OPENING DOORS

A GOOD START

Two-Year Effects of a Freshmen Learning Community Program at Kingsborough Community College

Susan Scrivener, Dan Bloom, Allen LeBlanc, Christina Paxson, Cecilia Elena Rouse, and Colleen Sommo

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BUILDING KNOWLEDGE TO IMPROVE SOCIAL POLICY

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With

Jenny Au
Jedediah J. Teres
Susan Yeh

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Overview

Over the past few decades, a postsecondary credential has become increasingly important in the labor market, and college attendance has become more common. Unfortunately, however, many students leave college before receiving a degree, particularly those who are academically underprepared for college-level work. Many postsecondary institutions operate learning communities to promote students' involvement and persistence in college. Learning communities typically place groups of students in two or more linked courses with mutually reinforcing themes and assignments. They seek to build peer relationships, intensify connections to faculty, and deepen understanding of coursework. While learning communities are increasingly popular, little rigorous evidence on their effects exists.

As part of MDRC's multisite Opening Doors demonstration, Kingsborough Community College in Brooklyn, New York — a large, urban college with a diverse student population that includes many immigrants — operated one such learning community program. The program placed freshmen in groups of up to 25 who took three classes together during their first semester: an English class, usually at the developmental level; an academic course, such as health or psychology; and a one-credit orientation course. The program provided enhanced counseling and tutoring as well as a voucher for textbooks.

Using a rigorous research design, MDRC assigned 1,534 freshmen, at random, either to a program group that was eligible for the learning community or to a control group that received the college's standard courses and services. Analyses in this report show that:

- **The program improved students' college experience.** Students in the program group felt more integrated and more engaged than students in the control group.
- **The program also improved some educational outcomes while students were in the learning community program, but the effects diminished in subsequent semesters.** Program group students, for example, attempted and passed more courses and earned more credits during their first semester.
- **The program moved students more quickly through developmental English requirements.** Students in the program group were more likely to take and pass English skills assessment tests that are required for graduation or transfer.
- **The evidence is mixed about whether the program increased persistence.** Initially the program did not change the rate at which students reenrolled. In the last semester of the report's two-year follow-up period, however, slightly more program group members than control group members attended college.

These results are not the final word on Kingsborough's program: MDRC plans to continue tracking sample members' outcomes for at least another year.

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Preface

Community colleges are "the Ellis Island of American higher education," according to the January 2008 report of the National Commission on Community Colleges. Serving nearly 12 million students annually, they provide a pathway into the middle class for many low-income individuals, including people of color, immigrants, full- and part-time workers, and students who are the first in their families to attend college. However, the increased access to post-secondary education that community colleges offer has not always translated into individual success for students. As many as 60 percent of incoming students at community colleges require at least one developmental (or remedial) course, and too many drop out before getting a credential — often because they never get beyond developmental classes. This report offers promising evidence that a one-semester "learning community" intervention can provide an early boost to freshmen, helping students move more quickly through developmental English requirements and earn more credits in their first semester.

At Kingsborough Community College in Brooklyn, freshmen were placed in groups of up to 25 who took three classes together during their first semester: an English class, usually at the developmental level; an academic course, such as health or psychology; and a one-credit orientation course. The program also provided enhanced counseling and tutoring and a textbook voucher. Kingsborough's program is part of MDRC's Opening Doors demonstration, which is testing interventions at six community colleges designed to help low-income students stay in school and succeed. Opening Doors is the first large-scale study of community college programs to use a random assignment design, the "gold standard" of program evaluation.

The report concludes that the jury is still out on whether learning communities improve students' persistence in school. Although educational outcomes improved for students while they were in the learning community program, these effects diminished in later semesters, as the control group students caught up. However, at the end of the follow-up period — three semesters after the intervention — there was an indication that Opening Doors students were somewhat more likely to be enrolled in college. As a result of these promising findings, Kingsborough has expanded its learning communities program, with the goal of serving 80 percent of incoming freshmen by 2010. Currently, the program reaches about 65 percent of incoming freshmen.

MDRC plans to continue following the students at Kingsborough to find out whether the learning community intervention has lasting effects. In addition, with our partners at the National Center for Postsecondary Research, we have launched a multi-college demonstration of learning communities that will test variations of this promising model.

