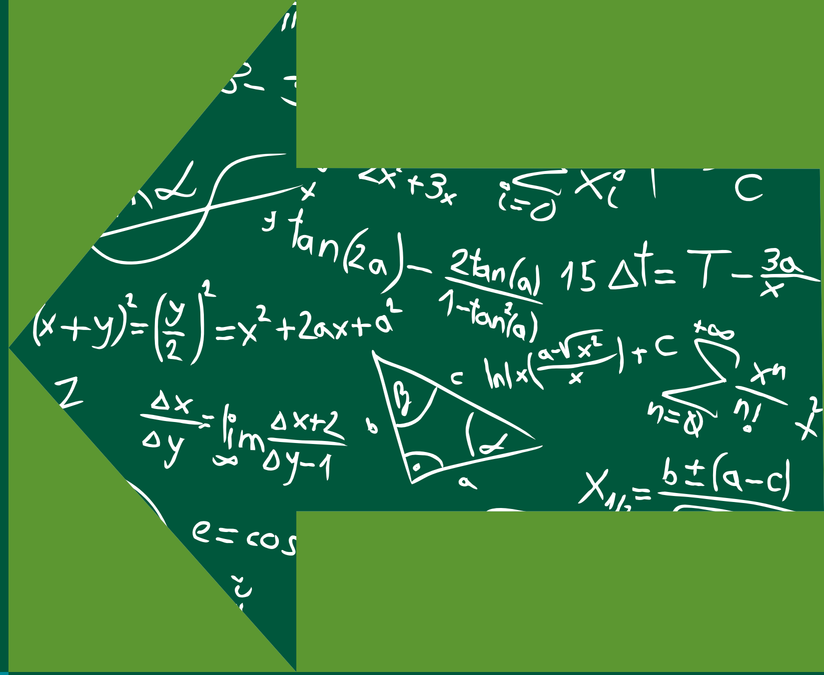

GUIDING DEVELOPMENTAL MATH STUDENTS TO CAMPUS SERVICES

An Impact Evaluation of the Beacon Program at South Texas College

Mary G. Visher
Kristin F. Butcher
Oscar S. Cerna

February 2010

ACHIEVING THE DREAM℠
COMMUNITY COLLEGES COUNT

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BUILDING KNOWLEDGE TO IMPROVE SOCIAL POLICY

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Overview

This report presents results from a rigorous evaluation of the Beacon Mentoring program, designed and implemented by South Texas College, in McAllen, Texas. As part of their participation in the Achieving the Dream initiative, college leaders developed an innovative intervention targeting students enrolled in lower-level math courses that have high rates of failure. The program was based on three simple ideas: that students who need services often do not access them even when they are available and free; that a mechanism is needed to alert student services staff when students start to fail in class; and that students need a "go to" person on campus who knows them and to whom they can turn for advice, support, and information.

The Beacon Mentoring program was a "light touch" intervention, designed to serve large numbers of students at minimal cost. Mentors were college employees who were recruited and trained to make several short classroom presentations about services available on campus and to work with the faculty to identify struggling students and offer them help early on. During spring 2008, the Beacon program targeted over 2,000 students enrolled in 83 sections of either a developmental (remedial) math course or a college-level algebra course. Mentors were randomly assigned to half of the sections. The impact of the program was assessed by comparing the outcomes of students in the mentored classes with the outcomes of students in the classes that were not assigned a mentor.

The program had no effect on passing the math class or on persistence. However, evidence suggests that the program had a modest and positive impact on other outcomes for the full sample of students and resulted in additional or more pronounced benefits for two subgroups of students most at risk of failure: students enrolled in developmental math and students who attended college part time. Analyses in this report show that:

- **The program succeeded in increasing the number of students who used the Center for Learning Excellence, a campus resource that provided tutoring and other forms of academic support.**
- **The program led to a statistically significant decrease in the likelihood of students in mentored classes withdrawing from their math course before the end of the semester.**
- **Part-time students were less likely to withdraw from and more likely to pass the math class, earned more credits, and, at least in the developmental math classes, scored higher on the final exam. The program also resulted in enhanced benefits for students enrolled in developmental math classes.**

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Preface

South Texas College is one of 102 colleges participating in Achieving the Dream: Community Colleges Count, a national initiative funded by Lumina Foundation for Education. Its aim is to help community colleges develop evidence-based interventions to improve the chances of success for students who are most at risk of failure.

Like many community colleges, South Texas College enrolls large numbers of students who are academically underprepared. Many were failing the lower-level math courses required for advancement toward a degree or certificate — both developmental (or remedial) classes and large "gatekeeper" college-level courses — and ultimately leaving college without earning a credential.

With a "light-touch" intervention in mind, using resources and staff already available on campus, the college designed a program in which college employees, "Beacon mentors," visited both developmental classes and lower college-level algebra classes. They provided information about available academic support services, served as a personal contact for students, and worked with the instructors to identify struggling students and offer timely help.

MDRC's evaluation found that while the program did not improve students' math class pass rates or persistence in college, it did have modest results on other outcomes for the full sample. What was particularly interesting was that the program proved to be more helpful for the two subgroups who are at the highest risk of failure — part-time students and those enrolled in developmental math. Programs that connect such students with services, especially when they are integrated into classroom instruction, are promising and worthy of further investigation. MDRC is continuing to evaluate the Achieving the Dream initiative, and we will be releasing additional reports later this year.

Gordon L. Berlin
President

Acknowledgments

The authors would like to express their appreciation and gratitude to the many individuals who helped to make this project and report possible. First on the list are the impressive people of South Texas College who had the vision and fortitude to create and implement the highly innovative Beacon Mentoring program, but also the courage to subject it to a rigorous evaluation. It is precisely this spirit that Lumina Foundation's Achieving the Dream Initiative inspires and encourages in all of its member colleges. Luzelma Canales, William Serrata, Paul Hernandez, Jr., Brenda Cole, and Kim McKay all deserve special recognition for their support and hard work, and we are deeply grateful for the opportunity to collaborate with these gifted administrators. We would also like to thank Dr. Shirley Reed, President of South Texas College, whose dedication to helping students succeed through institutional change helped make the study a success. Finally, the study could not have been successful without the efforts of all the hard-working advisers and counselors of South Texas College's Student Affairs and Enrollment Management Division, student support services staff, institutional research staff, leaders and members of the math faculty, and most of all, the men and women who volunteered to serve as mentors in the study.

In addition, we would like to thank Dan Cullinan for managing and analyzing the data, Emily Schneider for her expert help in pulling the report together, and the following colleagues at MDRC who provided valuable comments on earlier drafts: Thomas Brock, Howard Bloom, Lashawn Richburg-Hayes, John Hutchins, Fred Doolittle, and Elizabeth Zachry.

Executive Summary

This report presents results from a rigorous evaluation of the Beacon Mentoring program, an intervention that was designed and implemented by South Texas College, in McAllen, Texas. College leaders, alarmed by the high failure rates of students enrolled in lower-level math courses required for advancement toward a degree or certificate, combined several elements in an innovative intervention targeting students enrolled in these large, high-failure courses. The college named its program "Beacon Mentoring" to symbolize the idea that when community college students become overwhelmed by the complexity of college life, feel isolated, or struggle with academic material, they need proactive guidance to the services they need to succeed, most of which already exist on campus. Despite its name, the program was not a traditional mentoring program involving deliberate matching of mentors with mentees, intensive relationships, or other features commonly associated with mentoring programs. The Beacon program was designed instead to be a "light touch" intervention involving minimal contact between students and the college employees who served as mentors.

The Beacon program targeted over 2,000 students enrolled during one semester in either a developmental (remedial) math course or a college-level algebra course. The "theory of change" underlying the program was based on three simple ideas: that students who need services often do not access them even when they are available and free; that a mechanism is needed to alert student services staff when students start to fail in class; and that students need a "go to" person on campus who knows them and to whom they can turn for advice, support, and information.

Community colleges face a formidable challenge as students who are underprepared academically continue to flood through the open doors of these accessible, affordable institutions in pursuit of their dream of a college education. Those dreams are often cut short early when students who score low on math placement tests are relegated to a sequence of developmental courses that must be completed as a prerequisite to earning a degree or transferring to a four-year institution. While in these courses, students risk depleting financial aid and other resources before gaining access to the college-level, credit-granting courses they need to earn a degree. South Texas College designed the Beacon program to give students taking developmental courses the assistance they need to succeed and move on to college-level classes.

South Texas College and the Achieving the Dream Initiative

South Texas College is one of 102 community colleges in 22 states participating in Achieving the Dream: Community Colleges Count, a national initiative to improve student outcomes funded by Lumina Foundation for Education. Achieving the Dream is designed to encourage colleges to undertake an intensive, institutional, data-driven improvement process to develop priorities for increasing student success, with a special focus on the needs of students in developmental education and other at-risk student populations. The initiative also expects colleges to evaluate their progress in improving student achievement and develop institutional practices and policies that are based on this evidence. One of the first 27 colleges to join the initiative in 2004, South Texas College designed the Beacon program as one of its data-driven strategies to address the problem of student failure, especially in developmental math courses.

College leaders readily agreed to subject the program to a rigorous evaluation that was developed and managed by MDRC. The evaluation used a random assignment research design, in which 83 sections of three math courses, including two developmental math courses and one college-level algebra course, each with 25 to 30 students, were randomly assigned to a program group or a control group. Each of the 41 math classes in the program group was assigned a mentor. The program operated for a single semester in spring 2008. The impact of the program was assessed by comparing the outcomes of students in the mentored classes with the outcomes of students in the classes that were not assigned a mentor.

The Student Sample

A total of 2,165 students were enrolled in the 83 math classes that were part of the study. Due to random assignment, there were no statistically significant differences in the characteristics of those students enrolled in mentored classes (the program group) and those enrolled in nonmentored classes (the control group). Nearly all (95 percent) of the students were Latino but other than this, their characteristics were similar to those of community college students nationwide: Slightly more than half (57 percent) were women, nearly three-quarters (70 percent) were under age 24, and about half (52 percent) were enrolled full time (12 or more credits).

The Beacon Program: Key Elements and Expected Outcomes

The Beacon program was the brainchild of leaders in the student affairs division at South Texas College and evolved over several semesters as they fine-tuned the model, resulting in the version that was evaluated in 2008. Before the semester began, college leaders enlisted college employees who agreed to volunteer as mentors in addition to carrying out their normal job duties. Mentors were trained before the semester started and received further support during the course of the semester. Each mentor was assigned to one math class.

Mentors played three essential roles in delivering the key elements of the Beacon program:

1. Mentors delivered information directly to students in classrooms about services such as academic support services, advising and counseling services, financial aid, and Priority Registration (early registration for the following semester available to a target group of students, including those in the Beacon program).

2. Mentors acted as a "go to" person on campus for students in their class when students had a question or just needed someone to talk to.

3. Mentors and math instructors communicated with each other to identify struggling students and offer them help before they failed or dropped out of the class.

The goal of the Beacon program was to improve student success by increasing:

- Student use of campus services such as tutoring and advising
- Pass rates in large, high-failure math courses
- Credits earned
- Semester-to-semester persistence

Key Findings on Program Implementation

Overall, the Beacon program was implemented with a reasonable degree of fidelity to its design, although one element — contact between students and their mentors outside of class — occurred less often than anticipated.

- Almost all the mentors reported that they conducted at least three in-class presentations about campus services and academic support in their assigned math courses.

- About half the students in mentored classes reported having some contact with their mentors outside of class, primarily by phone or e-mail.

- Many of the math instructors and Beacon mentors reported that they communicated with each other about particular students, upcoming exams, and other matters. But some pairs struggled to understand each others' roles and fell short of developing an effective partnership.

- Students in mentored classes were more likely than those in nonmentored classes to report that there was someone they could turn to on campus for help and that they knew where to go on campus to get help with math.

Key Findings on Program Impacts

As shown in Table ES.1, the program had no effect on students' passing the math class or on their persistence in college. However, the evidence suggests that the program had a modest and positive impact on other outcomes.

- **The program succeeded in increasing the number of students who used the Center for Learning Excellence, a campus resource that provided tutoring and other forms of academic support.**

The evidence shows that the students in mentored classes were much more likely to visit the Center for Learning Excellence. Program students were 6 percentage points more likely to visit the center during the study semester, which is about a 30 percent increase relative to the control group.

- **The program led to a statistically significant decrease in the likelihood of students in mentored classes withdrawing from their math course before the end of the semester. However, there was no statistically significant impact of the program on the percentage of students who passed the math course.**

Students at South Texas, as in postsecondary institutions in general, are allowed to withdraw from a class for any reason at any time up to a certain date (known as the "census" date). After that date, if they do drop out they receive a "W" on their transcript and no credit for the course. Students who do not withdraw may receive a letter grade, an ungraded pass/no pass, or an incomplete. The evaluation found that students in the mentored classes were less likely to withdraw from their math class by almost 3 percentage points compared with the control group. This finding is consistent with reports in the implementation research that some mentors may have encouraged students to stay in the math course even if they were earning a low grade, in the hope that the students would have a better chance of eventually passing the class if they stuck with it longer. However, the study found no significant differences in pass rates (or failure rates) for mentored and nonmentored students. This implies that among those students who stayed in the math class due to the program, some passed the course, some failed the course, and some received incompletes, but the program had no statistically significant impact on these outcomes.

- **The program did not increase the percentage of students who went on to enroll in college the following semester — for students as a whole.**

The study found no evidence that having a mentor improved the likelihood of reenrolling in the fall semester, despite the focus of mentors' communications on how to register for classes in the fall.

Achieving the Dream: South Texas College

Table ES.1

Key Findings on Program Impacts

Outcome	Program Group	Control Group	Difference		Standard Error
Used Center for Learning Excellence	25.5	19.8	5.7	***	2.0
Math course pass rate (%)	54.81	53.38	1.43		1.86
Part-time students (attempting less than 12 credits)	57.62	51.07	6.55	**	2.55
Enrolled in developmental math	50.70	47.62	3.09		2.61
Final exam score [a]	*51.70*	*50.50*	*1.21*		*1.31*
Part-time students (attempting less than 12 credits)	*54.23*	*50.87*	*3.37*	*	*1.93*
Postprogram persistence (%)					
Registered spring 2008 and fall 2008	58.31	59.01	-0.70		2.02
Withdrew from math course (%)	15.38	18.20	-2.82	*	1.52
Part-time students (attempting less than 12 credits)	14.11	20.43	-6.32	***	2.23
Enrolled in developmental math	11.79	17.99	-6.21	***	2.10
Credits attempted	10.37	10.53	-0.16	**	0.07
Credits earned	6.56	6.49	0.07		0.16
Developmental credits earned	1.92	1.72	0.20	**	0.08
Sample size (total students = 2,165)	1,067	1,098			
Sections represented (total = 83)	41	42			

SOURCE: MDRC calculations from South Texas College transcript and final exam data.

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.
Standard errors are clustered by Math 0080, 0085, and 1414 section.
Estimates are adjusted by indicators for developmental class, evening class, teacher effect, top and bottom math placement test quartiles, age less than 24, gender, and full-time status.
The italicized row – final exam score – is nonexperimental. It is calculated only for people who were still attending at the end of the course.
[a]Final exam score represents developmental math (Math 0080 and 0085) sections only.

- **Students in mentored classes attempted slightly fewer credits than students in nonmentored classes.**

Students in mentored math classes appear to have attempted fewer credits on average than students in nonmentored classes. Mentors may have encouraged students to concentrate on passing their math class and suggested a strategy to drop one of their nonmath courses to improve their chances. There is also evidence that students in mentored classes earned slightly more developmental credits, probably because the help they received from the mentor and support services gave them the boost they needed to pass developmental English.

- **The Beacon program resulted in additional benefits for two subgroups most at risk of failure: students who attended college part time (less than 12 credits) and students enrolled in developmental math (as opposed to college-level math).**

Part-time students in the program group seemed to benefit more from the mentoring experience than their counterparts in the control group. They were less likely to withdraw from and more likely to pass the math class, earned more credits, and, at least in the developmental math classes, scored higher on the final exam. This result was in line with the expectations of the college's leaders, who felt that the program would be particularly helpful to students who were less connected to the campus and its available resources. The program also resulted in enhanced benefits for students enrolled in developmental math classes. The developmental math students in the program group were less likely to withdraw from math class than students in the control group, and they earned significantly more credits in their nonmath developmental courses. Their increased use of the Center for Learning Excellence and other support services may have had an effect on their performance in other classes.

