

# INCREASING COMMUNITY COLLEGE GRADUATION RATES WITH A PROVEN MODEL

Three-Year Results from the Accelerated  
Study in Associate Programs (ASAP)  
Ohio Demonstration

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# Overview

The nation's community colleges play a central role in producing a more educated workforce and promoting social mobility. They serve about 40 percent of all college students and, not surprisingly, they serve a disproportionate number of low-income and underrepresented students. But most students who enter these colleges do not graduate — only about a third of entering students earn a degree or certificate within six years.

Among the many programs that have attempted to increase graduation rates, one program stands out. Developed by the City University of New York (CUNY), the Accelerated Study in Associate Programs (ASAP) is a comprehensive program that provides students with up to three years of financial and academic support and other support services. Along with those services and other forms of support comes an obligation to attend full time and participate in essential program services. An experimental evaluation of CUNY ASAP found that the program nearly doubled graduation rates after three years.

This report presents findings through three years from a replication of the ASAP model at three community colleges in Ohio. Low-income students were randomly assigned either to a program group, who could participate in their colleges' new programs based closely on ASAP (called the Ohio Programs), or to a control group, who could receive the usual college services. Comparing the two groups' outcomes provides an estimate of the Ohio Programs' effects.

## Findings

- The Ohio Programs were generally managed and staffed as planned and implemented as designed.
- The programs created a noticeable contrast between the experiences of program and control group students in all areas where the model had components.
- The Ohio Programs nearly doubled degree receipt through three years and led to an increase in transfers to four-year colleges.
- The Ohio Programs had positive effects on enrollment, full-time enrollment, and credits earned.
- The Ohio programs had positive effects for various types of students, including those who entered with and without developmental (remedial) education requirements.
- The Ohio Programs cost more per student than usual services, but also led to a lower cost per degree.

The findings from the evaluation add to a body of evidence showing that comprehensive programs that offer academic, financial, and other forms of student support for multiple years are an effective way to increase college completion rates. The fact that the earlier CUNY ASAP findings have now been replicated in Ohio suggests that ASAP in particular can serve as a national model to help students succeed.



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## Preface

Community colleges provide a relatively affordable college option for millions of students across the country, many of whom come from low-income families and many of whom enter with some need for remedial instruction before starting college-level work. Completion rates are low for community college students in general, but especially so for such students. Many reforms have been tried to help them succeed, but few have substantially boosted college completion.

In 2007, the City University of New York (CUNY), with the support of the New York City Center for Economic Opportunity, launched the Accelerated Study in Associate Programs (ASAP) to encourage and support community college students to attend school full time and graduate. The program provides financial assistance, special courses, enhanced advising, and other support services for three full years. The findings from CUNY ASAP were very encouraging and the largest to date found from any program MDRC has evaluated at community colleges: The program nearly doubled graduation rates after three years, from 22 percent to 40 percent.

Can ASAP serve as a national model for helping more students get through college? The findings from CUNY, although striking, are just a starting point. It has become increasingly clear, as the evaluation field has grown and evolved, that findings from one evaluation are not enough to make policy. Programs that might work in one context often do not work in another. Even when tested in the same context, positive effects found in one trial are often not found in a subsequent trial. For that reason, it was critical to test the ASAP model at different colleges and for different types of students.

The ASAP Ohio demonstration provides that replication, and the results are encouraging. In fact, the results are remarkably similar to those from CUNY. The Ohio Programs (as the programs at Ohio colleges modeled on ASAP are called here) also nearly doubled graduation rates after three years and increased transfers to four-year colleges by about the same amount as CUNY ASAP. Positive effects were found at all three participating colleges and for all subgroups of students examined. Although the program cost more per student than the usual services, it led to a lower cost per degree.

CUNY is continuing to expand its program across its own system and beyond New York City, providing guidance to other colleges in New York State and California. MDRC is evaluating one of those efforts to provide more evidence on ASAP. But the findings to date strongly suggest that the ASAP model is an investment worth considering for community colleges nationwide.

Virginia Knox  
President, MDRC



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We would also like to thank the City University of New York (CUNY) ASAP team, including Donna Linderman, Christine Brongniart, Mary Hiebert, Lesley Leppert, Diana Strumbos, and Zineta Kolenovic, for providing invaluable technical assistance to the project and comments on the report. Brett Visger and the Ohio Department of Higher Education provided coordinating support to the colleges. Katrina Rugless (Cincinnati State Technical and Community College), Matthew Mercado (Lorain County Community College), and Miria Batig and Angela Moore (Cuyahoga Community College) led the programs at each of the three colleges.

We also thank MDRC staff members for their contributions to this demonstration and report. We thank Robert Ivry and Colleen Sommo for their guidance and vision and Michelle Ware, Melissa Boynton, and Alyssa Ratledge for providing extensive help to the colleges. In addition, Leigh Parise, Susan Scrivener, Johanna Walter, and Michael Weiss provided valuable comments on earlier drafts. Sean Blake led the acquisition and processing of data, and Erick Alonzo coordinated the production of the report. Joshua Malbin edited the report and Carolyn Thomas prepared it for publication.

We also thank the funders for their support in implementing and evaluating the Ohio Programs. The Ohio demonstration of ASAP and MDRC's evaluation are supported by Ascendium Education Group, Arnold Ventures, Bill & Melinda Gates Foundation, ECMC Foundation, the Ford Foundation, the Greater Cincinnati Foundation, the Haile U.S. Bank Foundation, KnowledgeWorks, The Kresge Foundation, and Lumina Foundation. The Joyce Foundation is supporting ASAP Ohio dissemination activities.

The Authors



## Executive Summary

The nation's community colleges play a central role in producing a more educated workforce and promoting social mobility. They serve about 40 percent of all college students and, not surprisingly, they serve a disproportionate number of low-income and underrepresented students. However, although enrollment has generally increased over time, completion rates have not. Among first-time students entering public two-year colleges, only about a third earn degrees or certificates within six years.<sup>1</sup> Most also do not eventually transfer to four-year institutions.

Many colleges have started providing additional services and support to students to help them stay in college and complete degrees. This report provides evidence on one such program, tested at three community colleges in Ohio. Developed by the City University of New York (CUNY), the Accelerated Study in Associate Programs (ASAP) provides students with up to three years of financial and academic support and other support services to address multiple barriers to student success, with the goal of helping more students graduate within three years. ASAP is both an opportunity and an obligation, in that students are required to attend full time and to participate in program services.

An evaluation of CUNY ASAP found that it led to a large increase in graduation rates, with some of the largest effects observed among programs that have been evaluated.<sup>2</sup> ASAP's success led to questions about whether it could be a model for community colleges across the nation. To answer those questions, it would be important to assess whether it worked as well in another context. MDRC therefore joined with CUNY and the Ohio Department of Higher Education (ODHE) to implement and test the ASAP model at three community colleges in the state. ODHE and the colleges were seeking ways to address low completion rates among community college students and appreciated ASAP's comprehensive nature and its idea of reciprocal obligation. CUNY provided in-depth technical assistance to the colleges on the program model and how different components could be implemented, while ODHE coordinated knowledge sharing among college leaders and program staff members at the three colleges. MDRC provided operational support, led the evaluation, and oversaw the demonstration. The project was launched in 2014 and the colleges' programs (referred to as the Ohio Programs) began operating in 2015. Eligible students who agreed to take part in the study were assigned at random to either a program group, eligible for the Ohio Programs' services and support, or a control group, not eligible to participate in the Ohio Programs but eligible for the colleges' standard services.

An earlier report, documenting effects through two years, found that the colleges successfully implemented the Ohio Programs and that, compared with standard courses and services

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<sup>1</sup>Alexandria Walton Radford, Lutz Berkner, Sara C. Wheeler, and Bryan Shepherd, *Persistence and Attainment of 2003-04 Beginning Postsecondary Students: After 6 Years. First Look*, NCES 2011-151 (Washington, DC: National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education, 2010).

<sup>2</sup>Susan Scrivener, Michael J. Weiss, Alyssa Ratledge, Timothy Rudd, Colleen Sommo, and Hannah Fresques, *Doubling Graduation Rates: Three-Year Effects of CUNY's Accelerated Study in Associate Programs (ASAP) for Developmental Education Students* (New York: MDRC, 2015).

at the colleges, the programs led to large increases in enrollment and credit accumulation in each of the four semesters and more than doubled two-year graduation rates.

This report presents findings on academic outcomes through three years, to assess whether these large effects persisted and whether they continue to match the magnitude of the effects found in New York. The report also assesses the implementation of the programs at the three colleges and presents a cost-effectiveness analysis, assessing the outcomes achieved per dollar spent. In sum, the programs were largely implemented as planned over the three-year period, with some exceptions. Students received the messages about full-time enrollment and on-time completion, and program group students participated in advising, tutoring, and career services at higher rates than their control group counterparts. The programs also continued to have large, positive effects on enrollment, school progress, and degree receipt. In addition, new effects emerged in Year 3 on transfers to four-year colleges. The findings are strikingly similar to those found for the original CUNY ASAP program, suggesting that the model's comprehensive support can be implemented and help students beyond these two states.

The Ascendium Education Group provided anchor funding for the demonstration and evaluation, supplemented by grants from a consortium of other philanthropies, including Arnold Ventures, the Bill & Melinda Gates Foundation, the ECMC Foundation, the Ford Foundation, the Greater Cincinnati Foundation, Haile U.S. Bank Foundation, KnowledgeWorks, the Kresge Foundation, and Lumina Foundation.

## The Ohio Programs

The Ohio Programs model (based closely on CUNY ASAP) was designed to address multiple potential barriers to student success simultaneously and to address them over three full years. The model as originally planned included the following components:

### Student Support

- **Advising.** The programs would offer comprehensive advising from an adviser with a small caseload (about 125 students). Students were required to visit their advisers twice per month in the first semester and as directed based on need thereafter.
- **Tutoring.** The programs would require students to attend tutoring if they were taking developmental (remedial) courses, on academic probation, or identified as struggling by a faculty member or adviser.
- **Career services.** The programs also would require students to meet with a campus career services staff member or participate in an approved career services event once per semester.



## Financial Support

- **Tuition waiver.** The programs would provide a tuition waiver that covered any gap between financial aid and college tuition and fees.
- **Monthly incentive.** The programs would offer a monthly incentive in the form of a \$50 gas/grocery gift card, contingent on participation in program services.
- **Textbook voucher.** The programs would provide a voucher to cover the costs of textbooks.

## Course Enrollment

- **Blocked courses and consolidated schedules.** Seats would be held for program students in specific sections of courses during the first year.
- **First-year seminar.** New students would be required to take a first-year seminar (or “success course”), ideally with other program students, covering topics such as study skills and note-taking.

## Requirements and Messages

- **Full-time enrollment.** The programs would require students to attend college full time during the fall and spring semesters and encourage students to enroll in classes in the summer.
- **Taking developmental courses early.** The programs would encourage students to take developmental courses early in their time in college.
- **Graduation within three years.** The programs would encourage students to graduate within three years.

## Findings

- **The Ohio programs were generally managed and staffed as planned and implemented as designed.**

The programs had directors and advisers who worked solely with program group students daily. For the most part, colleges did not employ program-specific tutors or career advisers; students received these services primarily from existing centers on campus. The colleges provided students in the program group with most of the intended program components and services, with the exception of blocked course schedules. That component was not provided as planned in part because students could have up to 24 credits when they entered the study; many of them had already completed various developmental or general education courses that typically would have been included in a blocked schedule.<sup>3</sup> Students received the financial support — tuition waivers,

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<sup>3</sup>Colleges often require students to take non-major-specific courses such as math or English. These courses are referred to as “general education” courses.

textbook assistance, and monthly incentives in the form of gift cards — as planned. Students’ participation in advising was consistently high over the course of their years in the programs. Students’ participation in tutoring and career services was lower than their participation in advising. Over time, however, the staff adjusted the requirements (for example, by allowing the use of online tutoring services) to increase participation.

- **The programs created a noticeable contrast between the experiences of program and control group students in all areas where the model had components.**

Program group students were more likely than control group students to be engaged in advising, tutoring, and career services. Program group students participated in these services at higher rates than their control group counterparts and reported more meetings with student services staff members overall. For example, 63 percent of program group students reported using tutoring services during the first year of the programs, compared with 45 percent of control group students, an increase of 19 percentage points. The increase in the use of career counseling was even larger, at 34 percentage points. Program group students also reported meeting with advisers many more times each semester (about 13 times on average) than control group students (about 5 times on average). Finally, program group students were more likely than control group students to report hearing the three central program messages about the importance of enrolling full time, enrolling during the summer, and graduating in three years. Fewer than half of control group students reported hearing these messages.

- **Program group students were less reliant on student loans, personal savings, or support from family and friends to pay for college.**

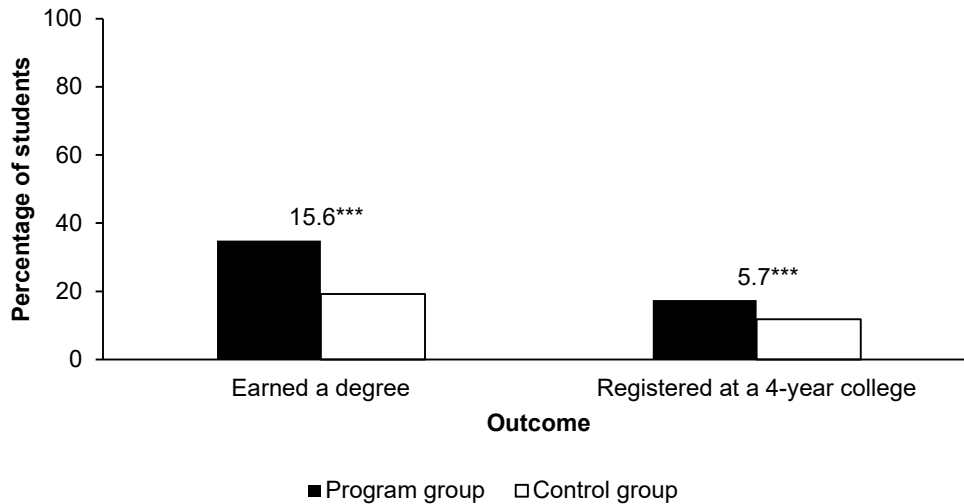
The additional financial aid that students received from the programs led to a number of effects. First, students were less likely to report relying on other sources of assistance — including parents, relatives, friends, and savings — to help pay for college. In addition, students in the program group expressed less concern about their ability to pay for college. As an example, nearly a third of control group students reported that they chose not to register for college full time because they could not afford it, compared with about 16 percent of students in the program group. Program group students were also less likely than control group students to report not buying textbooks because of the cost. Interestingly, the programs do not appear to have reduced students’ need to work while in school. About two-thirds of students in the program and control groups worked during their first year enrolled, and those who did so worked an average of 30 hours per week.

- **The Ohio Programs nearly doubled degree receipt through three years and led to an increase in transfers to four-year colleges.**

Effects on degree receipt emerged by the third semester of the follow-up period and increased in each subsequent semester. By the end of Year 3 (the sixth semester), 35 percent of the students in the program group had earned degrees, compared with 19 percent of students in the

control group, an increase of 16 percentage points (see Figure ES.1). As expected, all of the programs' effects on degree receipt are for associate's degrees. Few students earned certificates, and even fewer earned bachelor's degrees or higher degrees during this period.

**Figure ES.1**  
**The Ohio Programs Increased Degree Receipt and Transfers to Four-Year Colleges**



SOURCE: MDRC calculations using data from the National Student Clearinghouse and transcript data from the study colleges.

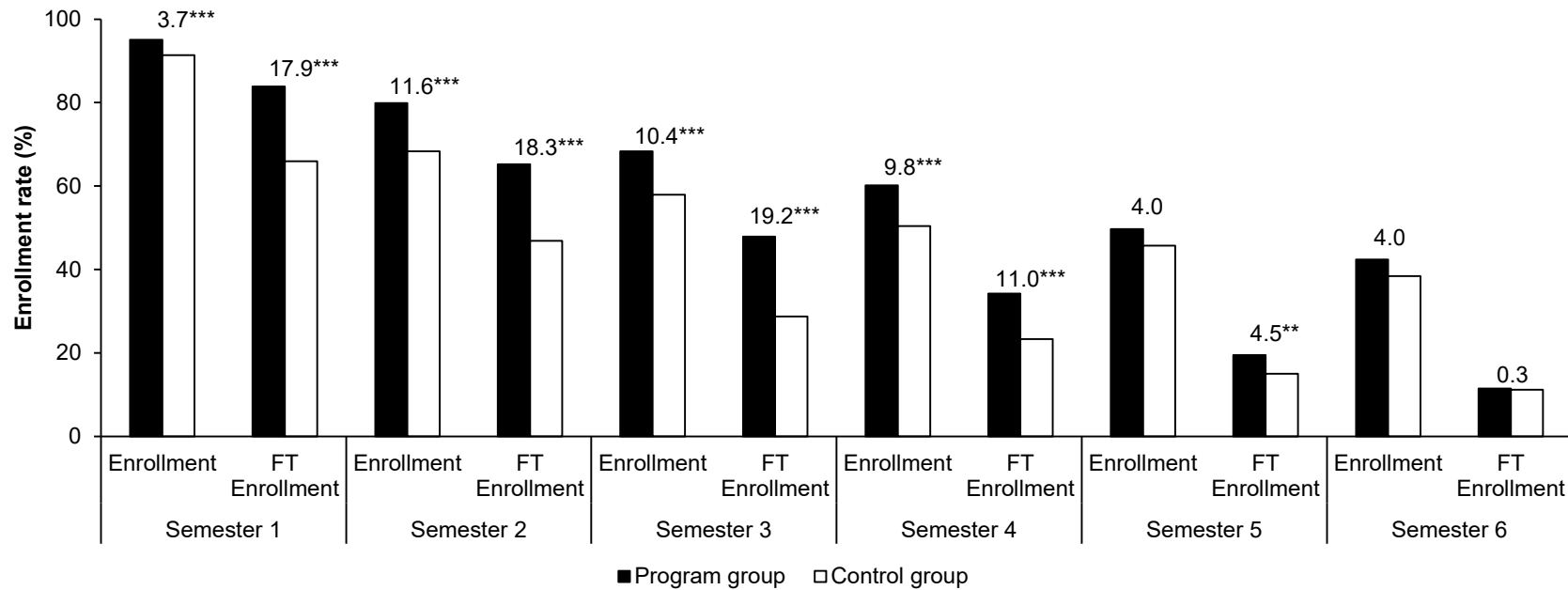
The Ohio Programs also increased the number of students registered at four-year colleges. By the fifth and sixth semesters, students in both the program and control groups began transferring to four-year colleges. But higher percentages of program group students made those transfers. By the sixth semester, for example, 18 percent of program group students were registered at four-year colleges, compared with 12 percent of control group students.

- **The Ohio Programs had positive effects on enrollment, full-time enrollment, and credits earned.**

Enrollment rates for both research groups fell over time, illustrating the challenges to persistence in college faced by community college students. However, students in the program group were more likely to be enrolled and to be enrolled full time in each of the first five semesters (see Figure ES.2). In the third semester, for example, 68 percent of program group students were enrolled at one of the participating colleges compared with 58 percent of control group students, an increase of 10 percentage points. The effect on full-time enrollment was even larger, at 19 percentage points.

Figure ES.2

The Ohio Programs Boosted Enrollment



ES-6

SOURCE: MDRC calculations using data from the National Student Clearinghouse and transcript data from the study colleges.

NOTES: Enrollment is based on all available data and combines spring and summer enrollment.

FT = full-time, defined as enrollment in 12 or more credits and based on data from the college of random assignment only.

A two-tailed t-test was applied to differences between research groups. Statistical significance levels are indicated as: \*\*\* = 1 percent; \*\* = 5 percent; \* = 10 percent.

Estimates are adjusted by site, cohort, gender, race/ethnicity, age, parental status, marital status, weekly hours worked, dependence on parents for 50 percent or more of financial support, whether a student is the first family member to attend college, whether a student earned a high school diploma, the number of developmental education requirements at the time of random assignment, and intended enrollment level.

Students in the program group also earned more credits throughout the period, in part because higher percentages of them were enrolled but also probably in part due to the additional support they received while enrolled and the requirement to enroll full time. The Ohio Programs led to an increase of just over 2 credits earned in each of the first three semesters and 1.5 credits in the fourth semester. Like the effects on enrollment, the effects on credits earned diminish over time and are no longer statistically significant by the sixth semester. In total, students in the program group earned 8.5 more credits over the follow-up period than their counterparts in the control group. To some extent, effects on both current enrollment and credits earned are expected to fall over time as students earn degrees and leave college. As noted, by the end of the sixth semester, 35 percent of students in the program group had earned degrees.

- **The Ohio Programs had positive effects for various types of students, including those who entered with and without developmental education requirements.**

Effects were estimated for several subgroups of students. Of particular interest were effects for subgroups of students with different levels of academic preparation, specifically students who did and did not have developmental education requirements when they entered the study. The program led to increases in degree receipt for students with developmental education requirements that were about the same size as the increases for those without these requirements. The original CUNY ASAP study focused only on students with developmental requirements, so the finding here for students with developmental requirements replicates those results and shows that the program model worked in this new setting for students who were less prepared academically. But the findings for students without developmental requirements confirm that more academically prepared students can also benefit from these types of services and support.

Effects were also explored for several other subgroups of students, defined by college, gender, race, age, and whether a student had a high diploma or equivalent, etc. For all the subgroups examined, the estimated effects on three-year graduation rates were large, positive, and statistically significant, demonstrating that the program is effective for a variety of students.

- **The Ohio Programs cost more per student than the usual services, but also led to a lower cost per degree.**

The direct cost of the programs was \$5,521 per program group member over three years, or \$1,840 per year. This estimate includes \$2,369 for administration and staffing, \$1,517 for student services, and \$1,635 for financial support. In total, after adding in the costs of educating more students (since the programs increased enrollment and the number of college courses taken), the colleges invested \$8,030 more per program group member than they did per control group member. However, that investment also led to a large increase in degree receipt. Thus, the cost per degree earned for program group students was 22 percent lower than the cost per degree earned for control group students.

## Conclusion

The findings from the evaluation add to a body of evidence showing that comprehensive programs that provide academic, financial, and personal support to students for multiple years are an effective way to increase college completion rates. Equally important, however, the findings add to the evidence on the effectiveness of the CUNY ASAP model. The effects of the Ohio Programs are strikingly similar to those found from the CUNY ASAP evaluation, providing more evidence that the model works for different types of students. As an example, more of the students in the Ohio study are “nontraditional” than was the case in New York, meaning that the students are older, have children, or work full time. There was some concern that the model, with its full-time attendance requirement, would not work for these types of students, yet it appears it does work. The findings also show that the model can work in a different context. For example, while CUNY is a highly centralized university system, Ohio’s community colleges are decentralized, operating independently and making almost all decisions on their own. Practitioners and policymakers have already recognized ASAP as a national model to increase educational attainment, so it is noteworthy that the model has now produced similar results with different students and in a different context.

The findings also illustrate that the model can be adapted to fit the local context and still have large effects. The Ohio colleges put program components into operation somewhat differently than CUNY did. In some cases, the differences were planned from the outset: For example, the Ohio Programs provided gift cards for gas and food where CUNY ASAP provided unlimited MetroCards for the New York City transit system. In other cases, the differences were the result of adaptations the colleges made as the programs were being implemented, such as not offering blocked scheduling and allowing students to meet the tutoring requirements in multiple ways. However, the general model — of integrated services, other forms of support, and requirements, combined with active monitoring and outreach — was still preserved.

The Ohio Programs cost less than the original CUNY ASAP in New York. But it is worth noting that the original program’s costs have dropped substantially, as CUNY has modified it and expanded it to serve more students within the CUNY system. The CUNY ASAP model is also expanding beyond Ohio and New York City, to colleges such as Westchester Community College in New York and the colleges in the San Mateo County Community College System in California. The model does require an investment by the colleges. However, the findings from Ohio and New York suggest that it is an investment that can help substantial numbers of community college students graduate and help colleges continue to play an important role in promoting social mobility.

# Chapter 1

## Introduction

The labor market has changed dramatically over the past several decades, with the result that postsecondary education is now almost a requirement to earn a decent wage. The changes in the labor market include rising international and domestic outsourcing, increased technological change, and automation; these changes have increased wages at the top of the distribution, for workers with higher levels of education, and pushed down wages at the bottom.<sup>1</sup> Average workers with only a high school education, for example, make less in real terms today than they did in the early 1970s.<sup>2</sup>

These trends in wages are not likely to change anytime soon, given the pace of technological change and automation and continued outsourcing.<sup>3</sup> The importance of a college degree will only grow, leaving less-educated workers further behind. A central policy question is how to help more workers obtain educational credentials and increase their skills. In this effort, community colleges play a vital role.

The nation's community colleges serve about 40 percent of all college students and, not surprisingly, serve a disproportionate number of low-income and underrepresented students.<sup>4</sup> They are relatively accessible, typically with open admission policies, and they are on average much less expensive than four-year colleges or two-year private colleges. For a large share of the population, they represent an important first step to higher education and upward mobility.

However, although enrollment in community colleges has generally increased over time, completion rates have not. Among first-time students entering public two-year colleges, only 15 percent graduate with a degree or certificate within three years.<sup>5</sup> After six years, that number increases to about 35 percent, while 46 percent of students have not earned a degree and are no longer enrolled in college at all.<sup>6</sup> Most students also do not eventually transfer to four-year institutions.

The low completion rates may not be very surprising, given the barriers many low-income community college students face. For many of them, financial aid is not enough to cover the full costs of attendance (including tuition, fees, and living expenses), requiring them to work while attending. Others are the first in their families to attend college and may have difficulty navigating the college environment. Some students, particularly older students, may be juggling work and family responsibilities in addition to school. And others may have low levels of basic

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<sup>1</sup>See, for example, Autor and Dorn (2013); Goldin and Katz (2009).

<sup>2</sup>Economic Policy Institute (2019).

<sup>3</sup>Brown and Loprest (2018).

<sup>4</sup>Ma and Baum (2016).

<sup>5</sup>Ifill et al. (2016).

<sup>6</sup>Radford, Berkner, Wheelless, and Shepherd (2010).

skills, which makes it difficult for them to complete college-level course work, and may also require them to complete remedial courses, referred to as “developmental education” courses, before they can enroll in college-credit courses. These students need additional help but their colleges are often not equipped to provide it, often for lack of funding.