Gordon Berlin
President

Acknowledgments

The Opening Doors demonstration has received support from a number of foundations and government agencies, which are listed at the front of this report. We are grateful for their generous backing and ongoing commitment. We particularly thank the Robin Hood Foundation, which provided special funding to support the Opening Doors program at Kingsborough Community College. We also owe special thanks to the members of the MacArthur Foundation-funded Network on Transitions to Adulthood, our research partners on Opening Doors, who helped us conceptualize the study and participated in the design of the 12-month survey.

We are also grateful to the many administrators, faculty, and staff at Kingsborough who have made Opening Doors a success. There is not enough space to mention everyone who has played a role in the program and the study, but we particularly want to acknowledge some individuals. Byron McClenney, who was the president of Kingsborough through 2003, decided to join the Opening Doors project, and his leadership was crucial in successfully launching the program. Acting President Fred Malamet continued to support the project during his tenure. Current President Regina Peruggi, whose tenure began in the fall of 2004, has enthusiastically championed Opening Doors and is working to expand the program to serve most of the college's freshmen. Provost Stuart Suss and Dean Norman Toback have provided valuable support and assistance throughout the project.

Rachel Singer, Director of Academic Affairs, and Peter Cohen, Director of the Freshman Year Experience, have been terrific partners since the inception of the project. Their dedication and passion have been inspirational and invaluable. The Opening Doors faculty, coordinators, and case managers brought the program model to life. We cannot mention them all by name, but faculty members Marcia Babbitt, Rebecca Arliss, Kate Garretson, and Barbara Walters deserve special recognition for their contribution. The Opening Doors coordinators, Barbara Fairweather and Susan Richards, and the case managers, Nora Bita and Zuleika Rodriguez, operated the program day to day. All these individuals contributed in valuable ways to the research, as well.

Several people have been instrumental in providing student transcript and test score data to MDRC over the course of the study. Special thanks are due Dean Richard Fox, Anatoly Shvartsman, Habibe Ilingi, and Linda Biancorosso. Finally, Dean Loretta DiLorenzo has also made valuable contributions to the project, as have Cindy Ho, Katherine Wu, Sally Ricottone, and Jeanine Graziano-King.

Many MDRC staff have contributed to the Opening Doors project and to this report. Robert Ivry developed the demonstration; Thomas Brock has led the evaluation of the Opening Doors programs; and both provided valuable guidance on the study at Kingsborough. Charles Michalopoulos, Lashawn Richburg-Hayes, and Mary Visher contributed to the analysis of the

program's effects, and Mary managed the report in its early stages. Johanna Walter helped oversee the collection of much of the quantitative data used in this report, and Jo Anna Hunter worked with Battelle Memorial Institute to conduct the Opening Doors 12-Month Survey at Kingsborough. Alissa Gardenhire-Crooks and Herbert Collado conducted special qualitative studies at the college that helped us better understand the experiences and perceptions of the students. Some former MDRC employees played important roles in the project at Kingsborough, as well. Melissa Wavelet helped the college get its program up and running, and Reishma Seupersad and Vanessa Martin were the day-to-day liaisons with the college during the study. Michael Pih analyzed the test score data. All the current MDRC staff mentioned — along with Gordon Berlin, John Hutchins, and Margaret Bald — reviewed earlier drafts of this report and provided helpful comments. Matthew Montesano provided production assistance and conducted fact-checking, with guidance from Vivian Mateo. Joel Gordon, Galina Farberova, and Shirley James and her staff developed and monitored the random assignment and baseline data collection process. Bob Weber edited the report, and David Sobel prepared it for publication.

We would also like to thank Sahil Raina at Princeton University for helping to analyze the survey data.

Finally, we would like to thank the hundreds of students who participated in the study at Kingsborough and, in particular, those who answered surveys or participated in interviews or panel discussions. We hope that the findings from Kingsborough and the other sites in Opening Doors will be used to improve college programs and services for them and others in the future.

The Authors

Executive Summary

Over the past few decades, a postsecondary credential has become increasingly important in the labor market, and college attendance has become more common. Unfortunately, however, many students leave college before receiving a degree, particularly those who are academically underprepared for college-level work. Many postsecondary institutions operate learning communities to promote students' involvement and persistence in college. Learning communities typically place groups of students in two or more linked courses with mutually reinforcing themes and assignments. They seek to build peer relationships, intensify connections to faculty, and deepen understanding of coursework. While learning communities are increasingly popular, little rigorous evidence on their effects exists.