Conclusions

Colleges want to know what they can do as institutions to help more academically underprepared students succeed in achieving their postsecondary education goals. Effective interventions that require relatively little investment of time and resources but can still reach a large portion of students are particularly appealing, especially during these economically challenging times. The evidence presented here suggests that interventions such as the Beacon program may offer one such answer, although potential impacts are not likely to be larger than those reported here unless more interactions between mentors and students and between faculty and mentors occur. "Light touch" programs such as this one should be expected to result in modest impacts. The findings also suggest that more than increased access to services is probably needed to significantly boost achievement in math, one of the greatest stumbling blocks for community college students as they pursue their postsecondary education and career goals.

This study joins a handful of other evaluations of community college interventions that use random assignment to test interventions in the community college setting. Random assignment of whole classes was shown in this study to be both feasible and considerably less difficult than assigning individuals. With a rigorous research design such as random assignment, whether it involves randomly assigning individuals or whole classes, community colleges can trust that the results are worth building upon, whether by strengthening implementation, trying more intense variations of the Beacon model, or investing scarce resources in other interventions.

Chapter 1

Introduction

Background

This report describes a rigorous evaluation of the Beacon Mentoring program, a "home-grown" intervention designed and implemented by South Texas College, a community college, to help its students pass math courses that have high rates of failure. As is the case at many colleges across the country, only about half of students at South Texas College manage to get a passing grade in their lower-level math courses. For students taking developmental (remedial) math, the consequences can be particularly serious. Many students spend several semesters trying to pass a sequence of developmental math courses — often retaking them several times — and many ultimately give up and drop out. After experimenting with a number of strategies to improve students' completion rates, the college came up with an innovative approach, consisting of three key elements:

1. Delivering information directly to students in classrooms about academic support services, advising and counseling services, financial aid, and Priority Registration (early registration for the following semester available to a targeted group of students, including those in the Beacon program)

2. Providing each student with a "go to" person on campus who knows them and is trained to offer certain kinds of assistance

3. Improving communication between faculty and student services professionals so that they can take immediate steps to help students before they fail or drop out of class

The college agreed to allow MDRC, a nonprofit, nonpartisan social policy and education research organization, to conduct a rigorous evaluation of the program as it was implemented in spring 2008. This report shares findings from that study.

South Texas College is located in McAllen, Texas, near the Mexican border. It serves a population of mostly Latino students on its five campuses, the largest of which is the Pecan Campus, the site of the evaluation. Over 27,000 students are enrolled at the college each year, and enrollments climbed steadily in the years leading up to the study. South Texas College, like most community colleges, serves a large number of academically underprepared students. More and more students do not meet the "cut score" on the placement tests that are generally required for incoming students, and as discussed below, the academic outcomes for these students are considerably worse than those of their peers who score high enough on the tests to begin taking college-level courses immediately.

As part of the institutional response to this challenge, South Texas College joined 26 other community colleges in the first round of Achieving the Dream: Community Colleges Count, a national initiative funded by Lumina Foundation for Education. Achieving the Dream is designed to encourage colleges to undertake an institutional, data-driven improvement process to develop priorities for reform, with a special focus on the needs of students in developmental education and other at-risk student populations. Participating colleges commit to collecting and analyzing data to improve students' outcomes — a process known as "building a culture of evidence." Specifically, colleges mine transcripts and gather other information to understand how students are faring over time and which groups need the most assistance. Based on this work, colleges design and implement strategies to improve academic outcomes and evaluate the results.[1]

South Texas College began the Achieving the Dream process by analyzing student records and surveying students to learn why so many failed or dropped out of developmental classes as well as large "gatekeeper" college-level courses that have high rates of failure. Their results suggested at least two reasons for these problems. First, students were not getting the help they needed to master the material, even when it was readily available on campus. Second, students reported feeling lost, confused, and isolated, and wished they had someone to turn to when they were struggling with coursework, experiencing problems with transportation or child care, or juggling work and school.

The college began experimenting with various iterations of case management and counseling models that involved reaching out to students rather than waiting for students to avail themselves of services. When leaders examined transcript data for the students who were involved in these programs, they were encouraged by what appeared to be some positive outcomes. Convinced that some kind of "personal touch" was needed — but also aware that the program needed to be cost-effective while reaching more than just a handful of students — the core leadership team for the Achieving the Dream initiative at the college came up with the idea of using nonfaculty employees to extend the counseling function on campus and bring help directly into the classroom.[2]

Three large math courses with high rates of failure were targeted for the intervention with the full support and cooperation of both the developmental math and college-level math departments. The college chose the name "Beacon Mentoring" to symbolize the idea that when

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[1]Brock et al. (2007).

[2]South Texas College was one of 16 of the 27 Round 1 Achieving the Dream colleges to experiment with enhanced advising, mentoring, or case management models (Zachry, 2008).

community college students become overwhelmed by the complexity of college life, feel isolated, or struggle with academic material, they need proactive guidance to the services they need to succeed, most of which already exist on campus. The program soon became the flagship of the college's Achieving the Dream strategies. In 2007, the leadership team readily agreed to subject their intervention to a rigorous, external evaluation conducted by MDRC.

Brief Overview of the Beacon Mentoring Program[3]

For the study, college leaders enlisted 41 college employees who worked on campus in a variety of jobs and assigned each to be a Beacon mentor for a math class of 20 to 35 students. All the mentors had previously participated in a training designed to convey to nonprofessionals the principles of academic advising and student support and had received a few additional hours of training about their role as a Beacon mentor.

The Beacon mentors were instructed to arrange with the math instructor to meet with the students in their assigned class three or four times during the semester, for five to ten minutes at the beginning of class. During these brief periods, the mentors handed out printed information about campus resources and notified students of important dates to remember and other "college knowledge" they would need to successfully navigate a college career. The mentors sometimes escorted their class on visits to the student success center (the Center for Learning Excellence), the financial aid office, or other useful places on campus. They also passed out their e-mail addresses and office phone numbers and encouraged students to contact them outside of class. Throughout the semester, mentors and math instructors were expected to stay in touch by e-mail or phone to discuss students who seemed to be struggling and might be at risk of failing or dropping out of the class. Near the end of the semester, the mentors informed students about Priority Registration — early registration available to a targeted group of students, including those in the Beacon program — and encouraged them to begin the process of registration for the following semester with the help of an academic adviser.

Before turning to the specifics of the research design and the data used to evaluate the program, the report next gives more context for the importance of determining what works to help community college students succeed, particularly students taking developmental classes and students who are enrolled part time.

[3]The creators of the program called it "Beacon Mentoring," in part because the idea for the program was derived from an earlier version of the program, which resembled a true mentoring program, and in part to signal to students that the mentor was someone who was available to help and guide them. However, the Beacon program should not be thought of as a true mentoring program. For example, the college intentionally did not include features such as intensive, one-on-one contact, a core feature of traditional mentoring programs.

Reaching Out to Students Most At Risk

South Texas College's leaders are not alone in their concern about students whose math skills are at lower levels. Across the country, community college students who are directed to developmental math classes are at a particularly high risk of failure. Hundreds of thousands of students are referred every year to developmental math, and a high percentage fail to complete the sequence of courses that are a prerequisite for earning a degree or transferring.[4] Perhaps due to this barrier, many do not persist to achieve a degree or transfer to a four-year institution.[5]

Students who attend college part time may also face special challenges. Many of these students struggle to balance the demands of academics with their personal responsibilities to their families and jobs. Research shows that part-time students have lower rates of persistence and degree completion than their full-time counterparts.[6]

Many colleges are working to turn the tide of these discouragingly low success and persistence rates. Some are trying "early alert systems" that notify counselors or faculty when a student is at risk of failure. Other colleges are putting students who score just below the cut score on placement tests directly into college-level courses, with added supports, with the goal of accelerating their progress toward a credential. Student success courses, which emphasize study skills, self-esteem-building, and other skills and knowledge deemed important for success in college, are increasing in popularity, and many colleges require all incoming students to enroll in them. Still other colleges create "student success centers" to coordinate access to resources such as tutoring, online help, and study groups.[7]

But while there are resources on campus that could provide assistance, far too few of these students seem to know about or take advantage of them. Students often cite "lack of support" or feeling like they don't have anyone to turn to when experiencing difficulties as among their primary reasons for dropping out of college.[8] Evidence shows that underuse of support services is particularly acute for students who are marginalized or academically underprepared.[9] In many cases, this is because they are unaware that these services exist. How can colleges best inform students about these resources and encourage students to take advantage of them? One idea in recent practice has been to bring the services — or at least, information about them — to the classroom itself, thereby breaking down the traditional barriers between student

[4]Bailey, Jeong, and Cho (2009).
[5]Parsad, Lewis, and Greene (2003); Adelman (2004); Attewell et al. (2006).
[6]Chen (2007).
[7]Jenkins and Bailey (2009).
[8]Matus-Grossman et al. (2002).
[9]Perin (2004); Center for Community College Engagement (2009).

services and academic instruction.[10] The Beacon program at South Texas College combines several of these ideas: delivery of information about services to students in classrooms; early intervention triggered by better communication between faculty and student services staff; and ensuring that each student has at least one person on campus to turn to for help.

While the program was designed to provide guidance to all math students in lower-level classes, college leaders believed that the Beacon program might be particularly helpful for both students taking developmental classes and part-time students. Because students taking developmental math classes may be those least academically prepared for college, advice on how to manage the challenges of college may have a relatively larger impact on their success. Because part-time students spend a limited amount of time on campus, they may not know about available services and resources, and the Beacon program could be the only support service they are aware of. In addition to informing part-time students about available academic support services, the mentors could help them with problems such as lack of child care and difficulties with transportation.

Research Design, Method, and Data Sources

The goal of the evaluation was to measure the impact of the Beacon program on several key academic outcomes, including passing the math class, passing other classes taken in the same semester as the math class, and persistence in college, measured as reenrollment at the college the following semester. Another goal was to determine if certain subgroups benefited more from the intervention than others, particularly the students considered more at risk: part-time students and those enrolled in developmental math courses.

In order to determine the net effect of any program, it is necessary to compare the experiences of a group of students who were exposed to the intervention with a truly comparable group of students who were not. The idea is to provide an absolutely reliable estimate of the student outcomes that would have been observed in the absence of the intervention (that is, a counterfactual) and compare this estimate with the performance of students who received the intervention. Random assignment is the most reliable basis from which to construct estimates of the counterfactual; fortunately, it was feasible in this context. Because the intervention was delivered to whole classes of students rather than to isolated individuals, researchers used classes rather than individual students as the unit of randomization — a relatively rare form of randomized control trial. In the next section, the random assignment procedures used for this study are described in more detail.

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[10]Weissman et al. (2009); Center for Student Success (2007); Carnegie Foundation for the Advancement of Teaching (2008).

Randomization of Math Classes to Program and Control Groups

Between October 2007 and early January 2008, over 2,100 students enrolled as they normally would in 83 sections of the three targeted math courses for the spring semester. The math courses were Math 80 and 85, the two lowest levels of developmental math, and Math 1414, a college-level algebra course. Between 20 and 35 students were enrolled in each section of these three courses. All faculty members who were assigned to teach these sections had agreed to participate in the study and understood that each section they taught had about a 50 percent chance of being assigned a Beacon mentor. In mid-January, during the first week of class, MDRC randomly assigned these 83 sections to either the program group (where the section was assigned a mentor) or the control group (where no mentor was assigned). The procedure used to perform the random assignment ensured that multiple sections taught by the same instructor were evenly divided between the program and control groups, thus effectively controlling for teacher effects. Day and evening classes were also evenly divided between the program and control groups. (See Appendix A for more details on the random assignment procedures). On the same day that MDRC informed the college of the results of random assignment, college leaders assigned mentors to each section. Decisions about which mentor to assign to which class were mostly mechanistic, but in some cases mentors were assigned to a class taught by an instructor with whom they had collaborated earlier during a pilot semester for the program.

The random assignment of classes to the program or control groups is critical for determining if the Beacon program had an impact on outcomes. For example, if instructors had been able to volunteer to have a mentor assigned to them, then differences in student outcomes could be attributed to differences in the types of instructors — for example, those who thought the program was important enough to give over class time and those who did not — rather than to the program. Similarly, if students were allowed to choose whether to enroll in a mentored class or a nonmentored class, any differences in outcomes could be due to differences between the students who chose the mentored class, versus those who did not.

The math sections were randomly assigned as described above to ensure that students in the control groups were not different from students in the program group before the program started. However it is important to examine the characteristics of both to verify that random assignment worked. For example, suppose that one instructor is particularly popular, and to get into her class, one must register early — then that instructor's class may be disproportionately filled with very determined students. If that particular class happens to fall into the control group, and there is no similar class that happens to fall into the program group, one might find that the program has underwhelming impacts because of these underlying differences in the motivation of the students in the two groups.

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Table 1.1

Characteristics of Sample Members

Characteristic	Full Sample	Program Group	Control Group	Difference	Standard Error
Gender (%)					
Female	57.6	57.5	57.6	0.0	2.1
Age (%)					
Under 24	70.7	70.3	71.1	-0.8	2.0
Part time: fewer than 12 credits attempted (%)	47.3	46.6	48.1	-1.5	2.1
Evening math class	17.2	16.6	17.9	-1.3	1.6
GPA in high school (fraction of highest possible)	*0.8*	*0.8*	*0.8*	*0.0*	*0.0*
Ranking on first math placement exam (%)					
Top quartile of sample	24.7	23.3	26.0	-2.7	1.9
Bottom quartile of sample	24.5	24.8	24.1	0.8	1.9
Math class					
Developmental[a] (%)	57.6	58.3	56.9	1.4	2.1
Developmental class size	24.0	23.9	24.0	-0.1	0.9
College-level[b] (%)	42.3	41.4	43.1	-1.7	2.1
College-level class size	29.5	29.4	29.6	-0.2	0.8
Sample size (total students = 2,165)		1,067	1,098		
Sections represented (total = 83)		41	42		

SOURCE: MDRC calculations from South Texas College demographic, transcript, and placement test data.

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]Math 0080 and Math 0085
[b]Math 1414

As Table 1.1 shows, of the 2,165 students in the evaluation, 49.3 percent were in the program group and were therefore eligible to receive the Beacon program's services. The other 50.7 percent of students were in the control group and did not receive the program's services. There are no statistically significant differences between students in the program and control groups in terms of their age, gender, academic ability (as measured by high school grade point average), math ability (as measured by rank on math placement tests), time of day for the math class, math class type, or full-time/part-time status.

Data Sources for the Impact Study

Outcome data such as grades, credits earned, and persistence in college were collected from college records within a few months after the end of the program semester. Class attendance and final exam scores recorded by faculty during the program semester were collected only for the developmental math courses, because only the developmental mathematics department routinely required its faculty to take attendance, and a standard final was offered in all of the courses, providing an opportunity for comparison. Developmental math classes comprised a little over half of all the classes in the study. Student visits to the student success center (the Center for Learning Excellence) were recorded each time a student logged in to the center, and these data were also collected for both program and control students. Qualitative information — describing the extent to which the program was implemented as intended and the perceptions of faculty, students, volunteers, and administrators — was collected during site visits conducted during the semester of the program. Mentors and students from both the program and control groups were surveyed to complement field research on the program's implementation. (See Appendix A for further information on data sources and methods).

Overview of the Report

The following chapter describes how the Beacon program was implemented and assesses whether it was delivered with a reasonable degree of fidelity to the intentions of the college leaders who designed and operated it. Chapter 3 reports results from the impacts analysis. Chapter 4 summarizes and discusses the findings and their implications.

Chapter 2

Implementing the Beacon Program

At the heart of the Beacon program are the mentors, the college employees who agreed to add this role to their normal campus jobs. Each mentor was assigned his or her own class of students and was expected to support these students in three ways: inform them about campus services during a series of classroom visits; interact with the math instructors so that students who were struggling could be assisted before they dropped out or failed the class; and serve as a "go to" person to whom students could turn for any help. The key findings of the implementation study suggest that the mentors performed these roles with a reasonable degree of fidelity to the program design, although there were a few elements that could have been strengthened. Key findings for the implementation study include:

- All Beacon mentors assigned to math courses completed some training before the program semester began, and most participated in ongoing informal group sessions designed to help them be effective mentors during the semester.

