.3	0.371
Female	68.3	68.8	67.8	1.0	0.500
Nonbinary	0.4	0.5	0.2	0.3	0.108
Race/ethnicity					
Hispanic/Latino	38.3	38.9	37.6	1.2	0.361
Black or African American	28.4	28.6	28.2	0.4	0.803
White	25.4	25.1	25.9	-0.8	0.548
American Indian or Alaska Native	0.3	0.2	0.4	-0.2	0.340
Asian or Pacific Islander	3.5	3.5	3.6	-0.1	0.850
Multiracial	3.2	3.0	3.3	-0.3	0.654
Another race/ethnicity not listed above	0.8	0.7	1.0	-0.2	0.516
Age					
19 or younger	48.7	49.5	47.6	1.9	0.217
20 to 23 years old	17.8	17.6	18.1	-0.5	0.685
24 or older	33.6	33.0	34.4	-1.4	0.381
Parents' highest level of education					
Not a high school graduate	14.5	14.9	14.1	0.8	0.591
High school diploma/GED	32.7	33.3	31.9	1.4	0.413
Some college	13.8	13.9	13.6	0.3	0.838
College degree	27.7	26.0	30.0	-4.0**	0.017
Do not know	11.3	11.9	10.4	1.6	0.164
Employment					
Employed	52.2	52.7	51.5	1.2	0.518
Not employed	47.8	47.3	48.5	-1.2	0.518
Living situation					
With parents	57.8	57.1	58.7	-1.6	0.358
Not with parents	42.2	42.9	41.3	1.6	0.358
Parental status					
Parent	24.4	25.6	22.8	2.9*	0.061
Not a parent	75.6	74.4	77.2	-2.9*	0.061
Planned enrollment intensity					
Full-time	94.4	94.4	94.4	0.0	0.986
Part-time	5.6	5.6	5.6	0.0	0.986

(continued)

**Appendix Table A.2 (continued)**

CHARACTERISTIC (%)	FULL SAMPLE	PROGRAM GROUP	CONTROL GROUP	DIFFERENCE	P-VALUE
Highest degree planning to attain					
Certificate	1.8	1.8	1.8	0.0	0.992
Associate's degree	18.0	17.8	18.2	-0.4	0.774
Bachelor's degree	46.3	46.4	46.2	0.1	0.930
Master's degree	23.6	23.2	24.1	-0.9	0.555
Professional or doctorate	10.3	10.9	9.7	1.2	0.300
Self-reported advising need					
High	14.4	14.1	14.7	-0.6	0.613
Moderate	53.4	53.5	53.2	0.3	0.835
Low	32.2	32.4	32.1	0.3	0.875
Sample size (total = 2,972)	2,972	1,693	1,279		

SOURCE: MDRC's baseline information form collected during study intake.

NOTES: Rounding may cause slight discrepancies in sums and differences.

Sample sizes may vary because of missing values.

Distributions may not add to 100 percent because of rounding.

Statistical significance levels are indicated as: \*\*\* = 1 percent; \*\* = 5 percent; \* = 10 percent.

An omnibus F-test was conducted to test for differences in sample characteristics at baseline. The differences were statistically significant with a p-value of 0.094.

**Appendix Table A.3. Selected SUCCESS Sample Characteristics, by College**

CHARACTERISTIC (%)	COLLEGE A	COLLEGE B	COLLEGE C	COLLEGE D	COLLEGE E	COLLEGE F	COLLEGE G	ALL
Race/ethnicity								
Hispanic/Latino	93	40	5	66	4	11	10	38
Black or African American	4	51	35	15	8	73	9	28
White	0	3	50	10	78	1	72	25
American Indian or Alaska Native	0	0	0	0	1	0	1	0
Asian or Pacific Islander	1	2	4	4	5	7	1	4
Multiracial	1	2	5	1	4	8	6	3
Another race/ethnicity not listed above	0	1	0	3	0	0	0	1
Age								
19 or younger	96	44	32	60	34	17	26	49
20 to 23 years old	2	22	22	22	23	21	16	18
24 or older	2	35	46	18	43	62	58	34
Gender								
Male	27	43	24	47	26	20	23	31
Female	73	57	76	52	74	80	76	68
Nonbinary	0	0	1	0	0	0	1	0
Nontraditional <sup>a</sup>	13	49	63	42	68	76	75	51
Employed	28	50	71	48	56	70	51	52
Parent	2	25	38	12	21	48	51	24
Sample size	551	544	498	464	412	341	162	2,972

SOURCE: MDRC's baseline information form collected during study intake.

NOTES: Rounding may cause slight discrepancies in sums and differences.

Sample sizes may vary because of missing values.

Distributions may not add to 100 percent because of rounding.

<sup>a</sup>Nontraditional students are defined as those who were 25 or older, worked 35 or more hours per week, had children, or did not receive a high school diploma and were not enrolled in high school at the time of random assignment. Students are listed as nontraditional if they fit into any of these categories.