As part of the Opening Doors demonstration and evaluation project jointly undertaken by MDRC and the MacArthur Foundation-funded Network on Transitions to Adulthood, six participating colleges operated innovative programs aimed at increasing students' achievement and persistence and, eventually, their graduation rates and earnings. Kingsborough Community College in Brooklyn, New York — a large, urban college in the City University of New York (CUNY) system — tested a program called Opening Doors Learning Communities. The program placed freshmen, most of whom failed one or more of the skills assessment tests that all incoming students take, into groups of up to 25 who took three classes together during their first semester. It also provided enhanced counseling and tutoring as well as a voucher for textbooks.

This report discusses the program's implementation and its effects on students up to two years after they entered the study. Using a rigorous research design, MDRC randomly assigned students either to a program group that was eligible for the learning community or to a control group that received standard college courses and services. Any subsequent substantial differences in outcomes can be attributed to the Opening Doors program.

In summary, the key findings from this report are:

- **The program improved students' college experience.** Students in the program group felt more integrated and more engaged than students in the control group.

- **The program improved some educational outcomes while students were in the learning community, but the effects diminished later.** Program group students passed more courses and earned more credits during their first semester.

- **The program moved students more quickly through developmental (remedial) English requirements.** Students in the program group were more likely to take and pass the college's English skills assessment tests that are required for graduation or transfer.

- **The evidence is mixed about whether the program increased persistence in college.** Initially the program did not change the rate at which students re-enrolled. At the end of the report's follow-up period, however, slightly more program group members than control group members attended college.

How Was the Program Implemented?

Opening Doors Learning Communities — operated between 2003 and 2005 — placed groups of freshmen into three linked classes: an English course, usually at the developmental level; an academic course, such as health or psychology; and a one-credit orientation course. The instructor of the orientation course provided enhanced counseling to students, and the program provided enhanced tutoring as well as a voucher for textbooks.

The program was targeted to freshmen who planned to attend college full time during the day and who did not test into English as a Second Language. ESL students were excluded because they participated in another learning community program. For the same reason, students in four "career majors" were excluded for the first year of the study. Over three-fourths of the students were under age 21 when they entered the study. Reflecting the diversity of the student body at Kingsborough, 38 percent identified themselves as black, 27 percent as white, and 20 percent as Hispanic. Almost three-fourths of the students in the study reported that they or at least one of their parents were born outside the United States.

The following key findings on the implementation of Kingsborough's learning communities program are based on interviews with and surveys of the college's administrators, faculty, staff, and students.

- **The program's key features were all in place when operations began, and they remained in place throughout the study.**

Despite a compressed planning period, Kingsborough's program was well implemented from the start. This achievement reflects the college administration's strong commitment to the program and the study.

- **The learning communities varied in class size and the degree to which faculty integrated their courses.**

Over four semesters, Kingsborough ran 40 learning communities for the study: 31 with developmental English and 9 with college-level English. Owing to several challenges — including the difficulty of predicting how many students would test into each English level — class size varied from 6 to 25 students, with an average of 17.

All instructors developed a new syllabus or revised their regular syllabus for the learning community, and all learning communities had some joint assignments across classes. The degree of integration across the courses varied, however, as did the frequency of joint assignments. The instructors in most learning communities met regularly to discuss student progress and coordinate assignments, but, in a minority of communities, the instructors rarely met. Thus, the study provides a strong test of the structural features of the learning community, but it may not fully detect the effects of tightly integrating course curricula.

How Was the Impact of the Program Evaluated?

As noted above, to determine the effect, or "impact," of Kingsborough's program, MDRC assigned students, at random, to either a program group or a control group. Random assignment occurred just before students registered for classes. The study is tracking both groups over time to determine whether the learning community program results in better outcomes for students. Random assignment ensures that the motivation levels and personal characteristics of students in the two groups were similar when the study began; hence, any subsequent differences in outcomes can be attributed to the program. The study is estimating the *value added* of Opening Doors, above and beyond what students normally receive. Kingsborough offers a rich array of academic programs and services, so the bar is set relatively high for the program to surpass. Also, the study examines whether the *package* of reforms and enhancements in Opening Doors at Kingsborough led to different outcomes, compared with standard classes and services. The study will not, however, disentangle the effects of each component.