- Almost all of the mentors made at least three in-class presentations focused on campus services to students in their assigned math courses. Some led tours to locations on campus where services were provided.

- About half the students reported interacting with their mentors outside of class. Contact typically occurred by e-mail or phone and sometimes during study sessions outside of class. Students' busy schedules and, for some, reluctance to approach mentors on their own were reasons offered for limited interactions outside of class.

- Many of the math faculty and mentors reported positive, collaborative relationships but others had less contact with each other.

- Students in mentored classes were more likely than students in nonmentored classes to report that there was someone they could turn to on campus for help and were also more likely to report knowing where to get help with math.

- Students in mentored classes were much more likely to visit the student success center (Center for Learning Excellence) at least once during the semester.

Data Sources and Methodology

The implementation study of the Beacon program relied on data collected during spring 2008, the semester the program was under way, and included focus groups and interviews with students, faculty, and administrators; a survey distributed to both program and control group students in their math classes; and an online survey of mentors.

The Student Survey

The goal of the student survey, which was administered toward the end of the semester, was to document differences between students in mentored classes and students in nonmentored classes in their participation in campus services, attitudes toward their math class, expectations of passing the math class, and sense of belonging and feeling supported on campus. For students in mentored classes, the survey also included questions about their experiences with and perceptions of their mentor. Of the 2,165 students in the study, 1,253 responded to the survey, for an overall response rate of 58 percent. (The response rate for the program group was slightly higher than that for the control group but this difference was not statistically significant.) The response rate appears low because the survey was administered during class and toward the end of the semester; due to limited resources, researchers made no attempt to contact students who had dropped out, withdrawn, or were not in attendance during the days when the survey was passed out. This has two implications for interpreting the results of the survey. First, the number of students who could respond to the survey was considerably smaller than the number of students who originally enrolled in the math classes, since many had dropped out. Second, those who were in class the day of the survey may not have been representative of all students enrolled in the study. For example, it is possible that students who were still in the class at this point in the semester were stronger academically or more motivated than those who were not. For these reasons, estimates from the survey may be biased in unknown ways.

The Mentor Survey

The purpose of the survey of mentors was to document their experiences with and perceptions of the program by asking questions about topics ranging from how they were recruited to how many times they communicated with students outside of class. The mentor survey was fielded online to 38 mentors.[1] After several rounds of follow-up, 74 percent of the mentors who received the survey (28 individuals) completed it.[2]

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[1]Two of the 41 mentors declined to receive the survey, and another had left the college and could not be contacted.

[2]For further details on data sources and methodology, see Appendix A.

Program Goals and Expectations

Each mentor was expected to make at least three short (10 minutes or less) in-class presentations in their assigned math class. As shown in Table 2.1, mentors were asked to cover the following topics on specific visits:

- *Initial Presentation*: A short introduction about who she/he is, what a mentor does, how to contact the mentor for help, and an introduction to campus support services. Some led their class to the Center for Learning Excellence.
- *Midsemester Presentation*: A presentation about academic skill- and knowledge-building, preparing for tests or quizzes, and how to arrange for tutoring or study groups. The content of the presentation was determined by conversations with the instructor about the needs of the students at that point in the semester. Some mentors visited their classes more than once during this period.
- *Final Presentation*: A presentation during the Priority Registration period (early registration available to a targeted group of students, including those in the Beacon program) about course planning and how to register for classes the following semester.

Beacon mentors were also expected to:

- Encourage students to contact them outside of class.
- Communicate with the instructor of their assigned class to schedule visits to the class and to identify and contact students who were at risk of failing.
- Document each interaction with students and with the instructor on the centralized BANNER student records data system.[3]

Recruitment and Characteristics of Beacon Mentors

From a pool of roughly 100 certified staff who completed several days of training (see a description of the training below) by the end of fall 2007, the Dean of Student Support Services, (serving as the program coordinator) was encouraged by the research team to select as mentors

[3]MDRC researchers requested to access to BANNER data, but so much data was missing or unconfirmed that researchers determined they could not be analyzed.

Table 2.1

Project Timeline and Key Dates During the Spring 2008 Semester

Event	Date	Notes
Last day to register for classes	January 16	
First day of instruction	January 16	
Math classes randomly assigned to program group or control group	January 18	
Initial mentor in-class presentation	Week of January 21	Mentors introduce themselves to their assigned class and discuss campus support services.
"Census day"	February 1	Last day to withdraw from classes without receiving a "W" on the transcript.
Midsemester mentor in-class presentations	February 4-29 (4th to 7th week of semester)	Mentors discuss study skills and/or test review.
MDRC visits to collect implementation data	April 2-4	
Final mentor in-class presentations	April 7-11 (12th week of semester)	Mentors help students register for next semester during the Priority Registration period.
Student survey distributed and collected	March 31-April 4	Math faculty distribute and collect student survey about Beacon program during class time.
Last day to withdraw from classes	April 15	Students can withdraw from a class to avoid receiving a low or failing grade.
Last day of the semester	May 9	

SOURCES: South Texas College Course 2007-2008 Catalog and MDRC implementation research field notes, Spring 2008.

those whom he considered to be the most capable and committed individuals.[4] Table 2.2 reports selected characteristics of the 41 mentors selected.

[4]South Texas College's Faculty and Staff Academic Advising Training Program is open to all faculty and staff on a voluntary basis but was required for all Beacon mentors. The training requires participants to attend a series of four workshops that cover different advising techniques, interpersonal communication skills, and an

(continued)

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Table 2.2

Characteristics of Beacon Mentors

Characteristic	Percentage of Mentors
Gender	
Female	56.1
Male	43.9
Assigned math course level	
Developmental	63.4
College-level	36.6
Assigned math course time	
Day	82.9
Evening	17.1
College department	
Counseling/advising	24.4
Student Life	12.2
Research/technology	12.2
Special academic/career programs	12.2
Assessment and placement	9.8
Admissions and records	9.8
Outreach and orientation	9.8
Administration	7.3
Financial aid	2.4
Sample size	41

SOURCE: MDRC field research.

As Table 2.2 shows, a little more than half of the mentors were women. Ten mentors were employed in the counseling and advising department and the remainder in a range of other departments and offices on campus, including institutional research or information technology, the extracurricular activity office (Student Life), admissions and records, assessment and placement, outreach and orientation, and financial aid. Five mentors worked in a variety of specialized academic or career-based programs on campus, and three were upper-level administrators.

Table 2.3 reports results from the survey described above in which mentors were asked to describe their activities and perceptions of the program.

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overview of various student needs. Training program participants must also log some hours inside the Counseling and Advising Center on campus.

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Table 2.3

Mentor Survey: Responses to Selected Questions

Outcome			**Mentors**
Percentage of mentors who agree with the following statements:			
My supervisor was supportive of my being a mentor.			89.3
The Beacon Mentor Handbook was useful.			89.3
My responsibilities as a mentor were clearly explained to me.			78.6
I knew who to approach with questions or problems about mentoring.			96.4
The instructor in my assigned math class stayed in touch with me during the semester.[a]			57.1
The instructor provided me with information I needed to help struggling students.[a]			50.0
Most of the students in my assigned math class felt comfortable approaching me for help.			55.6
Most of the students in my assigned math class who struggled generally did not approach me for help.			77.8
Percentage of mentors who found the brown-bag lunch sessions useful: [b]			
	First Session	Second Session	Third Session
No opinion/not applicable	14.8	30.8	10.7
Not useful at all	0.0	0.0	7.1
A little useful	22.2	11.5	14.3
Generally useful	18.5	19.2	28.6
Very useful	44.4	38.5	39.3
Percentage of mentors who were recruited as follows: [a]			
Volunteered without being asked by an administrator or supervisor			18.5
Asked by an administrator or supervisor who said it was optional			44.4
Told by an administrator or supervisor that it was required			37.0
Sample size			28

SOURCE: MDRC calculations from the South Texas College mentor survey.

NOTES: [a]N = 27.
[b]Sample size varies for these responses. Twenty-seven mentors evaluated the first brown-bag session, 26 the second, and 28 the third.
These are select questions from the South Texas College mentor survey.

Program planners expected that staff supervisors would invite employees to volunteer to be mentors, and the evidence suggests that most mentors willingly participated in the program. Of the 27 mentors who responded to this question on the survey, almost half reported being asked to participate by a supervisor or program representative, and nearly one in five reported volunteering to participate without being asked. However, more than a third of the mentors felt that the decision was not entirely up to them, reporting that they were told by their supervisors that being a mentor was a "part of their job."

Perhaps because some mentors felt pressured to participate or were not adequately informed about what the role would involve, a few mentioned during interviews that they felt somewhat overwhelmed by the responsibilities. Particularly time consuming, according to some, was the effort needed to contact students whose class attendance was low or who had received a poor grade on a test. Others complained about the time it took to enter information about their interactions with students into the data system. While many felt gratified by the feeling that they had made a positive difference in the lives of their assigned students, as one mentor noted during a focus group, "I think we would like to be more active [in the program] than we are, but we all already have too many responsibilities." Nonetheless, most mentors reported feeling well supported by supervisors. In fact, almost all of the survey respondents agreed with the statement, "My supervisor was supportive of my being a mentor."

Mentor Training and Support

Beacon mentors were given a variety of training opportunities to prepare for and support them in their roles. Before the program semester began, each mentor was required to be certified through the college's eight-module Faculty and Staff Academic Advising Training Program, which was designed to convey to nonprofessionals some principles of academic advising and student support. The training series was modeled after the National Academic Advising Association's training series and was conducted by the program coordinator.

After being selected from the larger pool of staff who had participated in the training program, mentors received their own copy of the "The Beacon Mentoring Handbook," prepared by the program coordinator. During the semester, Beacon mentors were offered the opportunity to participate in three optional brown-bag lunch sessions to review their roles and responsibilities, learn more about how to support students, and share best practices with each other and participating faculty. The first brown-bag session was a refresher on program goals, the second focused on explaining how mentors and faculty pairs could collaborate to increase "college knowledge" among students, and the third featured team-building activities for mentor-faculty pairs. A final gathering, the "Beacon Bash," celebrated the efforts and accomplishments of mentors, faculty, and students with refreshments and appreciation awards.

Overall, most mentors reported that the training, ongoing support, and resources offered to them were helpful. As shown in Table 2.3 a large majority of the mentors agreed with the statement that "the Beacon Mentoring Handbook was useful," that their "responsibilities were clearly explained," and that they "knew who to approach with questions or problems about mentoring." Moreover, the majority of the mentor survey respondents indicated that each of the brown-bag sessions was "generally" to "very" useful.

The Role of Faculty in the Beacon Program

Collaboration between the math faculty and the Beacon mentors was essential to the successful implementation of the program. A key element of the program was communication between instructors and mentors so that they could help students before they failed or dropped out of class. Instructors were expected to share information with their mentors, including their class attendance and grading rosters, so that mentors could see if students had stopped showing up for class, received a low score on a test, or otherwise seemed to be having trouble. Administrators from student services worked early on with the chairs of the math department and developmental math studies to build enthusiasm and support for the program among the math faculty. Developing this buy-in was important, as there tends to be a gap between the academic and student services sides of colleges, and faculty are not used to opening up their classrooms to "outsiders."

Despite the efforts to create buy-in from faculty, the level of communication and interaction between the math faculty and the mentors was varied. More than half of the mentors who responded to the survey reported that their math faculty partner stayed in touch with them during the semester, and half reported that the instructor provided them with the information they needed to help struggling students succeed in their class (see Table 2.3).

For many math faculty, working with their mentor proved to be a positive experience. In focus groups, math faculty described their mentors as "motivated," "very involved and accessible," and "receptive to students when talking with them in class." A few faculty members appreciated their mentor's efforts to schedule and facilitate study groups before tests and said that they worked with their mentors to schedule more in-class visits than required by the program. One faculty member noted that her mentor spent extra time in class "even when she was not presenting; she helped students become comfortable with her just by sitting in with them [in class] — she made quite a difference to the atmosphere of the class." Another faculty member mentioned the ease with which her mentor shared his personal educational experiences to help motivate students, and still another faculty member mentioned that her mentor helped students apply for honors programs and scholarships.

But there were also math faculty and Beacon mentors who did not communicate or get along as successfully. Two of the 41 Beacon mentors failed to show up in class at all during the semester. A few faculty were not sure how much their assigned mentors were contacting absentee students, since they were not receiving updates from them, and one instructor said that his mentor would "schedule a time to come to class and then never show up." Some mentors, on the other hand, complained that it was their math faculty partners who were the source of a communication gap. They believed that their faculty partners were not sincere in their commitment to the program, citing their slowness in responding to voice mail or e-mail requests. A few mentors noted that that faculty did little to make them feel welcome in their class and made them feel as if they "were imposing."

Classroom Visits and Frequency of Out-of-Class Interactions Between Students and Mentors

Beacon mentors were expected to visit their assigned classes regularly, refer students to services on campus, and encourage students to contact them outside of class. On the whole, these elements of the program were implemented successfully. The majority of mentors delivered information about campus services as expected during their in-class presentations. Mentors encouraged students to attend class, join study groups, get help from the Center for Learning Excellence, and reach out if they felt they were facing other barriers to success. Anecdotal evidence suggests that some mentors may have encouraged students to persist even if they were earning a low grade, in the hope that they would have a better chance of eventually passing the class if they stuck with it longer, even if it required repeating the class. Other mentors, however, may have recommended that students drop the class to avoid adversely affecting their grade point average.

Most mentors reported visiting their assigned math class at least three or four times during the semester. In addition, nearly 70 percent of mentors also reported referring students from their assigned math class to campus services at least three or more times during the semester (see Figure 2.1).

When contact between mentors and students occurred outside of class, it tended to be mostly by phone or e-mail. Seventy-five percent of mentors communicated with students at least once by phone, and 85 percent communicated by e-mail or online. This was in line with the design of the program, which did not require mentors and students to meet in person outside of class. Even so, two-thirds of mentors reported at least one face-to-face meeting outside of class with students from their assigned math class, and 15 percent reported three or more individual meetings with any student over the semester.

Results from the survey of students who had mentors assigned to their math classes seem to corroborate the mentors' reports about the level and type of contact between students

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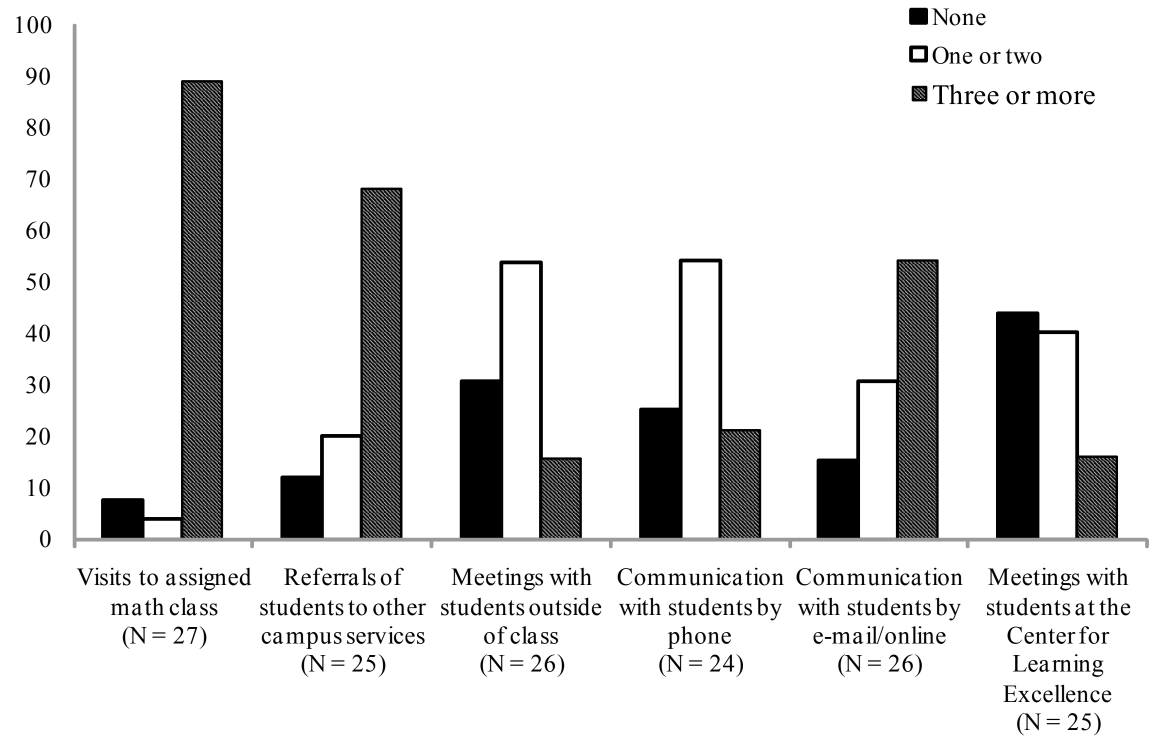
Figure 2.1

Percentage of Mentors Participating in Activities, as Reported by Mentors



SOURCE: MDRC calculations from the South Texas College mentor survey.