## Appendix B

# Survey Response Bias Analysis and Creation of Survey Scales





Survey data was collected from each college in the study. The student survey asked study participants a variety of questions, including their participation in and experience with student services, educational experiences, work experiences, and their financial situation. The survey was fielded to the 2,972 sample members in cohorts 1, 2, and 3 approximately one year after random assignment. Students in cohort 1 were surveyed from October 2021 through January 2022, students in cohort 2 were surveyed from March 2022 through June 2022, and students in cohort 3 were surveyed from October 2022 through January 2023. A total of 1,990 responses were collected, equivalent to an overall survey response rate of 67 percent with a differential of 5 percentage points.

**Comparison of Program and Control Group Respondent Baseline Characteristics:** Appendix Table B.1 compares baseline characteristics for respondents in the program and control groups to determine whether the respondents' characteristics between the two research groups were similar. This comparison provides a way to assess whether differences between the groups' survey responses can be interpreted as being the result of the SUCCESS programs. With the exception of students identifying as nonbinary, survey respondents in the program and control groups have similar characteristics.

**Comparison of Respondent and Nonrespondent Baseline Characteristics:** Appendix Table B.2 compares baseline characteristics for survey respondents and nonrespondents. This comparison provides an indication of how representative the survey respondents are of the full study sample, which is one way to determine whether the survey results generalize to the full study sample in light of survey nonresponse. The table indicates that respondents and nonrespondents differed with regard to race, age, and gender. On average, survey respondents were more likely to be female, less likely to be within the age range of 20 to 23 years old, and less likely to identify as multiracial than survey nonrespondents. Caution is recommended when generalizing from survey respondents to the full study sample.

**Creation of Quality of Advising Survey Scale:** The quality-of-advising measure is derived from five questions administered in the SUCCESS programs' one-year student survey. Students were asked to indicate if they strongly agreed (4), agreed (3), disagreed (2), or strongly disagreed (1) with the following:

1. You are satisfied in general with the academic advising/coaching you have received.
2. You have received accurate information about courses, programs, and requirements through academic advising.
3. Academic advisors/coaches kept you informed about deadlines related to institutional policies and procedures, such as drop/add periods, withdrawal deadlines, registration periods, etc.
4. Academic advising/coaching has been available when you needed it.
5. Sufficient time has been available when you met with academic advisors/coaches.

The quality-of-advising scale is the average of a student's responses to all five questions, weighing each item equally. Respondents had the option to skip or refuse any of the five questions; a small number of students responded to some, but not all five questions. If a student answered one or two questions in the scale, the scale was not calculated. If a student answered three or four questions in the scale, the scale was calculated as the average of the student's responses to the questions that were answered.

**Appendix Table B.1. Selected SUCCESS Sample Characteristics of Survey Respondents, by Research Group**

CHARACTERISTIC (%)	NUMBER OF OBSERVATIONS	ALL SURVEY RESPONDENTS	PROGRAM GROUP	CONTROL GROUP	P-VALUE
Race/ethnicity					
Hispanic/Latino	1,970	39.1	39.7	38.0	0.269
Black or African American	1,970	29.2	28.8	29.8	0.535
White	1,970	23.8	23.8	24.1	0.837
American Indian or Alaska Native	1,970	0.4	0.2	0.5	0.344
Asian or Pacific Islander	1,970	3.8	4.0	3.6	0.702
Multiracial	1,970	2.8	2.7	3.0	0.755
Another race/ethnicity not listed above	1,970	0.9	0.8	1.0	0.603
Age					
19 or younger	1,990	49.1	50.1	47.7	0.174
20 to 23 years old	1,990	16.4	16.0	17.1	0.463
24 or older	1,990	34.4	33.9	35.3	0.480
Gender					
Male	1,986	28.1	27.8	28.7	0.636
Female	1,986	71.5	71.6	71.3	0.887
Nonbinary	1,986	0.4	0.6	0.0***	0.006
Nontraditional <sup>a</sup>	1,916	50.4	50.4	50.6	0.912
Employed	1,941	51.4	52.5	50.1	0.285
Parent	1,934	24.6	25.6	23.3	0.243
Sample size (total = 1,990)		1,990	1,169	821	

SOURCES: MDRC’s one-year student survey and baseline information form collected during study intake.

NOTES: Rounding may cause slight discrepancies in sums and differences.

Sample sizes may vary because of missing values.

Distributions may not add to 100 percent because of rounding.

Statistical significance levels are indicated as: \*\*\* = 1 percent; \*\* = 5 percent; \* = 10 percent.

<sup>a</sup>Nontraditional students are defined as those who were 25 or older, worked 35 or more hours per week, had children, or did not receive a high school diploma and were not enrolled in high school at the time of random assignment. Students are listed as nontraditional if they fit into any of these categories.