Did the Program Make a Difference?

This report discusses the program's impacts on a range of educational outcomes. The learning communities program directly affected students during their first semester at Kingsborough. Many higher education experts believe that students' academic and social experiences during that first semester play a substantial role in their future success — that students who develop strong initial connections with the material they study, with other students, and with faculty are more likely to persist in college than students who do not. Also, at Kingsborough, students who make better progress in meeting their developmental English requirements may be more motivated to stay in school.

This report presents impacts for the full research sample at Kingsborough (1,534 students) for up to two years after students entered the study. The key impact findings follow.

- **The program improved students' experiences in college.**

When surveyed approximately a year after entering the study, students in the program group reported that they felt more integrated at school and were more engaged with their coursework, instructors, and fellow students and had a stronger sense of belonging than did control group students. They were more likely to say that their courses required critical thinking and that they had acquired valuable academic and work skills. Finally, they were more likely to rate their college experience as "good" or "excellent." These findings strongly suggest that the learning community program provided a markedly different experience for students. These results are similar to findings from some past studies of learning communities.

- **The program improved several educational outcomes for students during the semester that they participated in the learning community.**

MDRC examined students' academic performance by using transcript data from Kingsborough. Newly enrolling students were randomly assigned for the study just before the start of their first semester in college (enrollment occurred in four different but contiguous semesters: fall 2003, spring 2004, fall 2004, and spring 2005). The first semester that each student was in the study is called the "program semester."

Figure ES.1 illustrates some key outcomes during the program semester. The solid bars show the average outcomes for program group members, and the white bars show the averages for control group members. The difference between each pair of bars represents the program impact, if any, and asterisks indicate whether an impact is "statistically significant," meaning that it is unlikely to be due to chance. (All impacts discussed in the Executive Summary are statistically significant.) As the two sets of bars at the left of the figure show, students in the program group attempted and passed about half a course more at Kingsborough during their first semester in the study than control group students did. They also earned almost one more "developmental credit" (called an "equated credit" at Kingsborough). Developmental courses do not earn college credit, but they do count in determining whether a student is attending school full time. Program group members were also more likely to pass all their courses during the first semester (not shown).

- **The positive effects on educational outcomes diminished in later semesters of the two-year follow-up period.**

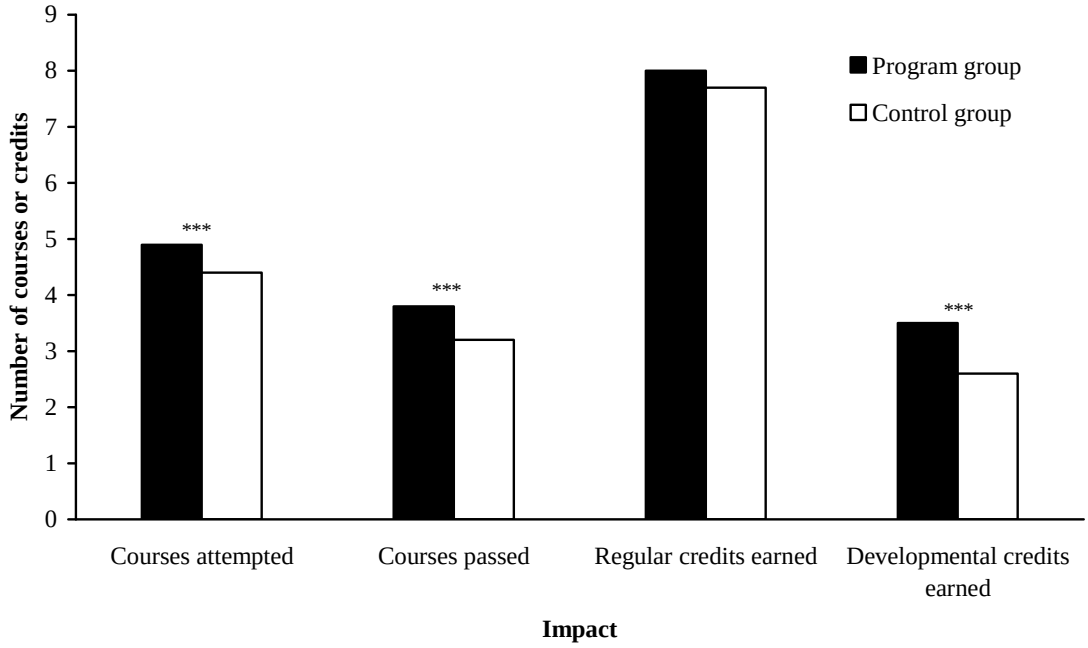
The program generated a small increase in the number of credits attempted and earned in the first postprogram semester, but the effects dissipated later. By the end of the