NOTE: Twenty-eight of the 41 mentors responded to the mentor survey. However, sample sizes vary because not all mentors answered all questions.

and mentors. Nearly 90 percent of the students reported that their Beacon mentor visited their math class during the semester,[5] and about half reported having contact with their mentor in person, by phone, or by e-mail outside of class. Among students who had contact with their mentor outside of class, the most popular form of contact was e-mail or online (See Figure 2.2).

For those mentors and students who did not have contact outside of class, a number of explanations were offered. Some students simply did not have the time to linger on campus before or after class, as they needed to go to work or meet familial obligations, often coupled with a long commute. For a few students, getting an initial e-mail or phone call from their mentor asking them why they missed class or to further discuss their bad grade on a math test created discomfort or uncertainty about their mentor's intentions.

Use of the Center for Learning Excellence

A key goal of the Beacon program was to increase students' use of existing campus services. Mentors emphasized this in their presentations and focused specifically on the Center for Learning Excellence. Program designers hoped that more students would use the center and thereby improve their chances of passing their classes. The belief that the center could help students academically was reinforced when the college analyzed data showing use of the center during the "pilot" phase of the project in fall 2007 that seemed to show more positive outcomes for center users. As explained by the Vice President of Student Affairs and Enrollment Management: "During the pilot, data showed that if a student had a mentor assigned to them and they visited the Center [for Learning Excellence], that student generally outperformed another student who did not."

Mentors talked about the center during their in-class presentations, and as mentioned above, many also led whole-class visits there to show students how they could arrange for tutoring, participate in study groups, and use the computer labs. Survey results offer evidence that mentored students were much more likely to visit the center. Figure 2.3 shows a statistically significant difference between the percentage of students in mentored and nonmentored classes who reported visiting the center at least once during the semester. This finding is corroborated by the analysis of student records data, reported in the next chapter.

Relationships Between Students and Mentors

The Beacon program was designed to give students a "go to" person on campus who knew them and was trained to offer assistance. As the program coordinator put it: "In having a

[5]Nearly three in four students reported that their mentor visited the math class twice or more.

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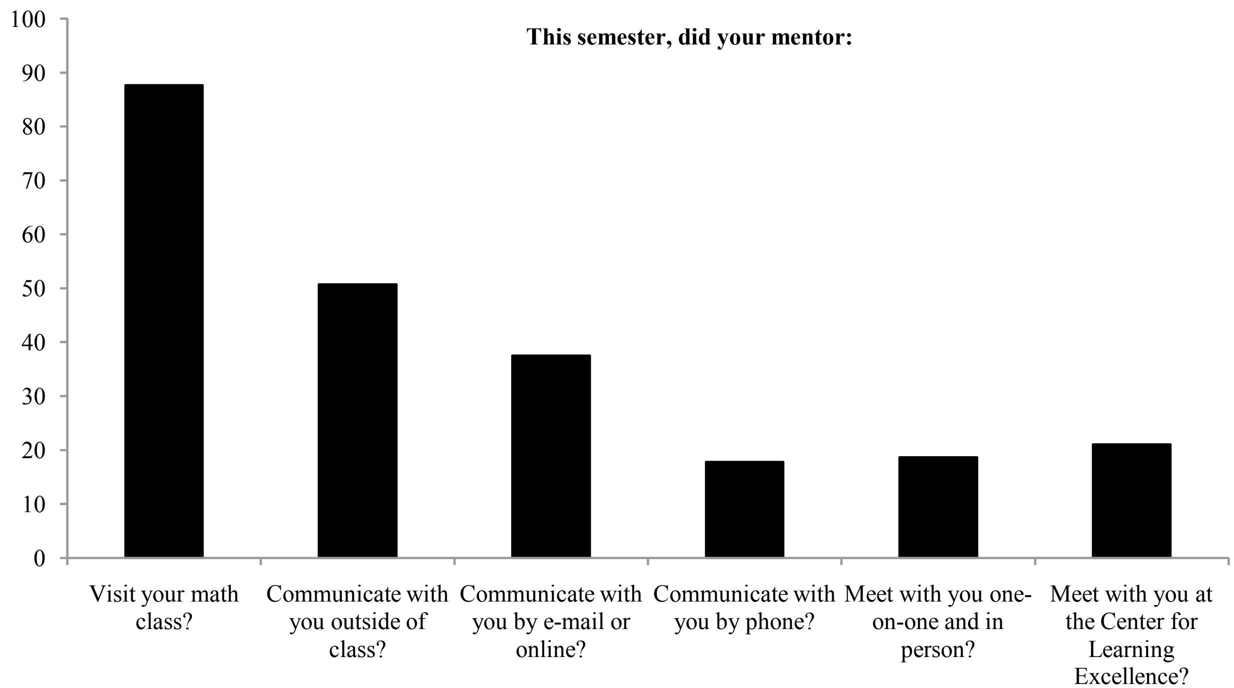
Figure 2.2

Mentor Activity as Reported by Students



SOURCE: MDRC calculations from the South Texas College student survey.

NOTES: These are select questions from the South Texas College student survey; the full survey and responses can be found in Appendix B. The category "Communicated with you outside of class?" combines responses to the three questions about types of mentor-student contact: e-mail, phone, and in-person.

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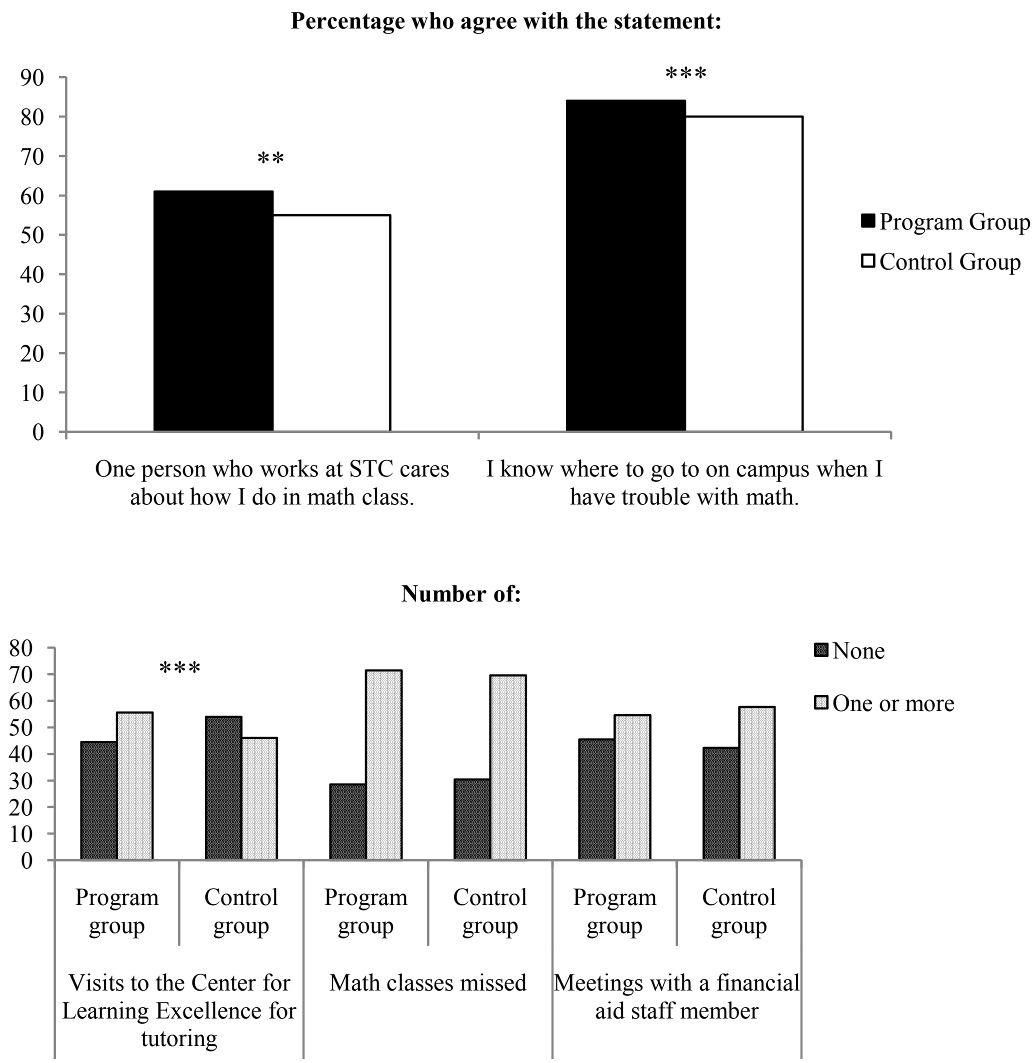
Figure 2.3

Select Responses to Student Survey, by Program and Control Group



SOURCE: MDRC calculations from the South Texas College student survey.

NOTES: In order to assess differences in characteristics across program and control students' responses, chi-square tests were used. Statistical significance levels are indicated as * = 10 percent; ** = 5 percent; *** = 1 percent.

These are select questions from the South Texas College student survey; the full survey and responses can be found in Appendix B.

mentor, students see that there is someone else besides their instructor that makes them feel less alone and that can help them understand that they care about how students progress and succeed." Results from the student survey provide evidence that the program made a difference in the number of students who felt there was such a person on campus. As shown in Figure 2.3, a higher percentage of students from mentored classes than nonmentored classes agreed with the statement, "There is at least one person who works at STC who cares about how I do in math class." This difference of 5 percentage points is statistically significant. Similarly, a higher percentage of mentored students than control group students agreed with the statement, "I know where to go on campus when I have trouble in math," also a difference that was statistically significant.

Students reported additional benefits from being in a mentored class. Nearly half the students who responded to the survey agreed with the statement that their mentor helped them understand the importance of attending their math class. More than half reported that their mentor helped them understand how to apply for financial aid.[6] In focus groups, students said that they were grateful that their mentors showed them around campus to see first-hand the services and programs that could help them with math and other classes. However, some students said that they were initially disappointed when they discovered that their mentor was not a math tutor.

A couple of students were grateful for a particular mentor who visited the class and contacted students far more often than was standard. Another student admitted that his mentor "would bug me a lot by calling me," but the student also pointed out that he tried to attend class regularly and prepare well for tests so as to "not let him down too much."

While most mentors and students reported positive experiences when they worked together, some had more trouble. A few mentors said that cultivating meaningful relationships with students proved difficult, because the brief in-class presentations gave students too little time to get to know or feel comfortable with the mentor. Math faculty sympathized with mentors' difficulty in trying to reach students whom they characterized as reluctant to ask for help, especially in math, due to fear or shame. One added, "It's hard to connect to the students who are too prideful to ask for the help they need — culturally, it is seen as a sign of weakness or vulnerability on their part."

A few Beacon mentors said that they found it hard to make connections with students because they felt uncertain of what to say or how to act. One mentor, an assistant in the admissions department, shared that she wished that she had had access to more training to learn how

[6]See complete student survey results in Appendix B.

to effectively communicate and reach out to students, especially since she "hardly has to interact with them in my regular job on campus." A math faculty member added:

> I think having good communication skills are definitely necessary for a successful mentor…students do not feel comfortable with my mentor because he wasn't prepared to make the extra effort needed to reach developmental education students — they don't come to you…you have to come to them.

Summary of Research on Program Implementation

Survey and focus group data suggest that on the whole, the core elements of the Beacon program were implemented with a reasonable degree of fidelity to the design. Most Beacon mentors completed training, conducted in-class presentations, and disseminated information about campus services and resources. The level of communication between mentors and instructors varied, but when math faculty and Beacon mentors did work together they reported many benefits.

Mentors were also expected to be a "go to" person for their students. About half the students communicated with their mentors outside of class by e-mail or phone. When compared with students in nonmentored classes, students in mentored classes were more likely to feel that there was someone at the college who cared about how they did in their math class and were also more likely to know where to go on campus to get help with their coursework.

Chapter 3

Program Impacts on Academic Outcomes

Introduction

As described in the preceding chapters, the Beacon program was designed to help students succeed in their math classes in three ways: by delivering information about on-campus resources, important deadlines, and completion requirements; by providing a mechanism to identify and offer help to struggling students early on; and by giving students a "go to" person on campus whom they could ask for help or support. This chapter examines whether the Beacon program affected students' use of campus resources and their college performance, measured in a number of different ways:

- the probability of visiting the Center for Learning Excellence, which provides academic support services
- the probability of passing the math class (defined as earning a grade of "D" or better)
- the score on the final exam in the math class[1]
- math class attendance (measured by the percentage of days absent from the class and the number of days attended)[2]
- the probability of withdrawing from the math class
- total credits attempted and credits earned during the program semester (Spring 2008)
- grade point average (GPA)
- the probability that a student registered for the semester following the program semester (Fall 2008)

The analysis also investigates whether the Beacon program was more effective for some groups of students than others: those who attended college part time (compared with those who attended full time) and those who placed into developmental math (compared with those

[1]The final exam score was reported only for students in the developmental math courses and not for students in the college-level course. This is because the developmental math department requires that faculty administer a common, end-of-course exam, whereas instructors in the college math class design their own final exams. Final scores in the developmental math class could thus be compared across classes.

[2]Attendance data were extracted from rosters faculty used to record daily attendance. These data were available only for the developmental math courses because the developmental math department required that faculty take attendance. However, the quality of these data varied from class to class, so findings based on attendance data should be interpreted with caution.

who placed into college-level math).[3] As discussed in Chapter 1, both part-time students and students in developmental math classes are widely perceived to be at greater risk of failure in community colleges.

A key indicator of the effectiveness of the program was whether students in mentored classes were more likely to use the resources on campus that already existed. The Beacon program had a pronounced effect on student visits to the Center for Learning Excellence: The students who were in the program were about 30 percent more likely to visit the center than students who were not in the program, and these effects were similar for both developmental and nondevelopmental students and for students attending school part time as well as full time.

In terms of academic outcomes, the Beacon program had no impact on the probability that students overall passed their math classes, on the final exam score in the math class, on overall GPA, or on the probability of persisting to the next semester in college. However, program participants were less likely to be absent from math class and were less likely to withdraw from the math class.

In addition, the evidence suggests that the Beacon program resulted in additional benefits for two subgroups who are most at risk of failure: students enrolled in developmental math and students who attend college part time (less than 12 credits). Part-time students were less likely than their counterparts in the control group to withdraw from and more likely to pass the math class, earned more credits, and at least in the developmental math classes, scored higher on the final exam. The program also resulted in enhanced benefits for students enrolled in developmental math classes.

The rest of this chapter is organized as follows: The second section briefly describes the methodology used in the impact evaluation. The third section describes the impact of the intervention on the use of tutoring and corollary services at the Center for Learning Excellence. The fourth section describes the impact of the intervention on academic outcomes, and the fifth section summarizes the key findings.

Methodology

This chapter documents the differences in the average outcomes for students in the program and control group classes. The goal of the random assignment study, as described in Chapter 1, is to allow a *causal* interpretation of the differences in outcomes between the program and control group students. As shown in Table 1.1, there are no average differences in

[3]Exploratory analyses also included several other subgroups: gender, age, financial aid status, and math placement test score percentile. The analysis found no clear impacts for these subgroups, and therefore they are not discussed in the text.

characteristics between students in the two groups — this lends strong support to the idea that any differences in outcomes between the groups ought to be due to the Beacon Mentoring program.