**Appendix Table B.2. Selected SUCCESS Sample Characteristics, by Survey Response**

CHARACTERISTIC (%)	NUMBER OF OBSERVATIONS	FULL SAMPLE	SURVEY RESPONDENTS	SURVEY NON-RESPONDENTS	P-VALUE
Race/ethnicity					
Hispanic/Latino	2,937	38.3	38.6	37.8	0.571
Black or African American	2,937	28.5	28.2	29.1	0.546
White	2,937	25.4	25.4	25.3	0.952
American Indian or Alaska Native	2,937	0.3	0.4	0.2	0.337
Asian or Pacific Islander	2,937	3.5	3.9	2.9	0.146
Multiracial	2,937	3.1	2.6	4.1 **	0.041
Another race/ethnicity not listed above	2,937	0.9	1.0	0.6	0.357
Age					
19 or younger	2,972	48.5	48.8	47.9	0.582
20 to 23 years old	2,972	17.9	17.0	19.8 *	0.072
24 or older	2,972	33.5	34.1	32.4	0.287
Gender					
Male	2,961	31.2	29.3	35.3 ***	0.000
Female	2,961	68.4	70.3	64.4 ***	0.000
Nonbinary	2,961	0.4	0.4	0.3	0.715
Nontraditional <sup>a</sup>	2,801	51.1	50.7	51.9	0.537
Employed	2,890	52.2	51.6	53.5	0.315
Parent	2,873	24.5	24.4	24.9	0.721
Sample size (total = 2,972)		2,972	1,990	982	

SOURCES: MDRC's one-year student survey and baseline information form collected during study intake.

NOTES: Rounding may cause slight discrepancies in sums and differences.

Sample sizes may vary because of missing values.

Distributions may not add to 100 percent because of rounding.

Statistical significance levels are indicated as: \*\*\* = 1 percent; \*\* = 5 percent; \* = 10 percent.

<sup>a</sup>Nontraditional students are defined as those who were 25 or older, worked 35 or more hours per week, had children, or did not receive a high school diploma and were not enrolled in high school at the time of random assignment. Students are listed as nontraditional if they fit into any of these categories.

## Appendix C

# Additional Impact Exhibits



**Appendix Table C.1. Credit Accumulation by Race/Ethnicity and Traditional Student Status**

SUBGROUP	PROGRAM GROUP MEAN	PROGRAM GROUP NUMBER	CONTROL GROUP MEAN	CONTROL GROUP NUMBER	DIFFERENCE IN MEANS	STANDARD ERROR	P-VALUE	DIFFERENTIAL SIGNIFICANCE
Race/ethnicity								
Hispanic/Latino	17.66	609	18.44	516	-0.79	0.70	0.2431	
White	14.74	447	14.98	298	-0.24	0.85	0.7609	
Black or African American	13.79	486	13.49	351	0.29	0.83	0.7276	
Sample size (total = 2,707)								
Traditional student status								
Nontraditional <sup>a</sup>	14.46	852	13.81	611	0.65	0.62	0.2963	†
Traditional	17.16	778	18.12	621	-0.96	0.63	0.1310	
Sample size (total = 2,862)								

SOURCE: MDRC calculations using transcript data from the study colleges.

NOTES: Rounding may cause slight discrepancies in sums and differences.

Estimates are adjusted by college, gender, race/ethnicity, age, living situation, first-generation student status, and whether the students intended to enroll full time at the time of random assignment.

Statistical significance levels are indicated as: \*\*\* = 1 percent; \*\* = 5 percent; \* = 10 percent.

<sup>a</sup>Nontraditional students are defined as those who were 25 or older, worked 35 or more hours per week, had children, or did not receive a high school diploma and were not enrolled in high school at the time of random assignment. Students are listed as nontraditional if they fit into any of these categories.

Differential significance of at least the 10 percent level is indicated by †.

**Appendix Table C.2. Estimated Effects on Academic Outcomes (What Works Clearinghouse Table)**

OUTCOME	INTERVENTION CONDITION			CONTROL CONDITION			EFFECT ESTIMATE	STANDARD ERROR	P-VALUE	
	ANALYTIC SAMPLE	ADJUSTED MEAN	UNADJUSTED ST. DEV.	ANALYTIC SAMPLE	ADJUSTED MEAN	UNADJUSTED ST. DEV.				
Semester 1										
Enrolled (%)	1,693	89.3	30.7	1,279	88.4	32.2	0.9	1.1	0.4356	
Enrolled full time (%)	1,693	66.8	47.0	1,279	63.1	48.4	3.8**	1.6	0.0166	
Cumulative credits attempted	1,693	11.54	5.38	1,279	11.09	5.39	0.45**	0.18	0.0137	
Cumulative credits earned	1,693	8.29	6.13	1,279	8.18	6.05	0.11	0.22	0.6368	
Semester 2										
Enrolled (%)	1,693	72.9	44.4	1,279	71.8	45.1	1.1	1.6	0.4760	
Enrolled full time (%)	1,693	52.7	49.9	1,279	50.4	50.1	2.4	1.8	0.1734	
Cumulative credits attempted	1,693	21.77	11.41	1,279	21.19	11.60	0.58	0.39	0.1351	
Cumulative credits earned	1,693	15.79	12.18	1,279	15.87	12.24	-0.08	0.43	0.8325	
Semester 3										
Enrolled (%)	1,693	55.2	49.6	1,279	54.0	50.0	1.3	1.8	0.4724	
Enrolled full time (%)	1,693	35.2	47.7	1,279	32.0	46.8	3.2*	1.7	0.0574	
Cumulative credits attempted	1,693	28.00	15.81	1,279	27.31	16.13	0.69	0.54	0.1945	
Sample size (total = 2,972)										