The Opening Doors Demonstration

Figure ES.1

Key Impacts During the Program Semester

Kingsborough Community College Report



SOURCE: MDRC calculations from Kingsborough Community College transcript data.

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

two-year follow-up period, program group members earned an average of two and a half credits more at Kingsborough than control group members. (This gain is primarily due to impacts during the program semester and, to some extent, during the first postprogram semester.)

- **Opening Doors Learning Communities helped students move more quickly through the college's developmental English requirements.**

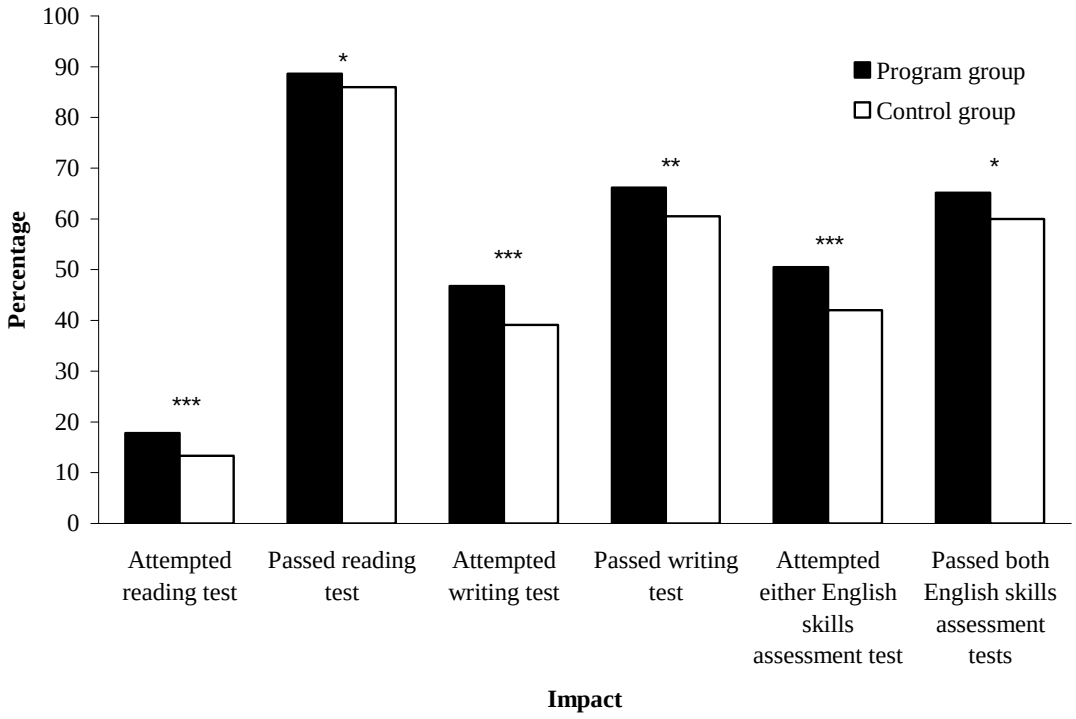
A goal of Kingsborough's program was to help students more quickly complete developmental requirements and progress to college-level English. To enroll in the college-level course at Kingsborough, students must first pass the CUNY reading and writing skills assessment tests. (Students must pass the reading, writing, and math skills assessment tests in order to transfer to a four-year CUNY institution.) Students take the skills

The Opening Doors Demonstration

Figure ES.2

Impacts on English Skills Assessment Tests

Kingsborough Community College Report



SOURCE: MDRC calculations from City University of New York skills assessment test data.

NOTES: Outcomes include data from the program semester through the second postprogram semester.
Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent.

tests prior to enrolling; if they do not pass the reading and writing tests, they typically can retake them only after they pass specific developmental English courses.