Many colleges have started providing additional assistance to address low completion rates. Examples include enhanced advising, financial incentives for meeting certain milestones or enrolling full time, changes in the disbursement of financial aid, and restructured developmental education classes.<sup>7</sup> Evaluations of these policies suggest that they can increase student retention in college and degree completion, although the effects are sometimes mixed and generally modest in size. But one program stands out.

Developed by the City University of New York (CUNY), the Accelerated Study in Associate Programs (ASAP) is a comprehensive program that provides students with up to three years of financial and academic support and other support services to address multiple barriers to student success, with the goal of helping more students graduate within three years. That support comes with an obligation, however, since students are required to attend full time and to participate in program services. An experimental evaluation of CUNY ASAP found that the program nearly doubled graduation rates after three years.<sup>8</sup> After six years, students offered the program remained 10 percentage points more likely to have graduated than their counterparts who were not offered the program.<sup>9</sup> Among postsecondary programs that have been evaluated using randomized controlled trials, these effects are some of the largest observed.<sup>10</sup>

The success of the program led to questions about whether it would work in other contexts. If ASAP were to be a model for community colleges across the nation, then it would be important to assess whether it worked similarly well in another context, outside of New York City and for students other than those in CUNY community colleges. To answer this question, MDRC joined with CUNY and the Ohio Department of Higher Education (ODHE), which was attempting to address the problem of low completion rates for community college students in Ohio, to develop the ASAP Ohio Demonstration. The notion of reciprocal obligation was one factor that resonated with officials in Ohio: Students eligible for Pell Grants would receive enhanced services and support contingent on meeting program requirements.

The demonstration launched in 2014. Using ASAP as a model, three community colleges in Ohio began a new strategy (referred to as the Ohio Programs) to help more of their lower-performing students succeed. CUNY provided in-depth technical assistance, while ODHE coordinated knowledge sharing among college leaders and program staff members at the three

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<sup>7</sup>Bettinger and Baker (2014); Mayer, Patel, Rudd, and Ratledge (2015); Weissman, Cerna, and Cullinan (2019); Weiss and Headlam (2018).

<sup>8</sup>Scrivener et al. (2015). CUNY also conducted its own quasi-experimental evaluation of the program with different groups of students. See Strumbos and Kolenovic (2017) and City University of New York (2019).

<sup>9</sup>Weiss, Ratledge, Sommo, and Gupta (2019).

<sup>10</sup>See, for example, Bettinger and Baker (2014); Weiss, Visher, Weissman, and Wathington (2015); Mayer, Patel, Rudd, and Ratledge (2015); Goldrick-Rab, Harris, Kelchen, and Benson (2012); and Scrivener and Weiss (2009).



colleges (referred to as the ASAP Ohio Network). MDRC provided operational support, led the evaluation, and oversaw the demonstration.

An earlier report, documenting effects through two years, found that for the most part the colleges successfully implemented the programs based on the ASAP model and that compared with standard courses and services at the colleges, the Ohio Programs led to large increases in enrollment and credit accumulation in each of the four semesters after the study began, and more than doubled two-year graduation rates. This report presents findings on academic outcomes through three years, to assess whether these large effects persisted and whether they continue to match the magnitude of the effects found in New York. The report also examines the implementation of the full program at the three colleges and presents a cost-effectiveness analysis, determining the outcomes achieved per dollar spent.

In sum, the programs were generally implemented as planned over the three-year period, with a few exceptions. Students received the program messages about full-time enrollment and on-time completion, and they participated in advising, tutoring, and career services at higher rates than their control group counterparts. The programs also continued to have large positive effects on enrollment, school progress, and degree receipt, and newly emerging effects on the percentage of students who transferred to four-year colleges. The effects presented here are strikingly similar to those found for the original CUNY ASAP model in New York, suggesting that this set of comprehensive support services can be implemented and help students beyond these two states.

Finally, providing comprehensive support to students is not cheap. The direct cost of the Ohio Programs was about \$5,500 per program group member over the three-year period. However, because they increased degree receipt, the programs had a lower cost per degree received. Nonetheless, colleges may struggle to sustain these services over the long term without funding support from the state or other sources, as demonstrated by the fact that only one of the three Ohio colleges is continuing its program, despite clear evidence of effectiveness.

The Ascendium Education Group provided anchor funding for the demonstration and evaluation, supplemented by grants from a consortium of other philanthropies, including Arnold Ventures, the Bill & Melinda Gates Foundation, the ECMC Foundation, the Ford Foundation, the Greater Cincinnati Foundation, Haile U.S. Bank Foundation, KnowledgeWorks, the Kresge Foundation, and Lumina Foundation.

## **The Ohio Programs Model (as Designed)**

The Ohio Programs model (based closely on CUNY ASAP) is designed to address multiple potential barriers to student success simultaneously and to address them over three full years.

Table 1.1 presents the main components. First, students receive three forms of support that are available in theory to all students but are enhanced in this model. For example, each student is required to meet with a program adviser twice per month in the first semester, with requirements in the later semesters varying depending on the adviser's determination of the

Table 1.1

Ohio Programs Model Components

<p style="text-align: center;"><b>Requirements and Messages</b></p> <ul style="list-style-type: none"> <li>• <b>Full-time enrollment:</b> Required in fall and spring; summer attendance encouraged and financially covered</li> <li>• <b>Taking developmental courses early:</b> Encouraged consistently and strongly</li> <li>• <b>Graduating within three years:</b> Encouraged consistently and strongly</li> </ul>	<p style="text-align: center;"><b>Student Services</b></p> <ul style="list-style-type: none"> <li>• <b>Advising:</b> Students required to visit adviser twice per month in first semester and as directed based on need after that; adviser caseloads of no more than 125</li> <li>• <b>Tutoring:</b> Students required to attend tutoring if taking developmental courses, if identified as struggling by faculty member/adviser, or if on academic probation.</li> <li>• <b>Career services:</b> Students required to meet with campus career services staff or participate in an approved career services event once per semester</li> </ul>
<p style="text-align: center;"><b>Financial Support</b></p> <ul style="list-style-type: none"> <li>• <b>Tuition waiver:</b> Any difference between financial aid and tuition and fees waived</li> <li>• <b>Monthly incentive:</b> Monthly \$50 gas/grocery gift card, contingent on participation</li> <li>• <b>Textbook assistance:</b> Voucher to cover textbook costs through the campus bookstore</li> </ul>	<p style="text-align: center;"><b>Course Enrollment</b></p> <ul style="list-style-type: none"> <li>• <b>Blocked courses and consolidated schedules:</b> Seats held in specific sections of general or developmental education courses for program students during the first year; early registration for program students</li> <li>• <b>First-year seminar:</b> New students required to take a student success course in the first semester, ideally in a section with other program students</li> </ul>
<p style="text-align: center;"><b>Management and Staffing</b></p> <ul style="list-style-type: none"> <li>• <b>Program management:</b> Local within each college, with periodic meetings and data sharing among members of the Ohio ASAP Network</li> <li>• <b>Dedicated staffing:</b> Fully dedicated program staff led by a director who reports to the provost or another senior leader at the college</li> </ul>	

SOURCE: Program model information from the study colleges.

student’s need. Students determined to be “high-need” are still required to meet twice per month, while other students could meet with their advisers less often. Program advisers also have lower caseloads than is typical. At least three hours per month of tutoring are also required for students in developmental education courses.

Second, students receive three forms of financial support. They receive a tuition waiver that fills any gap between their existing grant financial aid and tuition and fees. They also receive financial assistance to cover the costs of textbooks, and a monthly gift card of \$50, designed to help students purchase groceries or gas and to serve as an incentive to meet other program requirements (for example, attending advising).

Third, the model is designed to help students with course enrollment by offering blocked courses to ensure program group students take courses together, a seminar course for first-year students, and early registration.

In return for these services, students are required to attend full time and encouraged to take summer courses and complete developmental education requirements early, all with the aim of graduating within three years.

Each college administered, managed, and staffed its own program. Each college's team included a program director who supervised staff members and managed daily activities and program reporting, advisers who delivered core program services, and a program assistant. These staff members were employed by the program and worked primarily with students in the program. Each program director received guidance on program operations from a senior college administrator.

Staff members also used a management information system designed specifically for the programs to manage the programs and track student participation and academic outcomes.<sup>11</sup>

## The Evaluation

To assess the effects of the programs, the evaluation targeted low-income students eligible for Pell Grants at the three Ohio colleges.<sup>12</sup> Eligible and interested students were assigned at random using a lottery-like process to either a program group eligible to receive the programs' services and benefits or a control group eligible to receive their college's regular services. The differences between these two groups' outcomes represent the estimated effects of the opportunity to participate in these programs. Random assignment ensures that student characteristics are not systematically different at the start of the study, allowing differences in later outcomes to be attributed to the program.<sup>13</sup>

### Evaluation Components

The main goals of the evaluation are: (1) to assess the extent to which non-CUNY colleges can implement a program based on CUNY ASAP; (2) to estimate the effects of the opportunity to participate in the program; and (3) to calculate the programs' costs and determine how they relate to the effects. To that end, the evaluation consists of three components:

**Implementation analysis.** The evaluation explores how the Ohio Programs were implemented at the three colleges in the study and how the services that the programs offered compared with the usual college services. The study also examines participation in various services by program and control group members, as reported on a student survey, and the nature of the service contrast, or the difference between the services received by the program group and the services received by the control group. The implementation analysis aims to help researchers understand how the program produced the effects it did and, more broadly, to serve as a resource for other

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<sup>11</sup>A management information system is a database that holds information on program operations and that can produce reports on every level of a program's management.

<sup>12</sup>More information on eligibility criteria is presented in Chapter 2.

<sup>13</sup>These differences are tested for statistical significance to assess the likelihood that they may have arisen by chance.

colleges interested in how the Ohio Programs were implemented.<sup>14</sup> Although the evaluation cannot determine which components of the model matter most, the implementation and survey findings may shed light on that issue.

**Impact analysis.** The evaluation examines the Ohio Programs' estimated effects on students' academic progress and completion: their persistence in college, credit accumulation, degree receipt, and transfer to four-year universities. The study also analyzes effects for selected subgroups of students.<sup>15</sup>

**Cost-effectiveness analysis.** Finally, the evaluation examines the costs of the Ohio Programs. Because the model provides many services, it is likely to be more expensive than most other community college programs. But its effects might also be larger. The cost-effectiveness analysis helps to compare the costs of different programs by considering program costs relative to program effects.

## Data Sources

The evaluation of the Ohio Programs relies on several data sources.

**Baseline survey.** Before random assignment, students filled out a baseline information form: a survey to collect baseline demographic information and other background information. This information is used to describe the sample, document that the characteristics of program and control group members were similar at the outset of the study, and to define subgroups of interest.

**College records.** Measures of academic outcomes were obtained from detailed college transcript records and placement exam data, all of which were provided to MDRC by the three participating colleges.

**National Student Clearinghouse.** Data from the National Student Clearinghouse, which covers student enrollment in nearly all postsecondary institutions in the United States, were used to examine academic outcomes such as enrollment, transfer, and graduation rates.

**Field research.** Over the course of the evaluation, the evaluation team conducted field research visits to the three participating colleges to interview the administrators and staff members involved in the program. The interviews provided detailed information on the operations of the program. Students in the program and control groups were also interviewed about their perspectives on the college and the services available to them.

**One-year student survey:** A survey was administered to all sample members approximately one year after they were randomly assigned.<sup>16</sup> The survey covered topics such as sample members' participation in and experiences with student services, expectations of and engagement in college, employment, and financial aid and other financial issues. The survey data are used to

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<sup>14</sup>Colleges interested in adopting the CUNY ASAP model can consult Boykin and Prince (2015).

<sup>15</sup>The analysis plan for the study was registered on the Open Science Framework maintained by the Center for Open Science, and is available at <https://osf.io/2r5ta>.

<sup>16</sup>The response rate to the survey was 68 percent. See Appendix A for an analysis of survey response.

help describe the differences between the program and control groups in the experiences they had and the services they received.

## **The Organization of This Report**

Chapter 2 presents information on the colleges and students participating in the evaluation. Chapter 3 presents an in-depth analysis of the implementation of program components. Chapter 4 uses survey data to present participation in and receipt of services by the program and control group students. Chapter 5 assesses the Ohio Programs' effects on students' academic outcomes, including enrollment, credit accumulation, degree receipt, and transfers to four-year institutions. Chapter 6 presents a cost-effectiveness analysis. Chapter 7 discusses the Ohio Programs and CUNY ASAP, comparing the implementation of the two programs, the students who participated, the effects, and the costs. Finally, Chapter 8 concludes the report with a summary of findings and lessons.



## Chapter 2

# Participating Colleges and Students

The Ohio Programs were evaluated at 3 of the 23 community colleges in the state. The colleges differ in terms of where they are located (in large cities or small cities), in their size and the number of campuses they have, and in the type of students they serve. The characteristics of the students participating in the study reflect this diversity. This chapter presents characteristics of the participating colleges and students.

### The Colleges in the Demonstration

The evaluation was conducted at Cincinnati State Technical and Community College, Cuyahoga Community College, and Lorain County Community College. Throughout the report, the colleges are referred to as C-State, Tri-C, and Lorain, respectively.

These colleges were selected based on administrators' support for the demonstration, the sizes of their student populations (to ensure an adequate sample of students for the study), and their willingness to participate in a randomized controlled trial.

Table 2.1 presents a profile of the colleges. C-State and Tri-C are in the large cities of Cincinnati and Cleveland, respectively, while Lorain is in the smaller city of Elyria, in an outlying county of the Cleveland metropolitan region. The sample size and funding considerations led to the selection of three colleges with relatively large student populations. Tri-C, for example, has four campuses around Cleveland's surrounding communities and has a total enrollment of around 23,000 students. (The study took place at two of Tri-C's four campuses.) C-State and Lorain serve 8,000 and 11,000 students, respectively. Most other community colleges in the state have total enrollments of under 10,000 students.<sup>1</sup> Despite differences in size, the colleges are fairly typical for the state in terms of the characteristics of their student bodies. Most students attend part time, for example, a significant share are ages 25 or older, and about a third receive Pell Grants.

### Participating Students

Recruitment for the evaluation took place before the spring 2015, fall 2015, and spring 2016 semesters.<sup>2</sup> Students were invited to participate through letters, emails, and phone calls. Those who were interested attended an intake session on campus, during which program staff members

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<sup>1</sup>U.S. News & World Report (2019).

<sup>2</sup>The program was pilot tested during the spring 2015 semester at all three colleges. At one college, MDRC randomly assigned students to the program group or control group for the spring 2015 pilot test. These students are included in the evaluation along with the students randomly assigned at all three colleges before the fall 2015 and spring 2016 semesters.

**Table 2.1**  
**ASAP Ohio Demonstration College Profiles**

Characteristic	Cincinnati State Technical and Community College	Lorain County Community College	Cuyahoga Community College
Campus structure	1 main campus + 3 other locations around the city	1 main campus + 5 satellite centers across the county	4 main campuses + 8 satellite locations across the county
Number of students	8,807	11,042	23,900
Full-time students (%)	26	27	31
Male (%)	44	39	40
Black (%)	24	9	25
Other minorities (%)	17	18	20
Under 24 years of age (%)	55	70	61
Campus setting	City: large	City: small	City: large
Geographic location	Southwest Ohio	Northeast Ohio	Northeast Ohio
Graduation rate (%)	15	23	15
Undergraduate students receiving Pell Grants (%)	33	36	38
Sample size (total = 1,501)	467	513	521

SOURCES: Study colleges' websites and MDRC calculations using data from the Integrated Postsecondary Education Data System.

described the program and evaluation. Students who agreed to take part in the study completed an informed consent form and a baseline information form.

After completing the forms, each student was randomly assigned (using a computer program at MDRC) either to the program group, whose members had the opportunity to participate in the Ohio Programs, or to the control group, whose members had the opportunity to receive the usual college services. To thank them, students who were randomly assigned to either group received a gift card to compensate them for their time and transportation costs.

Participation in the study was open to a broad group of students. Eligible students were required to be:

- from low-income families (that is, they had to be eligible for Pell Grants);
- seeking degrees;



- willing to attend full time;
- majoring in degree programs that could be completed within three years;<sup>3</sup> and
- newly enrolled or with 24 or fewer credits earned.

Over the three semesters, the study enrolled a total of 1,501 students (806 in the program group and 695 in the control group).

Table 2.2 presents selected characteristics of the students in the study. For comparison, characteristics of the student body at the three colleges and of community college students nationwide (where available) are also shown.<sup>4</sup> About 64 percent of study participants are women, and their average age when they joined the study was 23. Several characteristics are sometimes used to define students as “nontraditional,” or differing from the profile of a student entering college straight from high school.<sup>5</sup> The definition often includes older students (31 percent of the Ohio sample was 24 or older), those with children (27 percent of the Ohio students had children at study entry), and those working full time (a majority of the Ohio students were working, although most of them were working part time). For this study, nontraditional students are defined as those who were over age 24, working full time, had children, or had not received high school diplomas (having received General Educational Development [GED] certificates or other high school equivalencies instead). Using this definition, about half of the study sample is nontraditional.

Three out of four students had developmental education requirements at study entry, meaning that they needed to complete at least one developmental course (in math, reading, or writing) as they progressed through college.<sup>6</sup> Finally, about a third of the participants entered the study as new students, with no credits earned, while another third had already earned 13 or more credits.

The students participating in the evaluation look roughly similar to those nationwide, with some exceptions. Nationwide and in the evaluation sample, most students are women, about a third have children, most are working, and around three out of four have developmental education requirements. Students nationwide, however, are older on average than those in the Ohio sample and are more likely to work full time. There are some differences in race/ethnicity as well,

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<sup>3</sup>The requirement that a degree could be completed within three years meant that students majoring in certain fields were excluded from the study. The biggest of these fields was allied health (where students could receive degrees to become, for example, physician’s assistants, nurses, dental hygienists, etc.). This field represents a significant share of community college majors nationwide — about 23 percent. See Arbeit and Horn (2017).

<sup>4</sup>Appendix Table B.1 presents characteristics for the program and control group students, illustrating that random assignment was conducted properly and that there were few statistically significant differences between the two groups when the study began.

<sup>5</sup>For example, see Radford, Cominole, and Skomsvold (2015).

<sup>6</sup>Students who enter community college with developmental education requirements are less likely to graduate within six years than those without developmental requirements. See Chen and Simone (2016).

**Table 2.2**  
**Characteristics of the Evaluation Sample, Study Colleges, and**  
**National Community College Students**

Characteristic	Evaluation Sample	Study Colleges	National Sample
Gender (%)			
Male	36	41	44
Female	64	59	56
Age (%)			
19 or younger	47	34	-
20 to 23 <sup>a</sup>	22	28	-
24 or older <sup>a</sup>	31	38	44
Average age (years)	23	-	28
Race/ethnicity <sup>b</sup> (%)			
Hispanic	10	7	19
White	46	60	56
Black	35	21	16
Other <sup>c</sup>	10	10	9
Living with parents (%)	58	-	-
Has children (%)	27	-	32
First person in the family to attend college (%)	34	-	-
Currently employed (%)	60	-	69
Currently employed full time (%)	26	-	33
Nontraditional <sup>d</sup> (%)	47	-	-
Has developmental education requirements (%)	74	-	68
Number of credits earned, at study entry			
None	33	-	-
1 through 12	29	-	-
13 or more	38	-	-
Sample size	1,501	43,749	

SOURCE: MDRC calculations using baseline information form data and placement test data from the study colleges, and data from the Integrated Postsecondary Education Data System (IPEDS); Arbeit and Horn (2017); Chen and Simone (2016).

NOTES: Distributions may not add to 100 percent because of rounding.

Hyphens indicate unavailable data.

<sup>a</sup>Data for all students at the Ohio colleges require that the last two age categories be 20-24 and 25 or older.

<sup>b</sup>Respondents who said they were Hispanic and chose a race are included only in the "Hispanic" category.

<sup>c</sup>The "other" category includes Asian/Pacific Islander, Native American/Alaska Native, multiracial, and other races and ethnicities.

<sup>d</sup>Nontraditional students are defined as those who were 24 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 any of these characteristics.

with black students making up a higher percentage of the study sample than they do of the student population nationwide. The difference in age between the study sample and the national average may be partly due to the study's eligibility requirements, since these differences are also apparent for the study sample compared with the overall student body at the three colleges. In particular, the requirement to attend full time may have discouraged older students from applying, if they were less likely to view full-time attendance as possible.



## Chapter 3

# The Implementation of the Ohio Programs

Chapter 1 presents the Ohio Programs model as it was designed or intended. This chapter describes how the Ohio Programs were implemented over the study period (2015 to 2018).<sup>1</sup> The findings in this chapter are primarily based on MDRC field research and analyses of data from the colleges' management information system that was used to track student participation. Chapter 4 discusses how students' experiences in the Ohio Programs compare with the experiences of students in the control group, who received their colleges' standard services.

## Summary of Findings and Organization of the Chapter

The Ohio Programs were generally implemented as intended, but participation in some services was lower than expected. Additional findings include:

- The programs were managed and staffed as planned, with some adjustments made to program staff members' responsibilities to streamline program operations.
- The colleges provided to program group students most of the planned program components, including messages about program requirements and recommendations, financial support, and student services. Blocked course schedules were not offered as planned.
- Students participated in different services at different rates and also participated at different rates from semester to semester. Enrolled students consistently participated in advising at high rates over the course of their three years in the programs. Lower percentages met the tutoring and career services requirements. However, the Ohio Programs made adjustments to improve participation, and a significant proportion of students participated in all three services.

This chapter first describes the early implementation of the Ohio Programs, then moves to a discussion of the administration, staffing, and management of the programs. It then describes the implementation of and student participation in the various program components, covering requirements and messages, student support services, financial support, and course enrollment. Although each component is described separately, the Ohio Programs are an integrated package of services. The research study cannot disentangle the effects of each individual component. The chapter concludes with lessons gleaned from studying the implementation of the Ohio Programs.

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<sup>1</sup>For the most part, this chapter uses the past tense to describe program implementation, although much of what is discussed may be true of the current program operating at Lorain County Community College.

## Implementing Programs Based on the Original Model

After agreeing to join the Accelerated Study in Associate Programs (ASAP) Ohio Demonstration in 2014, the three colleges each formed their own planning committees that worked closely with the City University of New York (CUNY) and MDRC to implement their programs. These planning committees, which included administrators and staff members from the colleges' academic affairs and student services departments, played an important role in launching the Ohio Programs. The planning committees and other staff members involved in the early stages of the programs identified match funding, identified or hired the rest of the staff, secured office space, and worked to put each program component into operation.

The three colleges pilot tested their programs during the spring 2015 semester with small groups of students, so that they could refine the programs before full implementation and evaluation began.<sup>2</sup> Students who were randomly assigned to the programs were eligible to receive the services and support for up to three years after entering the study; most students began to receive full program services in the fall 2015 or spring 2016 semester. Outside of the evaluation, the Ohio Programs took in additional students during the fall 2016 and spring 2017 semesters to maintain consistent enrollment levels, as some students stopped attending the programs. These additional students helped to maintain the Ohio Programs' staff-to-student ratio in case the colleges wanted to continue the programs after the study ended. Ultimately, one college decided to sustain and expand its program, and this college continued to recruit students, enrolling them for the fall 2017 and fall 2018 semesters.<sup>3</sup> Figure 3.1 depicts the implementation timeline.<sup>4</sup>

CUNY and MDRC helped the colleges adopt and develop their programs. CUNY led a workshop on the program model, helped the colleges develop action plans for implementation, and provided regular and continuing direct technical assistance and training in the ways each program component could be implemented. MDRC provided operational assistance and constructive guidance during the pilot period to strengthen the programs. MDRC also created a management information system based on the program model to collect and manage program participation data and, with CUNY, gave assistance to the colleges as they learned to use the data to monitor and improve program outcomes.

The sections that follow describe how each component of the Ohio Programs model was implemented: program management, requirements and messages, student services, financial support, and course enrollment.

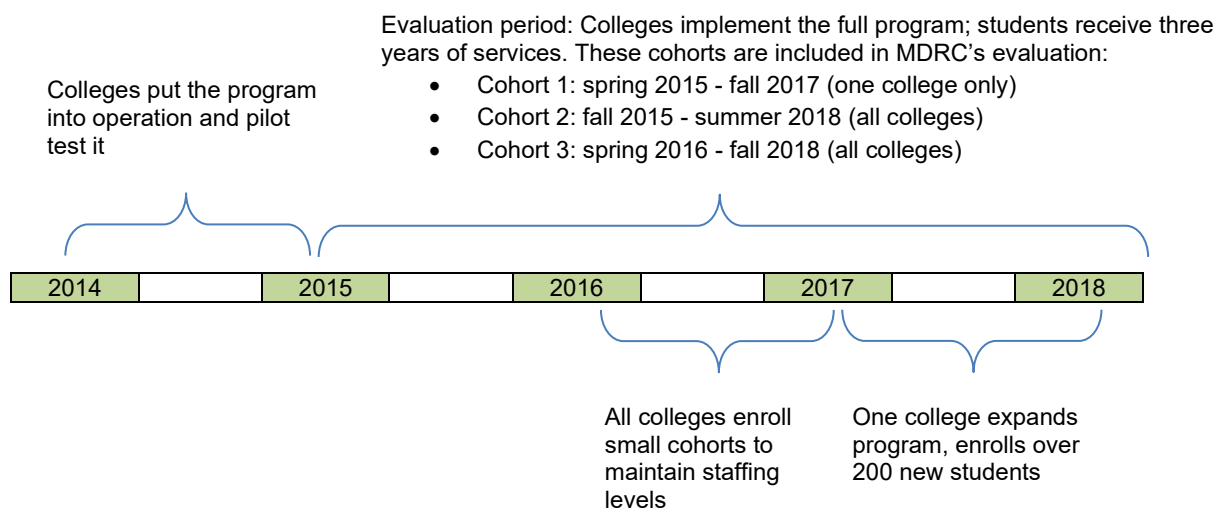
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<sup>2</sup>At one college, students were randomly assigned to a program group who participated in the pilot program or to a control group who received the college's standard services. These students are included in the evaluation sample along with the students randomly assigned at all three colleges before the fall 2015 and spring 2016 semesters. At the other two colleges, students who participated in the pilot test were not selected by random assignment and are not a part of the evaluation sample.

<sup>3</sup>See Chapter 8 for additional information on how the Ohio colleges are building on the ASAP Ohio Demonstration.