However, in order to be as sure as possible that the differences between program and control outcomes are due to the Beacon program, the mean outcomes here are adjusted for class characteristics, student characteristics, and for "teacher effects."[4] The class characteristics are math class level (college versus developmental), and whether the class takes place during the evening or the daytime. The student characteristics are student score on a math placement test,[5] whether the student is under 24 years of age, whether the student is female, and whether the student is carrying a full-time load of credits.

Finally, the means are adjusted for who each individual teacher is. The reason for these adjustments is that even with random assignment of classes, there can be subtle differences in the characteristics of teachers in the program and the control group that could affect the assessment of the program's impact. Imagine, for example, that there is a very talented teacher whose students would do well with or without the Beacon program. Controlling for who the teacher is ensures that the program's impact is being calculated by comparing this teacher's students in the program group with this teacher's students in the control group, neutralizing the teacher quality component of the students' outcomes.[6] The adjustments for student characteristics, class level and time, and teachers ensure that students in the program group are being compared with students in the control group who are as much like them as possible.[7] (See Appendix A for further discussion of the regressions analyses that underlie the adjusted means presented in the report.)

Impact of the Beacon Program on Use of the Center for Learning Excellence

One of the rationales for the Beacon program was that there were resources on campus that students either did not know about or chose not to use. Services provided by the Center for Learning Excellence were a case in point. In this sample of students, fewer than a quarter reported having visited the center. As Chapter 2 showed, the mentors provided information to

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[4]The means are adjusted using ordinary least squares regressions.

[5]An indicator for top or bottom 25 percent on the first math placement test score.

[6]This is assuming the instructor teaches more than one class; random assignment was designed such that if a instructor has multiple classes, some of those classes would be in the program group and some in the control group.

[7]Since student and class characteristics are nearly identical across the program and control groups, controlling for these does not matter much. Note that only the controls for teacher effects change the estimated impact of the program, as discussed in more detail in Appendix A.

the students about the center during their brief visits to the math class, and encouraged the students to visit at least once, even if they felt uncomfortable at first.

Of course, the Beacon program did many things besides guiding students to the center — for example, mentors directed students to other services on campus, such as counseling and the financial aid office, that might also help them overcome other barriers to success. Unfortunately, there is no reliable administrative record of whether students accessed those services, and thus this study cannot examine whether the program increased use of those campus resources as well. The focus here is on student contact with the center.

The first row of Table 3.1 shows the impact of the Beacon program on whether or not a student visited the Center for Learning Excellence. About 6 percent more students in the program group visited the center at least once. Only about 20 percent (19.8) of the students in control group classes visited the center, so this represents about a 30 percent increase in the probability of visiting the center.[8] Some Beacon mentors actually escorted their students on a tour of the center, so this might represent a rather "mechanical" impact if the difference in accessing the center was simply whether or not the students had *ever* visited. However, Table 3.2 shows that the average *number* of visits for the program group is greater than one, compared with 0.65 for the control group, suggesting that there was more than just the one additional visit. This difference is highly statistically significant.[9]

The Beacon program increased visits to the center for the two subgroups of higher-risk students, as can be seen in rows 2 through 5 of Table 3.1. Both full-time and part-time students increased their probability of visiting the center by about 5 to 6 percentage points, and although the exact estimate is slightly higher for part-time students, the impacts are not different in a statistical sense. Similarly, program group students enrolled in both developmental and college-level math classes were more likely to visit the center. Although the impact appears somewhat higher for those in college math, the estimates are not statistically different. The estimates in Table 3.2 show that the *number* of visits increased for all subgroups. The number of visits increased by about half a visit for both part-time and full-time students. Students in the program group in both the college- and developmental-level math classes increased their number of visits to the center. The increase in number of visits was largest for the college math students, but the

[8]This is calculated as the 5.7 percent program impact divided by the mean of 19.8 percent for the control group.

[9]In results not shown, among those who had at least one visit to the Center for Learning Excellence, the program group had, on average, one additional visit to the center. This result should be interpreted cautiously since, technically, it is a nonexperimental result, because the program shifts the probability of going to the center. Those students with at least one visit to the center among the control group may be comprised of the more eager-for-help students, while those in the program group are more representative of students overall. If one could identify the "eager-for-help" students in both the program and control groups and compare them with each other, the program impact might be different than that mentioned here.

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Table 3.1

Percentage Who Ever Visited the Center for Learning Excellence, by Subgroup

Ever Visited Center (%)	Sample Size	Program Group	Control Group	Difference	Standard Error	Difference Between Subgroups
All students	2,165	25.5	19.8	5.7 ***	2.0	NA
Full time (12 + credits)	1,140	25.6	20.2	5.4 **	2.7	
Part time (less than 12)	1,025	25.3	19.3	6.0 **	2.4	
Enrolled in developmental math	1,249	21.5	17.2	4.3 *	2.2	
Enrolled in college-level math	916	31.0	23.2	7.8 **	3.5	
Sample size (total students = 2,165)		1,067	1,098			
Sections represented (total = 83)		41	42			

SOURCE: MDRC calculations from South Texas College demographic, transcript, and placement test data.

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.
Standard errors are clustered by Math 0080, 0085, and 1414 section.
Estimates are adjusted by indicators for developmental class, evening class, teacher effect, top and bottom math placement test quartiles, age less than 24, gender, and full-time status.

differences in the increase in number of visits was not different, in a statistical sense, for the two different levels of math students.

In sum, the evidence in Tables 3.1 and 3.2 suggests a robust impact of the Beacon mentoring program on visits to the Center for Learning Excellence. All groups increased their probability of visiting the center, and this increase appears to be more than merely a mechanical one generated by a one-time organized visit.

The analysis now turns to examining the impact of the Beacon program on academic outcomes.[10] To foreshadow these results, despite the marked increase in the probability of visiting the tutoring center, there is little evidence of a program impact on math class performance, on average. This draws into question exactly what is happening when students visit the

[10]Note that any program effect on academic outcomes should not be necessarily interpreted as the impact of the center's services on these outcomes. The program could have also affected students' use of other campus resources, and effects may have arisen from students' relationship with the mentor or through communication between the instructor and the mentor.

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Table 3.2

Number of Visits to the Center for Learning Excellence, by Subgroup

Number of Visits to the Center	Sample Size	Program Group	Control Group	Difference	Standard Error	Difference Between Subgroups
All students	2,165	1.08	0.65	0.44 ***	0.11	NA
Full time (12 + credits)	1,140	1.05	0.61	0.45 ***	0.12	
Part time (less than 12)	1,025	1.13	0.68	0.45 **	0.19	
Enrolled in developmental math	1,249	0.81	0.53	0.29 **	0.13	
Enrolled in college-level math	916	1.46	0.81	0.65 ***	0.19	
Sample size (total students = 2,165)		1,067	1,098			
Sections represented (total = 83)		41	42			

SOURCE: MDRC calculations from South Texas College participation data.

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.

Standard errors are clustered by Math 0080, 0085, and 1414 section.

Estimates are adjusted by indicators for developmental class, evening class, teacher effect, top and bottom math placement test quartiles, age less than 24, gender, and full-time status.

Center for Learning Excellence. If there is an inadequate number of high-quality math tutors relative to the demand for their services, as noted in interviews with several college leaders, then merely visiting the center may not guarantee that students are receiving the math help they need.

Impact of Mentoring on Academic Outcomes

The focus of this section is on the Beacon program's impact on nine academic outcomes. The results are presented in Table 3.3. The first five outcomes are tied closely to the math class in which the intervention took place:

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Table 3.3

Program Impacts on Academic Outcomes

Outcome	Program Group	Control Group	Difference		Standard Error
Math course pass rate (%)	54.81	53.38	1.43		1.86
Final exam score [a]	*51.70*	*50.50*	*1.21*		*1.31*
Percentage days absent [a] *(%)*	*19.09*	*21.89*	*-2.81*	*	*1.50*
Number of days attended[a]	20.27	19.86	0.41		0.63
Withdrew from math course (%)	15.38	18.20	-2.82	*	1.52
Credits attempted	10.37	10.53	-0.16	**	0.07
Credits earned	6.56	6.49	0.07		0.16
GPA	*1.97*	*2.01*	*-0.03*		*0.04*
Postprogram persistence (%)					
Registered spring 2008 and fall 2008	58.31	59.01	-0.70		2.02
Sample size (total students = 2,165)	1,067	1,098			
Sections represented (total = 83)	41	42			

SOURCE: MDRC calculations from South Texas College transcript and final exam data.

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.

Standard errors are clustered by Math 0080, 0085, and 1414 section.

Estimates are adjusted by indicators for developmental class, evening class, teacher effect, top and bottom math placement test quartiles, age less than 24, gender, and full-time status.

Italicized rows – final exam score, percentage of days absent, and GPA – are nonexperimental. They are calculated only for people who were still attending at the end of the course (final exam), over the days for which one was at risk of absence (percentage of days absent), and for people who got a grade, e.g., did not withdraw or receive an incomplete (GPA), respectively.

[a]Final exam score and attendance data represent developmental math (Math 0080 and 0085) sections only.

- whether or not the student passed the math class[11]
- final exam score
- percentage of days absent from math class
- number of days attended
- whether or not the student withdrew from the math class

Note that the final exam score and the percentage of days absent reflect only the developmental math courses, due to the availability of the data.

The four other outcomes address the potential impact of the program on outcomes beyond the specific math class in which the program was delivered. These potential broad impacts are captured through:

- credits attempted during the program semester
- credits earned during the program semester
- GPA during the program semester
- persistence in the college, measured as the probability of a student being registered at South Texas College in the semester following the program (Fall 2008)[12]

Note that some of these outcomes are nonexperimental because they are calculated only for those students who remain in the math course. For example, the final exam score is calculated only for students who stay in the course and take the final exam, not for those who withdraw. Since the Beacon program may shift the probability of withdrawing from the math course, the underlying characteristics of those taking the final exam may be different for those in the program and control groups. If those in the program group who would have withdrawn in the absence of the program are those with worse math abilities, then this could lead one to find that the program had an adverse effect on final exam scores, when all it really did was change who took the exam. This is quite different from reducing the scores of those who would have taken the exam regardless of the program. As discussed in the methodology section above, the differences between the program and control groups calculated here adjust for student characteristics, including scores on math placement tests, to ensure that the students in the program group are being compared with students in the control group who are as much like them as possible. However, since it is impossible to guarantee that unobservable characteristics are the same in the two groups for the outcomes that are nonexperimental, due to these potential shifts in composition of students, these outcomes are italicized in the tables in this section.

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[11]A "D" grade or higher is considered a pass. Withdrawals, failures, and incompletes are treated as not passing the class.

[12]No attempt was made to track students who might have attended a two- or four-year postsecondary institution other than South Texas College in the semester following the program semester. Thus, estimates of the percentage of students who "persisted" may be slightly understated.

Turning to Table 3.3, there is little evidence that *performance* in math classes is improved by the program, on average. The first two rows of Table 3.3 show that the pass rate and final exam scores are not statistically different from one another for the program and control groups.

There is evidence, however, that students in the program group were less likely to withdraw from their math class, and their percentage of days absent is lower. Withdrawal rates are about 3 percentage points (2.82) lower for the program group, and this difference is statistically significant at the 10 percent level. This change represents about a 15 percent decrease in the withdrawal rate for the program group over the control group. Interestingly, although there is a decline in the withdrawal rate, there is not a statistically significant increase in the pass rate. Since withdrawals and failures (and incompletes) are treated as "not passing" in the pass rate analysis, this implies that not all of the students who decide to continue in the math class because of the Beacon program pass it. If all of the students induced to stay in the class due to the program passed the class (and there were no program effect on "F" grades or incompletes), then the difference between the program and control class pass rates would be identical to the difference in the withdrawal rate. As Table 3.3 shows, the difference in pass rates is positive, but not statistically different from zero. The percentage of days absent, calculated as a percentage of days missed up until the end of the course or until the withdrawal date for those who withdraw,[13] is about 3 percentage points lower, and this difference is statistically significant at the 10 percent level. The average number of days attended, which is calculated over all students, however, is not statistically different for the program and control classes.

Turning to academic outcomes outside of the math class itself, Table 3.3 shows that the number of credits attempted is statistically significantly lower in the program group, while the number of credits earned is not different between the program and control groups. Recall from Table 2.1 that the first mentor visit to classes was during the week of January 21, 2008, when students still had the opportunity to add or drop classes without affecting grades or credits. Thus, there is an opportunity for the Beacon program to affect students' decisions about which courses to take and which to drop.[14]

Appendix Table B.3 investigates credits earned and attempted in more detail. From this table it is clear that students in the program group attempted fewer nonmath regular credits.[15]

[13]This is a nonexperimental result, since the withdrawal rates are different between program and control groups.

[14]There is no evidence that there was differential dropping of the math courses by the program and control classes during the pre-census period. Table 1.1 shows that the class sizes are statistically the same for the program and control groups, as are student characteristics.

[15]There is a small negative and marginally significant impact of the program on developmental math credits attempted. Since only the students in developmental math should have been attempting developmental

(continued)

Appendix Table B.3 also shows that program students earn significantly more nonmath developmental credits than the control students. Interestingly, these findings suggest that, to the extent that academic performance is affected by the Beacon program, these effects are in nonmath courses. This will be investigated further in the subgroup analyses that follow.

Finally, there is no statistically significant impact of the program on overall GPA or on the probability that students persisted from the spring semester to the subsequent fall term. About 60 percent of both the program and control groups reenrolled.

The overall impacts show little effect of the Beacon program on academic performance in the math class. To the extent that program students do better, they earned slightly more credits in nonmath developmental courses, a result that will be probed further in the subgroup analyses below. There is, however, an impact on withdrawal from the math class. This finding is consistent with reports in the implementation research that some mentors may have encouraged students to stay in the math course, even if they were earning a low grade or would end up repeating the class, in the hope that the students would have a better chance of eventually passing the class if they stuck with it longer.[16]

Subgroup Analysis: Impacts for Full-Time versus Part-Time Students

As discussed in Chapter 1, research suggests that part-time students have worse academic outcomes than full-time students.[17] There are many potential reasons for these differences. For example, it may be simply that the factors that prevent students from enrolling full time, such as the need to work or care for children, are the same factors that affect academic performance. Or it may be that there is a direct impact of part-time status on performance, because part-time students are less able to form study groups, have less time on campus to use resources, or are less likely to have networks that keep them well informed about degree requirements, important deadlines, and the like.

If differential access to information is part of what lies behind the differences in outcomes between full-time and part-time students, then the Beacon program may be particularly helpful for part-time students. Table 3.4 investigates the program impacts separately for full-time and part-time students. Full-time students are defined as those who carry at least 12 credits

credits, and they should all have been attempting only one course, this is possibly due to some registration error (for example, a student mistakenly signed up for two developmental math courses, and the registration system did not block them from doing so).

[16]Advising students to stay in a course in which they risked failure was not a universal practice among the mentors.

[17]Chen (2007).

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Table 3.4

Program Impacts, by Part-Time/Full-Time Status

	Part time (less than 12 hours)				Full time (12 or more hours)				Difference
Outcome	Program Group	Control Group	Difference	Standard Error	Program Group	Control Group	Difference	Standard Error	Between Subgroups
Math course pass rate (%)	57.62	51.07	6.55 **	2.55	52.78	55.11	-2.33	2.57	††
Final exam score[a]	*54.23*	*50.87*	*3.37* *	*1.93*	*49.44*	*50.22*	*-0.78*	*1.88*	
Percentage days absent[a] *(%)*	*18.62*	*22.54*	*-3.92*	*2.56*	*19.27*	*21.50*	*-2.24*	*1.84*	
Number of days attended[a]	20.31	19.69	0.61	0.81	20.29	19.95	0.34	0.75	
Withdrew from math course (%)	14.11	20.43	-6.32 ***	2.23	16.36	16.27	0.09	1.75	††
Credits attempted	7.68	7.91	-0.23 *	0.13	12.82	12.84	-0.03	0.06	
Credits earned	4.92	4.61	0.31 *	0.18	8.07	8.14	-0.07	0.27	
GPA	2.00	1.96	0.04	0.06	1.95	2.05	-0.10	0.07	
Postprogram persistence (%)									
Registered spring 2008 and fall 2008	54.10	54.94	-0.84	2.96	61.81	62.93	-1.11	2.50	
Sample size (total students = 2,165)	497	528			570	570			
Sections represented (total = 83)	41	42			41	42			

SOURCE: MDRC calculations from South Texas College transcript and final exam data.