(continued)



## Appendix Table C.2 (continued)

SOURCE: MDRC calculations using transcript data from the study colleges.

NOTES: Rounding may cause slight discrepancies in sums and differences.

Estimates are adjusted by college, cohort, gender, race/ethnicity, age, parental status, employment status, living situation, high school education, first-generation student status, and whether the students intended to enroll full time at the time of random assignment.

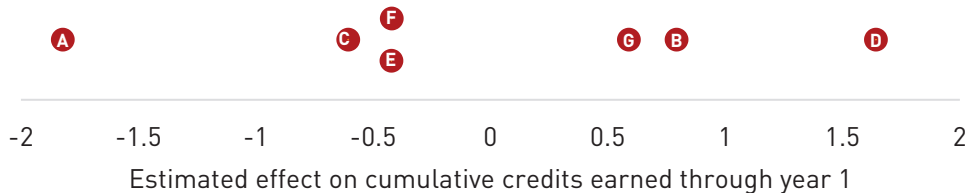
Statistical significance levels are indicated as: \*\*\* = 1 percent; \*\* = 5 percent; \* = 10 percent.

Third semester data was collected near the beginning of the semester. As such, the number of credits earned in the third semester is not available. Furthermore, the number of credits attempted in the third semester may not include short (e.g., 4-week) courses that occurred in the second half of the semester.

Credits earned in spring and summer semesters are combined.

Thirty-five students (8 control group students and 27 program group students) were removed from the study sample after random assignment. Among the 35 students, 17 students (6 control group students and 11 program group students) requested to withdraw from the study. Five students (two control group students and three program group students) were identified as ineligible for the program and study at the time of random assignment. Thirteen students (all program group students) were automatically assigned to the program group because a close relative was already participating in the program at the time of random assignment.

### Appendix Figure C.1. Estimated College-Level Distribution of Effects on Cumulative Credits Earned



SOURCE: MDRC calculations using transcript data from the study colleges.

NOTES: Adjusted Empirical Bayes estimated effects are presented here (see Bloom, Raudenbush, Weiss, and Porter, 2017). Estimated effects are adjusted to appropriately represent the estimated distribution of effects.

Estimates are adjusted by college, cohort, gender, race/ethnicity, age, parental status, employment status, living situation, high school education, first-generation student status, and whether the students intended to enroll full time at the time of random assignment.

Letters within each data point represent the college (e.g., College A).

## Appendix D

# Looking at Variations Across Colleges by Cohort



**Appendix Table D.1. Relationships Between Estimated Impacts in Year 1 and Measures of Program Implementation and Context**

MEASURE OF VARIATION	ESTIMATED PREDICTIVE RELATIONSHIP	P-VALUE
Estimated impact on program implementation and service contrast in Year 1		
Often or very often heard college faculty/staff members speak about the importance of enrolling in school full time (%)	0.07 *	0.074
Average number of times student spoke with an advisor in Year 1	0.19 **	0.023
Quality-of-advising scale (avg.)	4.93 **	0.043
Program implementation score	1.09 **	0.025
Contextual factors in Year 1		
Student reported taking at least some courses in person (%)	0.03	0.115
Percentage of coaching visits in person	0.14	0.763
Sample size	2,972	