<sup>4</sup>Each "cohort" in the figure is a group of students who entered the study at the same time.

**Figure 3.1**  
**Implementation Timeline**



SOURCE: Study colleges.

## Program Management

The Ohio Programs model prescribed program management that included a dedicated program staff, the use of data for program improvement, and data sharing among the colleges in the ASAP Ohio Network. The study finds that the Ohio Programs were mostly managed and staffed as planned, with a few changes from the model related to the responsibilities of program staff members and the frequency with which the colleges in the ASAP Ohio Network met.

### Dedicated Staffing

Each Ohio college administered, managed, and staffed its own program. At each college, a senior college administrator (such as the dean or vice president of student services, enrollment, student success, or academic affairs) oversaw the program. These senior administrators formally or informally supervised the program directors and offered them guidance on program implementation and operation. They also advocated to executive leaders to secure resources the programs needed. The main program team consisted of:

- **Program director.** The program director oversaw daily program activities, supervised a program's staff, led recruitment, and managed reporting on students' participation and academic outcomes.<sup>5</sup> Each program had one director,

<sup>5</sup>At one college this position was titled "program coordinator." This report uses the term "director" throughout.

except for one college, which had two — one for each campus that operated a program.

- **Program advisers.** Each program had advisers who delivered the main program services by meeting regularly with students.<sup>6</sup> Due to institutional policies at two of the colleges, the program advisers there focused on providing academic coaching and personal support to students. Students received help registering for courses primarily from the colleges' general academic advisers. At the third college, the program advisers were considered part of the general advising staff and provided registration services to students in addition to academic and personal coaching. At all three colleges, the advisers helped recruit students and monitored student participation in the programs' services.
- **Program assistant.** Each campus had a program assistant to aid in administration and coordination. The program assistant helped with entering data, reporting, answering questions from students who walked into the program office, and providing advising appointment reminders to students.

These staff members were official employees of the programs and worked primarily, if not solely, with program group students. The colleges did not employ staff members to provide tutoring and career services only to program group students. Instead, students received tutoring and career services mostly from existing centers on campus.

- **The responsibilities of some program staff members changed over time to streamline program operations.**

At some colleges, the program advisers took on additional responsibilities beyond the advising that was originally part of the Ohio Programs model. At all three colleges the advisers provided some career counseling, and at one college the advisers assisted with tutoring. These changes were meant to make the services more readily available and to increase student participation.

Two of the colleges also ended up training advisers in financial aid systems and reporting. During the pilot test and early implementation periods, it was difficult for the financial aid office to keep abreast of tracking and allocating tuition waivers and textbook vouchers, on top of the office's normal workload. Furthermore, if students had questions about their financial aid awards, advisers could not help immediately but had to escort the students to the financial aid office. To reduce the workload of the financial aid staff and streamline support for students, two colleges eventually trained program staff members in their programs' financial aid processes.

- **Program staffing was relatively stable at two colleges; one campus at one college experienced significant turnover.**

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<sup>6</sup>At one college these staff members were referred to as "coaches." This chapter uses the term "advisers" throughout.



Stability in administration is often important to successful program implementation, so it is important to note that over the course of the three years the colleges operated their programs, all the colleges experienced some changes in senior college administrators who were not directly managing the programs, and two of the colleges experienced some minimal turnover of program staff members directly involved with the programs. One campus at one of the colleges, however, experienced significant turnover at all levels — the college eventually had to identify new senior administrators, a program director, and program advisers. Staff members at the college reported that this disruption reduced student participation; however, new staff members worked to rebuild students' relationship with the program, and although the conclusions are not definite, the pattern of findings suggests that this staff turnover did not influence the program's effects. (Academic outcomes are discussed in Chapter 5.)

### **Data Management and Sharing**

In addition to a dedicated staff, the Ohio Programs model included data management and data sharing through the ASAP Ohio Network for the purposes of continual improvement.

- **The Ohio programs closely monitored student participation in services using the management information system developed for them. Staff members also tracked long-term outcomes using their colleges' existing information systems.**

While developing the programs, the planning committees and program staff members established benchmarks for student participation in the model overall and specifically in advising, tutoring, and career services. To assess whether these benchmarks were being met and to manage the programs, staff members tracked and monitored data on students' participation in the program and on their academic outcomes. Initially, the colleges used various systems to track participation data. One college used an Excel spreadsheet, another used an Access database, and the third used the management information system designed by MDRC. Over time, all of the programs transitioned to the management information system, which could handle large amounts of data better and which allowed staff members to enter data directly and produce reports.

In interviews, the program directors reported that the management information system was useful for tracking student participation in the various program components (specifically, advising, tutoring, and career services) and completing monthly participation reports. Tracking and reporting on these data allowed the programs to identify areas for improvement. For example, advisers from one college described how partway through the month, they used the management information system to see who had not fulfilled their required advising appointments, so they could reach out to those students.

While the management information system was useful for daily program management, staff members said that it could not be used to analyze and report on long-term outcomes such as persistence and graduation, since it was not directly connected to their colleges' databases. To review long-term outcomes, programs relied on their colleges' existing student information systems.

- **The ASAP Ohio Network helped the Ohio Programs share lessons, but over time, the network met less regularly.**

While the three programs were managed separately, the Ohio Department of Higher Education (ODHE) worked with CUNY and MDRC to form the ASAP Ohio Network; the network was meant to help the colleges coordinate and share their progress, successes, and challenges with each other. Initially the network met quarterly, but over time it came to meet less regularly. During network meetings, staff members from ODHE, the program directors, and some senior administrators would meet to discuss the programs, review metrics such as program participation and academic outcomes, and share strategies for improvement. One director noted in an interview that the ASAP Ohio Network provided a good opportunity to meet and collaborate with other program directors.

## **Requirements and Messages**

The Ohio Programs model included specific requirements and messages. Students in the Ohio Programs were required to enroll full time in the fall and spring semesters and were encouraged to enroll in summer courses. Students were also strongly encouraged to take any developmental education courses they needed early in their academic careers, and were informed that they should plan to graduate within three years.

According to interviews with program staff members and students, program advisers emphasized these requirements and messages. The messages were discussed during students' initial orientation to the programs and reinforced during advising sessions. Compliance with the full-time requirement was monitored through registration holds that required students to see their advisers before making changes to their schedules, and was encouraged to a certain extent though the financial support, as students who enrolled part time were not eligible for all of the financial support (though they could still receive other services). Program advisers reported that the full-time enrollment requirement was difficult for some students due to work and family responsibilities. On the other hand, the programs did encourage and enable more students to enroll full time. (Chapters 4 and 5 present additional detail on students' receipt of and compliance with the Ohio Programs' requirements and messages.)

## **Student Support Services**

The Ohio Programs provided students with advising, tutoring, and career services as planned. Although students were informed that participation in the services was mandatory, program group students were more likely to meet advising requirements than they were to meet tutoring and career services requirements. Over time, to increase participation, programs modified the requirements related to tutoring and career services, and also modified the ways students could fulfill those requirements.

The sections below describe the implementation of and student participation in each service component. (Appendix Table C.1 shows participation in advising and career services by semester, and Appendix Table C.2 shows participation in tutoring by semester.)

## **Advising**

The Ohio programs implemented advising as planned. Each college employed advisers who worked with relatively small caseloads of students. Advisers' caseloads varied by semester and by college, ranging from 80 to 140 students per adviser. Students were informed that advising was mandatory and were required to meet with their advisers twice each month during their first semester in the programs. Starting in the second semester and extending through the end of the three-year program, advisers "triaged" students, or sorted them into low-, medium-, and high-need groups. Students in the high-need group continued to meet with their assigned advisers twice per month. Students in medium- and low-need groups had various requirements but were often required to meet with their advisers at least once per month.

Advisers were typically full-time employees; one college added a part-time adviser to its staff for a brief time; however, the program eventually decided not to continue the position because the adviser's part-time availability made it difficult for the adviser's assigned students to receive services.

Management information system data show that student participation in advising was high. The percentage of enrolled students who received advising at least once in a given semester ranged from 79 percent in the lowest semester to 95 percent in the highest semester. Due to the "triage advising" model, the required number of advising appointments varied by semester and by student. In their first semester, about 61 percent of students met with their advisers at least six times, which means the students probably met the two required appointments each month that were required of them that term. To ensure consistent participation in advising, program staff members used a variety of strategies — such as calls, text messages, and posts on course-management systems — to connect with students and remind them of upcoming appointments.<sup>7</sup> The advising sessions covered a range of topics including how classes were going, degree planning, registration, and life outside of school. Program advisers also connected students with the counseling center, food banks, financial aid, and other services on campus as needed.

In interviews, students emphasized that advising was an important aspect of the programs. For example, one student explained:

My adviser helps me schedule everything. She answers every question I have. She helps me pick out my books.... She actually took me to the food bank. She met me in the bookstore. She helps me with everything, just everything. If I have any questions, she's quick about messaging me back.... She helped.

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<sup>7</sup>Course-management systems are online portals where students can get assignments and material and submit assignments.

## **Tutoring**

Program group students in developmental education courses were required to attend at least three hours of tutoring per month. In general, tutoring was provided by the existing centers on campus; however, at times, each program also offered special tutoring hours (usually in math) just for program group students.

While tutoring was offered as planned, participation in tutoring was initially lower than expected and the percentage of students enrolled in developmental education who attended at least one tutoring session ranged from 38 percent to 72 percent, depending on the semester. It is important to note that the number of students enrolled in developmental education declined each semester as students completed their requirements or stopped enrolling in college. According to program staff members, it was difficult for students to meet the required number of tutoring hours due to other work and personal commitments. Staff members also reported that it was difficult to get students to understand the value of tutoring.

To increase the proportion of students meeting their tutoring-participation requirements, the programs waived the requirements for students who were receiving As or Bs on course assignments and exams. They also increased the number of avenues through which students could receive tutoring. For example, instead of going to tutoring centers on campus, students could use online tutoring resources or receive assistance from a family member. Because in later semesters only a small proportion of students still had to complete developmental education courses and because tutoring requirements were waived for high-performing students, it is difficult to gauge fully the extent to which students complied with the tutoring requirements in later semesters. Staff members reported that increasing flexibility in tutoring options increased participation.

## **Career Services**

Program group students were required to complete one career-services activity per semester. Students could fulfill this requirement in numerous ways, such as meeting with a career services staff member, attending a career-related workshop, or completing a career assessment. Each of the colleges typically had a required activity for first-semester students. After the first semester, students could select their activities. At two colleges, students could work directly with their program advisers instead of a career or employment specialist to complete the career-services requirement. At all colleges, advisers played a large role in tracking participation by collecting information on participation from students or the career center staff.

Early on, program staff members noted that it was difficult to get students to complete the career-services requirement. In the first semester, only 45 percent of enrolled students met with a career specialist. The Ohio Programs used various strategies to increase participation. For example, one program assigned each student a specific month in which to complete the career requirement, rather than asking them all to complete the requirement before the end of the semester. Participation in career advising increased after the first semester, with participation ranging from 58 percent to 69 percent of enrolled students, depending on the semester.

## Course Enrollment

The Ohio Programs model included two types of changes to students' course-enrollment patterns: (1) blocked courses and consolidated schedules and (2) a first-year seminar.

- **The Ohio Programs did not implement blocked course schedules as planned but attempted to place program group students in courses with each other. The first-year seminar was offered as part of general college services, and one-third of students participated after entering the programs.**

The Ohio Programs were unable to implement blocked course schedules as planned. College administrators and staff members reported that it was difficult to identify appropriate courses for block scheduling since students could have up to 24 credits when they entered the programs. Many students had already completed various developmental or general education courses that would have been included in a blocked schedule, making it difficult to reserve a class section just for program group students.<sup>8</sup> Staff members also reported that it was difficult to identify appropriate times for the blocked courses since students took classes at various times throughout the day.

Although the colleges did not officially implement blocked courses, program advisers attempted to promote a sense of belonging among students (one of the theorized benefits of blocked courses) by guiding program group students into courses with other program group students. Some advisers also informed students when there were other students from the program in their courses. About half of program group students were enrolled in at least one course with at least four other students in the program group. The next chapter explores whether students in the program group experienced a greater sense of belonging than control group students, using data from a student survey.

Regarding the first-year seminar, the colleges already offered similar courses that introduced students to academic strategies such as note-taking and study skills. The colleges typically required this course for most if not all students, so the Ohio Programs did not report taking any specific measures to create first-year seminars or encourage students to enroll. Enrollment data show that 34 percent of program group students took a first-year seminar after joining the programs. This number may reflect the fact that about one-third of study participants were incoming first-semester students when they began the programs. Students who joined the programs after their first semester in college may have already taken the seminar.

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<sup>8</sup>Colleges often require students to take non-major-specific courses such as math or English. These courses are referred to as "general education" courses.

## Financial Support

The Ohio programs offered students in the program group several forms of financial support (tuition waivers, textbook assistance, and monthly financial incentives) intended to help them engage in college and especially to enroll full time.

- **The Ohio Programs offered tuition and textbook assistance as planned. Notably, many students did not receive these forms of financial support from the programs because they had enough Pell Grant funding to cover their tuition and book expenses.**

The sections below describe how each type of financial support was implemented and how much funding students received. Chapter 6 provides more detailed information on the total cost of the financial support.

### Tuition Waiver

The colleges provided program group students with waivers to cover the difference between their tuition and fees and their grant aid for each fall and spring semester. Students also received tuition assistance for the summer terms, but not all colleges fully covered the balances.

Table 3.1 shows the percentage of program group students who received tuition waivers each semester and the average waiver amount each semester. As shown, 57 percent of program group students received at least one tuition waiver over the course of the three-year program and each semester fewer than 30 percent of students in the program group received waivers. Many program group members probably received enough Pell Grant aid to cover their tuition and fees and thus did not need the programs' tuition assistance. The average waiver amount was \$107 per program group student (including those who did not enroll or did not need waivers). Among those who received waivers, the average waiver varied depending on the semester, ranging from \$369 to \$675.<sup>9</sup> The average tuition waiver may be lower in later semesters due to several factors, including fewer students being enrolled in the programs.

While many students did not need the tuition waiver, they still found it to be valuable. One student explained, "If I wasn't able to get the gap tuition ... then I probably wouldn't be able to stay [enrolled]." Even students who did not receive tuition waivers may have benefited from the security of knowing that their tuition and fees would be covered, as research shows that covering students' tuition can increase the likelihood that they enroll in college and enroll full time.<sup>10</sup>

### Textbook Assistance

The Ohio programs provided students with financial assistance to cover the costs of textbooks at their campus bookstores. At two colleges, students received \$300 during each of the fall

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<sup>9</sup>Data from one college were unavailable for spring 2015, summer 2018, and fall 2018.

<sup>10</sup>Headlam, Anzelone, and Weiss (2018); Dynarski, Libassi, Michelmore, and Owen (2018).

**Table 3.1****Tuition Waiver Receipt Among Ohio Program Group Students Over Three Years**

Outcome	Mean
Ever received a tuition waiver (%)	56.9
Received a tuition waiver (%)	
First semester	23.7
Second semester	27.0
Third semester	15.8
Fourth semester	13.1
Fifth semester	6.2
Sixth semester	2.8
<i>Average waiver received among those who received waivers (\$)</i>	
<i>First semester</i>	674.5
<i>Second semester</i>	645.3
<i>Third semester</i>	608.0
<i>Fourth semester</i>	510.4
<i>Fifth semester</i>	499.3
<i>Sixth semester</i>	369.3
Average waiver received among all students (\$)	106.6
First semester	160.1
Second semester	174.1
Third semester	96.3
Fourth semester	66.6
Fifth semester	30.8
Sixth semester	10.4
<b>Total program group students</b>	<b>806</b>

SOURCE: MDRC calculations using financial aid data from the study colleges.

NOTES: Tuition waivers received in spring and summer are combined.

Data from one college were unavailable for the spring 2015, summer 2018, and fall 2018 terms. These students are not included in calculations of receipt rates for these semesters or for the cumulative measures "ever received a tuition waiver" or "average waiver received among all students."

and spring semesters and \$150 during the summer terms. At the third college students received all their books free of charge; there was no capped amount.

As shown in Table 3.2, approximately 76 percent of enrolled program group students received textbook assistance at least once during their time in the programs. However, fewer than 70 percent of enrolled students received textbook assistance each semester. On average, enrolled students who received assistance received \$363 in the fall and spring terms and \$268 in the summer terms.<sup>11</sup> Some enrolled students may not have received textbook vouchers because at two of the colleges, students only got the textbook vouchers after they exhausted their Pell Grant funds. The third college allowed students to use the textbook vouchers before applying their Pell Grant

<sup>11</sup>Data from one college were unavailable for spring 2015, summer 2018, and fall 2018.

**Table 3.2**  
**Receipt of Textbook Assistance Among Enrolled Students**

Outcome	Program Group
Ever received textbook assistance, among all program students (%)	75.7
Received textbook assistance <sup>a</sup> (%)	
First semester	66.6
Second semester	67.2
Third semester	61.4
Fourth semester	61.4
Fifth semester	52.7
Sixth semester	37.8
Average textbook assistance amount received <sup>b</sup> (\$)	
Fall/spring terms	363.3
Summer terms	267.9
Sample size	806

SOURCE: MDRC calculations using financial aid data from the study colleges.

NOTES: Data from one college were unavailable for spring 2015, summer 2018, and fall 2018. These students are not included in calculations of receipt rates for these semesters or for the cumulative measure “ever received textbook assistance.”

Textbook assistance receipt for spring and summer are combined.

<sup>a</sup>Receipt of textbook assistance is shown among enrolled students in each semester.

<sup>b</sup>Average textbook assistance amount received does not include students who did not receive awards.

funds to books. While program group students at this third college could use the Pell Grant funding that they saved to offset other expenses such as housing, the college spent more on textbook assistance. This fact suggests that providing students with textbook assistance after Pell Grants are applied is one way to control program costs, although doing so reduces the financial benefit to students.

### **Monthly Incentive**

Program group students were eligible to receive a \$50 incentive each month contingent on participation in advising, tutoring, and career services.<sup>12</sup> Each campus dispersed gift cards to stores in its area where students could purchase groceries or gas.<sup>13</sup> A large proportion of enrolled

<sup>12</sup>Program staff members and managers monitored participation using records of student participation in program activities as described above.

<sup>13</sup>Giant Eagle, Walmart, Kroger, etc.



incentive. About 43 percent to 53 percent of enrolled program group students received three or more incentives each semester. These percentages are expected, since the gift card was tied to meeting participation requirements each month.

Program staff members and students reported that students spent the gift cards in various ways. Some relied on the gift cards for everyday expenses like food and gas, while others bought personal items, used the cards to offset the cost of large purchases like laptops, or did not use them. In the survey administered to students 12 months after they entered the programs, 74 percent of students reported spending the gift card on food and 54 percent reported spending it on gas (see Appendix Table C.3). One program adviser reported that “the money” gets students interested, but the advising keeps them involved. Another staff member thought the incentive was not large enough to motivate students to complete the program requirements. For many students, the monthly gift card was not the biggest factor leading them to attend program services; however, it did help them cover a range of personal expenses, including gas, tuition, and personal items.

## **Students’ Experiences in the Programs**

- **Almost all students in the Ohio Programs had positive experiences.**

On the student survey, about 92 percent of program group students rated their overall experience in the programs as “excellent” or “good” (see Appendix Table C.3). Only 8 percent of students rated their experience as “fair” or “poor.” This finding corroborates what program group students described in interviews. In those interviews, many program group students praised the programs as being essential to their college experience. As one student said:

[The program] definitely has made my college experience a lot easier so far because starting out my parents never went to college, so I have no clue [about] the lingo that goes [with] college and the different things. I had no clue how it was structured.... I needed somebody to explain to me how everything works and the requirements for different things. And so it’s definitely helped with that understanding of how college works and what I need to do here and why I’m here, and it’s made things a lot easier.

## **ASAP Ohio Demonstration Implementation Lessons**

The implementation of the program model in Ohio yielded the following lessons for other colleges to consider when implementing this model or a similar one.

- **When a college implements a comprehensive student program, it may need to adjust program staff members’ roles and responsibilities to align with institutional policies.**

The roles and responsibilities of program advisers varied slightly among colleges due to differences in institutional context and policies. As described earlier, at two colleges students were required to see a general academic adviser for class registration. At the third college, however, program advisers could advise students on registration in addition to providing program

services. This additional function limited the number of people program group students needed to coordinate with at that college. There is no evidence that this difference in advising structure resulted in differences in the program's effectiveness; however, it may have contributed to long-term sustainability. While staffing responsibilities may need to be adjusted to align with institutional structures, programs can strive to maintain fidelity to the model by having one person serve as the main adviser or coach.

- **Programs need robust data-management systems that allow them to monitor long-term outcomes such as persistence and also shorter-term outcomes such as participation in advising, tutoring, and career services.**

A vital aspect of the Ohio Programs was collecting and reviewing participation data for each student in the program group. Doing so allowed the programs to identify students who were not meeting requirements and might have needed additional support. A management information system was created for the programs because program staff members had to monitor short-term outcomes such as participation in advising and tutoring. Programs found the management information system created for them to be useful for monitoring service use, but they still needed to use their colleges' existing student information systems because the program management information system was not connected to those existing systems. It would be helpful if staff members could use the same system to monitor long-term and short-term outcomes. Staff members should also be able to enter and retrieve data easily so they can reach out to students regularly and improve the program continually.

- **Programs can allow students to fulfill requirements in various ways.**

Initially, the Ohio Programs had difficulty getting some students to meet the tutoring and career-services requirements. Participation increased as the programs gave students more options for fulfilling the requirements. These types of refinements could help programs accommodate different students' needs while still maintaining their structures. However, it may be important to plan and monitor carefully how different requirements are filled, to ensure that students still receive adequate services.

- **Blocked course schedules may work better for first-time students.**

The Ohio Programs found it difficult to implement blocked courses because many students had already completed certain developmental and general education courses that could have been reserved for program group students. This finding suggests that blocked courses may be more appropriate for new, incoming students. Additionally, it was difficult to reserve full course sections because students attended classes at different times of the day (morning, evening, etc.). Larger programs with more students may find it easier to create and fill course blocks at multiple times of the day.

## **Conclusion**

For the most part, the Ohio colleges were able to implement programs based on CUNY ASAP. During implementation, the colleges tweaked certain components to reflect their institutional policies and to increase student participation in services. Students reported positive experiences in the programs, especially with the advising and financial support components, and the Ohio colleges' implementation experience offers lessons for other colleges interested in adopting the model. The next chapter presents how the experiences of the program group compared with those of their control group counterparts who received their colleges' standard services.



## Chapter 4

# The Ohio Programs' Services Compared with the Colleges' Usual Services

The previous chapter described the Ohio Programs' services. This chapter highlights the differences between the experiences of students in the program group and those in the control group — the service contrast. This service contrast is essential to explaining any observed effects on academic outcomes described in Chapter 5. The findings in this chapter are based on three data sources: MDRC field research, the student survey, and college administrative records.

### Summary of Findings

Overall, there is a noticeable service contrast between program group and control group student experiences in relation to all the program components described in Chapter 3. Findings include:

- Two-thirds to three-quarters of program group students reported hearing the three primary program messages to enroll full time, enroll in summer courses, and graduate in three years, whereas fewer than half of control group students reported hearing the same messages.
- Program group students met with advisers more than three times as much as control group students in their first two semesters. They also made greater use of tutoring and career services.
- Program group students relied less than control group students on student loans, personal savings, or support from family and friends to pay for college; they also expressed less concern about their ability to pay for college.

This chapter is divided into five sections; the first four represent components of the program model described in Chapter 3 and the last discusses students' experiences. Tables for all analyses can be found in Appendix D.

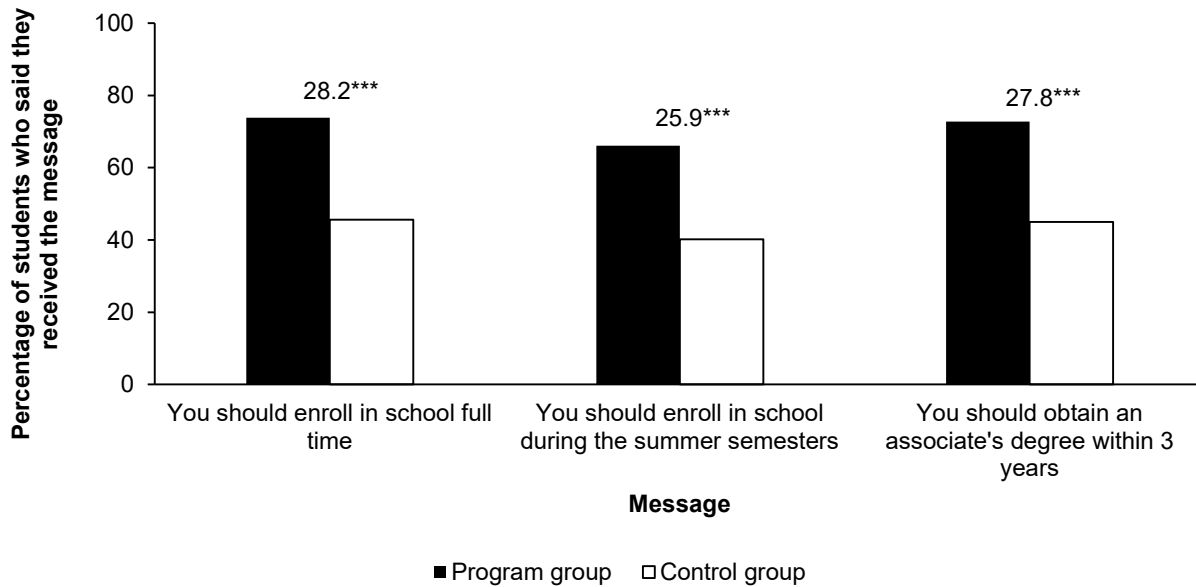
### Requirements and Messages

- **Students in the program group were more likely than those in the control group to report that they were encouraged to enroll full time, to enroll in summer courses, and to graduate in three years.**

As Figure 4.1 shows, 74 percent of program group students reported hearing from faculty or staff members that it was important to enroll full time, compared with 46 percent of control group students.

Figure 4.1

The Ohio Programs Pushed Completion-Related Messages to Program Students



SOURCE: MDRC calculations using data from the student survey.

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

Students in the program and control groups also reported a difference in the messages they heard about summer enrollment. Sixty-six percent of program group students heard from faculty or staff members that it was important to enroll in summer courses, compared with 40 percent of control group students.