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.

Standard errors are clustered by Math 0080, 0085, and 1414 section.

Estimates are adjusted by indicators for developmental class, evening class, teacher effect, top and bottom math placement test quartiles, age less than 24, gender, and full-time status.

Italicized rows – final exam score, percentage of days absent, and GPA – are nonexperimental. They are calculated only for people who were still attending at the end of the course (final exam), over the days for which one was at risk of absence (percentage of days absent), and for people who got a grade, e.g., did not withdraw or receive an incomplete (GPA), respectively.

[a]Final exam score and attendance data represent developmental math (Math 0080 and 0085) sections only.

during the semester. The sample is fairly evenly split between part-time (47 percent) and full-time (53 percent) students, and all math class sections had both part-time and full-time students in them. The column for the control group shows that, in general, part-time students have worse outcomes than full-time students. For example, 20 percent of part-time students in the control group withdrew from their math class, compared with only 16 percent of full-time students in the control group.

Table 3.4 shows that the beneficial program effects are concentrated among the part-time students. For full-time students, there are no impacts of the Beacon program that are statistically significantly different from zero. For part-time students, on the other hand, the program group is 6.6 percentage points more likely to pass the math class, which is about a 13 percent increase in the pass rate relative to the mean pass rate in the control group. This is statistically significantly different from zero and significantly different from the estimated impact estimated for full-time students. Corroborating the increase in the pass rate is the fact that the final exam score is a few points higher for the program group on average, and this difference is marginally statistically significant.[18] There is a negative and statistically significant impact on the withdrawal rate, which is about double the size of the impact for the sample overall. The 6 percentage point decline in withdrawal rates is about a 30 percent decline relative to the mean withdrawal rate in the control group.

The number of credits attempted is significantly lower for the program group, but the number of credits earned is significantly higher (indicating more credits earned per attempt). However, there is no impact of the program on persistence in college.

The pattern of credits attempted and earned is investigated in Appendix Table B.4. All but one of the statistically significant differences are for part-time students, again suggesting that the program's impacts are concentrated in this group. Part-time students attempt marginally significantly fewer credits — only the impact on developmental math credits is statistically significant, but it is very small.[19] On the other hand, the program's effect is uniformly positive on credits earned for part-time students, although the only statistically significant effects are for developmental credits earned. Consistent with the higher pass rate for part-time students in the program group shown in Table 3.4, the number of developmental math credits earned is statistically significantly higher for part-time students in the program group.

These results provide evidence that the Beacon program had a larger beneficial impact for part-time students. Part-time students may have benefited more from information about

[18]Standardized final exam scores were available only for developmental classes; this result is for the subgroup of developmental math students within the subgroup of full- and part-time students.

[19]Since all students had to be in a math class to be in the study, there is little variation in math credits attempted. Again, this difference in developmental math credits attempted is likely due to some registration error.

campus services provided by mentors that helped them pass their courses; or the sense that there was someone on campus to turn to if they needed help could have motivated them to work harder in their courses.

Subgroup Analysis: Developmental Math versus College Math

There are many differences between students who are referred to developmental classes and students who are allowed to enroll in college-level math classes. As described in Chapter 1, academically weaker students are referred to developmental math classes, and passing these often proves to be a significant barrier to their advancement in college. The fact that developmental-level students tend to have worse academic outcomes than college-level students is demonstrated in Table 3.5. As can be seen in the columns for the control group at each level, students in developmental math are less likely to pass than students in college math (48 percent versus 61 percent); they tend to both attempt and earn fewer credits (9.99 versus 11.27 attempted; 5.55 versus 7.8 credits earned), and they have lower GPAs (1.78 versus 2.30). Developmental math students are at higher risk for poor outcomes in college; in order to have an opportunity to enroll in college-level courses to earn credits that count toward a major, a degree, an occupational certificate or transfer to a four-year college, they must first pass out of the developmental math sequence.

The left panel of Table 3.5 shows program impacts for students in developmental math classes, and the right panel shows program impacts for students in college math classes. (Note that final exam scores and attendance information are available only for developmental math sections, and those outcomes are listed in Table 3.3). Of the 83 sections of math in the study, 52 were in developmental math, and the remaining 31 were in a college-level algebra course. About 58 percent of the students in the study, therefore, were enrolled in the 52 developmental classes.[20]

There are some interesting differences in program impacts between students in the two types of math courses. Students who received the program in developmental classes were 6 percentage points less likely to withdraw than control students — this is about a 34 percent decline in withdrawal rates relative to the control group. The program effect is highly statistically significant. College-level math students who were in the Beacon program, on the other hand, have withdrawal rates that are not statistically different from the control group. The impact of the program on withdrawal rates is significantly different between developmental and college-level students.

[20]Note that the study was specifically designed to allow for the separate analysis of the impact of the program on developmental and college-level math class, since randomization into the program or control group was done within each class type.

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Table 3.5

Program Impacts, by Math Level

	Students in Developmental Classes				Students in College-Level Classes				Difference
Outcome	Program Group	Control Group	Difference	Standard Error	Program Group	Control Group	Difference	Standard Error	Between Subgroups
Math course pass rate (%)	50.70	47.62	3.09	2.61	60.19	61.39	-1.20	2.54	
Withdrew from math course (%)	11.79	17.99	-6.21 ***	2.10	20.49	18.44	2.05	1.67	†††
Credits attempted	9.88	9.99	-0.11	0.09	11.02	11.27	-0.24 *	0.12	
Credits earned	6.09	5.55	0.54 ***	0.20	7.14	7.80	-0.66 ***	0.18	†††
GPA	*1.83*	*1.78*	*0.05*	*0.05*	*2.15*	*2.30*	*-0.15* ***	*0.05*	*†††*
Postprogram persistence (%)									
Registered spring 2008 and fall 2008	56.98	55.91	1.06	2.67	59.67	63.57	-3.90	3.09	
Sample size (total students = 2,165)	624	625			443	473			
Sections represented (total = 83)	26	26			15	16			

SOURCE: MDRC calculations from South Texas College transcript data.

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.

Standard errors are clustered by Math 0080, 0085, and 1414 section.

Estimates are adjusted by indicators for developmental class, evening class, teacher effect, top and bottom math placement test quartiles, age less than 24, gender, and full-time status.

The italicized row – GPA – is nonexperimental. It is calculated only for people who got a grade, e.g., not did withdraw or receive an incomplete.

Developmental math students who are in the Beacon program earn significantly more credits than those in the control group; however, since the math class pass rate is not significantly higher, this strongly suggests an impact on outcomes in other classes. College-level math students in the program, on the other hand, attempt about 0.24 fewer credits and earn 0.66 fewer credits than their counterparts in the control group. The positive impact of the program for credits earned for developmental math students and the negative impact of the program for credits earned for college math students are significantly different from one another. There is also a small negative and statistically significant impact of the program on GPA for the college-level math students. The program effects on passing the math class and persistence in college are statistically insignificant for both groups.

Appendix Table B.5 takes a closer look at differences in the program effects for credits earned and attempted by developmental and college-level math students. For students in developmental classes, there are no statistically significant effects on credits attempted. However, credits earned are statistically significantly higher for the program group. The table disaggregates these credits by developmental and regular credits, and then further, by math and other credits within these levels. While the overall difference in credits earned between program and controls is highly statistically significant, the only subgroup of credits for which the difference is statistically significant is nonmath developmental credits earned. Thus, the evidence points to a bigger impact on academic performance for developmental math students in their nonmath developmental courses. For students in college level math, however, there are fewer credits attempted by the program group, and this is mainly coming from fewer nonmath regular credits. Furthermore, the program group earned significantly fewer credits, and this is also coming from nonmath regular credits.

One explanation for the different impact of the program on credits attempted for developmental and college-level math students is that while the mentors gave good advice to both groups, advice for students in the two types of classes might have been appropriately different. For developmental math students, some mentors may have emphasized the value of staying with the math course, even if the student seemed to be failing. An appropriate message to these students may be that they need to pass the developmental math courses before moving on to other course work, and even if they fail this time, their chances of passing next time might be better if they stay in the course for the whole semester. While some mentors may have given different advice to a student at risk of failure, this interpretation is consistent with the significantly lower withdrawal rate, without a commensurately higher pass rate for developmental math students in the program. The different impact of the program on credits earned might be explained by the fact that mentors clearly emphasized the importance of the Center for Learning Excellence and other support services. These services, while having little impact on math class performance — perhaps, as acknowledged by a few college leaders, due to inadequate access to high-quality math tutors — may nonetheless have improved general study habits, test-taking strategies, and other such skills, and these improvements may have had an effect on performance in other classes.

For the college-level math students, on the other hand, the mentors may have emphasized the importance of getting through this gatekeeper course, and that a strategy for doing that would be to reduce their credit load in other areas. This interpretation suggests that program students may have rearranged their courses, dropping some of the nonmath regular credits they were carrying. In addition to dropping some nonmath courses, program students may have been encouraged to concentrate their efforts on the math class, which may in turn have resulted in a lower GPA overall and a lower number of credits attained in nonmath classes.

Summary of Key Findings

This impact study finds no evidence that the Beacon program increased the rates at which community college students pass their math classes, or the probability that students would persist in college from the spring to subsequent fall term. There is, however, evidence of increased use of the Center for Learning Excellence, decreased withdrawal rates from math classes, and a decreased number of credits attempted. Some of these effects are large: The probability of visiting the Center for Learning Excellence increased by 6 percentage points, which is about a 30 increase relative to the mean of the control group. Similarly, withdrawal rates were nearly 3 percentage points lower in the program group, which is about a 15 percent decline in withdrawal relative to the mean withdrawal rate for the control group of 18.2 percent. Moreover, there is evidence that these beneficial effects are more pronounced among students at higher risk of failure — part-time students and those in developmental math classes.

Chapter 4

Conclusions and Implications

The Beacon Mentoring program at South Texas College was a short-term, "light touch" intervention designed to help students in developmental math and college algebra classes succeed. The program was based on three simple ideas: Students who need services often fail to take advantage of them even when they are available and free; a mechanism is needed for faculty to alert student services staff when students start to fail in class so that help can be offered before it's too late; and students need a "go to" person on campus who knows them and to whom they can turn for advice, support, and information.

Summary of Findings

The implementation study found that the key elements of the intervention were carried out mostly as planned. The impacts study found robust evidence that the program increased students' use of the student success center. Further, the evidence suggests that students in math classes that were assigned to a mentor were less likely to withdraw from the class before the end of the semester — even though they were not more likely to pass the class. However, for the sample as a whole, there is no evidence that students in mentored classes were more likely to earn a higher score on the final exam, get better grades, or reenroll the following semester. The data suggest that while the program may not have improved students' math skills, it may have helped some students do better in their *other* classes, in part because they attempted fewer credits. Finally, the program seems to have more pronounced impacts for two subgroups, both of which are considered to have higher risk of failure: students enrolled in developmental math classes (as opposed to college-level classes) and students enrolled part time.

Implications for Practice, Policy, and Future Research

Community colleges face a formidable challenge as students who are underprepared academically continue to flood through the open doors of these accessible, affordable institutions in pursuit of their dream of a college education. Colleges and policymakers are looking for ways to help turn the tide of low completion rates. The Achieving the Dream initiative in which South Texas College has participated for several years has broken new ground in this effort by encouraging colleges to experiment with new strategies and to document and evaluate their effectiveness. This study suggests several additional implications for both practitioners and policymakers.

First, rigorous evaluations of interventions in community colleges are not only possible but also provide valuable information about what works in this setting. This study randomly assigned whole classes to program and control groups. Other recent experimental evaluations randomly assigned individuals: the Student Success Course Evaluation at Guilford Tech (another Achieving the Dream evaluation), MDRC's Opening Doors Demonstration, and the National Center for Postsecondary Research's (NCPR) Learning Communities Demonstration and Texas Developmental Summer Bridge Evaluation. Both methods yield information that colleges, funders, and policymakers can trust.[1]

Second, programs that proactively connect students with services such as the Beacon program are promising and worthy of further investigation. Services that are well integrated into academic instruction, including in the classroom itself, are especially likely to make a difference.

Third, while improving the quality of and access to services is needed and seems helpful, this study also suggests that more is required to help students succeed in math, in particular. Colleges and policymakers should explore different models of teaching and learning, particularly for students who are older or who may have failed to learn math in high school. Approaches such as contextualization, hands-on learning, and self-paced, computer-assisted instruction offer promise for math instruction. Lessons learned from high school reform, such as how to use assessment data to inform instruction, should also be pursued. In addition, a closer look at the quality of the tutoring and other services available at the increasingly popular student success centers seems warranted.

Fourth, the findings of this study point to the importance of learning not only what works in community colleges, but also what works for whom. While the Beacon program had only modest impacts on average, it had substantially larger impacts for part-time students and for students in developmental math. This result is consistent with research that shows that these students have worse academic outcomes because they are more marginally connected to the college. As colleges and others work to design programs to help students, factors such as which groups to target and how to reach them should be carefully considered.

A final policy implication of this study is that policymakers and researchers interested in learning what works in community colleges would do well to harness the creativity, expertise, and commitment of those who know this setting best: the administrators, instructors, and staff who work on the campuses of the country's 1,100 community colleges. Student services administrators and staff, faculty, and department chairs and deans are well positioned to know

[1]For more information about these projects, see the MDRC and NCPR Web sites: http://www.mdrc.org/area_index_5.html and www.postsecondaryresearch.org.

what students need to succeed, and “home-grown” projects such as the Beacon program may offer the best hope of helping students realize their potential for success.

Appendix A

Technical Appendix: Methodology and Data Sources

Random Assignment Method and Research Sample

The Beacon Mentoring program was implemented for three levels of math: Math 0080 (Basic Mathematics), Math 0085 (Introductory Algebra) and Math 1414 (College Algebra). Math 0080 and Math 0085 are developmental courses, and Math 1414 is the first level of college math. Math class sections were randomly assigned to the program or control group as follows.

The developmental courses (Math 0080 and 0085) were put in a separate block from the college-level course (Math 1414). Those blocks were then split up by teacher. Finally, these blocks were split up by time of class — daytime or evening. This last partition yielded the final RA blocks that were used for randomly assigning treatment sections of the math classes. Once the RA blocks were defined, the first section in each block was randomly given a "P" or "C" for program or control. The subsequent sections within each block then alternated status. So, for example, teachers who had only one section would essentially get a coin flip for their assignment. If they had two sections during the daytime, they were guaranteed to get one of each assignment status. The head of Student Services assigned mentors to courses once they were designated as part of the program group or the control group. In a minority of cases, he matched mentors with faculty based on how well they did or did not get along.

There were 83 sections randomly assigned with 2,165 students. There were 41 mentors assigned to 41 sections.

Impact Study

The first section of the technical discussion of the impact study explains the ordinary least squares regressions used to adjust the means. It goes into more detail about the rationale for these models than is presented in the body of the text. It also shows that the estimated impacts are robust to alternative specifications. The second section presents an analysis of program impacts for subgroups of students defined as having high and low risk for failure.

Regression Models Used to Adjust Means

The impacts of the program estimated here are for means that are adjusted using ordinary least squares regressions. Appendix Table A.1 shows the regression that generates the program impact on passing the math class (the first row in Table 3.3) in the third column. In addition to the indicator for program/control group, the regression controls for whether the individual is in a college-level or developmental math course, whether the course is in the evening, whether students scored in the top or bottom quartile of the sample on their initial math

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Appendix Table A.1

Estimated Program Impacts on Math Course Pass Rate: Alternative Specifications (Robust Standard Errors in Parentheses)

	Estimated Program Impacts			
Indicator	No Controls	Controlling for All Indicators	Controlling for All Indicators; Including Teacher Fixed Effects	Controlling for All Indicators; Including Random Assignment Block Fixed Effects
Program group	0.033	0.0359	0.0143	0.0149
	(0.0454)	(0.0431)	(0.0186)	(0.0193)
College-level math		0.0909*	0.0907	0.0908
		(0.0487)	(0.3749)	(0.3744)
Evening course		0.0088	-0.0286	-0.2214
		(0.0448)	(0.0429)	(0.375)
Top 25% math placement test score		0.0407	0.0721***	0.0697**
		(0.0281)	(0.0262)	(0.0264)
Bottom 25% math placement test score		-0.0928***	-0.1106***	-0.1112***
		(0.0267)	(0.0251)	(0.0251)
Age 24 years or under		-0.1285***	-0.1188***	-0.1185***
		(0.025)	(0.0248)	(0.0249)
Female		0.0855***	0.0736***	0.0733***
		(0.0227)	(0.0222)	(0.0223)
Full-time student		0.0045	-0.0041	-0.0033
		(0.0228)	(0.0221)	(0.022)
Number of observations	2,165	2,165	2,165	2,165
R-Squared	0.001	0.043	0.170	0.171

SOURCE: MDRC calculations from South Texas College demographic, transcript, and final exam data.