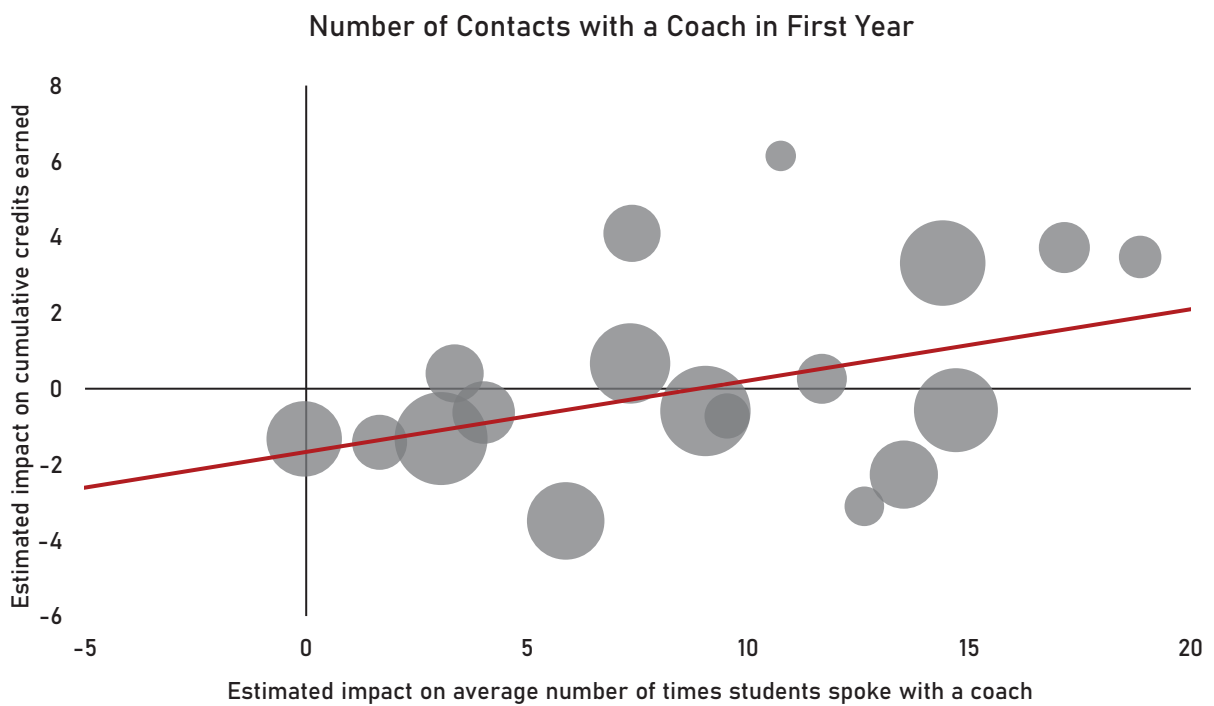
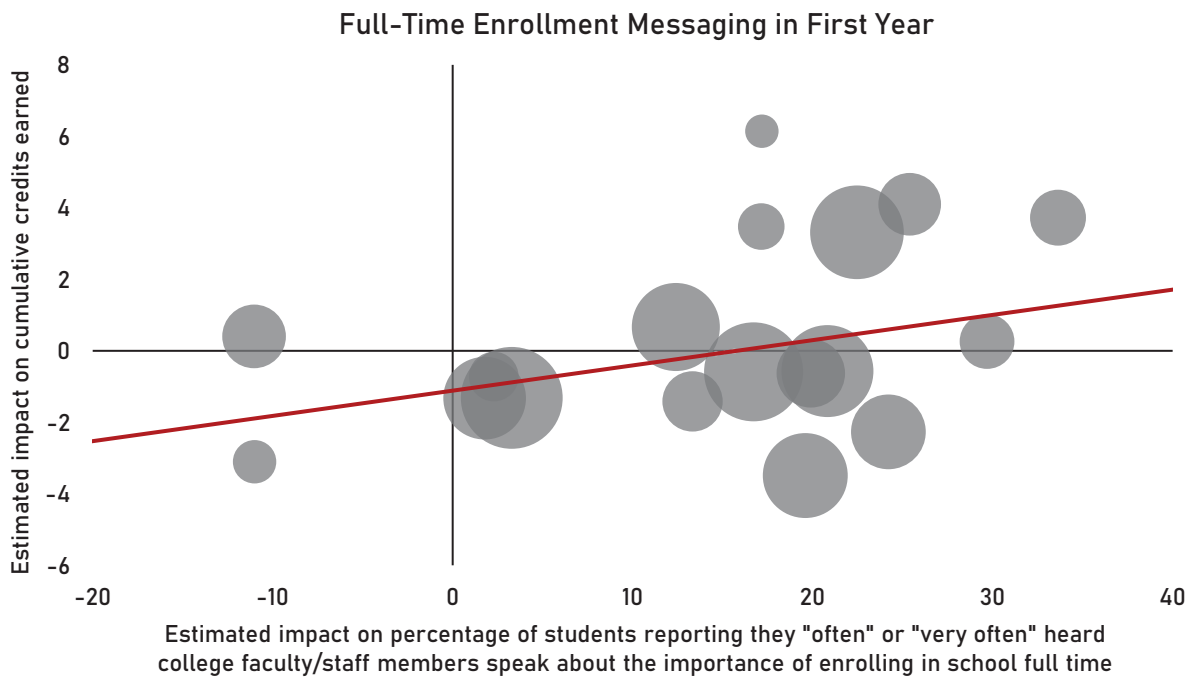
SOURCES: MDRC calculations using transcript and operations data from the study colleges and MDRC’s one-year student survey.

NOTE: Estimates are adjusted by college, cohort, gender, race/ethnicity, age, parental status, employment status, living situation, high school education, first-generation status, and whether the students intended to enroll full time at the time of random assignment.

Statistical significance levels are indicated as: \*\*\* = 1 percent; \*\* = 5 percent; \* = 10 percent.