Program group students were also more likely to be encouraged to graduate within three years. Seventy-three percent of the program group reported hearing the message about graduating in three years, compared with 45 percent of the control group.

## Student Services

Each Ohio college offered advising, tutoring, and career services to all students. The Ohio Programs made use of these existing services. Interviews with college staff members provided insight into the services available to all students.

**Advising.** As described in Chapters 1 and 3, advising was a central component of the Ohio Programs and program advisers, who worked with caseloads of about 125 students each, provided academic and personal support to their students. In contrast, students in the control group primarily received advising from existing advising centers on campus. Each college's program had a different standard advising structure. At two colleges, advisers only addressed academic issues; other staff members on campus addressed career or personal matters. At the third college,

the same advisers addressed academic, career, and personal issues. It was not typical at any college for control group students to have assigned academic advisers or mandatory advising. It was also typical for the student/academic adviser ratio to exceed 300 to 1.

**Tutoring.** Each college offered a variety of tutoring options and a dedicated space where students could meet with tutors. One-on-one or group tutoring options were available in a range of subjects, although special support was available for math and writing. Each college also offered alternative options such as online or phone-based tutoring. These tutoring options were available to all students and students generally were not required to attend, with a few exceptions (some athletes and the students of certain instructors, for example).

**Career services.** Multiple career services were available at each college. They included various one-on-one meetings and group workshops designed to help students to gain skills for their job searches. These workshops covered résumé development, tips for interviewing, mock interviews, success in a new job, networking, skills and interest inventories, and career exploration. Internships or cooperative education opportunities were also available through each college, and each also held career fairs.<sup>1</sup> Staff members from career services also made presentations to students in some classes.

Multiple offices at each college provided career services. For example, at one college, a student may have gone to the career center to take a career-exploration assessment, and then taken the results to a counselor in the counseling center to talk about how to pursue that career. Career development services were also decentralized at a second college, where students may have received support from an employment center, from counseling services, or through cooperative education. For the most part, students were not required to participate in any career-development activities, though all activities were available to all students. One exception was that at one college, many majors required students to complete at least one cooperative education placement to graduate.

- **Program group students were more likely to engage in advising, tutoring, and career services than control group students. The difference is particularly notable for tutoring and career services.**

As shown in Figure 4.2, even though control group students reported in the survey that they met with advisers, went to tutoring, and met with career services staff members, program group students were much more likely to report in the survey that they engaged in these student services. The differences between the program and control group students are particularly distinct when it comes to tutoring and career services.

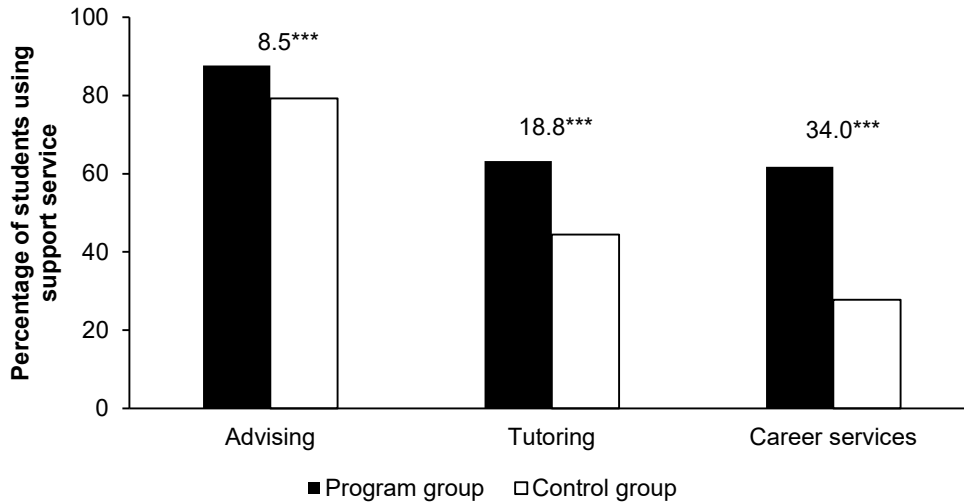
Eighty-eight percent of program group students who responded to the student survey said that they had spoken with an adviser at least once in their first year of college, compared with 79

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<sup>1</sup>Cooperative education, or “co-op,” provides academic credit for a structured job experience. At C-State, where co-ops were common, each co-op lasted one semester.

Figure 4.2

The Ohio Programs Boosted Students' Use of Support Services



SOURCE: MDRC calculations using data from the student survey.

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

percent of control group students (though the question did not specify what type of adviser — academic, career, or personal). Furthermore, 63 percent of program group survey respondents reported ever receiving tutoring, compared with 45 percent of control group students; 62 percent of program group survey respondents met with a career or employment services staff member during the first year, compared with 28 percent of control group survey respondents.

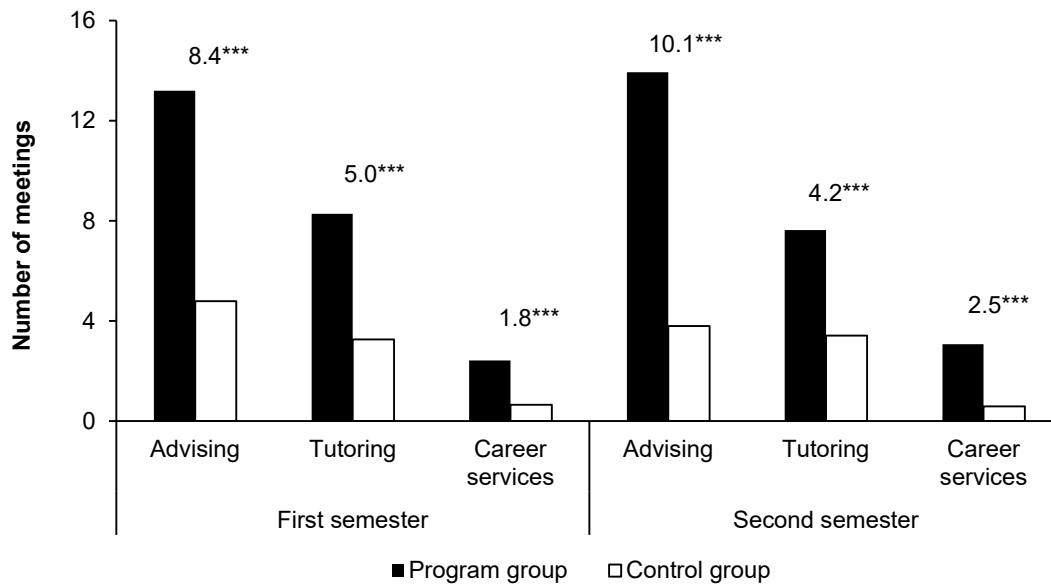
- **Program group students reported more frequent participation in advising, tutoring, and career services than control group students.**

Program group students were not only more likely to receive advising, tutoring, and career services, but also made much more frequent use of these services, as Figure 4.3 shows. In particular, students in the program group spoke with advisers many more times in both of the first two semesters than did students in the control group. On average, control group students reported meeting with advisers 4 to 5 times in each of the first two semesters, while program group students reported meeting with advisers 13 to 14 times. Along these lines, program group students reported going to tutoring more than twice as many times as the control group students. Furthermore, program group students reported seeing career services staff members at least four times as often as control group students: Control group students reported an average of 0.6 visits in each of the first two semesters, while program group students reported 2 and 3 visits in the first two semesters, respectively.



Figure 4.3

Ohio Program Students Met More with Support Services



SOURCE: MDRC calculations using data from the student survey.

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

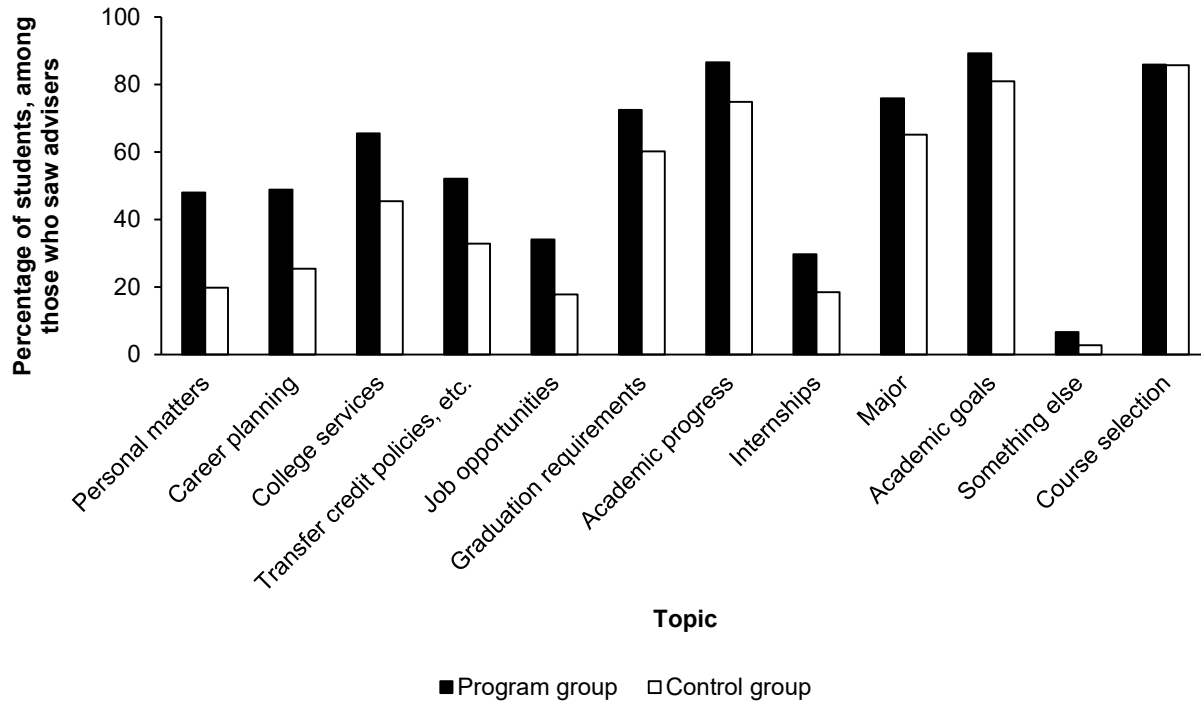
- **Program group students reported that they communicated with advisers in more varied ways than control group students did, spent more time in meetings with advisers, and were more likely to discuss personal matters.**

There is evidence that the program group students had different types of interactions with support staff members than control group students did. Among those who spoke with advisers, program group survey respondents communicated with their advisers in more varied ways than did students in the control group. Program group students reported mostly in-person meetings, phone calls, and emails, with some text messages and social media contact; control group students were less likely to have contact with advisers over the phone, by email, by text message, or over social media (see Appendix Table D.2). Program group survey respondents also reported spending more time with advisers during each visit than did control group students.

Survey respondents in both groups reported talking with advisers about a range of topics, including academic goals, course selection, and internships, but program group students reported covering more topics with their advisers. For example, as shown in Figure 4.4, nearly half of program group survey respondents who saw advisers reported discussing career planning, compared with just one-fourth of control group survey respondents who saw advisers. Notably, these program group survey respondents were much more likely to report discussing personal matters than the corresponding control group student survey respondents: 48 percent compared with 20

Figure 4.4

Ohio Program Students Addressed Personal Matters and Other Topics More with Advisers



SOURCE: MDRC calculations using data from the student survey.

NOTE: Differences were not tested for statistical significance because these outcomes were reported only among students who spoke with advisers.

percent. This difference may have come about because students who visit their advisers more times over the course of a year can form closer relationships with those advisers.

Because these outcomes are reported only among students who spoke with advisers, they were not tested for statistical significance. However, these gaps are large enough to imply that the program group students’ advising experiences had more depth and breadth than those of the control group. Several program staff members and students said that they felt advising was the most important nonfinancial component of the programs. In interviews, students described the unwavering support advisers provided in dealing with a range of personal and academic issues. As one student said, “You can definitely talk to them about anything. They make it real comfortable.”

### Course Enrollment

The Ohio Programs did not make changes to pedagogy, curriculum, or anything else that happened inside the classroom. Three things related to course enrollment were part of the model: a first-year seminar, priority registration, and blocked courses.

The program group students in this study experienced the same faculty and curriculum as the other students at the colleges, including the first-year seminar, which is a student success course taken in the first semester (described in Chapter 3). In fact, each college “mandates” that new students enroll. However, there are no mechanisms in place to enforce this mandate. An analysis of student enrollment records suggests that the same percentage of the program and control groups took the course. There are no records available to confirm the number of students who registered early.

- **Although program group students were more likely than control group students to be enrolled in a course with other program group students, relatively few of them did share a course.**

Blocked courses were not a widespread practice across the colleges. Where they did exist, they were associated with degree programs for specific professions (such as occupational therapist or medical laboratory technician). According to the program model, blocked courses could facilitate a sense of community among program group students who took classes together. An analysis of the colleges’ enrollment data shows that a higher percentage of program group students enrolled in a course with at least four other program group students than control group students enrolled in a course with at least four other control group students. Yet fewer than one-third of program group students shared a class with at least four other program group students in the first semester and fewer than one in five did so in the second semester (see Appendix Table D.5). Since relatively few program group students enrolled in courses with a high concentration of other program group students, it is unlikely that this substitute for the blocked courses element of the Ohio Programs model had a substantial effect on program group students’ success.

## **Financial Support**

The program provides three forms of financial support to students that are intended to ease their participation in college: tuition waivers, textbook assistance, and monthly incentives. While these forms of support did not eliminate all financial needs, evidence suggests that they made it easier for program group students to pay for college. They did not, however, reduce program group students’ need to work.

Control group students had no tuition waiver equivalent to that available for program group students. Aside from federal financial aid, there is not much need-based support for students in the general population at the Ohio colleges; scholarships are primarily available to high performers. One need-based state program, the Ohio College Opportunity Grant (OCOG), which the Ohio Department of Higher Education administers, provides grant money to Ohio residents who demonstrate the highest levels of financial need. Additionally, community college students who have exhausted their federal Pell Grants may be eligible for OCOG to take a third term of courses (usually summer courses).

As described in Chapter 3, program group students received financial aid to cover the cost of textbooks at the campus bookstore, and one college administered these funds differently

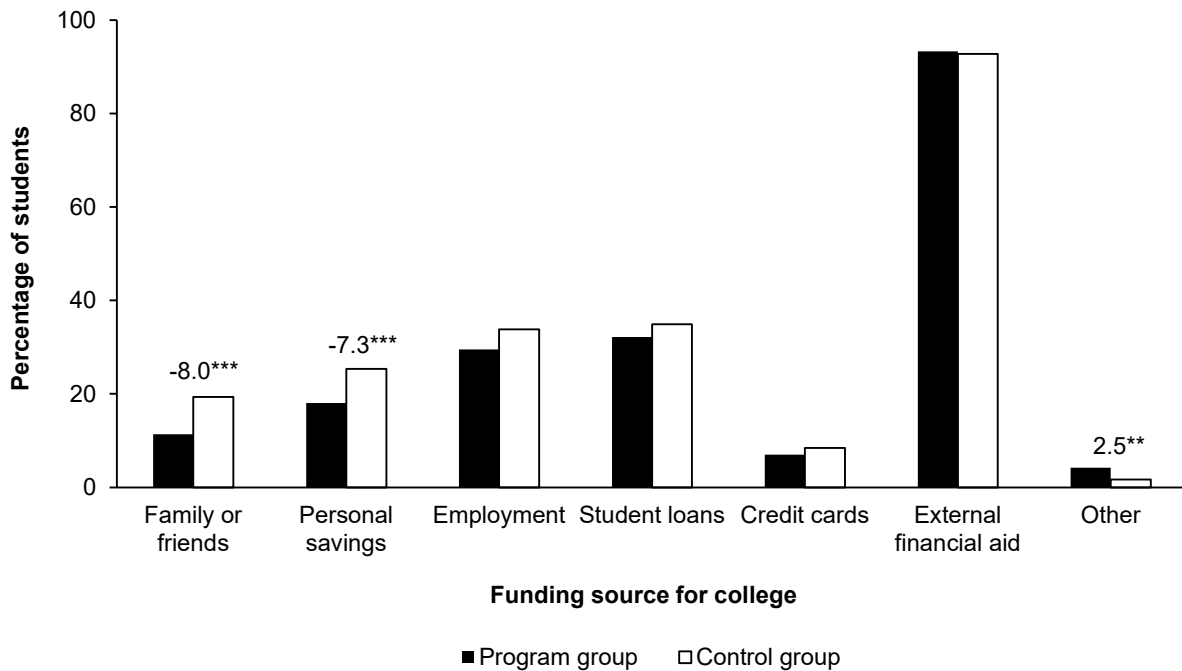
than the other two. While each college had several programs that offered funds to offset the cost of textbooks, these programs served a limited number of students and it is not likely that many control group students had access to these programs. Program group students were nearly twice as likely to report that they received all their textbooks free of charge than their control group counterparts (39 percent versus 19 percent — see Appendix Table D.6).

As described earlier, program group students were eligible to receive a \$50 incentive each month contingent on participation in advising, tutoring, and career services. Monthly incentives for student participation in activities were not otherwise common among the colleges. There are no data to show students in the control group had access to anything comparable.

- **Program group students reported that they relied less than control group students on personal savings or support from family or friends to pay for college.**

As Figure 4.5 shows, students in the program group were less likely than students in the control group to report that they relied on parents, relatives, partners, or friends to help pay for college. Program group students were also less likely than control group students to say that they

**Figure 4.5**  
**Ohio Program Students Relied Less on Savings**  
**and Family/Friends to Pay for College**



SOURCE: MDRC calculations using data from the student survey.

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

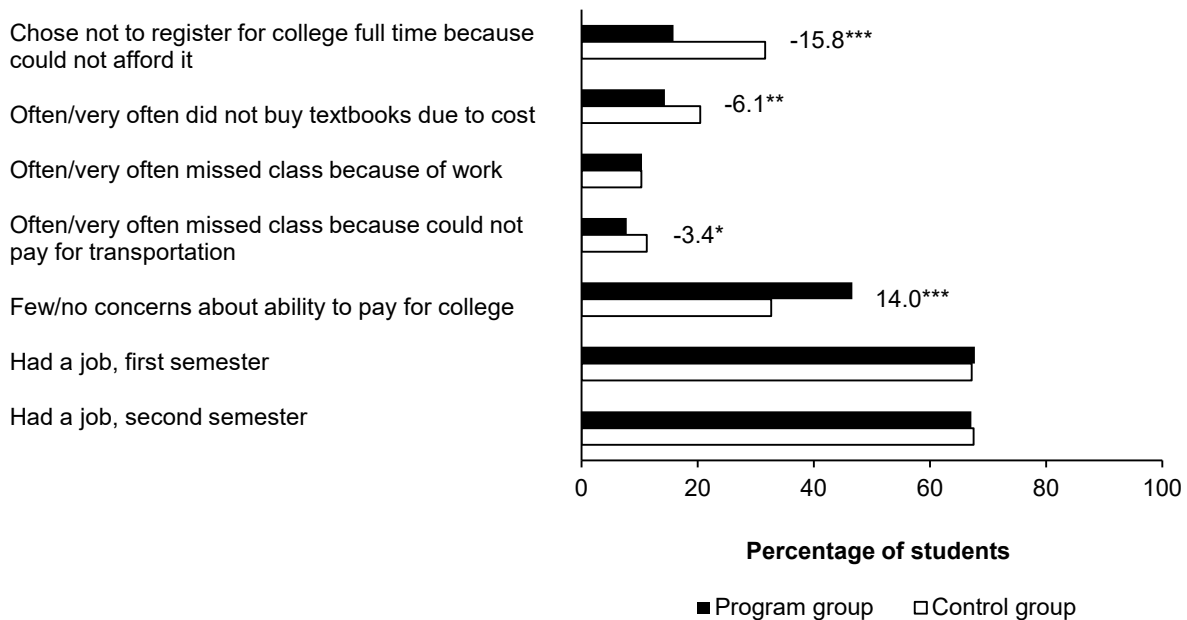
relied on personal savings. These findings suggest that the programs' tuition waiver and possibly other forms of financial support affected how some students financed their education, reducing their need to spend down their savings and receive help from others.

- **Fewer program group students than control group students expressed concerns about their ability to pay for college.**

As shown in Figure 4.6, 47 percent of program group survey respondents indicated they had few or no concerns about their ability to pay for college, compared with 33 percent of control group members. In fact, nearly one-third of control group respondents (32 percent) reported that they chose not to register for college full time because they could not afford it. Only 16 percent of program group students reported the same. Facilitating and supporting full-time enrollment is central to the program model, and these findings suggest that the programs made a big difference for students.

One in five control group members (20 percent) reported that they often or very often did not buy textbooks because of the cost. The programs, through their textbook assistance, reduced that proportion to about one in seven program group students (14 percent). There was a small

**Figure 4.6**  
**Ohio Program Students Had Fewer Concerns About Paying for College**



SOURCE: MDRC calculations using data from the student survey.

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

difference in the number of students reporting having missed class often or very often because they could not pay for transportation: 11 percent of control group students reported having to miss class for this reason, compared with only 8 percent of program group students.

- **Two-thirds of students in both research groups worked during their first two semesters, and they worked about the same number of hours per week.**

There were no differences between the program and control group in the percentage of students reporting they had a job in the first year; about two-thirds of both groups reported having been employed, as shown in Figure 4.6. There is also little difference in the average hours worked in the first year among students who did work: around 30 hours a week (see Appendix Table D.7). This finding is important because it supports the assertion that a large portion of the study sample are nontraditional students, and being a nontraditional student is often a risk factor for a lack of postsecondary success.<sup>2</sup> Furthermore, the finding suggests that any later effects on educational outcomes did not occur because the programs enabled students to reduce the time they spent working.

## **Students' Experiences in College**

The student survey did not only ask about students' use of and experiences with various services and forms of support. Both program and control group students were also surveyed about their overall experiences in college.

- **Program group students generally reported more favorable college experiences relating to social integration and support services than control group students.**

Figure 4.7 presents effects on four measures of engagement in school. On a scale that measures integration and sense of belonging, for example, program group students were a little less likely to report having a low sense of integration and belonging than control group students (14 percent compared with 20 percent). However, the programs did not increase the proportion of students who reported having a high sense of integration and belonging.

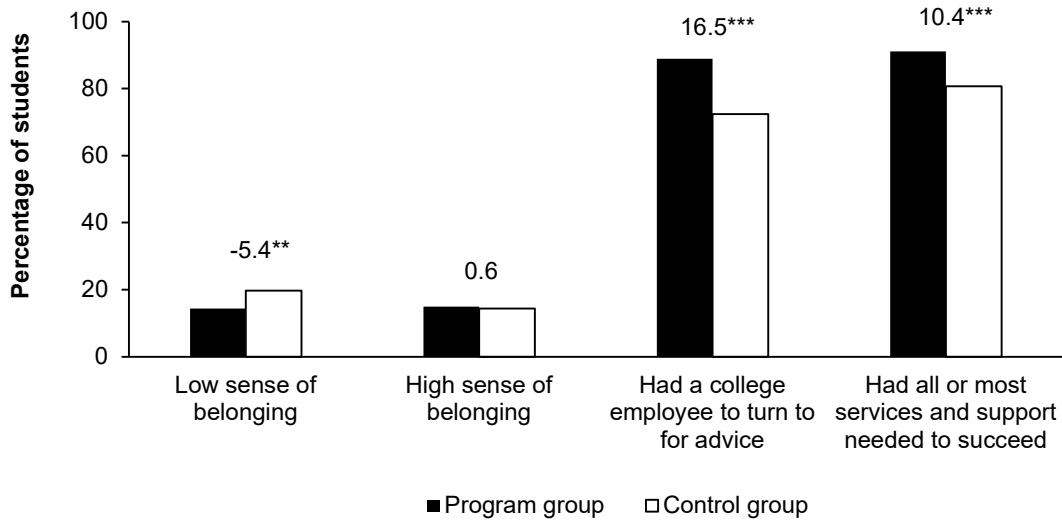
Program group students were more likely to report that they had the support they needed. Eighty-nine percent of program group students reported having a college employee to turn to for advice, compared with 72 percent of control group students. Further, 91 percent of program group students reported having all or most of the services that they needed to succeed, compared with 81 percent of control group students.

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<sup>2</sup>Horn and Carroll (1996). See also Sommo and Ratledge (2016).

**Figure 4.7**

**Ohio Program Students Were More Engaged**



SOURCE: MDRC calculations using data from the student survey.

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

**Conclusion**

A number of service contrast differences are highlighted in this chapter. In areas related to every program component, this analysis indicates that program group students' experiences were dramatically different from those of control group students. The next chapter presents the effects these service differences had on students' academic outcomes.





## Chapter 5

# Effects on Academic Outcomes

The earlier brief from this demonstration documented that the Ohio Programs led to large increases in enrollment, credits earned, and degree receipt. By the end of Year 2, for example, 19 percent of students in the program group had earned degrees, compared with only 8 percent of students in the control group.<sup>1</sup> This chapter updates those findings through three years, examining whether the large effects on degree receipt held up for another year and whether the program led to an increase in transfers to four-year colleges.

### Summary of Effects

The Ohio Programs nearly doubled degree receipt through Year 3. By the end of Semester 6, 35 percent of the students in the program group had earned degrees, compared with 19 percent of students in the control group, a 16 percentage point increase. The programs also increased transfers to four-year colleges by Semesters 5 and 6. The programs led to positive effects on full-time enrollment and credits earned in most of the follow-up semesters. Finally, effects were similar for students with and without developmental education requirements at study entry, indicating that the Ohio Programs worked equally well for students with different levels of academic preparation. In general, the effects were large, positive, and statistically significant across different types of students, including students from different racial backgrounds and traditional and nontraditional students.

### Effects on Degree Receipt and Transfers to Four-Year Colleges

- **The Ohio Programs nearly doubled degree receipt through Year 3.**

Table 5.1 presents data on degree receipt and transfers to four-year colleges. As shown in the first panel, by Semester 4, only 8 percent of students in the control group had earned degrees. In contrast, 19 percent of students in the program group had earned degrees, an increase of 11 percentage points. This effect was shown in the earlier brief. Degree receipt continued to climb over the semesters. By Semester 6, 19 percent of the control group had earned degrees compared with 35 percent of the program group, for an estimated effect of about 16 percentage points.<sup>2</sup>

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<sup>1</sup>Sommo, Cullinan, and Manno (2018).