NOTES: Regressions also include a constant and an indicator for a missing math placement test score. In cases where the score was missing, the indicators for the top 25 and the bottom 25 were coded as zero. Standard errors are clustered on the math class section. A two-tailed t-test was applied to differences between research groups. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent.

placement test, an indicator for whether the math placement test was missing,[1] an indicator for whether the student is under 24 years of age, an indicator for whether the student is female, and an indicator for whether the student is carrying a full-time load of credits. In addition, there is a full set of teacher-specific fixed effects. This specification is the basic one used to generate all program impacts presented in Chapter 3.

Appendix Table A.1 also shows alternate specifications for these regressions. The first specification shows the program impact with no controls. The second specification shows the impact controlling for the variables described above, except for teacher-specific fixed effects. The third specification adds teacher-specific fixed effects. The fourth specification adds random assignment block fixed effects instead of teacher-specific fixed effects.

Moving from the first to the second column, one can see the effect of including controls for demographic and class characteristics. There is very little change in the coefficient on the indicator for being in the program group. As one would expect, given that Table 1.1 shows no difference between the program and control groups in these characteristics, adding these controls does not change the estimated impact. The rationale for including these variables is threefold. First, some of these variables — college math versus developmental math, and part time versus full time — represent subgroups for which a separate analysis of the program impact has been performed. The subgroup impacts are created by running separate regressions for each subgroup, which is equivalent to running a pooled regression, but including an indicator for the subgroup and fully interacting all other regressors with this indicator. In order to keep the models that underlie the adjusted means as similar as possible, indicators for the subgroup are included in the main impact regressions.

Second, for outcomes like "number of visits to the Center for Learning Excellence among students who visit at least once" the fact that the intervention may affect the composition of students who *ever* visited the center is important. For example, suppose that the program increases the probability that students visit the center. Then the students who visit the center at least once among the control group may be different from the students who visited at least once among the program group. Suppose the students who visited at least once among the control group were those who were most eager for help, but those who visited at least once among the program group were more representative of students as a whole. One would prefer to compare those in the program group who were eager for help with those in the control group who were eager for help; however, measuring "eagerness" is difficult. Controlling for initial math test scores and other demographic characteristics associated with success in math should decrease the bias due to this potential shift in the composition of students who ever visit the center.

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[1]Missing indicators were replaced with zeros.

Similar issues exist for the estimated impact on percentage of days absent. Once a student withdraws from the course, the student is no longer counted as absent. So the fact that the program may shift the withdrawal rate means that the students remaining in the course in the program and control groups may have different underlying propensities toward absence. Controlling for characteristics helps ensure that those in the program and control group are as similar as possible.

Finally, controlling for characteristics that are correlated with the outcomes in question, but not correlated with the right-hand-side variable of interest — whether one is in the program or the control group — will reduce the standard errors of the estimated coefficients. There are 2,165 students in the study, but only 83 sections of the math class. Since the standard errors are clustered on the math class section in order to account for the class-level shared environment, power is an issue. It seems reasonable to include controls that are legitimate on *a priori* grounds.

It is common in random assignment studies to control for random assignment pool fixed effects. For example, Barrow, Markman, and Rouse (2009) randomly assigned classrooms of elementary school students to use a computer-aided mathematics program versus traditional instruction. In that study, all math classes taught within a given time period at a given school were in one randomization pool. So, classes within a given time period (at a given school) were randomly assigned to be in the program group (computer-aided instruction) or the control group ("chalk and talk"). In order to control for potential unmeasured differences between students who take math classes at different times of day, the estimated program impacts control for the school and class time period. The study design here is similar. First, random assignment pools were determined by class level: developmental or college-level. As described above, some teachers taught multiple classes, and some teachers taught only one class — "singletons." Singletons were randomly assigned to be in the program or the control group, with any given class having a 50-50 chance of being in either: Essentially, these teachers were each in their own random assignment pool, and a coin was flipped to see if they would be in the program or control group. For teachers who taught more than one class, for each teacher, classes were allocated to the program or control group. Furthermore, if teachers taught at multiple times of day, there were separate random assignment pools for day and evening classes. Controlling for random assignment pool fixed effects here controls for unmeasured differences in teacher quality, unmeasured differences in student-teacher match quality (for example, if good students are more likely to take classes with good teachers), and for teachers who teach in multiple time periods. It also controls for unmeasured differences across students in classes at different times of day.

Alternatively, one can control directly for teacher-specific fixed effects and time of day of the class. Column 3 in Appendix Table A.1 adds teacher-specific fixed effects to the regression and column 4 adds random assignment pool fixed effects. The estimated impacts are nearly identical, which is unsurprising, since teacher indicators were a large part of what formed the random assignment pools. However, controlling for teacher-specific effects rather than random assignment fixed effects has two attractive features. First, it is well-known in the education literature that teacher effects are powerful in explaining student outcomes (Aaronson, Barrow, and Sanders, 2007). Controlling for teacher-specific fixed effects is intuitive and allows one to confirm the importance of teachers within this experiment. Secondly, controlling for teacher-fixed effects allows subsequent analyses to investigate whether the program effects are different for teachers of high and low quality, without needing to change the specification used to estimate the main impacts. Once again, note that the results are nearly identical whether one controls for teacher-specific fixed effects or random assignment pool fixed effects: With the addition of either, the estimated impact of the program on pass rates declines from 3.6 percent (column 2) to 1.43 percent (column 3) or 1.49 percent (column 4). The R-squared increases from 4.3 percent of the variation in pass rates explained by the regressors to 17 percent of the variation in pass rates explained by the regressors. Finally, the decision to use teacher-fixed effects or random assignment pool fixed effects does not affect the impact analysis presented in Chapter 3. The estimated program impacts presented in the body of the text are robust to including either teacher-specific fixed effects or random assignment pool fixed effects.

Subgroup Analyses

It is possible that the Beacon program had different effects for different types of students (or different types of teachers). Chapter 3 presents effects for two subgroups: full-time versus part-time students and developmental versus college-level math classes. The evidence in Chapter 3 suggests that the Beacon program is indeed more beneficial for part-time and developmental math students. However, this result may or may not indicate a larger program impact for higher-risk students in general. It may be that the program impact is heterogeneous along some dimension other than these students' tendency to be at risk of failure. Additionally, there are other groups of students who are also at greater risk of failure: low-income students, older students, students from underrepresented minority groups, etc. There are two reasons that this report does not investigate program impacts for all of these potential subgroups: first, these data do not contain useful information on selected markers of socioeconomic status.[2] Secondly, even if the data did contain this information, there is a danger in analyzing too many different subsamples and outcomes: If one analyzed 100 different groups, one should expect that five cases would show statistically significant impacts (using a 5 percent level of statistical

[2]Some students filled out a Baseline Information Form survey, which contains rich detail on family background and other student characteristics. Unfortunately, not all the students filled it out, leading to small sample sizes, and those students who did fill it out are statistically significantly different from the overall sample on those dimensions for which information exists in both the survey and the administrative records. Therefore, any subgroup analyses using these data could not be generalized to the overall sample.

significance) merely by random chance. Thus, the more subsamples that are analyzed, the less one should make of any one given instance of a statistically significant impact.

This appendix investigates whether the impacts found for part-time students and for developmental math students are consistent with their being differential program impacts for at-risk students. A logit model is estimated where the dependent variable is "does not pass math class," and a "risk of failure"[3] index is calculated for each student in the sample based on the results of the logit model. The sample is then split into "high-" and "low-risk" students, with half the sample in each group. The program impacts are then estimated separately for each of these groups.

Appendix Table A.2 shows the odds ratio estimates for the probability that students do not pass their math class. The characteristics used to predict not passing are: an indicator for college-level math, indicator for evening class, indicator for scoring in the top 25 percent of math placement test scores, indicator for scoring in the bottom 25 percent of math placement test scores, indicator for math placement test score missing, indicator for age less than or equal to 24, indicator for female, and an indicator for full-time status (taking 12 or more credits). The first column presents estimates using a random subsample of 100 students from the control group. The second column shows the model for failure estimated on all 1,098 students in the control group. The model in the first column is used to create the "risk-of-failure" measure for the 2,042 students who remain after the 100 randomly selected controls used for estimating risk are dropped from the sample (class sections were dropped if there were not both high- and low-risk students in that section).

The first column of Appendix Table A.2 shows that for students enrolled in college-level math, those with high math placement test scores and those who are female are, conditional on the other controls, less likely to not pass their math class. Evening class students, those with low test scores, and those 24 and younger, are more likely to not pass their math class. Surprisingly, full-time students are, in this sample, estimated to be more likely to not pass their math class. The second column, where all controls are used in the estimation, suggests that this is an idiosyncratic result for these 100 randomly selected controls.[4] All other estimates are similar for all controls and the randomly selected subset.

After fitting the model shown in column 1, the "at-risk-of-failure" index was created for all students in the sample (save the 100 controls used in the estimate). The sample was then split in half into those estimated to be at high and low risk for failure. The impact of the Beacon

[3]This should really be "risk of not passing" index, since not passing includes failing grades, incompletes, and withdrawals.

[4]To confirm this, a different 100 controls were randomly selected. For this second set of 100 controls, the estimates for full-time students who were more likely to pass their math class, and the odd ratio for this variable and for all the other variables, were very similar to those for the full sample of controls.

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Appendix Table A.2

Estimated Odds Ratio for Not Passing Math Class

	Subsample of Control Group		Full Control Group	
Indicator	Odds Ratio	95% Confidence Interval	Odds Ratio	95% Confidence Interval
College-level math	0.8	0.308, 2.074	0.648	0.482, 0.872
Evening course	2.706	0.556, 13.172	1.154	0.831, 1.603
Top 25% math placement test score	0.718	0.228, 2.259	0.935	0.657, 1.332
Bottom 25% math placement test score	1.992	0.626, 6.335	1.518	1.103, 2.089
Age 24 years or under	1.21	0.408, 3.589	1.75	1.317, 2.325
Female	0.588	0.248, 1.396	0.668	0.52, 0.857
Full-time student	1.797	0.745, 4.338	0.907	0.708, 1.162
Number of observations	100		1,098	

SOURCE: MDRC calculations from South Texas College demographic, transcript, and final exam data.

NOTES: Regressions also include a constant and an indicator for a missing math placement test score. In cases where the score was missing, the indicators for the top 25 and the bottom 25 were coded as zero.

program was then reestimated for these two groups. The results of this analysis are show in Appendix Table A.3.

The results are broadly consistent with the subgroup analyses presented in Chapter 3. There are more statistically significant program effects for the high-risk group than for the low-risk group. Among high-risk students, the program group is significantly less likely to withdraw from the math class and earns a significantly higher percentage of credits per attempt. For the low-risk group, there is a statistically significant program impact on percentage of days absent but no other statistically significant effects.

These results suggest that a reason for larger program impacts for part-time students and students in developmental math, reported in Chapter 3, may be that the Beacon Mentoring program has larger effects for higher-risk students.

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Table A.3

Program Impacts, by High Risk/Low Risk of Math Failure

Outcome	Low Risk Program Group	Low Risk Control Group	Low Risk Difference	Low Risk Standard Error	High Risk Program Group	High Risk Control Group	High Risk Difference	High Risk Standard Error	Difference Between Subgroups
Math course pass rate (%)	60.86	59.26	1.60	2.76	50.85	49.69	1.15	2.45	
Final exam score [a]	*58.96*	*56.85*	*2.12*	*3.52*	*49.09*	*48.09*	*1.00*	*1.73*	
Percentage days absent [a] *(%)*	*16.63*	*23.34*	*-6.71* **	*2.93*	*20.01*	*22.17*	*-2.15*	*1.79*	
Number of days attended[a]	*20.54*	*19.67*	*0.87*	*1.09*	*20.48*	*20.01*	*0.47*	*0.67*	
Withdrew from math course (%)	16.04	18.02	-1.99	1.59	14.69	18.64	-3.95 *	2.11	
Credits attempted	10.09	10.24	-0.15	0.11	10.60	10.77	-0.17 **	0.08	
Credits earned	6.69	6.78	-0.10	0.21	6.52	6.39	0.12	0.21	
GPA	*2.13*	*2.21*	*-0.09*	*0.06*	*1.86*	*1.88*	*-0.02*	*0.06*	
Postprogram persistence (%)									
Registered spring 2008 and fall 2008	58.25	59.23	-0.98	3.00	58.31	58.25	0.06	2.59	
Sample size (total students = 2,042)	456	421			611	554			
Sections represented (total = 82)	41	41			41	41			

SOURCE: MDRC calculations from South Texas College demographic, transcript, and final exam data.

NOTES: Subgroups were generated by predicting math failure using student demographics for 100 randomly selected control students, and using that model to predict risk for the remainder of the sample.

Math sections that did not contain representatives of both subgroups were dropped.

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.

Standard errors are clustered by Math 0080, 0085, and 1414 section.

Estimates are adjusted by indicators for developmental class, evening class, teacher effect, top and bottom math placement test quartiles, age less than 24, gender, and full-time status.

Italicized rows – final exam score, percentage of days absent, and GPA – are nonexperimental. They are calculated only for people who were still attending at the end of the course (final exam), over the days for which one was at risk of absence (percentage of days absent), and for people who got a grade, e.g., did not withdraw or receive an incomplete (GPA), respectively.

[a]Final exam score and attendance data represent developmental math (Math 0080 and 0085) sections only.

Implementation Study

Qualitative Data

MDRC researchers visited South Texas College in April 2008 to conduct a total of nine administrator and program staff interviews, two Beacon mentor focus groups (one for developmental math and one for college algebra), and two faculty focus groups (one for developmental math and one for college algebra). The questions covered each stakeholder's perceptions, involvement, and satisfaction with the program during its implementation phase. Two focus groups of students from classes in the program and control group were also conducted in early May 2008.[5]

Student Survey and Analysis of Response Rates

MDRC developed a student survey in order to gather data about perceptions and behaviors of all students in the study related to the Beacon Mentoring program that complemented the qualitative data. The survey consists of separate modules for students in the 41 program group sections and for students in the 42 control group sections. All survey items were original program-specific, multiple-choice questions and therefore not items from prior tested or validated surveys. The survey included 13 questions for all students about college and about math classes. An additional 17 questions were asked of students from the program group sections about their experiences with Beacon mentors.

Math faculty members from the 83 study sections administered and collected the surveys in class in early April. Once all the surveys were returned, the faculty members sent the completed surveys in a sealed folder to program staff, who mailed them back to MDRC. Overall, the student survey response rate for the program group consisted of 657 respondents of a possible 1,067 student surveys[6] that were fielded (61.67 percent). The response rate for the students in the control group consisted of 596 respondents of a possible 1,098 student surveys[7] that were fielded (54.37 percent). It should be noted that survey respondents consisted of students who had not dropped out and happened to be in class the day the survey was administered, and thus are not representative of the entire study sample. Given that the survey was administered to assess students' experiences in math class and/or with Beacon mentors throughout the semester, the survey needed to be administered toward the end of the semester,

[5]A South Texas College researcher — contracted by MDRC — conducted the two additional focus groups of students and sent MDRC transcribed notes and audio recordings of the focus groups in late May 2008.

[6]All students on rosters of program group sections are included in the denominator.

[7]All students on rosters of control group sections are included in the denominator.

when it was likely that students who were still in class tended to be stronger academically or more motivated than those who were no longer in class.

Mentor Survey Methodology

An online survey was created for Beacon mentors by MDRC researchers using an online survey service. The survey consisted of 37 multiple-choice questions about experiences with recruitment, interactions with students and faculty, and participation in training.