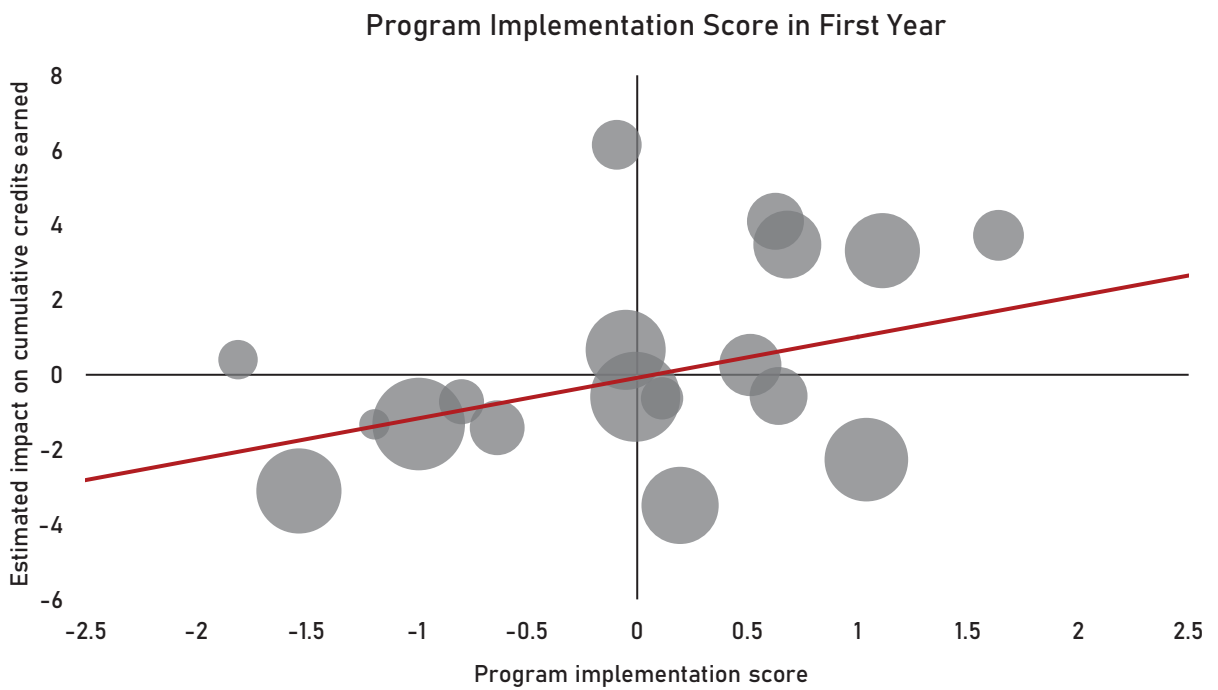
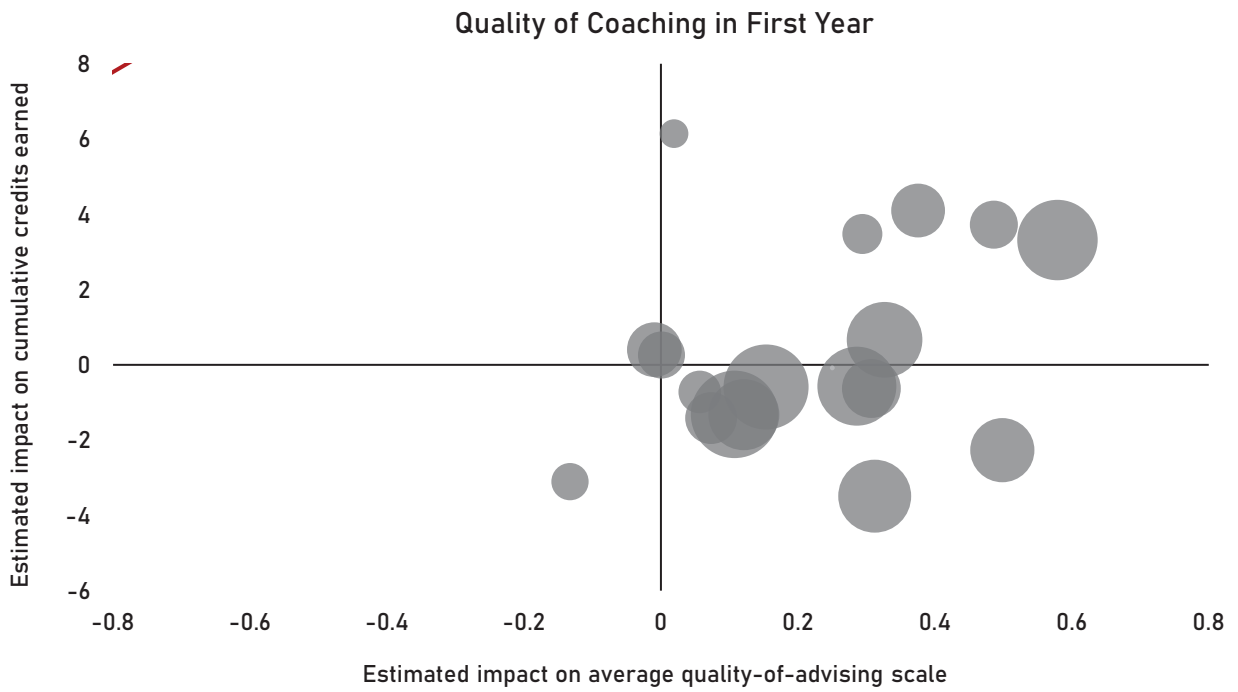
The quality-of-advising scale is a weighted average of a student’s response to five questions administered in the SUCCESS program’s one-year student survey. Additional details can be found in Appendix B.