<sup>2</sup>Put another way, this impact indicates that the Ohio Programs caused an estimated 126 program group students (15.6 percent of the 806 students in the program group) to graduate in three years who would not have done so in the absence of the program.

**Table 5.1****Degrees Earned and Transfers to Any Four-Year Colleges After Three Years**

Outcome	Program Group	Control Group	Difference	P-Value
Earned a degree from any college				
Semester 1	0.3	0.0	0.3*	0.095
Semester 2	1.6	0.7	0.9	0.116
Semester 3	7.7	2.5	5.1***	0.000
Semester 4	19.0	7.9	11.1***	0.000
Semester 5	27.8	12.9	14.9***	0.000
Semester 6	34.8	19.2	15.6***	0.000
Highest degree earned				
Certificate	1.4	1.7	-0.2	0.728
Associate's degree	33.2	17.2	16.1***	0.000
Bachelor's degree or higher	0.2	0.2	-0.1	0.686
Registered at a 4-year college				
Semester 1	0.6	0.5	0.1	0.749
Semester 2	1.9	2.9	-1.0	0.243
Semester 3	4.1	4.7	-0.6	0.560
Semester 4	7.9	7.8	0.1	0.928
Semester 5	13.6	10.6	2.9*	0.088
Semester 6	17.5	11.8	5.7***	0.002
Sample size (total = 1,501)	806	695		

SOURCE: MDRC calculations using data from the National Student Clearinghouse and transcript data from the study colleges.

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

Degrees earned in spring and summer semesters are combined.

A two-tailed t-test was applied to differences between research groups.

Estimates are adjusted by site, cohort, gender, race/ethnicity, age, parental status, marital status, weekly hours worked, dependence on parents for 50 percent or more of financial support, whether a student is the first family member to attend college, whether a student earned a high school diploma, the number of developmental education requirements at the time of random assignment, and intended enrollment level.

The next panel of the table presents data on the type of degree earned. As expected, all of the Ohio Programs' effect on degree receipt is for associate's degrees. Few students earned certificates, and even fewer earned bachelor's degrees or higher degrees by the end of Year 3.

- **The Ohio Programs increased transfers to four-year colleges.**

The bottom panel of Table 5.1 presents registration at four-year colleges using data obtained from the National Student Clearinghouse, which covers most colleges in the United States. As might be anticipated, few students in the study were registered at four-year colleges during the first four semesters. Transfers to four-year colleges increased in Year 3, and the program increased registration at four-year colleges by 6 percentage points by Semester 6.

The effect on transfers to four-year colleges in Semester 6 (6 percentage points) is about a third of the size of the effect on associate's degree receipt in Semester 5 (16 percentage points, indicating that the majority of those who earned degrees because of the program did not go on

to four-year institutions.<sup>3</sup> This low transfer rate is perhaps not surprising, given the barriers to college entry low-income students face. National data indicate that only about 33 percent of community college students transfer to four-year institutions within six years, even though most of them enter college intending to pursue bachelor's degrees (as was the case in this study sample).<sup>4</sup>

## Effects on Progression Through College

How did the Ohio programs lead to increased degree receipt and transfers to four-year colleges? This section examines effects on enrollment, credits earned, and developmental requirements met.

- **The Ohio programs increased enrollment, especially full-time enrollment, through Semester 5.**

Figure 5.1 presents data on college enrollment through Semester 6. The figure shows any enrollment and full-time enrollment, since students in the program group were required to enroll full time. The figure shows that the program group had consistently higher enrollment rates in each of the first four semesters. In Semester 3, for example, 68 percent of program group students were enrolled at one of the participating colleges compared with 58 percent of control group students, an increase of 10 percentage points. The effect on full-time enrollment was even larger, at 19 percentage points.

The effects on enrollment are encouraging and indicate that the support provided by the programs helped students stay in school when they otherwise would have dropped out. The positive effects on full-time enrollment are due to a combination of this support and the full-time requirement. Note that nearly all program group students who were enrolled in Semester 1 were enrolled full time, as required by the program. By Semester 4, however, only about 60 percent of enrolled students were enrolled full time, illustrating a fall in program participation over time. Program group students who were enrolled but were not enrolled full time were not eligible for the program's financial support but were eligible for advising, tutoring, and career services.

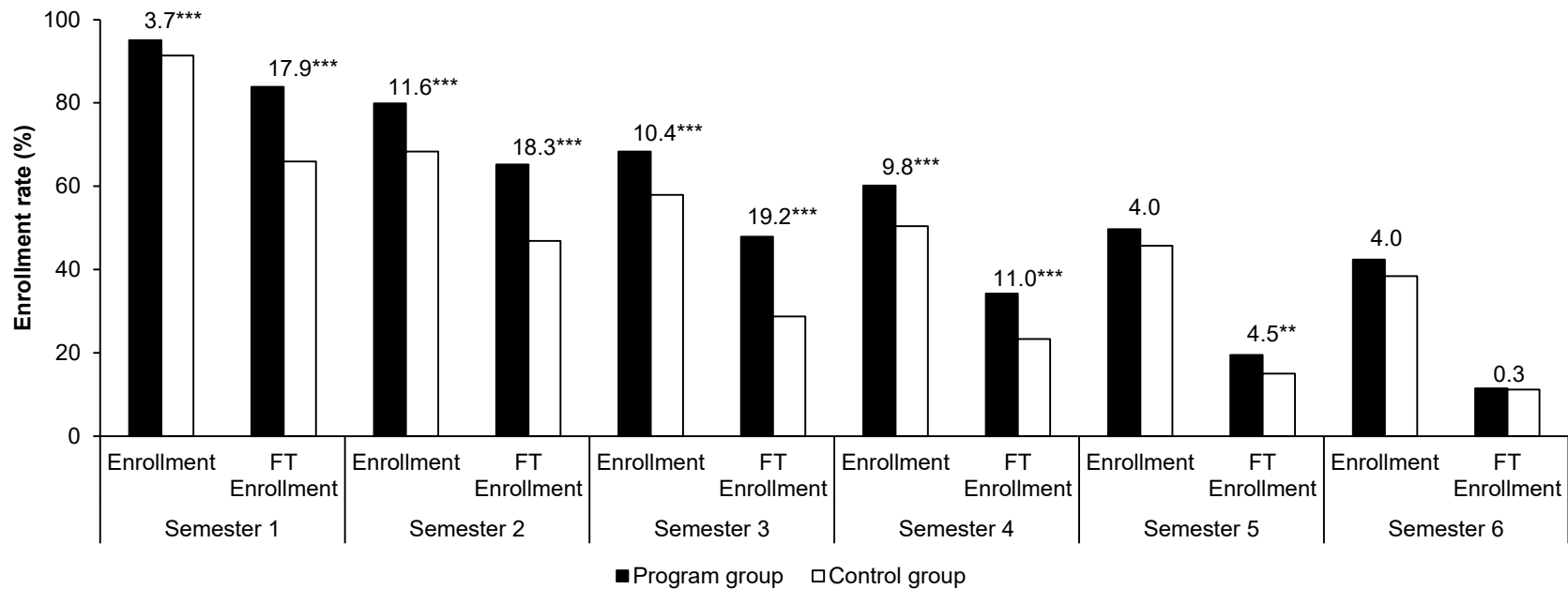
Enrollment dropped steadily over the semesters, as students either earned degrees or left school. The effects on enrollment similarly decline and are small and statistically insignificant by Semester 6.

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<sup>3</sup>For students whose fifth semester after joining the study was a fall semester, it may have been difficult to register at a four-year college the next semester, since it was a spring semester. However, this general pattern was also found among only those students whose fifth semester was a spring semester.

<sup>4</sup>Ma and Baum (2016).

**Figure 5.1**  
**The Ohio Programs Boosted Enrollment**



SOURCE: MDRC calculations using data from the National Student Clearinghouse and transcript data from the study colleges.

NOTES: Enrollment is based on all available data and combines spring and summer enrollment.

FT = full-time, defined as enrollment in 12 or more credits and based on data from the college of random assignment only.

A two-tailed t-test was applied to differences between research groups. Statistical significance levels are indicated as: \*\*\* = 1 percent; \*\* = 5 percent; \* = 10 percent.

Estimates are adjusted by site, cohort, gender, race/ethnicity, age, parental status, marital status, weekly hours worked, dependence on parents for 50 percent or more of financial support, whether a student is the first family member to attend college, whether a student earned a high school diploma, the number of developmental education requirements at the time of random assignment, and intended enrollment level.

- **The Ohio programs increased college-level credits earned during each of the first five semesters and in total.**

Table 5.2 presents data on credits earned, overall and by type. The top panel presents total credits (developmental and college-level) and the next two panels present credits by type.<sup>5</sup> The Ohio Programs led to an increase of just over 2 credits in each of the first three semesters

**Table 5.2**  
**Credits Earned After Three Years**

Outcome	Program Group	Control Group	Difference	P-Value
<b>Total credits earned</b>				
Semester 1	10.1	8.1	2.1***	0.000
Semester 2	8.5	6.1	2.4***	0.000
Semester 3	6.7	4.3	2.3***	0.000
Semester 4	5.2	3.8	1.5***	0.000
Semester 5	3.0	2.6	0.5*	0.070
Semester 6	2.1	2.2	-0.1	0.816
Cumulative total credits earned	34.9	26.4	8.5***	0.000
<b>Developmental credits earned</b>				
Semester 1	1.9	1.6	0.2*	0.052
Semester 2	0.7	0.6	0.2**	0.048
Semester 3	0.2	0.2	0.0	0.513
Semester 4	0.1	0.1	0.0	0.704
Semester 5	0.1	0.1	0.0	0.887
Semester 6	0.0	0.0	0.0	0.631
Cumulative developmental credits earned	2.8	2.5	0.2	0.177
<b>College-level credits earned</b>				
Semester 1	8.3	6.4	1.8***	0.000
Semester 2	7.8	5.6	2.2***	0.000
Semester 3	6.5	4.1	2.4***	0.000
Semester 4	5.1	3.6	1.5***	0.000
Semester 5	2.9	2.5	0.5*	0.062
Semester 6	2.1	2.1	0.0	0.845
Cumulative college-level credits earned	32.1	23.8	8.2***	0.000
Sample size (total = 1,501)	806	695		

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

NOTES: Statistical significance levels are indicated as: \*\*\* = 1 percent; \*\* = 5 percent; \* = 10 percent. Credits earned in spring and summer semesters are combined.

A two-tailed t-test was applied to differences between research groups.

Estimates are adjusted by site, cohort, gender, race/ethnicity, age, parental status, marital status, weekly hours worked, dependence on parents for 50 percent or more of financial support, whether a student is the first family member to attend college, whether a student earned a high school diploma, the number of developmental education requirements at the time of random assignment, and intended enrollment level.

<sup>5</sup>Students do not earn college-level credits for developmental courses, meaning that those credits do not count toward degree requirements.

and 1.5 credits in Semester 4. As was seen for enrollment, the effects diminish over the semesters and are statistically insignificant by Semester 6. In total, students in the program group earned 8.5 more credits over the follow-up period than their counterparts in the control group.

Note that credits earned reflect those earned during the three-year follow-up period, and many students entered the study with some credits already earned. Students were eligible for the study if they had accumulated 24 or fewer credits, and on average, students entered the study with about 10 credits completed. One-third of students had no credits at study entry.

- **Although they did not affect developmental credits earned, the Ohio Programs did increase the number of students who met their developmental education requirements.**

About 75 percent of students entered the study with at least one developmental education requirement: a developmental course that they were required to take. The programs encouraged students to take these courses early. Nonetheless, students earned few average credits in developmental education courses (indicating that few students took these courses), and the program’s effect on this outcome was small.

Nevertheless, the program did increase the number of students who completed their developmental education requirements, as shown in Table 5.3. By Semester 6, for example, 49 percent of students in the program group had met these requirements compared with 37 percent of students in the control group, an effect of 12 percentage points. There could be a positive effect

**Table 5.3**

**Completion of Developmental Requirements After Three Years**

Outcome	Program Group	Control Group	Difference	P-Value
Completed developmental requirements				
Semester 1	20.8	14.5	6.3***	0.004
Semester 2	33.6	22.6	11.1***	0.000
Semester 3	42.2	27.8	14.4***	0.000
Semester 4	45.2	33.0	12.2***	0.000
Semester 5	47.3	35.1	12.1***	0.000
Semester 6	49.1	36.8	12.2***	0.000
Sample size (total = 1,060)	567	493		

SOURCE: MDRC calculations using data from the National Student Clearinghouse and transcript data from the study colleges.

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

Degrees earned in spring and summer semesters are combined.

A two-tailed t-test was applied to differences between research groups.

Estimates are adjusted by site, cohort, gender, race/ethnicity, age, parental status, marital status, weekly hours worked, dependence on parents for 50 percent or more of financial support, whether a student is the first family member to attend college, whether a student earned a high school diploma, the number of developmental education requirements at the time of random assignment, and intended enrollment level.

on this outcome even though the programs had little effect on developmental credits earned because students can meet developmental requirements in several ways: They can take and pass developmental education courses, but they can also retake their placement tests and place into college-level courses, or they can pass college-level courses in the relevant subjects. Data from the colleges indicate that most students with developmental education requirements at study entry met these requirements through the latter two methods.

## Effects for Subgroups

In addition to examining the overall average effect of the Ohio Programs, the study also assessed whether the program was effective for various types of students. The primary and confirmatory subgroup analysis (the analysis that will provide rigorous evidence on the central question for this section) focused on whether effects differed for students with developmental requirements compared with those without these requirements, since the former group is most at risk of dropping out of college. In addition, the original evaluation of the City University of New York (CUNY) Accelerated Study in Associate Programs (ASAP) included only students with developmental requirements, so there is interest in experimentally assessing whether the program can work as well for students without these needs.<sup>6</sup>

This study also examined effects across other subgroups, including groups defined by gender, race, college attended, age, high school diploma status, nontraditional student status, and semester of joining the study. Because there are many subgroups being tested, the likelihood increases of finding one or two significant differences simply by chance. Thus these analyses are exploratory, meaning that any positive findings must be viewed as suggestive only. Because impacts for subgroups are expected to vary to some extent simply by chance, the main focus of the subgroup analysis is not on the effect for a given subgroup, but on the difference in effects between the two subgroups and whether that difference is statistically significant.

- **The Ohio programs increased degree receipt and credits earned for students with and without developmental education needs.**

Table 5.4 present effects for students with and without developmental requirements. The table indicates that the program had very similar estimated effects for both types of students. The effects themselves are of similar size and the differences between them are not statistically significant. This result is encouraging for two reasons. First, the finding replicates the CUNY ASAP findings showing that the model works for less academically prepared students. The lower performance of these students is evident in the table: Only 16 percent of the students in the control group with developmental requirements earned degrees during the period, compared with 28

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<sup>6</sup>Although the MDRC evaluation of CUNY ASAP only included students with developmental education needs, CUNY's quasi-experimental evaluation of the program included students with and without developmental education requirements and found positive effects for both types of students. See Strumbos and Kolenovic (2017).

**Table 5.4**

**Total Credits Earned and Total Degrees Earned After Three Years:  
Variation in Effects by Developmental Education Requirements**

Outcome	Sample Size	Program Group	Control Group	Difference	P-Value for Difference	P-Value for Differential Estimated Effects
Cumulative credits earned						0.8090
With developmental education requirements	1,060	34.3	25.2	9.1 ***	0.0000	
Without developmental education requirements	366	38.5	30.2	8.3 ***	0.0020	
Sample size	1,426					
Degrees earned (%)						0.8220
With developmental education requirements	1,060	32.0	16.3	15.7 ***	0.0000	
Without developmental education requirements	366	45.0	28.0	17.0 ***	0.0010	
Sample size	1,426					

SOURCE: MDRC calculations using data from the National Student Clearinghouse, placement test data, and transcript data from the study colleges.

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

A two-tailed t-test was applied to differences between research groups. Statistical significance levels are indicated as: \*\*\* = 1 percent; \*\* = 5 percent; \* = 10 percent.

A two-tailed t-test was applied to differences in effects between subgroups. Statistical significance levels are indicated as: ††† = 1 percent; †† = 5 percent; † = 10 percent. For the measures presented in this table, no statistically significant differences in effects between subgroups were observed.

Estimates are adjusted by site, cohort, gender, race/ethnicity, age, parental status, marital status, weekly hours worked, dependence on parents for 50 percent or more of financial support, whether a student is the first family member to attend college, whether a student earned a high school diploma, and intended enrollment level.

percent of those without developmental requirements. Among those students with developmental requirements, the programs had a 16 percentage point impact. Second, the finding indicates that the program can also benefit more academically prepared students. This experimental finding for the effectiveness of the ASAP model confirms previous quasi-experimental evidence that these students can benefit from the additional support.

- **The Ohio Programs generally had positive effects for various types of students. The programs appear to have had larger effects for women than for men.**

Appendix Tables E.1 and E.2 presents effects on credits earned and degree receipt for the additional subgroups. Across all subgroups, the estimated effects of the Ohio Programs are generally large and positive, showing that the program worked equally well for many types of students. The one exception is for subgroups defined by gender. The programs' effects are large and positive for men, but they are even larger for women. For example, the Ohio Programs increased



degree receipt for women by 18 percentage points compared with 10 percentage points for men. The difference between these subgroup impacts is statistically significant. This finding should be interpreted with caution, given the number of subgroups tested and the fact that different effects by gender were not observed in the evaluation of CUNY ASAP in New York. Nonetheless, it is an interesting pattern and warrants further research and attempted replication.<sup>7</sup>

## **Conclusion**

The Ohio Programs increased enrollment in each of the first five semesters, increased full-time enrollment, and led to an increase in total credits earned. As a result, more students in the program group earned degrees by the end of Year 3 and more transferred to four-year colleges.

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<sup>7</sup>The subgroup analysis also indicates that the program's effects did not differ for students of different races or ethnicities. This pattern contrasts with recent findings from CUNY ASAP, showing very small effects on six-year degree receipt for Hispanic students compared with positive effects for black and white students. See Weiss et al. (2019).



## Chapter 6

# The Costs of the Ohio Programs

This chapter analyzes the resources that the colleges invested in the Ohio Programs in relation to the programs' estimated effects. First, it identifies the costs of the programs, including the costs of the components associated with their comprehensive services. Next, it compares the total cost of college for program group students with the total cost for students receiving the usual college services. Last, it compares the total cost of college with students' academic outcomes for both groups in order to explore how the programs changed the cost per outcome achieved — specifically, whether the investment in the programs produced more graduates per dollar spent within three years than the usual college services.

## Summary of Findings

The main findings are as follows:

- The direct cost of the program services is \$5,521 per program group member over three years, or \$1,840 per program group member per year. The three-year estimate includes \$2,369 for administration and staffing, \$1,517 for student services, and \$1,635 for financial support.
- When the additional costs of educating students are considered, over the three years of the follow-up period the college invested \$8,030 more per program group member than it did per control group member. This estimate includes the direct cost to operate the programs (\$5,521) plus an estimate of the cost associated with program group students attempting more college courses during that time (\$2,510). This additional \$2,510 is offset by additional revenue generated by these students.
- A cost-effectiveness analysis shows that the programs lowered the cost per degree earned within three years. The additional \$8,030 investment (a 42 percent increase) in each program group student led to a large increase in degree receipt, with a cost of approximately \$51,000 per additional degree, considerably less than the cost per graduate in the control group of \$99,000. Relatedly, the cost per degree earned for program group students was 22 percent less than the cost per degree for control group students.

## Calculating Direct Costs

The direct costs of the Ohio Programs are those incurred for administration and staffing, student services, and financial support. Table 6.1 shows the total annual direct cost per program group

**Table 6.1****Direct Costs of the Programs per Sample Member**

Program Component	Cost per Year (\$)	Total Three-Year Cost (\$)	Percentage of the Total
<b>Administration and staffing</b>			
Administration	704	2,112	38.3
Institutional research	29	86	1.6
Other	57	171	3.1
Subtotal	790	2,369	42.9
<b>Student services</b>			
Advising	415	1,244	22.5
Career services	55	166	3.0
Tutoring	36	107	1.9
Subtotal	506	1,517	27.5
<b>Financial support</b>			
Monthly incentive	160	479	8.7
Textbook assistance	210	631	11.4
Tuition waiver	175	525	9.5
Subtotal	545	1,635	29.6
<b>Total</b>	<b>1,840</b>	<b>5,521</b>	<b>100.0</b>

SOURCE: MDRC calculations based on program-expenditure data from the study colleges from October 2014 through December 2018.

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

Program costs are based on total costs during the first five years of the program, including the pilot phase.

The discount rate used for program costs is 3 percent. All costs are shown in constant 2018 dollars.

student: \$1,840, or a total of \$5,521 over three years. This estimate includes all students who were offered the Ohio Programs, including those who enrolled less than full time, dropped out, or graduated. Cost results are described using this approach (rather than a cost-per-full-time-equivalent approach) in order to align these cost estimates with the outcomes and effects described in Chapter 5, which also include all students in the program and control groups. In addition, these costs reflect an estimate of the expected additional funding required per student offered the Ohio Programs. Built into that expectation is the understanding that some students will stop or drop out.

Direct costs per student were calculated by taking the total cost of the programs and dividing it by the number of students assigned to the program group. To calculate the direct cost

per student per year, the direct cost per student was then divided by the average number of academic years since those students were offered the programs (approximately three).<sup>1</sup>

### Definitions of Direct Cost Categories

The direct costs of the Ohio Programs consist of three main components: administration and staffing, student services, and financial support. This section describes the types of activities and expenditures included in each of these components and how costs were allocated across them.<sup>2</sup>

Administration and staffing costs consist of:

- **Administration** — the salaries, benefits, and overhead associated with senior advisers, the program director, and staff associates at the individual colleges who manage the programs<sup>3</sup>
- **Institutional research** — costs associated with colleges’ internal data collection and analysis of the programs (not including costs associated with MDRC researchers’ evaluation of the programs)
- **Other** — office supplies, consultants, travel, marketing materials, computers

Student services costs consist of:

- **Advising** — salaries, benefits, and overhead for program advisers
- **Career services** — salaries, benefits, and overhead for program-specific career-services staff members
- **Tutoring** — salaries, benefits, and overhead for program-specific tutors for the proportion of their time they spent working with program group students enrolled in developmental courses, on academic probation, or otherwise seeking assistance

Financial support costs consist of:

- **Tuition waiver** — the dollar amounts of any differences between financial aid and tuition and fees (which are waived as part of the programs)

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<sup>1</sup>The “number of students assigned to the program group” includes 533 students who were not part of the impact analysis sample but who did have program services made available to them. The time period is approximately 3 years because the number of students in each cohort varies, making the number of weighted average of years since beginning the programs 2.9.

<sup>2</sup>Appendix F provides additional cost calculations, including alternate calculations of direct costs at a steady state and costs for enrollees (excluding members of the program group who did not enroll). All cost estimates are based on data through the end of 2018.

<sup>3</sup>Overhead refers to costs that are not direct labor or direct materials costs, for example costs for utilities or furniture.

- **Textbook assistance** — voucher amounts to cover students’ textbook costs through the campus bookstore
- **Monthly incentive** — monthly \$50 gas/grocery gift cards given to students contingent on their participation

About 43 percent of the direct cost of the programs comes from administration and staffing, mostly from senior leaders and the fully dedicated program directors who managed the programs and provided quality control.

Financial support — including the monthly incentives, textbook subsidies, and tuition assistance provided to program group students — makes up 30 percent of the programs’ cost. Textbooks are the biggest expense in this category, accounting for just over a third of the costs, followed by the tuition waivers. Monthly incentives averaged \$160 per program group student per year (the average is calculated including students who did not enroll or complete all requirements).

Finally, about 28 percent of the direct cost of the programs comes from the student services provided, mostly from the fully dedicated advisers. Tutoring and career-services costs are quite minimal because the colleges were able to use their existing resources in these areas.

## Calculating Base Costs

Table 6.2 shows the programs’ direct cost, base cost, indirect (or induced) cost, and net cost. “Base cost” refers to the cost of the “usual” college services provided to students who are not in the programs — the cost of instructors, buildings, college administration, etc. The base cost provides context for interpreting the programs’ direct cost.

This base cost estimate assumes that resource use corresponds to the number of credits attempted; in other words, a student who attempts more credits is generally associated with greater expenditures than a student who attempts fewer credits. The analysis uses credits attempted because it provides a simple measure of a student’s level of engagement with the college. To estimate the dollar value of the credits attempted in a usual college experience, the number of credits attempted per year by students in the control group (about 11.4 from random assignment through the end of 2018) is multiplied by an estimated cost per credit. This total comes to about \$6,350 in college operating costs per year, \$19,039 total, for each student in the control group.<sup>4</sup>

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<sup>4</sup>The Integrated Postsecondary Education Data System (IPEDS) of the National Center for Education Statistics provides data on college expenditures and instructional activity credit hours. MDRC calculated costs per credit by taking the IPEDS total expenses for the participating colleges (including developmental course costs) and dividing by the IPEDS instructional activity credit hours, a number which — unfortunately for this purpose — does not include developmental credits. Because developmental courses are included in the numerator but not the denominator, costs per credit using IPEDS data are likely to be overestimated. See Romano et al. (2019). However, this overestimate occurs for both groups’ base costs, which would cancel out in the net cost calculation. Indirect or induced costs may still be overestimated.

**Table 6.2****Net Costs of Education per Sample Member Over Three Years**

Feature (\$)	Program Group	Control Group	Difference (Net)
Direct cost: cost of primary program components	5,521	0	5,521
Base cost: cost of credits attempted in the absence of the program	19,039	19,039	0
Indirect cost: cost of additional credits attempted due to the program			
Upper bound: marginal cost equal to average cost <sup>a</sup>	5,019	0	5,019
Lower bound: marginal cost equal to zero <sup>b</sup>	0	0	0
Average of upper and lower bound: primary estimate of marginal cost	2,510	0	2,510
Total cost			
Upper bound: marginal cost equal to average cost <sup>a</sup>	29,579	19,039	10,540
Lower bound: marginal cost equal to zero <sup>b</sup>	24,560	19,039	5,521
Average of upper and lower bound: primary estimate of total cost	27,069	19,039	8,030

SOURCE: MDRC calculations using expenditure and transcript data from the study colleges and financial and enrollment data from the Integrated Postsecondary Education Data System.

NOTES: Tests of statistical significance were not performed.

Rounding may cause slight discrepancies in sums and differences.