Figure ES.2 shows the proportion of the two research groups who took the tests during their first three semesters in the study and passed the tests by the end of that period (including students who passed the tests before starting their freshman year). The program increased the proportion of students who attempted and passed the tests. Although not illustrated in the figure, most of these impacts are driven by effects in the first (program) semes-

ter. It is notable, however, that the control group members had not "caught up" in terms of test taking and passing by the end of the follow-up period.

MDRC also examined progression through English courses for different subgroups of the research sample. Among the subset of the sample who failed both English skills assessment tests before starting their freshman year, program group members were more likely than their control group counterparts to enroll in developmental English during their first two semesters. Program group members who failed one of the tests before entering college were also more likely to enroll in developmental English during their first semester and were more likely to enroll in and pass college-level English during their first two semesters. The program did not affect progression through English courses among students who had passed both English assessment tests before starting their freshman year.

- **So far, the evidence is mixed about whether Kingsborough's program increases student persistence in college.**

A central goal of all the Opening Doors programs is to increase persistence in college. Initially, Kingsborough's program did not change the rate at which students reenrolled. In the last semester of the follow-up period, however, a difference emerged: 53 percent of the program group registered for at least one course that semester at Kingsborough, compared with 48 percent of the control group. Data from the National Student Clearinghouse, which provides enrollment information at most colleges in the nation, shows a similar effect on persistence emerging that semester. MDRC plans to continue tracking outcomes to see if this effect remains.

What Are the Implications of the Results?

Opening Doors Learning Communities at Kingsborough substantially improved students' experiences in college and some key educational outcomes while they were in the program, but, for the most part, the effects did not persist. MDRC plans to track sample members' outcomes for at least three years after their random assignment to the study to determine the longer-term effects on their academic performance, persistence, and graduation as well as on their later employment rates and earnings. Thus, the results in this report are not the last word on Kingsborough's program. That said, the findings point to the following conclusions.

- **Kingsborough's learning community model shows promise as a strategy to help students move through developmental education.**

Many students begin at community colleges academically underprepared for college-level work. Research shows that approximately 60 percent of freshmen beginning at

community college need at least one developmental-level course.[1] Students with very low skill levels can spend a year or more in developmental courses, and many leave school before completing developmental requirements. A key challenge is how to help students meet these requirements so they can eventually complete college.

This report's findings suggest that Kingsborough's Opening Doors Learning Communities model is one strategy that college administrators could consider. Students in the program group were more likely to pass the English skills assessment tests — the gateway to college-level English. Also, program group students who failed one of the tests before entering school were more likely to take and pass college-level English during the follow-up period. It is important to highlight that Kingsborough's program included English in the learning community. As a result, students in the program group were required to take English, and, as discussed above, the program substantially increased the proportion of students who took developmental English. Because students must pass developmental classes before retaking the assessment tests, this program feature is central to the impact on test taking and passing.

- **The results from Kingsborough suggest that the jury is still out on whether learning communities improve students' persistence.**

As noted, Kingsborough's program did not increase students' retention in college until the third postprogram semester, and MDRC will collect more follow-up data to determine whether the effect continues. At this juncture, however, it is worthwhile to consider the absence, so far, of a strong program effect on retention.

Kingsborough's program was based on the hypothesis that a more engaging and successful first semester would lead to more successful future semesters and higher rates of retention. One may wonder, however, how much change in college attendance is reasonable to expect from a one-semester program. Individuals make life choices, including whether or not to remain in college, based on myriad factors — many outside the college environment.

Even if Kingsborough's program does not lead to substantial retention effects, it could still generate increases in degree receipt, transfer, and other longer-term outcomes, since the program group students who were still enrolled at the end of the report's follow-up period are somewhat further along in school than the control group members.

- **Enhanced services that last longer than one semester may have a more substantial effect on students.**

[1]Clifford Adelman, *Principal Indicators of Student Academic Histories in Postsecondary Education, 1972-2000* (Washington, DC: U.S. Department of Education, 2004).

Kingsborough's program lasted one semester. The college's administrators decided that there was no practical way to maintain the linked-course structure after the first semester, since students needed and wanted to take a variety of different courses in subsequent semesters. Also, the program was designed on the assumption that students' early experiences at college influence their later success, and administrators believed that students should transition into the regular college community as quickly as possible.