The online survey was emailed to 38 of the 41 total Beacon mentors at the end of the Spring 2008 semester (two mentors had incorrect contact information, and one declined to participate before the survey was e-mailed). MDRC researchers sent a total of four weekly reminder e-mails to nonrespondents thereafter, and the Beacon program coordinator contacted nonrespondent mentors to encourage them to fill out the online survey as well. A total of 28 respondent surveys (74 percent) were entered and analyzed by MDRC staff.

Appendix B

Supplementary Tables

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Appendix Table B.1

Student Survey: Mentored Students Only

	Sample Size	Program Group (%)
Your mentor has:		
Visited your math class this semester?	649	
Never		12.3
Once		16.5
Two or more times[a]		71.2
Met with you one-on-one and in person this semester?	648	
Never		81.3
Once		10.3
Two or more times[a]		8.3
Met with you at the Center for Learning Excellence?	647	
Never		79.0
Once		12.5
Two or more times[a]		8.5
Communicated with you over the phone during the semester?	652	
Never		82.2
Once		11.8
Two or more times[a]		6.0
Communicated with you by e-mail or online this semester?	648	
Never		62.5
Once		18.8
Two or more times[a]		18.7
My mentor has helped me to understand how important it is for me to attend my math class.	649	
Disagree[b]		27.4
Agree[c]		47.1
No opinion		25.4
My mentor has helped me to plan my overall academic goals.	649	
Disagree[b]		37.1
Agree[c]		30.8
No opinion		32.0
My mentor has helped me to achieve my overall academic goals.	644	
Disagree[b]		35.4
Agree[c]		37.4
No opinion		27.2
My mentor has helped me to understand how to register for classes next semester.	646	
Disagree[b]		39.9
Agree[c]		30.5
No opinion		29.6

(continued)

Appendix Table B.1 (continued)

	Sample Size	Program Group (%)
My mentor has helped me to understand how to apply for financial aid.	647	
Disagree[b]		22.6
Agree[c]		58.6
No opinion		18.9
My mentor has helped me to learn about the tutoring services I can use on campus.	647	
Disagree[b]		36.8
Agree[c]		31.7
No opinion		31.5
My mentor has helped me to learn new study skills.	646	
Disagree[b]		31.6
Agree[c]		32.2
No opinion		36.2
I feel that my mentor listens to me and understands problems I am having in math class.	648	
Disagree[b]		30.9
Agree[c]		31.3
No opinion		37.8
I feel that my mentor listens to me and understands problems I am having at this college.	646	
Disagree[b]		36.8
Agree[c]		19.3
No opinion		43.8
I feel that my mentor listens to me and understands problems I am having at home or work.	644	
Disagree[b]		23.4
Agree[c]		35.7
No opinion		40.8
My math teacher and mentor communicate about students who need help.	646	
Disagree[b]		27.7
Agree[c]		35.6
No opinion		36.7
I am comfortable contacting my mentor to get the help I need to succeed in math class.	647	
Disagree[b]		34.9
Agree[c]		25.0
No opinion		40.0
Total sample size	657	

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Appendix Table B.2

Student Survey: All Students

	Sample Size	Full Sample (%)	Program Group (%)	Control Group (%)		
This semester you have:						
Missed your math class?	1,247					
Never		29.4	28.5	30.4		
Once		25.3	25.0	25.5		
Two or more times[a]		45.3	46.5	44.0		
Visited the Center for Learning Excellence for tutoring?	1,250				***	
Never		49.0	44.4	53.9		***
Once		16.0	16.5	15.5		***
Two or more times[a]		35.0	39.1	30.6		***
Visited the Center for Learning Excellence to use computers or get online?	1,247					
Never		23.7	23.1	24.5		
Once		10.5	11.1	9.8		
Two or more times[a]		65.8	65.8	65.7		
Met with a counselor, adviser, or retention specialist in the Advising Center?	1,252					
Never		31.9	32.0	31.9		
Once		25.4	24.7	26.2		
Two or more times[a]		42.7	43.4	41.8		
Met with a financial aid staff member?	1,249					
Never		44.0	45.4	42.3		
Once		25.1	24.2	26.1		
Two or more times[a]		30.9	30.3	31.5		
It is not a big deal if I miss math class sometimes.	1,254					
Disagree[b]		84.5	83.7	85.4		
Agree[c]		7.8	8.4	7.2		
No opinion		7.7	7.9	7.4		
I usually do not raise my hand in math class if I have a question.	1,247					
Disagree[b]		60.4	61.5	59.1		
Agree[c]		26.0	25.2	26.8		
No opinion		13.6	13.2	14.1		
I am sure that I will pass my math class this semester.	1,250					
Disagree[b]		16.8	16.2	17.4		
Agree[c]		57.9	57.8	58.1		
No opinion		25.3	26.0	24.5		
I am sure that I will take a more advanced math class next semester.	1,253					
Disagree[b]		29.4	29.4	29.4		
Agree[c]		42.3	42.6	41.9		
No opinion		28.3	28.0	28.7		

(continued)

Appendix Table B.2 (continued)

	Sample Size	Full Sample (%)	Program Group (%)	Control Group (%)		
I am sure that I will return to college next semester.	1,250					
Disagree[b]		4.2	4.6	3.7		
Agree[c]		88.1	88.1	88.1		
No opinion		7.8	7.3	8.2		
At least one person who works at STC cares about how I do in math class.	1,246				**	
Disagree[b]		16.5	16.7	16.4		**
Agree[c]		58.5	61.3	55.5		**
No opinion		25.0	22.1	28.2		**
I often feel confused about how things work here at STC.	1,249				***	
Disagree[b]		46.0	42.0	50.4		***
Agree[c]		29.2	29.1	29.3		***
No opinion		24.7	28.8	20.3		***
I know where to go to on campus when I have trouble with math.	1,253				***	
Disagree[b]		11.0	8.4	13.9		***
Agree[c]		82.3	84.3	80.0		***
No opinion		6.7	7.3	6.0		***
Sample size (total = 1,253)			657	596		

SOURCE: MDRC calculations from the STC Student Survey.

NOTES: Sample sizes vary because of missing values.

In order to assess differences in characteristics across developmental and nondevelopmental math courses, chi-square tests were used. Statistical significance levels are indicated as * = 10 percent; ** = 5 percent; *** = 1 percent. Stars in brackets indicate that the one or more cells have expected counts of less than five, and chi-square may not be a valid test.

Only 58% of those enrolled in randomly assigned math courses responded to the survey.

[a]"Two or more" is comprised of the collapsed categories: "Twice," "3 or 4 times," "5 or 6 times," "7 to10 times," and "More than 10 times" from the original survey.

[b]"Disagree" is comprised of the collapsed categories, "Disagree" and "Strongly Disagree" from the original survey.

[c]"Agree" is comprised of the collapsed categories, "Agree" and "Strongly Agree" from the original survey.

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Appendix Table B.3

Program Impacts on Credits Attempted and Earned

Outcome	Program Group	Control Group	Difference		Standard Error
Credits attempted	10.37	10.53	-0.16	**	0.07
Developmental credits attempted	3.11	3.07	0.03		0.08
Developmental math credits attempted	1.73	1.74	-0.01	*	0.00
Other developmental credits attempted	1.38	1.34	0.04		0.08
Regular credits attempted	7.26	7.45	-0.19	*	0.11
Regular math credits attempted	1.69	1.70	-0.01	**	0.00
Other regular credits attempted	5.57	5.76	-0.18	*	0.11
Credits earned	6.56	6.49	0.07		0.16
Developmental credits earned	1.92	1.72	0.20	**	0.08
Developmental math credits earned	0.88	0.83	0.05		0.05
Other developental credits earned	1.03	0.89	0.15	**	0.07
Regular credits earned	4.64	4.77	-0.13		0.13
Regular math credits earned	1.02	1.04	-0.02		0.04
Other regular credits earned	3.62	3.73	-0.11		0.12
Sample size (total students = 2,165)	1,067	1,098			
Sections represented (total = 83)	41	42			

SOURCE: MDRC calculations from South Texas College transcript data.

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.
Standard errors are clustered by Math 0080, 0085, and 1414 section.
Estimates are adjusted by indicators for developmental class, evening class, teacher effect, top and bottom math placement test quartiles, age less than 24, gender, and full-time status.

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Appendix Table B.4

Program Impacts on Credits Attempted and Earned, by Part-Time/Full-Time Status

	Part time (less than 12 credits)				Full time (12 or more credits)				Difference
Outcome	Program Group	Control Group	Difference	Standard Error	Program Group	Control Group	Difference	Standard Error	Between Subgroups
Credits attempted	7.68	7.91	-0.23 *	0.13	12.82	12.84	-0.03	0.06	
Developmental credits attempted	2.68	2.80	-0.12	0.11	3.47	3.33	0.14	0.12	
Developmental math credits attempted	1.77	1.79	-0.02 *	0.01	1.69	1.69	0.00	0.00	
Other developmental credits attempted	0.91	1.02	-0.11	0.10	1.78	1.64	0.14	0.12	
Regular credits attempted	5.00	5.11	-0.11	0.14	9.35	9.51	-0.17	0.15	
Regular math credits attempted	1.62	1.62	-0.01	0.01	1.75	1.76	-0.01	0.01	
Other regular credits attempted	3.38	3.49	-0.10	0.14	7.59	7.75	-0.16	0.15	
Credits earned	4.92	4.61	0.31 *	0.18	8.07	8.14	-0.07	0.27	
Developmental credits earned	1.70	1.48	0.22 **	0.11	2.11	1.93	0.18	0.14	
Developmental math credits earned	0.98	0.84	0.14 *	0.07	0.80	0.82	-0.02	0.07	
Other developental credits earned	0.72	0.64	0.08	0.08	1.31	1.11	0.20 *	0.11	
Regular credits earned	3.22	3.13	0.09	0.13	5.96	6.21	-0.25	0.21	
Regular math credits earned	1.00	0.94	0.06	0.05	1.05	1.13	-0.08	0.05	†
Other regular credits earned	2.22	2.19	0.03	0.13	4.90	5.08	-0.18	0.19	
Sample size (total students = 2,165)	497	528			570	570			
Sections represented (total = 83)	41	42			41	42			

SOURCE: MDRC calculations from South Texas College transcript data.

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.
Standard errors are clustered by Math 0080, 0085, and 1414 section.
Estimates are adjusted by indicators for developmental class, evening class, teacher effect, top and bottom math placement test quartiles, age less than 24, gender, and full-time status.

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Appendix Table B.5

Program Impacts on Credits Attempted and Earned, by Math Level

	Students in Developmental Classes				Students in College-Level Classes				Difference
Outcome	Program Group	Control Group	Difference	Standard Error	Program Group	Control Group	Difference	Standard Error	Between Subgroups
Credits attempted	9.88	9.99	-0.11	0.09	11.02	11.27	-0.24 *	0.12	
Developmental credits attempted	4.97	4.97	0.00	0.12	0.55	0.49	0.06	0.08	
Developmental math credits attempted	2.99	3.01	-0.02	0.01	0.00	0.00	0.00	0.00	NA
Other developmental credits attempted	1.98	1.97	0.02	0.12	0.55	0.49	0.06	0.08	
Regular credits attempted	4.90	5.01	-0.11	0.14	10.47	10.78	-0.30 *	0.15	
Regular math credits attempted	0.00	0.00	0.00	0.00	3.98	4.02	-0.04 *	0.02	NA
Other regular credits attempted	4.90	5.01	-0.11	0.14	6.50	6.76	-0.26	0.16	
Credits earned	6.09	5.55	0.54 ***	0.20	7.14	7.80	-0.66 ***	0.18	†††
Developmental credits earned	3.00	2.71	0.29 **	0.12	0.44	0.37	0.06	0.08	
Developmental math credits earned	1.53	1.44	0.09	0.09	0.00	0.00	0.00	0.00	NA
Other developental credits earned	1.47	1.27	0.20 *	0.10	0.44	0.37	0.06	0.08	
Regular credits earned	3.09	2.84	0.25	0.15	6.71	7.43	-0.72 ***	0.16	†††
Regular math credits earned	0.00	0.00	0.00	0.00	2.41	2.47	-0.06	0.14	NA
Other regular credits earned	3.09	2.84	0.25	0.15	4.30	4.96	-0.66 ***	0.13	†††
Sample size (total students = 2,165)	624	625			443	473			
Sections represented (total = 83)	26	26			15	16			

SOURCE: MDRC calculations from South Texas College transcript data.

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.
Standard errors are clustered by Math 0080, 0085, and 1414 section.
Estimates are adjusted by indicators for developmental class, evening class, teacher effect, top and bottom math placement test quartiles, age less than 24, gender, and full-time status.

References

Adelman, Clifford. 2004. *Principal Indicators of Student Academic Histories in Postsecondary Education, 1972-2000*. Washington, DC : U.S. Department of Education, Institute of Education Sciences.

Aaronson, Daniel, Lisa Barrow, and William Sanders, "Teachers and Student Achievement in the Chicago Public High Schools." *Journal of Labor Economics* (January 2007) 25, 1: 95-135.

Attewell, Paul, David Lavin, Thurston Domina, and Tania Levey. 2006. "New Evidence on College Remediation." *Journal of Higher Education* 77, 5: 886-924.

Bailey, Thomas, Dong Wook Jeong, and Sung-Woo Cho. 2009. *Referral, Enrollment, and Completion in Developmental Education Sequences in Community Colleges*. CCRC Working Paper No. 15. New York: Community College Research Center, Teachers College, Columbia University.

Barrow, Lisa, Lisa Markman, and Cecilia E. Rouse, "Technology's Edge: The Educational Benefits of Computer-Aided Instruction." *American Economic Journal: Economic Policy* (February 2009) 1, 1: 52-74.

Brock, Thomas, Davis Jenkins, Todd Ellwein, Jennifer Miller, Susan Gooden, Kasey Martin, Casey MacGregor, and Michael Pih with Bethany Miller and Christian Geckeler. 2007. *Building a Culture of Evidence for Community College Student Success: Early Progress in the Achieving the Dream Initiative*. New York: MDRC.

Carnegie Foundation for the Advancement of Teaching. 2008. *Strengthening Pre-collegiate Education in Community Colleges: Project Summary and Recommendations*. Stanford, CA: The Carnegie Foundation for the Advancement of Teaching.

Center for Community College Student Engagement. 2009. *Making Connections: Dimensions of Student Engagement (2009 CCSSE Findings)*. Austin, TX: The University of Texas at Austin, Community College Leadership Program.

Center for Student Success. 2007. *Basic Skills as a Foundation for Student Success in California Community Colleges*. Sacramento, CA: The Research and Planning Group for California Community Colleges.

Chen, Xianglei. 2007. *Part-Time Undergraduates in Postsecondary Education*: 2003–04 (NCES 2007-165). Washington, DC: U.S. Department of Education, National Center for Education Statistics.

Jenkins, Davis, and Thomas Bailey. October 13, 2009. "How Community Colleges Can Reach Obama's Goals." *Inside Higher Ed Online*. Accessed October 23, 2009.

Matus-Grossman, Lisa, Susan Gooden, Melissa Wavelet, Melisa Diaz, and Reishma Seupersad. 2002. *Opening Doors: Students' Perspectives on Juggling Work, Family, and College*. New York: MDRC.

Parsad, Basmat, Laurie Lewis, and Bernard Greene. 2003. *Remedial Education at Degree-Granting Postsecondary Institutions in Fall 2000*. Washington, DC: U.S. Department of Education, National Center for Education Statistics.

Perin, Dolores. 2004. "Remediation Beyond Developmental Education: The Use of Learning Assistance Centers to Increase Academic Preparedness in Community Colleges." *Community College Journal of Research and Practice 28*, 7: 559-582.

Weissman, Evan, Oscar Cerna, Christian Geckeler, Emily Schneider, Derek V. Price, and Tom J. Smith. 2009. *Promoting Partnerships for Student Success: Lessons from the SSPIRE Initiative*. New York: MDRC.

Zachry, Elizabeth M., with Emily Schneider. 2008. *Promising Instructional Reforms in Developmental Education: A Case Study of Three Achieving the Dream Colleges*. New York: MDRC.

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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 City and Oakland, California, 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 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 proactively 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-offenders and people with disabilities, 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.