Program costs exclude external research costs.

Credits attempted include all college-level and developmental credits attempted.

<sup>a</sup>“Marginal cost equal to average cost” represents the case in which existing college resources cannot be used to accommodate changes in credits attempted, so the college incurs additional costs. The additional cost to the college, or the marginal cost of the additional credits attempted, is approximated as the average cost per credit attempted at the institution, excluding the cost of academic support and student services that the Ohio Programs are already providing.

<sup>b</sup>“Marginal cost equal to zero” reflects the case in which the college can absorb the cost of additional credits attempted by the program group using existing resources and without incurring new costs.

This base cost is an estimate of how much money is spent to educate the typical student in the absence of the programs. One limitation of this approach is the assumption that all credits attempted have the same cost to the college, which is probably not the case. For example, science lab courses may be more expensive than English courses. The analyses also assume that the average cost of serving a student at the college is similar to the average cost of serving a student in the study sample.

## Calculating Indirect Costs

There are additional costs to a college if students take more credits because of a program, as they have done in this study. These are referred to as indirect, or induced, costs. If a small number of program group students take additional courses, the college would probably incur no marginal

costs. However, at some point rising enrollment would lead to increased costs, as colleges would need to add more courses and hire more staff members.

Indirect costs are estimated based on the average number of additional credits attempted by program group students compared with control group students. This analysis presents three estimates. A lower-bound estimate assumes that the indirect costs equal zero — that is, that the college incurs no additional costs when more students enroll or when students attempt additional credits. An upper-bound estimate is based on average costs, excluding the costs of academic services and student services. The upper-bound estimate represents the case where the college is unable to absorb the cost of additional students enrolled or additional credits attempted because its existing resources are already fully used. For example, if students are enrolling in additional courses that are filled to capacity, then the college may have to open new course sections.

It is unlikely that every additional credit attempted by a student costs the college as much as the average credit attempted, and it is also unlikely that there is zero cost to the college for additional credits attempted. An average of these two estimates — the midpoint between the upper and lower bounds — is therefore used as the primary estimate of indirect costs. That midpoint is \$837 of indirect costs per student per year, \$2,510 total over three years. This estimate is intended to approximate the indirect costs should these programs continue, and to provide a useful estimate to other colleges. However, for the time period covered in this report, the colleges in this study were facing underenrollment challenges, so the true indirect cost may have been closer to the lower bound of \$0.

## **Calculating Total and Net Costs**

The costs of each group are presented in the final lines of Table 6.2. The total cost is calculated by adding the direct cost, base cost, and indirect cost. The total cost over three years per program group member is \$27,069, compared with \$19,039 per control group member. The net cost is defined as the difference between the total program group cost and the total control group cost. This net cost is \$8,030 per program group member, representing a 42 percent increase over the base cost.

## **Sustainability Considerations**

If program group students took additional credits, the colleges should have received additional tuition, and that increased revenue should offset the indirect costs somewhat. State funding for improved performance should also provide the colleges some additional revenue. Using tuition data from IPEDS and estimates of the programs' effects on credits attempted (calculated as part of the evaluation but not shown in Chapter 5), it is possible to determine that the colleges should have received about \$400 in additional tuition per program group student per year as a result of the programs. Additionally, the state of Ohio awards funding to colleges per degree, certificate, and credit students earn; per student who transfers to a four-year college; and per student who reaches certain credit benchmarks (12, 24, 36). It provides additional money when at-risk students



reach these milestones.<sup>5</sup> These funding formulas should have brought the colleges at least another \$750 per student per year. Under these assumptions, the total revenue increase from tuition and performance-based funding due to the programs over three years is about \$3,450, or nearly half of the net cost calculated above. In other words, although the estimated net cost of the program is about \$8,000 over three years, the estimated net revenue is about \$3,450 — so the cost minus revenue is around \$4,500 per student over three years.

## Cost-Effectiveness Analysis

A cost-effectiveness analysis expresses the costs of alternative interventions as costs per unit of a desired outcome. This cost-effectiveness analysis considers the cost per degree earned within three years and the cost per credit earned. These estimates spread costs across all students who were offered the Ohio Programs, including those who enrolled less than full time, dropped out, or graduated.

Table 6.3 shows the cost-effectiveness calculations for the programs over three years. The first row shows the total and net costs from Table 6.2. The next row shows the average percentage of students who completed degrees in three years: 35 percent of the program group and

**Table 6.3**  
**Cost-Effectiveness Values**

Outcome	Program Group	Control Group	Difference (Impact)
Cost per group member over three years (\$)	27,069	19,039	8,030
Earned a degree (%)	34.8	19.2	15.6 ***
Cost per degree earned (\$)	77,783	99,162	-21,378
Total credits earned	34.9	26.4	8.5 ***
Cost per credit earned (\$)	776	721	54
Sample size (total = 1,501)	806	695	

SOURCE: MDRC calculations using program-specific participation and budget data, transcript data, and financial and enrollment data from the Integrated Postsecondary Education Data System.

NOTES: Rounding may cause slight discrepancies in sums and differences. All dollar values have been rounded to the nearest whole dollar.

Tests of statistical significance have only been performed on outcome measures, not costs. All outcomes are cumulative over three years. For these measures, a two-tailed t-test was applied to differences between research groups. Statistical significance levels are indicated as: \*\*\* = 1 percent; \*\* = 5 percent; \* = 10 percent.

Estimates are adjusted by site, cohort, gender, race/ethnicity, age, parental status, weekly hours worked, dependence on parents for 50 percent or more of financial support, whether a student is the first family member to attend college, whether a student earned a high school diploma, the number of developmental education requirements at the time of random assignment, and intended enrollment level.

<sup>5</sup>Ohio Department of Higher Education (2017). At-risk students (called “access students” in Ohio) are defined based on age, race, financial need, and academic preparation.

19 percent of the control group (from Table 5.1). The average cost per degree for each group is the cost per group member divided by the percentage who received degrees. As shown in the table, the cost per degree earned is over \$20,000 less for the program group. The programs are more cost-effective for this outcome than the status quo.

Continuing down Table 6.3, the next line shows the average credits earned in three years for each group (from Table 5.2). The average cost per credit earned for each group is calculated by dividing the cost per group member by the average credits earned, resulting in a slightly higher cost per credit earned for the program group than the control group.

The programs caused 126 students to graduate within three years who would not have otherwise. They had a total additional cost of \$8,030 in net cost per program group student. This net cost per student multiplied by 806 students in the program group equals roughly \$6.47 million. Dividing the \$6.47 million by 126 provides the cost per *additional* graduate: \$51,000, considerably less than the cost per graduate in the control group of \$99,000. Using a similar calculation, the incremental cost per credit earned (the cost per credit earned for those *additional* credits earned because of the program) is \$945, which is higher than either group's average cost per credit earned. Thus, for the outcome of credits earned, the programs are not more cost-effective than the status quo.

Taken together, these findings suggest that the Ohio Programs are cost-effective at getting students to take and pass a relatively small number of additional courses they need in order to fulfill degree requirements, but not cost-effective at getting them to take and pass large numbers of additional courses. Since a degree is often considered the primary purpose of taking credits, cost-effectiveness per degree is likely to be the more relevant of the two outcomes considered here.

## Chapter 7

# How Do the Ohio Programs Compare with the Original Accelerated Study in Associate Programs (ASAP)?

A central question in the evaluation of the Ohio Programs is whether the ASAP model could be implemented in a different context from the City University of New York (CUNY) and achieve similar results. This chapter presents a comparison of the contexts and findings from both studies.<sup>1</sup> It first compares the program models in the two locations, their implementation, and the types of students they served. It then compares their effects on academic outcomes and estimates of costs and cost-effectiveness.

### The Ohio Programs' Changes to the CUNY ASAP Model

While the Ohio Programs are closely based on CUNY ASAP, some changes were made to the program model for its application in Ohio. These changes were made to accommodate the new community college structures and a new geographic location.

First, the Ohio colleges' course structure differed from CUNY's. CUNY offered winter enrollment — that is, an opportunity to earn credits between the fall and spring terms — and the Ohio colleges did not. Therefore, Ohio programs could not encourage winter session enrollment as a method to accelerate students' progress. CUNY also offered program group students an ASAP-only student success seminar in their first year. Ohio colleges did not create a special course for program group students. Instead they enrolled program group students into specific sections of existing student success courses.

Second, CUNY ASAP program management — including oversight, data collection, reporting, and iterative improvement — was largely handled centrally by a dedicated ASAP team in the CUNY Office of Academic Affairs, in partnership with CUNY colleges. The Ohio colleges had decentralized governance, with local boards for each college. Therefore, the Ohio Programs implemented a local data-collection and management structure, with college leaders providing oversight. Furthermore, CUNY's ASAP includes dedicated career and employment specialists that the Ohio Programs did not; the Ohio Programs instead chose to connect program group students to the colleges' existing career services.

Finally, CUNY provided an incentive of a monthly, unlimited-ride MetroCard for meeting participation requirements. That incentive was hard to match in Ohio given the lack of public transportation. Instead, the Ohio colleges offered program group students \$50 gift cards.

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<sup>1</sup>The findings from the original CUNY ASAP evaluation described in this chapter are from Scrivener et al. (2015).

The ASAP model is not static, and CUNY continues to refine it. A one-to-one comparison of MDRC's ASAP evaluation findings with the Ohio findings is therefore not completely straightforward. For example, one significant change CUNY has made since the original ASAP evaluation has been to its advising: Originally, ASAP required all students to meet with an adviser twice per month regardless of their needs. As CUNY expanded ASAP to serve more students, it began to sort students in their second semester and beyond into low-, medium-, and high-need groups, with different advising requirements for students in each group. At the same time CUNY adjusted the adviser/student ratio upward from 60 to 80 students per adviser (as it was during the original evaluation period) to 150 students per adviser. The Ohio Programs were modeled on this adjusted version of advising.<sup>2</sup> As a result, students in the original evaluation should be expected to have spoken with advisers more often in their first year than students in the Ohio Programs.

CUNY also implements some ASAP components that were not part of the Ohio Programs model.<sup>3</sup> For example, the ASAP Summer Institute is a one-day experience designed to familiarize students with essential college and ASAP policies, build the ASAP community through team-building activities, and allow students to meet staff members and each other before the start of the semester. Also, the ASAP Student Leader Program, administered by the ASAP Central Office, is designed to provide opportunities for current ASAP students to explore and practice leadership skills and to expand the recruitment capabilities of individual ASAP partner colleges.

## **Participating Students**

The students in the Ohio evaluation differed from those in the CUNY evaluation in various ways. For example, more Ohio sample students were nontraditional, meaning they were older, were working full time, or had children. This difference in the sample is notable, as there was some concern that the model, with its full-time attendance requirement, would not work for these types of students. Fewer Ohio sample students had developmental requirements than was the case in the CUNY evaluation.<sup>4</sup> Ohio students were also closer to obtaining degrees when they entered the study than CUNY students, meaning that they entered the study with more credits already earned.

## **Students' Experiences and Service Contrast**

The Ohio Programs evaluation finds that the service contrasts between the program group and the control group, although large, were somewhat smaller than in the original CUNY ASAP evaluation. The differences in receipt of advising, tutoring, and career services are statistically significant in both studies, but the differences were smaller in Ohio than they were in New York. The

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<sup>2</sup>See Sommo and Ratledge (2016).

<sup>3</sup>Boykin and Prince (2015).

<sup>4</sup>The MDRC evaluation of CUNY ASAP was restricted to students with developmental education requirements. CUNY's quasi-experimental evaluation of ASAP was not restricted to this group. See Strumbos and Kolenovic (2017).

contrasts were not as large in Ohio because fewer program group students reported meeting with an adviser, going to tutoring, or meeting with a career services staff member in the first year than was the case among program group students in the CUNY evaluation. A similar pattern emerges in the comparison of the number of times students met with an adviser, attended tutoring, or visited career services, as shown in Figure 7.1. Furthermore, fewer program group students in Ohio experienced any classes with other program group students (through the Ohio Programs' efforts to mimic block scheduling) than did CUNY program group students. Together, these differences could suggest some potential diminishing marginal returns to these services, since the Ohio Programs achieved relatively similar effects on academic outcomes with smaller service contrasts.

On the other hand, there are some indications that the Ohio control group received a bit more advising support than students in New York, which may reflect the natural development of student support practices nationwide. For example, students in the control group in Ohio reported meeting with advisers for longer each time, on average, than the control group at CUNY. Also, control group students in Ohio discussed a broader range of topics with their advisers than the control group in New York.

Finally, there are indications that the college funding situation in New York between 2010 and 2013 was very different from that in Ohio between 2015 and 2018.<sup>5</sup> According to the student survey data in Ohio, students in both the program and control groups had a harder time covering their school expenses than CUNY students did. More Ohio students than CUNY students reported choosing not to register for college full time because they could not afford it (though the differences between the program and control groups in each study are similar). More students in Ohio than at CUNY said that they needed student loans and employment earnings to pay for college.

Furthermore, more students in Ohio than at CUNY reported having jobs in their first year of school and said that they had to miss class often or very often due to work. Unlike with CUNY students, in Ohio there was a statistically significant difference between the program and control groups in how often they said they missed class because they could not pay for transportation. Some of the difference can be attributed to the drastic difference in the modes of transportation students used in Ohio compared with New York. However, there were also changes in federal financial aid calculations or regulations over time, and there are differences in the states' level of financial support coverage. New York State's Tuition Assistance Program provides more coverage and greater support to a wider group of students than does Ohio's College Opportunity Grant.<sup>6</sup> Ultimately, these financial challenges did not keep the Ohio Programs from having positive effects on academic outcomes.

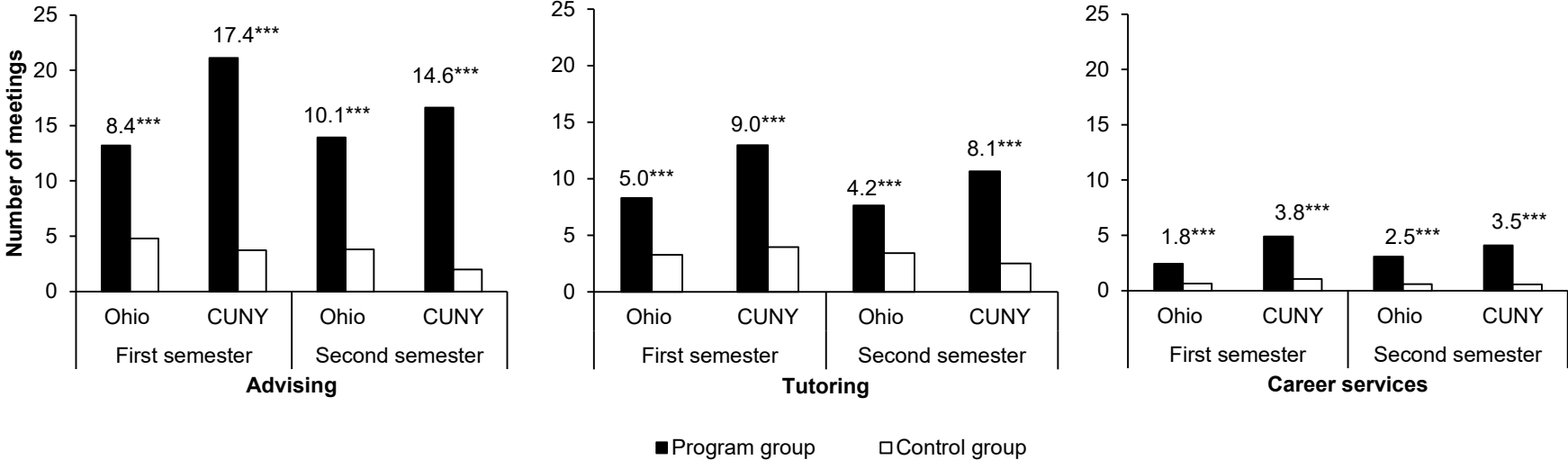
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<sup>5</sup>More program group students in Ohio required tuition waivers than did program group students in MDRC's evaluation of CUNY ASAP.

<sup>6</sup>New York State Higher Education Services Corporation (2019); Ohio Department of Higher Education (2019).

Figure 7.1

The Ohio Programs' and CUNY ASAP's Effects on Students' Experiences



SOURCE: MDRC calculations using data from the student surveys in the ASAP Ohio Demonstration and the CUNY ASAP evaluation.

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

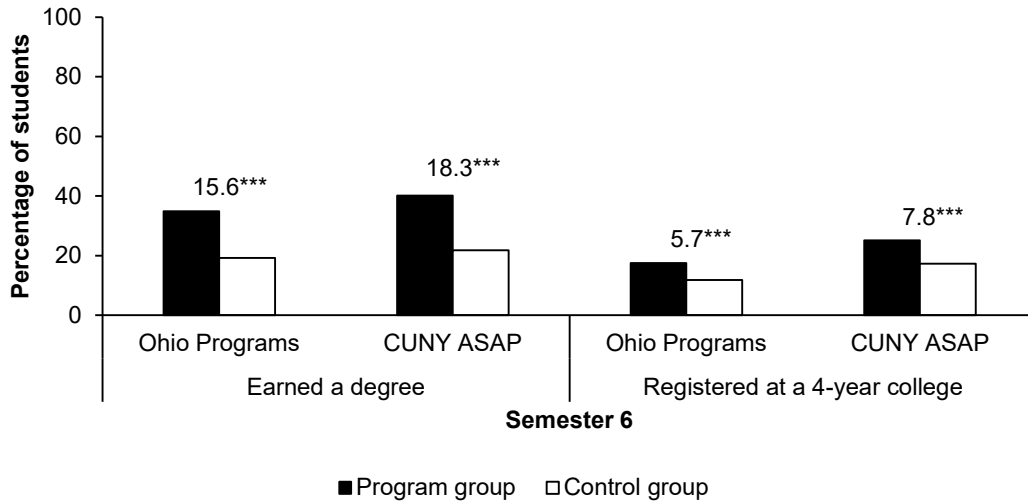
## Academic Outcomes and Effects

Despite some differences in characteristics between the two study samples described above, the academic trajectories of the students in the two studies were very similar over the six semesters of the follow-up period. For example, as shown in Figure 7.2, similar percentages of students had received degrees by Semester 6 in both studies (the percentages were also similar in previous semesters, not shown). By Semester 6, 19 percent of control group students in Ohio had earned degrees, compared with 22 percent of control group students in New York. Similar percentages of the two studies' control groups also transferred to four-year colleges.

The programs' effects were also strikingly similar, across a wide range of outcomes. The Ohio Programs increased degree receipt by 16 percentage points at the end of Semester 6, compared with 18 percentage points for CUNY ASAP. Similarly, the programs increased the proportion of students who transferred to four-year colleges by 6 percentage points in Ohio and by 8 percentage points in New York.

Finally, an important question is whether the programs had similar effects for students who entered college with different levels of academic preparation. The MDRC CUNY evaluation only included students with developmental education requirements and thus was only able to

**Figure 7.2**  
**Graduation and Four-Year College Transfer Rates After Three Years**  
**for the Ohio Programs and CUNY ASAP**



SOURCE: MDRC calculations using National Student Clearinghouse data and transcript data from the study colleges; Scrivener et al. (2015).

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

A two-tailed t-test was applied to differences between research groups.

Degrees earned in spring and summer semesters are combined.

Estimates for CUNY ASAP are regression-adjusted, controlling for site and cohort. Estimates for the Ohio Programs are regression-adjusted, controlling for site, cohort, and a range of student characteristics measured at study entry.

address this issue by estimating effects for students with different levels of developmental needs. CUNY conducted its own quasi-experimental evaluation of ASAP for a broader group of students and found positive effects for those with and without developmental education requirements.<sup>7</sup> The Ohio evaluation, using an experimental comparison, corroborates that finding. The Ohio Programs led to similarly large increases in degree receipt for both types of students.

## **The Costs of the Programs and Their Cost-Effectiveness**

As noted in the earlier report on the Ohio Programs, almost every category of costs was lower in the Ohio Programs evaluation than in the 2010 CUNY ASAP evaluation, probably because CUNY had to pay higher New York City salaries, dedicated tutors and career specialists, costs associated with blocked and linked courses, and higher monthly incentives in the form of Metro-Cards. CUNY ASAP's costs have dropped substantially over time as the model has evolved and has been expanded to serve many more students.

The Ohio Programs model was based on a modified, less expensive version of CUNY ASAP than the one MDRC evaluated. The cost-effectiveness of the Ohio Programs follows a very similar pattern to that found in the analysis of CUNY ASAP in New York. In particular, the programs increased the cost per credit earned but greatly reduced the cost per degree earned.

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<sup>7</sup>Strumbos and Kolenovic (2017).



## Chapter 8

# The Implications of the Findings and the Future of the Model

As one of the few programs proven to increase college completion rates dramatically for low-income students, the City University of New York (CUNY) Accelerated Study in Associate Programs (ASAP) has gained national attention. A vital question for stakeholders in higher education was whether the program that originated at CUNY could be effective in other localities or institutions. The ASAP Ohio Demonstration shows that it can. Three community colleges in Ohio successfully adopted and operated programs based on CUNY ASAP, and the programs achieved positive results similar to those of the original program — a remarkable feat. This concluding chapter summarizes the evaluation’s findings and discusses their potential implications. It also describes the future of ASAP in Ohio and in other localities across the nation.

### Summary of the Findings

MDRC evaluated the implementation of the three Ohio Programs and their effect on students’ academic outcomes. With the exception of blocked schedules, the colleges generally implemented all program components, and students in the Ohio Programs received significantly more advising, tutoring, career services, and financial support than students in the control group. The increased support improved student outcomes: The Ohio Programs nearly doubled the percentage of students who completed their associate’s degrees in three years, from 19 percent to 35 percent. The programs cost about \$8,000 more per student than the colleges’ business-as-usual services, but the programs increased graduation rates so much that the cost per degree earned was 22 percent lower for program group students than it was for control group students.

### What These Findings Mean for Higher Education Institutions and Policymakers

Higher education practitioners, policymakers, and other stakeholders continue to search for strategies to improve the nation’s low community college graduation rates. The positive findings from the ASAP Ohio Demonstration point to the following important implications for higher education institutions and policymakers.

- **Comprehensive programs that provide multiple years of proactive advising, financial support, and other services are proven to have large, positive effects on graduation rates.**

This study in Ohio adds to a body of evidence showing that comprehensive programs that provide proactive academic, financial, and personal support to students for multiple years are an effective way to increase completion rates. Many localities and institutions have begun providing forms of financial support such as tuition waivers and emergency aid, and many

colleges have begun providing services such as required advising for incoming students and structured pathways (which create a route to graduation by outlining courses students must take). While these initiatives have merit, each may only moderately improve student outcomes on its own. Colleges that seek to dramatically improve graduation rates for low-income students can combine them into a package of services with active monitoring and outreach for the duration of students' college careers.

Integrating services and financial support in this way may be effective for various reasons. First, many low-income students face multiple barriers to graduation that change over time, so providing services consistently over three years helps them over different hurdles. Second, messages and outreach from the program make sure students take advantage of services when they need them. The ASAP model has been described as providing both an opportunity and an obligation for students, meaning that students are provided with a many forms of support, but are also informed that it is their responsibility to meet program requirements and to take advantage of services. Meetings are supposed to occur regularly and staff members reach out to students if students do not show up, which allows those staff members to identify problems before they lead students to drop out. Finally, the advising approach improves how students connect with the college and its existing services. Program advisers provide students with designated staff members who can help them navigate campus and college life. Many students said that although the financial support helped them cover the cost of college, advising was the most important aspect of the program for them.

- **The ASAP model can be effective in varying localities and institutional contexts and for different student populations.**

The Ohio Programs differed from CUNY ASAP in notable ways. First, the programs were implemented in Ohio instead of New York, and this geographic difference meant that the program had to be modified slightly, as described below. Second, the Ohio colleges are not part of a system like CUNY, so the three programs were managed by the institutions as opposed to a central office. Finally, the Ohio Programs evaluation included students who both did and did not have developmental education requirements and included many nontraditional students, while the CUNY ASAP evaluation focused on developmental education students, most of whom were considered traditional college students. The fact that the Ohio Programs achieved similar results to CUNY ASAP, despite these differences, demonstrates that the ASAP model can be effective in varying localities and institutional contexts and for different student populations. This finding is noteworthy since practitioners and policymakers have recognized ASAP as a model worth expanding nationally.

- **Colleges can adjust components of the ASAP model to reflect their local contexts and still achieve similarly positive results.**

Because the Ohio colleges were in a different context from CUNY (as described above), they put some program components into operation differently. First, students in the Ohio programs who met program requirements received monthly \$50 gift cards intended for gas or groceries while CUNY students received unlimited public transportation cards. Even though the gift

cards had more limited monetary value than the unlimited transportation cards, and even though the gift cards received mixed reviews from students and staff members, Ohio program group students still participated in services at much higher rates than students in the control group, suggesting the incentive may have met its goal of encouraging participation. It may have also reduced nontuition costs such as transportation for students.

Second, since the Ohio colleges were unable to formally implement blocked course schedules as CUNY did, they tried to foster connections among students and facilitate student engagement by putting students in classes together or informing students when there were other students from the program in their courses.

Finally, the Ohio Programs also provided tutoring and career services differently: Rather than providing those services themselves, the programs made use of existing tutoring and career centers on campus and allowed students to fulfill requirements in multiple ways, for example by receiving tutoring online. These changes suggest that the program components can be put into operation in different ways and still lead to positive results. Since informal, online tutoring may be difficult to track, colleges could also partner with their learning centers to identify other ways to provide academic support to students. It may matter, however, precisely how the components are changed. It is unknown how different changes would affect student outcomes. Since there is growing evidence that the ASAP model is effective as designed, colleges should perhaps strive to maintain fidelity to the model and only make small tweaks where necessary.

## **The Future of ASAP in Ohio and Across the Nation**

One college in Ohio is sustaining its program in its entirety and eventually plans to expand the program to serve most if not all of its low-income student population.<sup>1</sup> Although the demonstration period was ending, the college enrolled about 200 new students into the program in the fall 2018 semester and again in fall 2019. The other two Ohio colleges are not sustaining their programs in their entirety but are taking lessons from the programs and applying them to general college operations.