**Appendix Figure D.1. Estimated Impacts on Cumulative Credits Earned, by Model Implementation Impact and College Environment**



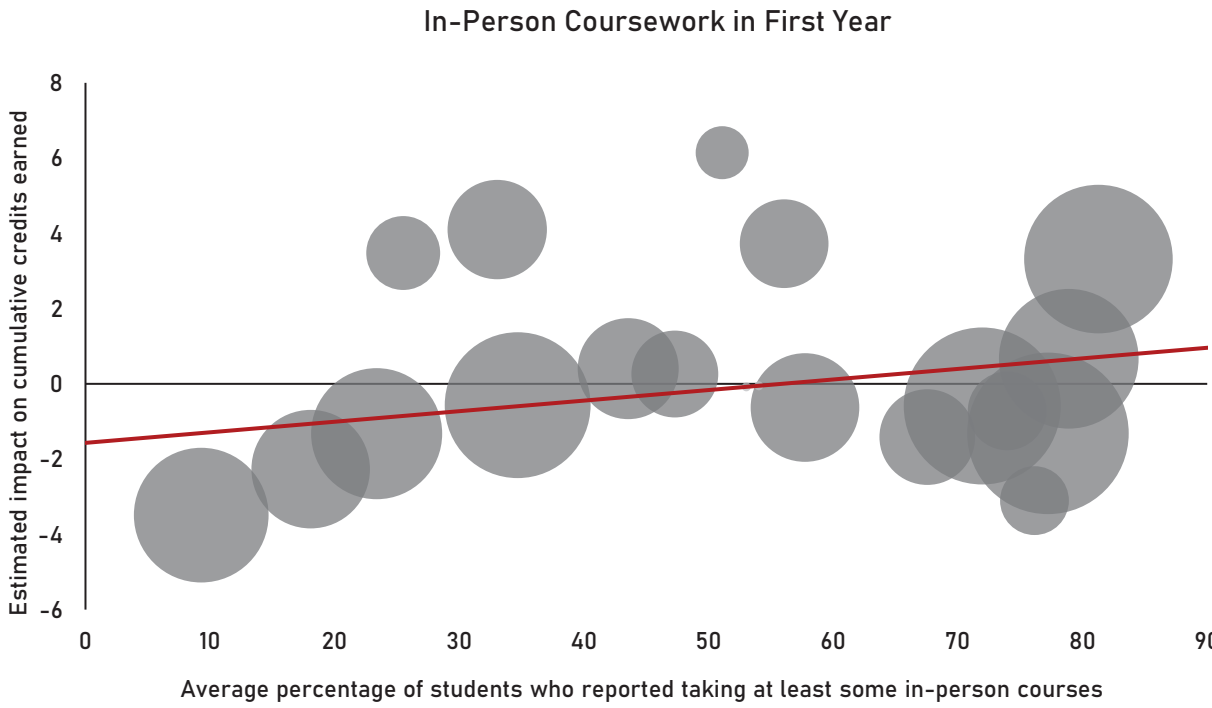
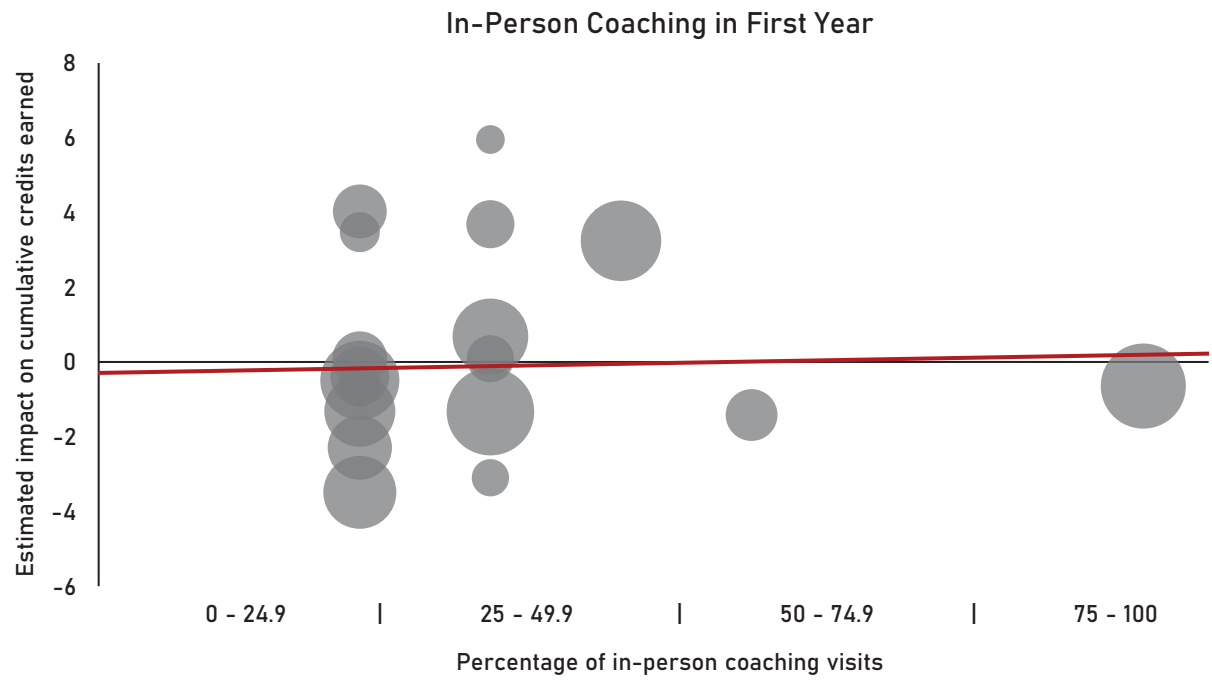
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Appendix Figure D.1 (continued)