One of the most important factors that affected sustainability decisions was cost. The two colleges that decided not to continue their programs cited their high costs. The college that is sustaining the program addressed its cost in the short term by repurposing institutional funding that aligned with the goals of the program. It continues to explore other long-term funding opportunities. Although the Ohio Department of Higher Education (ODHE) engaged the Ohio General Assembly, among other entities, in discussions about state-level funding to support the development of comprehensive programs modeled on ASAP in Ohio, the resulting proposal was cut from the final state budget.<sup>2</sup> Later, as this report was being written in 2019, the Ohio General Assembly included a budget line that would allow ODHE, with assistance from the Ohio Department of Jobs and Family Services, to repurpose funding to establish a Community College Acceleration

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<sup>1</sup>For more information, see Headlam (2018).

<sup>2</sup>Headlam (2018).

Program; this program is supposed to provide comprehensive support like that provided by the Ohio Programs for students who need it.<sup>3</sup>

The fact that only one of the three colleges is continuing to operate its program despite the large, positive effects on graduation rates suggests that financial sustainability is an important part of the long-term viability of comprehensive student success programs. To develop sustainable student success programs, institutions should develop long-term funding plans during early program implementation and higher education policymakers should consider public funding streams. Notably, the U.S. House of Representatives' 2019 Higher Education Act reauthorization bill (called the College Affordability Act) includes a provision that would provide funding to community colleges to develop and implement programs modeled on ASAP.<sup>4</sup>

Outside of Ohio and despite funding challenges, ASAP continues to grow both within and outside of the CUNY system. With direct funding from the City of New York, CUNY is continuing to expand its program and expects to serve 25,000 students across nine colleges in its system. Other institutions, such as Westchester Community College in New York, Nashville State Community College in Tennessee, and Skyline College in California have begun implementing similar programs. MDRC is evaluating the Westchester program and Skyline College is now leading the expansion of its program in San Mateo County Community College District.<sup>5</sup> Studying these and other programs based on ASAP will continue to build evidence about the implementation and effectiveness of comprehensive programs in different geographic areas and for different populations of students, and shed light on how institutions and states can improve community college completion rates and student success.

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<sup>3</sup>Ohio 133rd General Assembly, HB 166, 2019.

<sup>4</sup>U.S. Congress Education and Labor Committee (2019).

<sup>5</sup>San Mateo County Community College District (2019).

**Appendix A**

**Survey Response Bias Analysis and  
the Creation of Survey Scales**



This appendix discusses two aspects of the student survey conducted as part of MDRC’s evaluation of the Ohio Programs:

1. **Survey response bias analysis**, a discussion of the response rate and the potential for bias in the results.
2. **The creation of survey scales**, a description of two scales created from the student survey and reported in Chapter 4 and Appendix D (the quality-of-advising scale and the integration-and-sense-of-belonging scale).

## **Survey Response Bias Analysis**

This section of the appendix discusses the response rate for the student survey conducted as part of MDRC’s evaluation of the Ohio Programs, and the potential for bias in the results.

### **Survey Fielding and Respondent Sample**

The student survey asked study participants about a variety of topics including their participation in and experience with student services, their educational experiences, their work experiences, and their financial situations. The survey was fielded to the 1,431 sample members in the fall 2015 and spring 2016 cohorts approximately one year after random assignment. Students in the fall 2015 cohort were surveyed September through December 2016. Students in the spring 2016 cohort were surveyed February through May 2017. A total of 979 responses were collected, equivalent to an overall survey response rate of 68 percent. The response rate was very similar across the research groups, with 70 percent of program group students and 67 percent of control group students responding.

### **Characteristics of Survey Respondents**

Three analyses were conducted to test for potential bias in survey responses. First, the characteristics of survey respondents were compared with the characteristics of students who did not respond to the survey. This comparison provides an indication of how well the survey respondents represent the full study sample — a form of external validity. Second, academic effects through three years were compared for survey respondents, nonrespondents, and the full study sample. These comparisons also serve as an indication of external validity. Finally, the characteristics of program group students who responded to the survey were compared with characteristics of control group students who responded to the survey. This comparison provides an indication of whether the results are internally valid for survey respondents.

### **Comparison of Respondent and Nonrespondent Baseline Characteristics**

Appendix Table A.1 compares the baseline characteristics of survey respondents and nonrespondents. It shows that respondents and nonrespondents differed with respect to gender and age: On average, survey respondents were older and a higher percentage were female.

## Appendix Table A.1

### Characteristics of Survey Respondents and Nonrespondents

Characteristic (%)	Number of Observations	Full Sample	Survey Respondents	Survey Nonrespondents	P-Value
Female	1,409	63.5	65.9	58.4 ***	0.0090
Has developmental education requirements	1,361	73.5	73.2	74.3	0.6470
Nontraditional	1,417	46.9	46.4	47.9	0.5890
Had a high school diploma or higher at study entry <sup>a</sup>	1,384	87.4	87.7	86.8	0.6210
Race/ethnicity					0.5160
Black	1,385	35.5	35.8	34.9	
Hispanic	1,385	9.5	9.2	10.1	
White	1,385	45.1	45.8	43.6	
Other	1,385	9.9	9.2	11.5	
Age				**	0.0460
19 or younger	1,420	47.8	46.7	50.3	
20 to 23	1,420	21.5	20.6	23.4	
24 or older	1,420	30.7	32.7	26.3	
Sample size		1,409	965	444	

SOURCES: MDRC calculations using baseline information form data and placement test data from the colleges.

NOTES: A two-tailed t-test was applied to differences between survey response groups for gender, developmental requirements, nontraditional student status, and diplomas/degrees earned. A chi-square test was applied to differences between the groups for race/ethnicity and age. Levels for statistically significant differences between program and control groups are indicated as: \* = 10 percent; \*\* = 5 percent; and \*\*\* = 1 percent.

To analyze whether on average survey respondents and nonrespondents differed from each other, an omnibus F-test was performed, which yielded a p-value less than 0.0001.

Estimates are adjusted by site and cohort.

Missing values are not included in individual variable distributions.

Distributions may not add to 100 percent because of rounding.

<sup>a</sup>This number includes high school diplomas, occupational and technical certificates, and unspecified other types of degrees. Not included are students who earned no degree, who earned a high school equivalency and no other degrees, or for whom degree information is missing.

An omnibus F-test was conducted to see whether students' baseline characteristics were jointly predictive of responding to the survey.<sup>1</sup> The F-test yielded a p-value of less than 0.0001, suggesting that respondents and nonrespondents differ significantly in their baseline

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<sup>1</sup>Logistic regression was used for this analysis, where the outcome was whether a sample member responded to the survey and the predictor variables were students' baseline characteristics.



characteristics. This result suggests that the survey results may not represent the responses non-respondents would have given.

### Comparison of Effects on Academic Outcomes for Respondents, Nonrespondents, and the Full Sample

Appendix Table A.2 compares the estimated effects of the Ohio Programs, measured using administrative data, for survey respondents and for nonrespondents. For both academic outcomes — total credits earned and degrees earned — the table shows that the Ohio Program had larger effects for survey respondents than for nonrespondents. Among survey respondents, 25 percent of control group members earned degrees within three years compared with 42 percent of program group members, an estimated effect of 17 percentage points. Among nonrespondents, much lower percentages of students earned degrees in both the program and control groups, and the estimated effect on earning a degree is 11 percentage points. However, as the final column of the table indicates, this difference in estimated effects is not statistically significant. The credit-accumulation measure shows a similar pattern: the Ohio Programs’ estimated effect is larger among survey respondents than among nonrespondents, and both the program and control groups earned fewer credits overall among nonrespondents than among respondents.

**Appendix Table A.2**  
**Academic Outcomes of Survey Respondents and Nonrespondents After Three Years**

Outcome	Sample Size	Program Group	Control Group	Difference	P-Value for Difference	P-Value for Differential Estimated Effects
Total credits earned						
Full sample	1,431	34.2	26.4	7.8 ***	0.0000	0.6147
Respondents	979	40.2	32.0	8.2 ***	0.0000	
Nonrespondents	452	21.3	14.4	6.9 ***	0.0005	
Earned a degree from any college						
Full sample	1,431	34.3	19.0	15.3 ***	0.0000	0.1329
Respondents	979	42.4	25.1	17.4 ***	0.0000	
Nonrespondents	452	16.7	5.7	11.0 ***	0.0003	
Sample size	1,431					

SOURCE: MDRC calculations using data from the National Student Clearinghouse and the study colleges.

NOTES: A two-tailed t-test was applied to differences between research groups. Statistical significance levels are indicated as: \*\*\* = 1 percent; \*\* = 5 percent; \* = 10 percent.

A two-tailed t-test was applied to differences in effects between survey respondents and nonrespondents. Statistical significance levels are indicated as: ††† = 1 percent; †† = 5 percent; † = 10 percent.

Rounding may cause slight discrepancies in sums and differences.

Estimates are adjusted by site and cohort.

Although there are differences in the magnitude of effects for respondents versus nonrespondents, the differences are less when comparing respondents with the full study sample (shown in the top row of each panel). For example, among the full study sample, the estimated effect on degree receipt is 15 percentage points — similar in magnitude and statistical significance to the 17 percentage point estimated effect among survey respondents. The similar pattern of effects suggests that effects for the survey sample are generally representative of effects for the full study sample.

### Comparison of Program and Control Group Respondent Baseline Characteristics

As noted above, a slightly higher proportion of program group students responded to the survey (70 percent) than control group students (67 percent). Appendix Table A.3 compares the baseline characteristics of respondents in the program and control groups to determine whether

**Appendix Table A.3**  
**Characteristics of Program and Control Group Survey Respondents**

Characteristic (%)	Number of Observations	All Survey Respondents	Program Group	Control Group	P-Value
Female	965	65.6	64.1	67.4	0.2770
Has developmental education requirements	938	72.8	72.4	73.3	0.7420
Nontraditional	969	46.7	45.0	48.8	0.2260
Had a high school diploma or higher at study entry <sup>a</sup>	949	87.6	88.4	86.6	0.4280
Race/ethnicity					0.7010
Black	949	35.8	35.4	36.3	
Hispanic	949	9.2	8.3	10.2	
White	949	45.8	46.6	44.9	
Other	949	9.2	9.7	8.6	
Age					0.5200
19 or younger	971	46.7	47.9	45.2	
20 to 23	971	20.6	20.9	20.2	
24 or older	971	32.7	31.2	34.6	
Response rate	1,431	68.4	69.7	66.9	0.2450
Sample size		965	524	441	

(continued)

### Appendix Table A.3 (continued)

SOURCE: MDRC calculations using baseline information form data and placement test data from the study colleges.

NOTES: A two-tailed t-test was applied to differences between survey response groups for gender, developmental requirements, nontraditional student status, and diplomas/degrees earned. A chi-square test was applied to differences between the groups for race/ethnicity and age. Levels for statistically significant differences between program and control groups are indicated as: \* = 10 percent; \*\* = 5 percent; and \*\*\* = 1 percent.

To analyze whether on average program and control group survey respondents differed from each other, an omnibus F-test was performed, which yielded a p-value of 0.1755. This finding suggests that relative to the baseline characteristics shown above, program and control group survey respondents do not differ from one another.

Estimates are adjusted by site and cohort.

Missing values are not included in individual variable distributions.

Distributions may not add to 100 percent because of rounding.

<sup>a</sup>This number includes high school diplomas, occupational and technical certificates, and unspecified other types of degrees. Not included are students who earned no degree, who earned a high school equivalency and no other degrees, or for whom degree information is missing.

respondents' characteristics differed between the two research groups. The table shows that the two groups were comparable, with survey respondents in the program and control groups similar with respect to all measured baseline characteristics.

An omnibus F-test was conducted to see whether survey respondents' baseline characteristics were jointly predictive of student's experimental status. The results were not statistically significant, indicating little evidence that the groups of respondents were systematically different at the outset of the study. This test confirms that among the survey respondents, it is valid to compare the program and control groups.

### Conclusion

The response rate for the student survey is 68 percent. The characteristics of program and control group students who responded to the survey were not significantly different. However, as often occurs with surveys, the characteristics of survey respondents were significantly different from those of nonrespondents. Nonetheless, the estimated effects among survey respondents are very similar to the estimated effects among the full sample, suggesting that the survey findings are generally representative of the full sample.

### The Creation of Survey Scales

This section discusses two scales reported in Chapter 4 and Appendix D, both derived from the student survey conducted as part of MDRC's evaluation of the Ohio Programs: the quality-of-advising scale and the integration-and-sense-of-belonging scale. The section covers the questions that comprised the scales and the data processing conducted to calculate the values presented in Chapter 4 and Appendix D.

## Quality of Advising

The quality-of-advising measure presented in Appendix Table D.2 is derived from five questions administered in the Ohio Programs one-year student survey. Students were asked to indicate if they strongly agreed (1), agreed (2), disagreed (3), or strongly disagreed (4) 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.

Originally, for all questions, a higher-value response indicated lower-quality advising. All five questions were recoded to “change the direction” of responses.<sup>2</sup> After the questions were recoded, higher values indicated higher-quality advising.

The quality-of-advising scale is the unweighted average of a student’s responses to all five questions. 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. If the student answered one or two questions in the scale, the scale was not calculated. For students who answered three or four questions in the scale, the scale was calculated as the average of that student’s responses to the questions that were answered.

Appendix Table D.2 presents the average quality-of-advising scale values among program and control group respondents who reported they had met with an academic adviser during the relevant period.

## Integration and Sense of Belonging at School

The sense-of-belonging measures presented in Figure 4.7 are derived from nine questions administered in the Ohio Programs student survey. Students were asked to indicate if they strongly agreed (1); agreed (2); disagreed (3); or strongly disagreed (4) with the following:

1. College is an unfriendly place.
2. I do not feel that I fit in or belong in college.
3. The instructors and staff understand who I am and where I am coming from.

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<sup>2</sup>For all five questions: 1 became 4, 2 became 3, 3 became 2, 4 became 1.

4. It is difficult to make good friends with other students.
5. The other students do not understand who I am and where I am coming from.
6. College has the feeling of a community, where many people share the same goals and interests.
7. Many people at college know me by name.
8. I do not feel I am part of college life.
9. I feel that I matter to the college instructors, staff, and other students.

For some questions, a higher-value response indicates a greater sense of belonging, and for others, a higher-value response indicates less of a sense of belonging. Those latter questions were recoded to change the “direction” of responses.<sup>3</sup> After those questions were recoded, higher values indicated a greater sense of belonging for all questions.

The sense-of-belonging scale is the unweighted average of a student’s responses to all nine questions. Respondents had the option to skip or refuse any of the nine questions; a small number of students responded to some, but not all nine. The plan was to exclude students who answered five or fewer of the nine questions in the scale, but all students answered six or more.

Figure 4.7 presents the percentages of students reporting “high” and “low” senses of belonging. Students in the “low” category are those whose calculated scores are one or more standard deviations below the mean, indicating less integration and sense of belonging. Students in the “high” category are those whose calculated scores are one or more standard deviations above the mean, indicating greater integration and sense of belonging.

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<sup>3</sup>For questions 3, 6, 7, and 9: 1 became 4, 2 became 3, 3 became 2, 4 became 1.



**Appendix B**

**Baseline Characteristics of Sample Members**





## Appendix Table B.1

### Baseline Characteristics of Sample Members, by Research Group

Characteristic	Full Sample	Program Group	Control Group
Nontraditional <sup>a</sup> (%)	46.9	46.1	47.9
Has developmental education requirements (%)	74.3	74.1	75.1
Intention to enroll (%)			
Full time	90.7	91.1	90.4
Part time	9.3	8.9	9.6
Gender (%)			
Male	36.1	37.7	34.0
Female	63.9	62.3	66.0
Age (%)			
19 or younger	47.3	46.9	47.8
20 to 23	21.7	22.4	21.4
24 or older	30.9	30.7	30.8
Average age (years)	23.2	23.0	23.3
Marital status (%)			
Married and living with spouse	6.8	7.1	6.6
Married and living apart from spouse	1.8	2.4	1.1 *
Unmarried and living with partner	15.2	14.1	16.3
Unmarried and not living with partner	76.3	76.5	76.0
Living with parents (%)	57.8	58.7	56.8
Parents pay more than half of expenses (%)	27.2	29.0	25.0 *
Missing	7.5	7.6	7.2
Race/ethnicity <sup>b</sup> (%)			
Hispanic	9.6	8.8	10.6
White	45.8	46.9	44.9
Black	34.8	35.5	34.0
Other <sup>c</sup>	9.8	8.8	10.5

(continued)

**Appendix Table B.1 (continued)**

Characteristic	Full Sample	Program Group	Control Group
<b>Number of children (%)</b>			
0	73.0	73.6	72.1
1	11.7	10.9	12.5
2	7.6	8.1	7.5
3 or more	7.8	7.5	7.9
<b>Mode of transportation to campus (%)</b>			
Driving	70.7	72.3	68.5
Carpool	1.9	1.9	1.8
Public transportation	15.0	14.5	16.0
Drop-off from family member or friend	10.7	9.5	11.9
Biking or walking	1.8	1.8	1.7
Currently employed (%)	59.9	57.6	61.7
<i>Among those currently employed, hours worked per week (%)</i>			
1 - 34	74.0	74.2	74.0
35 or more	26.0	25.8	26.0
<b>Highest grade completed (%)</b>			
10th or lower	4.6	4.2	5.0
11th	4.9	5.5	4.0
12th <sup>d</sup>	90.6	90.3	90.9
<b>Diplomas/degrees earned<sup>e</sup> (%)</b>			
High school diploma	87.2	87.4	86.9
High school equivalency	12.1	12.3	11.9
Occupational/technical certificate	11.3	9.7	13.0 *
Other	1.9	2.3	1.4
<i>Date of high school graduation/equivalency receipt (%)</i>			
Within the past two years	57.9	57.4	58.6
More than two years ago	42.1	42.6	41.4
<b>Highest degree student plans to attain (%)</b>			
Associate's	19.4	19.4	19.5
Bachelor's	41.0	42.3	39.9
Master's	26.4	25.7	27.2
Professional or doctorate	13.2	12.6	13.4

(continued)

**Appendix Table B.1 (continued)**

Characteristic	Full Sample	Program Group	Control Group
First person in the family to attend college (%)	33.9	34.8	33.0
Highest degree/diploma earned by the student's mother (%)			
Not a high school graduate	11.9	12.8	11.1
High school diploma or equivalency	34.1	33.2	35.3
Some college, did not complete a degree	19.8	20.7	18.7
College degree (AA, BA, MA, PhD)	25.6	24.5	26.5
Missing	8.6	8.8	8.4
Highest degree/diploma earned by the student's father (%)			
Not a high school graduate	15.8	15.8	15.9
High school diploma or equivalency	38.7	39.2	38.0
Some college, did not complete a degree	12.7	12.4	13.0
College degree (AA, BA, MA, PhD)	13.5	14.1	12.8
Missing	19.3	18.5	20.3
Language other than English spoken regularly at home (%)	8.6	8.5	8.9
Sample size	1,501	806	695

SOURCE: MDRC calculations using baseline information form data and placement test data from the study colleges.

NOTES: Italics indicate statistics calculated only for a subset of respondents.

Distributions may not add to 100 percent because of rounding.

Missing values are included in variable distributions only for characteristics with more than 6 percent of the full sample missing.

A two-tailed t-test was applied to differences between research groups. Statistical significance levels are indicated as: \*\*\* = 1 percent; \*\* = 5 percent; \* = 10 percent.

To analyze whether program and control group survey respondents differed from each other on average, an omnibus F-test was performed, which yielded a p-value of 0.533. This finding suggests that relative to the baseline characteristics shown above, program and control group survey respondents do not differ from one another.

<sup>a</sup>Nontraditional students are defined as those who were 24 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 any of these characteristics. Students are considered to be missing data in the nontraditional category if they were missing data on two or more of these variables and have no other nontraditional characteristic; however, since less than 6 percent of the study sample were missing data, this percentage is not listed in the table.

<sup>b</sup>Respondents who said they were Hispanic and chose a race are included only in the "Hispanic" category.

<sup>c</sup>The "other" category includes Asian/Pacific Islander, Native American/Alaska Native, multiracial, and other races and ethnicities.

<sup>d</sup>This category includes students who were enrolled in high school at the time of random assignment.

<sup>e</sup>Distributions may not add to 100 percent because categories are not mutually exclusive.

**Appendix Table B.2**  
**Baseline Characteristics of Sample Members, by College**

Characteristic	Full Sample	Cincinnati State	Lorain	Tri-C
Program status (%)				
Program group	53.7	54.6	56.9	49.7
Control group	46.3	45.4	43.1	50.3
Nontraditional <sup>a</sup> (%)	46.9	58.7	39.4	43.8
Has developmental education requirements (%)	74.3	61.0	81.2	79.6
Intention to enroll (%)				
Full time	90.7	87.9	91.6	92.3
Part time	9.3	12.1	8.4	7.7
Gender (%)				
Male	36.1	37.4	34.1	37.0
Female	63.9	62.6	65.9	63.0
Age (%)				
19 or younger	47.3	29.3	57.5	53.4
20 to 23	21.7	26.5	17.3	21.8
24 or older	30.9	44.2	25.1	24.8
Average age (years)	23.2	24.8	22.2	22.6
Marital status (%)				
Married and living with spouse	6.8	7.2	7.3	5.9
Married and living apart from spouse	1.8	2.8	1.2	1.4
Unmarried and living with partner	15.2	18.7	14.2	13.1
Unmarried and not living with partner	76.3	71.4	77.3	79.6
Living with parents (%)	57.8	42.3	63.1	66.4
Parents pay more than half of expenses (%)	27.2	16.1	31.2	33.4
Missing	7.5	7.3	5.5	9.6
Race/ethnicity <sup>b</sup> (%)				
Hispanic	9.6	3.1	16.7	8.0
White	45.8	34.4	55.5	46.3
Black	34.8	51.3	19.0	36.2
Other <sup>c</sup>	9.8	11.2	8.8	9.5

(continued)

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

Characteristic	Full Sample	Cincinnati State	Lorain	Tri-C
<b>Number of children (%)</b>				
0	73.0	64.8	73.8	79.6
1	11.7	16.0	11.6	7.8
2	7.6	9.0	7.5	6.4
3 or more	7.8	10.3	7.1	6.2
<b>Mode of transportation to campus (%)</b>				
Driving	70.7	64.6	80.2	66.6
Carpool	1.9	1.5	2.5	1.6
Public transportation	15.0	24.0	1.2	20.8
Drop-off from family member or friend	10.7	8.2	14.5	9.1
Biking or walking	1.8	1.7	1.6	2.0
Currently employed (%)	59.9	62.1	59.3	58.5
<i>Among those currently employed, hours worked per week (%)</i>				
1 - 34	74.0	72.1	81.8	67.8
35 or more	26.0	27.9	18.2	32.2
<b>Highest grade completed (%)</b>				
10th or lower	4.6	5.1	4.3	4.4
11th	4.9	5.5	4.2	5.0
12th <sup>d</sup>	90.6	89.4	91.5	90.6
<b>Diplomas/degrees earned<sup>e</sup> (%)</b>				
High school diploma	87.2	84.9	89.2	87.3
High school equivalency	12.1	14.4	10.6	11.5
Occupational/technical certificate	11.3	10.7	10.8	12.3
Other	1.9	2.2	1.4	2.2
<i>Date of high school graduation/equivalency receipt (%)</i>				
Within the past two years	57.9	39.6	67.4	64.7
More than two years ago	42.1	60.4	32.6	35.3
<b>Highest degree student plans to attain (%)</b>				
Associate's	19.4	14.4	23.3	20.0
Bachelor's	41.0	41.8	42.2	39.1
Master's	26.4	27.9	25.7	25.9
Professional or doctorate	13.2	16.0	8.8	15.0

(continued)

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

Characteristic	Full Sample	Cincinnati State	Lorain	Tri-C
First person in the family to attend college (%)	33.9	36.5	30.8	34.7
Highest degree/diploma earned by the student's mother (%)				
Not a high school graduate	11.9	14.6	9.7	11.7
High school diploma or equivalency	34.1	32.3	37.4	32.4
Some college, did not complete a degree	19.8	16.9	21.1	21.1
College degree (AA, BA, MA, PhD)	25.6	27.8	25.5	23.6
Missing	8.6	8.4	6.2	11.1
Highest degree/diploma earned by student's father (%)				
Not a high school graduate	15.8	16.7	15.2	15.5
High school diploma or equivalency	38.7	33.6	44.8	37.2
Some college, did not complete a degree	12.7	13.9	13.5	10.7
College degree (AA, BA, MA, PhD)	13.5	16.7	11.1	13.1
Missing	19.3	19.1	15.4	23.4
Language other than English spoken regularly at home (%)	8.6	10.2	6.5	9.3
Sample size	1,501	467	513	521

SOURCE: MDRC calculations using baseline information form data and placement test data from the study colleges.

NOTES: Cincinnati State = Cincinnati State Technical and Community College; Lorain = Lorain County Community College; Tri-C = Cuyahoga Community College.

Italics indicate statistics calculated only for a subset of respondents.

Distributions may not add to 100 percent because of rounding.

Missing values are included in variable distributions only for characteristics with more than 6 percent of the full sample missing.

<sup>a</sup>Nontraditional students are defined as those who were 24 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 any of these characteristics. Students are considered to be missing data in the nontraditional category if they were missing data on two or more of these variables and have no other nontraditional characteristic; however, since less than 6 percent of the study sample were missing data, this percentage is not listed in the table.

<sup>b</sup>Respondents who said they were Hispanic and chose a race are included only in the "Hispanic" category.

<sup>c</sup>The "other" category includes Asian/Pacific Islander, Native American/Alaska Native, multiracial, and other races and ethnicities.

<sup>d</sup>This category includes students who were enrolled in high school at the time of random assignment.

<sup>e</sup>Distributions may not add to 100 percent because categories are not mutually exclusive.