(continued)

Appendix Figure D.1 (continued)



(continued)



## Appendix Figure D.1 (continued)

SOURCES: MDRC calculations using operations data and transcript data from the study colleges and MDRC's one-year student survey.

NOTES: Estimates are adjusted by college, gender, race/ethnicity, age, parental status, employment status, living situation, high school education, first-generation status, and whether the students intended to enroll full-time at the time of random assignment.

Each bubble represents one college/cohort group. Bubble size represents group sample size (ranging from 35 to 325).

The quality-of-advising scale is a weighted average of a student's response to five questions administered in the SUCCESS program's one-year student survey. Additional details can be found in Appendix B.

The program implementation score was calculated by adding the standardized scores of the three program implementation measures for each block. Full-time enrollment messaging was weighted twice as heavily as quality and quantity of advising.



## Appendix E

# The SUCCESS Program's Costs



Cost data for fiscal years 2021 and 2022 (FY22) were collected from each college in the study shortly following the end of the fiscal year in June. Data included information on employee salaries and benefits, the percentage of time each employee spent on the SUCCESS program, financial incentives disbursed, fees for management information systems, and other supplies. In cases where reported data did not align with expectations, representatives from the colleges were contacted to clarify and update data if necessary. Salary data provided by the study colleges were averaged with data from the Bureau of Labor Statistics to minimize local labor market distortions. Colleges did not report office space or computer usage; however, it was assumed that each full-time equivalent employee required 100 feet of office space and one computer. Costs were adjusted based on the percentage of students participating in the program who were in the study (for example, if 10 percent of students participating in the program in FY22 were in the nonstudy pilot cohort, FY22 costs were reduced by 10 percent). Total costs were divided by the number of study students who were offered the program to estimate the cost of SUCCESS per student offered the program. The cost of SUCCESS per student offered the program was also estimated for each college and for each cost category (personnel, financial incentives, materials, and facilities). Costs were adjusted based on the consumer price index and regional price parities and, thus, are expressed in 2022 dollars and national average prices.



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# ABOUT MDRC

MDRC, a nonprofit, nonpartisan social and education policy research organization, is committed to finding solutions to some of the most difficult problems facing the nation. We aim to reduce poverty and bolster economic mobility; improve early child development, public education, and pathways from high school to college completion and careers; and reduce inequities in the criminal justice system. Our partners include public agencies and school systems, nonprofit and community-based organizations, private philanthropies, and others who are creating opportunity for individuals, families, and communities.

Founded in 1974, MDRC builds and applies evidence about changes in policy and practice that can improve the well-being of people who are economically disadvantaged. In service of this goal, we work alongside our programmatic partners and the people they serve to identify and design more effective and equitable approaches. We work with them to strengthen the impact of those approaches. And we work with them to evaluate policies or practices using the highest research standards. Our staff members have an unusual combination of research and organizational experience, with expertise in the latest qualitative and quantitative research methods, data science, behavioral science, culturally responsive practices, and collaborative design and program improvement processes. To disseminate what we learn, we actively engage with policymakers, practitioners, public and private funders, and others to apply the best evidence available to the decisions they are making.

MDRC works in almost every state and all the nation's largest cities, with offices in New York City; Oakland, California; Washington, DC; and Los Angeles.