**Appendix C**

**Program Participation Rates**





**Appendix Table C.1**  
**Participation in Program Activities**

Outcome	Percentage of the Program Group
Enrolled in classes in the first semester	95.0
Among those enrolled:	
Met with an adviser	95.2
Academic advising appointments attended	
0	4.8
1 to 5	34.3
6 or more	60.8
Met with a career adviser	45.1
Received a financial incentive	81.2
Financial incentives received	
0	18.8
1	13.8
2	18.9
3 or more	48.5
Enrolled in classes in the second semester	78.6
Among those enrolled:	
Met with an adviser	93.7
Academic advising appointments attended	
0	6.3
1 to 5	49.0
6 or more	44.7
Met with a career adviser	61.8
Received a financial incentive	76.1
Financial incentives received	
0	23.9
1	10.4
2	19.9
3 or more	45.8
Enrolled in classes in the third semester	67.7
Among those enrolled:	
Met with an adviser	93.7

(continued)

**Appendix Table C.1 (continued)**

Outcome	Percentage of the Program Group
Academic advising appointments attended	
0	6.3
1 to 5	57.9
6 or more	35.8
Met with a career adviser	68.7
Received a financial incentive	77.7
Financial incentives received	
0	22.3
1	16.1
2	16.4
3 or more	45.2
<hr/>	
Enrolled in classes in the fourth semester	58.6
Among those enrolled:	
Met with an adviser	89.4
Academic advising appointments attended	
0	10.6
1 to 5	56.0
6 or more	33.4
Met with a career adviser	65.8
Received a financial incentive	74.9
Financial incentives received	
0	25.1
1	9.5
2	12.3
3 or more	53.2
<hr/>	
Enrolled in classes in the fifth semester	48.7
Among those enrolled:	
Met with an adviser	84.1
Academic advising appointments attended	
0	15.9
1 to 5	60.5
6 or more	23.7

(continued)

**Appendix Table C.1 (continued)**

Outcome	Percentage of the Program Group
Met with a career adviser	64.7
Received a financial incentive	71.6
Financial incentives received	
0	28.4
1	8.9
2	9.7
3 or more	53.0
<hr/>	
Enrolled in classes in the sixth semester	41.5
Among those enrolled:	
Met with an adviser	78.7
Academic advising appointments attended	
0	21.3
1 to 5	56.2
6 or more	22.5
Met with a career adviser	58.3
Received a financial incentive	65.4
Financial incentives received	
0	34.6
1	9.3
2	12.4
3 or more	43.7
<hr/>	
Sample size	806

SOURCE: MDRC calculations using data from the MDRC management information system.

**Appendix Table C.2**  
**Participation in Tutoring**

Outcome	Percentage of the Program Group
Enrolled in developmental education in the first semester	52.8
Among those enrolled in developmental education:	
Attended a tutoring session (at least once)	58.1
Hours of tutoring attended	
0	42.1
Less than 3	9.0
3 - 8.9	17.8
9 or more	31.1
Enrolled in developmental education in the second semester	24.2
Among those enrolled in developmental education:	
Attended a tutoring session (at least once)	71.8
Hours of tutoring attended	
0	28.2
Less than 3	13.7
3 - 8.9	22.0
9 or more	36.0
Enrolled in developmental education in the third semester	8.0
Among those enrolled in developmental education:	
Attended a tutoring session (at least once)	56.2
Hours of tutoring attended	
0	43.8
Less than 3	11.5
3 - 8.9	25.4
9 or more	19.3
Enrolled in developmental education in the fourth semester	4.1
Among those enrolled in developmental education:	
Attended a tutoring session (at least once)	37.8
Hours of tutoring attended	
0	62.2
Less than 3	6.5
3 - 8.9	21.6
9 or more	9.8

(continued)

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

Outcome	Percentage of the Program Group
Enrolled in developmental education in the fifth semester	3.3
Among those enrolled in developmental education:	
Attended a tutoring session (at least once)	43.1
Hours of tutoring attended	
0	56.9
Less than 3	0.0
3 - 8.9	30.3
9 or more	12.9
Enrolled in developmental education in the sixth semester	1.3
Among those enrolled in developmental education:	
Attended a tutoring session (at least once)	43.6
Hours of tutoring attended	
0	56.4
Less than 3	10.9
3 - 8.9	21.6
9 or more	11.1
Sample size	806

SOURCE: MDRC calculations using data from the MDRC management information system.

### Appendix Table C.3

#### Students' First-Year Experiences with Program Components

Outcome	Percentage of the Program Group
How would you evaluate your overall experience in the program? (%)	
Excellent	67.0
Good	24.8
Fair	5.8
Poor	2.4
Received a \$50 gift card (%)	74.1
<i>Among those who received \$50 gift cards</i>	
<i>Used gift card to purchase (%)</i>	
Food	74.0
Gas	53.6
Other	24.1
Liked the \$50 gift card as an incentive for completing the program requirements (%)	90.8
<i>Among those who did not like the gift card as an incentive</i>	
<i>What did you not like about the gift card? (%)</i>	
The store	22.6
The amount	20.6
Something else	74.0
<i>Among those who did not like the store</i>	
<i>What kind of gift card would you prefer? (%)</i>	
One you could use anywhere, such as Visa, Mastercard, Discover gift card	87.1
Amazon gift card	38.7
iTunes gift card	0.0
A different store	22.5
<i>Among those who did not like the amount of the gift card</i>	
<i>How much money do you think would be appropriate for completing the requirements? (\$)</i>	226.2
Total program respondents	533

SOURCE: MDRC calculations using data from the student survey.

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

**Appendix D**

**Student Survey Findings**





## Appendix Table D.1

### Students' First-Year Experiences: Messages Received

Response	Sample Size	Program Group	Control Group	Difference	Standard Error
Often or very often heard college faculty/staff members speak about:					
The importance of enrolling in school full time	947	73.8	45.6	28.2***	3.2
That it is a good idea to enroll in school during the summer semesters	948	66.0	40.2	25.9***	3.2
About the goal of obtaining an associate's degree within 3 years	948	72.8	45.0	27.8***	3.2
Survey sample size	978	533	445		

SOURCE: MDRC calculations using data from the student survey.

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

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

A two-tailed t-test was applied to differences between research groups.

Estimates are adjusted by site, cohort, gender, race/ethnicity, age, parental status, marital status, weekly hours worked, dependence on parents for 50 percent or more of financial support, whether a student is the first family member to attend college, whether a student earned a high school diploma, the number of developmental education requirements at the time of random assignment, and intended enrollment level.

## Appendix Table D.2

### Students' First-Year Experiences: Advising

Response	Sample Size	Program Group	Control Group	Difference	Standard Error
Ever spoke with an adviser (%)	979	87.7	79.2	8.5***	2.5
Average number of times spoke with an adviser in the first year					
First semester	920	13.2	4.8	8.4***	0.8
Second semester	812	13.9	3.8	10.1***	1.0
<i>Among those who spoke with an adviser:</i>					
<i>In what ways have you interacted with an adviser? (%)</i>					
In-person meetings	830	98.4	96.4		
Phone calls	830	49.3	35.8		
Emails	830	64.7	39.4		
Text messages	830	12.5	3.3		
Social media	830	3.9	0.9		
<i>Average time spent during a visit to an adviser (%)</i>					
15 minutes or fewer	828	18.9	29.5		
16-30 minutes	828	53.5	46.0		
31 minutes or more	828	27.6	24.6		
Average number of topics discussed with an adviser	827	6.9	5.3		
<i>Topics discussed with an adviser:</i>					
Academic goals	827	89.2	81.0		
Academic progress	827	86.5	74.8		
Course selection	827	85.9	85.7		
Major	827	75.9	65.2		
Requirements for graduation	827	72.5	60.2		
Internships	827	29.7	18.5		
Job opportunities	827	34.1	17.8		
Career planning	827	48.8	25.4		
Transfer credit policies, probation, and add/drop policies	827	52.1	32.8		
College services such as financial aid, tutoring, and counseling	827	65.5	45.5		
Personal matters	827	48.0	19.8		
Something else	827	6.7	2.7		
Quality-of-advising scale (avg.)	827	3.6	3.3		
Survey sample size	978	533	445		

SOURCE: MDRC calculations using data from the student survey.

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

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

A two-tailed t-test was applied to differences between research groups.

Estimates are adjusted by site, cohort, gender, race/ethnicity, age, parental status, marital status, weekly hours worked, dependence on parents for 50 percent or more of financial support, whether a student is the first family member to attend college, whether a student earned a high school diploma, the number of developmental education requirements at the time of random assignment, and intended enrollment level.

The quality-of-advising scale was calculated as the average of a student's responses to five questions about the quality of advising received.

### Appendix Table D.3

#### Students' First-Year Experiences: Tutoring

Response	Sample Size	Program Group	Control Group	Difference	Standard Error
Ever received tutoring in class or outside of class	950	63.3	44.5	18.8***	3.2
Average number of times used tutoring services outside of class					
First semester	927	8.3	3.3	5.0***	0.8
Second semester	819	7.6	3.4	4.2***	0.8
Survey sample size	978	533	445		

SOURCE: MDRC calculations using data from the student survey.

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

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

A two-tailed t-test was applied to differences between research groups.

Estimates are adjusted by site, cohort, gender, race/ethnicity, age, parental status, marital status, weekly hours worked, dependence on parents for 50 percent or more of financial support, whether a student is the first family member to attend college, whether a student earned a high school diploma, the number of developmental education requirements at the time of random assignment, and intended enrollment level.

## Appendix Table D.4

### Students' First-Year Experiences: Career Services

Response	Sample Size	Program Group	Control Group	Difference	Standard Error
Ever met with career or employment services staff (%)	945	61.8	27.7	34.0***	3.1
Average number of times spoke with career or employment services staff					
First semester	920	2.4	0.6	1.8***	0.3
Second semester	816	3.1	0.6	2.5***	0.6
<i>Among those who met with career or employment services</i>					
<i>What career services or planning activities have you participated in?</i>					
Attended one-on-one meetings with career services	424	67.2	55.9		
Enrolled in a career-planning course	424	24.5	24.3		
Attended career seminars or group meetings	424	47.8	32.3		
Completed a career-planning activity	424	63.0	52.3		
Survey sample size	978	533	445		

SOURCE: MDRC calculations using data from the student survey.

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

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

A two-tailed t-test was applied to differences between research groups.

Estimates are adjusted by site, cohort, gender, race/ethnicity, age, parental status, marital status, weekly hours worked, dependence on parents for 50 percent or more financial support, whether a student is the first family member to attend college, whether a student earned a high school diploma, the number of developmental education requirements at the time of random assignment, and intended enrollment level.

## Appendix Table D.5

### Participation in Academic Program Components

Response	Sample Size	Program Group	Control Group	Difference	Standard Error
Enrolled in a course with at least 4 other students in the same research group	1,501	49.0	23.7	25.3***	2.2
First semester	1,501	32.3	20.1	12.1***	2.0
Second semester	1,501	17.7	4.4	13.3***	1.5
Third semester	1,501	11.3	1.0	10.3***	1.2
Fourth semester	1,501	5.6	0.0	5.7***	0.8
Fifth semester	1,501	3.7	0.0	3.7***	0.7
Sixth semester	1,501	1.0	0.0	1.0***	0.4
Ever enrolled in a first-year experience course	1,501	34.3	33.7	0.6	2.2
Sample size	1,501	806	695		

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

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

Enrollment in spring and summer semesters are combined.

A two-tailed t-test was applied to differences between research groups.

Estimates are adjusted by site, cohort, gender, race/ethnicity, age, parental status, marital status, weekly hours worked, dependence on parents for 50 percent or more of financial support, whether a student is the first family member to attend college, whether a student earned a high school diploma, the number of developmental education requirements at the time of random assignment, and intended enrollment level.

**Appendix Table D.6**  
**Textbook Stipend Receipt**

Outcome	Program Group	Control Group	Difference	Standard Error
Received all textbooks free of charge	39.2	18.9	20.4 ***	2.8
College 1	16.7	3.6	13.1 ***	3.4
College 2	58.2	24.3	33.9 ***	5.0
College 3	41.9	26.7	15.1 **	6.3
Received all or most textbooks free of charge	59.1	28.4	30.7 ***	3.0
Sample size	514	426		

SOURCE: MDRC calculations using data from the student survey and financial aid data from the study colleges.

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

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

Estimates are adjusted by site, cohort, gender, race/ethnicity, age, parental status, marital status, weekly hours worked, dependence on parents for 50 percent or more of financial support, whether a student is the first family member to attend college, whether a student earned a high school diploma, the number of outstanding developmental education requirements at the time of random assignment, and intended enrollment level.

## Appendix Table D.7

### Students' First-Year Experiences: Finances

Response	Sample Size	Program Group	Control Group	Difference	Standard Error
<b>Funding sources for college (%)</b>					
Ohio Programs financial resources	936	75.7	7.1	68.6***	2.3
External financial aid	936	93.3	92.8	0.5	1.7
Student loans	936	32.2	34.9	-2.7	2.8
Parents, relatives, partners, or friends	936	11.4	19.4	-8.0***	2.4
Employment	936	29.5	33.8	-4.3	3.0
Credit cards	936	7.0	8.4	-1.5	1.8
Personal savings	936	18.1	25.4	-7.3***	2.7
Other	936	4.2	1.7	2.5**	1.1
Chose not to register for college full time because could not afford to (%)	943	15.8	31.6	-15.8***	2.8
Often or very often did not buy textbooks because of the cost (%)	941	14.3	20.4	-6.1**	2.6
Missed class often or very often because needed to work (%)	939	10.4	10.3	0.1	2.0
Missed class often or very often because could not pay for transportation (%)	940	7.8	11.2	-3.4*	2.0
Had few or no concerns about ability to pay for college (%)	939	46.6	32.6	14.0***	3.1
Had a job (%)					
First semester (%)	936	67.7	67.2	0.6	2.7
Second semester (%)	936	67.1	67.5	-0.4	2.8
<i>Among those who worked, average hours worked per week</i>					
First semester	625	29.8	31.3		
Second semester	627	30.0	31.4		
Survey sample size	978	533	445		

SOURCE: MDRC calculations using data from the student survey.

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

Enrollment in spring and summer semesters are combined.

A two-tailed t-test was applied to differences between research groups.

Estimates are adjusted by site, cohort, gender, race/ethnicity, age, parental status, marital status, weekly hours worked, dependence on parents for 50 percent or more of financial support, whether a student is the first family member to attend college, whether a student earned a high school diploma, the number of developmental education requirements at the time of random assignment, and intended enrollment level.

## Appendix Table D.8

### Students' First-Year Experiences: Engagement in College

Response	Sample Size	Program Group	Control Group	Difference	Standard Error
Integration and sense of belonging at school					
Low	947	14.3	19.7	-5.4**	2.5
High	947	14.9	14.4	0.6	2.4
Had a college employee to turn to for advice	946	88.9	72.4	16.5***	2.6
Had all or most services and support needed to succeed	948	91.1	80.7	10.4***	2.3
Highest degree student planned to earn					
No degree	973	4.1	4.9	-0.7	1.4
Associate's	973	22.2	23.5	-1.4	2.7
Bachelor's	973	41.7	37.0	4.7	3.2
Master's	973	22.0	23.3	-1.3	2.8
Professional or doctorate	973	10.0	11.4	-1.3	2.0
Survey sample size	978	533	445		

SOURCE: MDRC calculations using data from the student survey.

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

Enrollment in spring and summer semesters are combined.

A two-tailed t-test was applied to differences between research groups.

Estimates are adjusted by site, cohort, gender, race/ethnicity, age, parental status, marital status, weekly hours worked, dependence on parents for 50 percent or more of financial support, whether a student is the first family member to attend college, whether a student earned a high school diploma, the number of developmental education requirements at the time of random assignment, and intended enrollment level.

The integration-and-sense-of-belonging scale was calculated as the average of a student's responses to nine questions about sense of integration with and belonging to the school community. Students in the "low" category are those whose calculated scores are one or more standard deviations below the mean, indicating less integration and sense of belonging; students in the "high" category are those whose calculated scores are one or more standard deviations above the mean, indicating a greater integration and sense of belonging.



**Appendix E**

**Subgroup Effects**



### Appendix Table E.1

#### Total Credits Earned After Three Years: Variation in Effects, by Baseline Student Characteristics

Baseline Characteristic	Sample Size	Average Credits Earned			P-Value for Difference	P-Value for Differential Estimated Effects
		Program Group	Control Group	Difference		
Study college						0.2350
College 1	521	38.4	30.2	8.2 ***	0.0000	
College 2	467	28.5	23.5	5.1 **	0.0260	
College 3	513	36.5	25.9	10.6 ***	0.0000	
Sample size	1,501					
Developmental education needs						0.8090
With developmental education needs	1,060	34.3	25.2	9.1 ***	0.0000	
Without developmental education needs	366	38.5	30.2	8.3 ***	0.0020	
Sample size	1,426					
Gender						0.0540 †
Female	945	36.6	26.1	10.5 ***	0.0000	
Male	534	32.5	27.2	5.4 **	0.0130	
Sample size	1,479					
Ethnicity/race						0.5380
Black	507	27.4	21.3	6.1 ***	0.0030	
Hispanic	139	38.1	26.6	11.5 **	0.0220	
White	667	41.3	31.5	9.9 ***	0.0000	
Other	142	30.8	23.4	7.4 *	0.0950	
Sample size	1,455					
Age category						0.3790
19 or younger	705	37.5	27.6	9.9 ***	0.0000	
20 - 23	324	31.9	24.8	7.1 **	0.0140	
24 or older	461	32.5	26.6	5.9 **	0.0120	
Sample size	1,490					
High school diploma or equivalency						0.4950
High school diploma	1,268	35.4	26.5	8.9 ***	0.0000	
High school equivalency	163	31.2	25.2	6.0	0.1400	
Sample size	1,431					

(continued)

**Appendix Table E.1 (continued)**

Baseline Characteristic	Sample Size	Average Credits Earned			P-Value for Difference	P-Value for Estimated Effects
		Program Group	Control Group	Difference		
Traditional vs. nontraditional						0.9020
Traditional	789	36.6	28.1	8.6 ***	0.0000	
Nontraditional	698	33.0	24.8	8.2 ***	0.0000	
Sample size	1,487					
Semester of cohort						0.0200 ††
Spring cohort	652	34.4	22.7	11.7 ***	0.0000	
Fall cohort	849	35.1	29.4	5.8 ***	0.0010	
Sample size	1,501					

SOURCE: MDRC calculations using baseline information form data, placement test data, and transcript data from the study colleges.

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

A two-tailed t-test was applied to differences between research groups. Statistical significance levels are indicated as: \*\*\* = 1 percent; \*\* = 5 percent; \* = 10 percent.

A two-tailed t-test was applied to differences in effects between subgroups. Statistical significance levels are indicated as: ††† = 1 percent; †† = 5 percent; † = 10 percent.

Estimates are adjusted by site, cohort, gender, race/ethnicity, age, parental status, marital status, weekly hours worked, dependence on parents for 50 percent or more of financial support, whether a student is the first family member to attend college, whether a student earned a high school diploma, the number of developmental education requirements at the time of random assignment, and intended enrollment level.

**Appendix Table E.2**

**Earning a Degree at Any College After Three Years:  
Variation in Effects, by Baseline Student Characteristics**

Baseline Characteristic	Sample Size	Percentage Who Earned Degrees			P-Value for Difference	P-Value for Difference	P-Value for Differential Estimated Effects
		Program Group	Control Group	Difference			
Study college						0.4640	
College 1	521	36.2	18.2	18.0 ***	0.0000		
College 2	467	34.3	23.4	10.9 ***	0.0090		
College 3	513	33.2	17.6	15.6 ***	0.0000		
Sample size	1,501						
Developmental education needs						0.8220	
With developmental education needs	1,060	32.0	16.3	15.7 ***	0.0000		
Without developmental education needs	366	45.0	28.0	17.0 ***	0.0010		
Sample size	1,426						
Gender						0.0610 †	
Female	945	37.9	19.6	18.3 ***	0.0000		
Male	534	29.6	20.1	9.5 **	0.0110		
Sample size	1,479						
Ethnicity/race						0.2680	
Black	507	25.7	14.6	11.1 ***	0.0020		
Hispanic	139	38.1	18.8	19.3 **	0.0300		
White	667	44.1	23.9	20.2 ***	0.0000		
Other	142	25.3	15.0	10.3	0.1780		
Sample size	1,455						
Age category						0.5770	
19 or younger	705	35.1	18.3	16.8 ***	0.0000		
20 - 23	324	31.8	21.3	10.5 **	0.0420		
24 or older	461	36.1	20.7	15.4 ***	0.0000		
Sample size	1,490						
High school diploma or equivalency						0.7190	
High school diploma	1,268	35.3	20.1	15.3 ***	0.0000		
High school equivalency	163	30.7	12.7	18.0 **	0.0150		
Sample size	1,431						

(continued)

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

Baseline Characteristic	Sample Size	Percentage Who Earned Degrees			P-Value for Difference	P-Value for Estimated Effects
		Program Group	Control Group	Difference		
Traditional vs. nontraditional						0.7020
Traditional	789	34.2	19.5	14.7 ***	0.0000	
Nontraditional	698	35.7	19.3	16.5 ***	0.0000	
Sample size	1,487					
Semester of cohort						0.7540
Spring cohort	652	33.8	17.3	16.5 ***	0.0000	
Fall cohort	849	35.8	20.7	15.1 ***	0.0000	
Sample size	1,501					

SOURCE: MDRC calculations using data from the National Student Clearinghouse, baseline information form data, placement test data, and transcript data from the study colleges.

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

A two-tailed t-test was applied to differences between research groups. Statistical significance levels are indicated as: \*\*\* = 1 percent; \*\* = 5 percent; \* = 10 percent.

A two-tailed t-test was applied to differences of impacts between subgroups. Statistical significance levels are indicated as: ††† = 1 percent; †† = 5 percent; † = 10 percent.

Estimates are adjusted by site, cohort, gender, race/ethnicity, age, parental status, marital status, weekly hours worked, dependence on parents for 50 percent or more of financial support, whether a student is the first family member to attend college, whether a student earned a high school diploma, the number of developmental education requirements at the time of random assignment, and intended enrollment level.

**Appendix F**

**The Ohio Programs' Costs**





This appendix supplements the information provided in the main body of the report by providing additional cost calculations, including the direct cost per enrolled student and the steady-state direct costs per program member and per enrolled student.

## **Direct Cost Per Enrolled Student Per Year**

The cost per program group member may be of interest to those seeking to create a budget for the three-year costs of operating this type of program for an incoming group of students. It is also useful for aligning net costs with the effects of the programs. However, the cost per program group member obfuscates the amount spent on enrolled students, since it includes all students (enrolled and unenrolled) in the calculation, and many students drop out or graduate within two years. Consequently, some readers may be interested in understanding the cost per enrolled student per year, since at many colleges a large proportion of revenue is associated with enrollment. Moreover, a college seeking to sustain a program of this type may want the cost of serving a particular number of students per year, with the plan of filling program slots as students drop out or graduate.

The cost per program group member is lower than the cost per student participating in the program because many students assigned to the program do not remain enrolled throughout the program period. The cost per participating student per semester enrolled was calculated using enrollment data for program group students. The number of semesters that each student took courses was averaged to attain this number (about three). This amount serves as a proxy of cost per program participant since students who do not enroll are not receiving the program. This figure is multiplied by two to give the average annual direct cost per program participant. Using this method, the direct cost is \$3,339 per enrolled student per year, almost exactly the same as the per-enrollee amount calculated in the interim report, or about \$10,000 total over three years. The amount per year is about \$1,500 higher than the direct cost per program group student per year (that is, including students who did not enroll).<sup>1</sup>

## **Steady-State Direct Cost**

To estimate the direct program cost per student to be expected once the program is up and running (that is, not in its preliminary phase or in a wind-down phase), steady-state costs were calculated using data from the program management information system. The steady-state period chosen was the second year of the study, the 2015-2016 academic year. The following were estimated for each semester of the program:

- Number of adviser visits
- Hours of tutoring

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<sup>1</sup>Base costs for students who would be enrollees if given the opportunity to be in the program are not estimated, nor are net costs for enrollees. Credits attempted by the equivalent control group students (those who would have enrolled if they had been in the program group) are not directly observable because the intervention affected which students enrolled, even in the first semester.

- Number of career counseling visits

For the steady-state period, the amount spent on each of these activities was divided by the relevant units of the activity (for example, number of adviser visits). Administrative costs from the second year not clearly associated with any of these three activities were divided by the sum of all three activities in the second year. The steady-state costs per activity from the second year of the study were then multiplied by the total amounts of those activities provided in all semesters of the study. The direct costs of forms of financial support such as book vouchers and tuition waivers were then added to the result to yield the overall steady-state total cost estimate: \$1,451 per program group student per year, \$4,353 over three years (\$2,633 per enrolled student per year, \$7,899 over three years). These amounts should be closer to the costs expected for programs that are up and running.

Steady-state cost per adviser visit * total adviser visits	+
Steady-state cost per hour of tutoring * total hours of tutoring	+
Steady-state cost of a career counselor visit * total career visits	+
Steady-state administration cost per student * all enrolled program students	+
Direct costs of financial support	
<hr/>	
Total steady-state cost	

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## Earlier MDRC Publications on the ASAP Ohio Demonstration

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2016. Colleen Sommo and Alyssa Ratledge

*Doubling Graduation Rates in a New State  
Two-Year Findings from the ASAP Ohio Demonstration*  
2018. Colleen Sommo, Dan Cullinan, and Michelle S. Manno

*Steps Toward Sustainability  
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MDRC is a nonprofit, nonpartisan social and education policy research organization dedicated to learning what works to improve the well-being of low-income people. Through its research and the active communication of its findings, MDRC seeks to enhance the effectiveness of social and education policies and programs.

Founded in 1974 and located in New York; Oakland, California; Washington, DC; and Los Angeles, MDRC is best known for mounting rigorous, large-scale, real-world tests of new and existing policies and programs. Its projects are a mix of demonstrations (field tests of promising new program approaches) and evaluations of ongoing government and community initiatives. MDRC's staff members bring an unusual combination of research and organizational experience to their work, providing expertise on the latest in qualitative and quantitative methods and on program design, development, implementation, and management. MDRC seeks to learn not just whether a program is effective but also how and why the program's effects occur. In addition, it tries to place each project's findings in the broader context of related research — in order to build knowledge about what works across the social and education policy fields. MDRC's findings, lessons, and best practices are shared with a broad audience in the policy and practitioner community as well as with the general public and the media.

Over the years, MDRC has brought its unique approach to an ever-growing range of policy areas and target populations. Once known primarily for evaluations of state welfare-to-work programs, today MDRC is also studying public school reforms, employment programs for ex-prisoners, and programs to help low-income students succeed in college. MDRC's projects are organized into five areas:

- Promoting Family Well-Being and Children's Development
- Improving Public Education
- Raising Academic Achievement and Persistence in College
- Supporting Low-Wage Workers and Communities
- Overcoming Barriers to Employment

Working in almost every state, all of the nation's largest cities, and Canada and the United Kingdom, MDRC conducts its projects in partnership with national, state, and local governments, public school systems, community organizations, and numerous private philanthropies.