The question of how long a learning community program should continue is complicated. That said, the results from the Kingsborough study suggest that participating in a learning community program for more than one semester may yield more substantial effects — the positive effects on academic outcomes were by far the largest during the first semester. If the options of a multiple-semester learning community or participating in a different learning community after the first semester are not possible, colleges could offer other kinds of enhanced services in later semesters, such as intensive counseling or more financial support.

It is worth noting that, in some of the other sites in the Opening Doors demonstration, the early results follow a similar pattern: Effects are largest when students receive enhanced services, and they diminish or even disappear after the services end.

* * *

The study at Kingsborough is of a specific program model, targeted to a certain group of students, in a particular setting. Other learning community models, target groups, and institutional settings may well lead to different results. Another rigorous study, the Learning Communities demonstration, was launched in 2006 and is using random assignment to test the effects of learning communities in up to six colleges or universities. The demonstration is part of the National Center for Postsecondary Research, funded by the U.S. Department of Education.

Chapter 1

Introduction

This report presents results from a rigorous study of a learning communities program for incoming freshmen at Kingsborough Community College in Brooklyn, New York. Operated from 2003 to 2005 as part of the multisite Opening Doors demonstration, Kingsborough's learning communities program placed groups of up to 25 students each in three linked classes. The program also provided enhanced counseling and tutoring and a voucher to pay for textbooks. This report presents information on how the Opening Doors program was implemented at Kingsborough and what its effect are, up to two years after students entered the study. This is the first in a series of reports that will present detailed findings from all the Opening Doors demonstration sites.

This report updates and supplements the early results from the Kingsborough study that were presented in a report in 2005.[1] The 2005 report, which examined the first quarter of the sample members to enter the study, showed that the Opening Doors program led to better academic outcomes during students' first semester at Kingsborough, including passing more courses and increased completion of developmental English requirements a year after students entered the study.

This chapter begins with an overview of the Opening Doors demonstration. It then focuses specifically on the study at Kingsborough, describing the college and its Opening Doors program model. The chapter concludes with a brief description of the contents of the rest of this report.

Overview of the Opening Doors Demonstration and Evaluation

This section discusses the importance of community colleges as a focus of study and provides some information about the development of the Opening Doors demonstration. It also describes the study's research design, guiding conceptual model, and key research questions.

Why Focus on Community Colleges?

Community colleges make higher education affordable and accessible to virtually anyone seeking the opportunity. Today, about 1,200 community colleges serve nearly 12

[1]Bloom and Sommo (2005).

million students. Almost half of all college students nationwide attend a community college.[2] Compared with four-year institutions, community colleges enroll more students of color and more low-income students. They are also more likely to enroll working adults and parents.[3]

Community colleges prepare students for transfer to four-year colleges and universities, and they provide training in a wide variety of occupations. As shown in Figure 1.1, recent data from the U.S. Bureau of the Census indicate that, in 2005, an adult with an associate's degree earned an average annual income of about $38,000, compared with only about $29,000 for an adult with a high school diploma.[4] Given the widening earnings gap between individuals with a postsecondary credential and individuals with a high school diploma, community colleges represent a potential pathway out of poverty and into the middle class.

Unfortunately, although many people attend community colleges, only a minority of students end up receiving a degree. The U.S. Department of Education reported that only about one-third of students who enter community college with the intention of earning a degree accomplish this goal at any institution of higher education within a six-year period.[5] Completion rates are particularly low for students who begin college academically underprepared and must take developmental-level courses. Recognizing the importance of higher education today, college administrators, policymakers, and researchers are searching for effective strategies to help community college students stay in school and succeed.

The Opening Doors Programs

Building on previous efforts to learn about factors that affect community college students' enrollment and completion, MDRC, with support from a consortium of funders, launched the Opening Doors demonstration in 2003. A review of prior research and focus groups with past, current, and potential community college students[6] revealed some key factors that hinder students' progress: underpreparation for college-level work; the challenges of juggling school, work, and family; and institutional barriers, such as inadequate support services and insufficient financial aid. Opening Doors is testing three promising strategies that colleges could adopt to address these factors and increase student achievement and persistence:

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[2]American Association of Community Colleges Web site.

[3]Horn and Nevill (2006).

[4]The data shown in the figure are correlational; they do not indicate that a certain credential *causes* a certain level of earnings.

[5]U.S. Department of Education (2002).

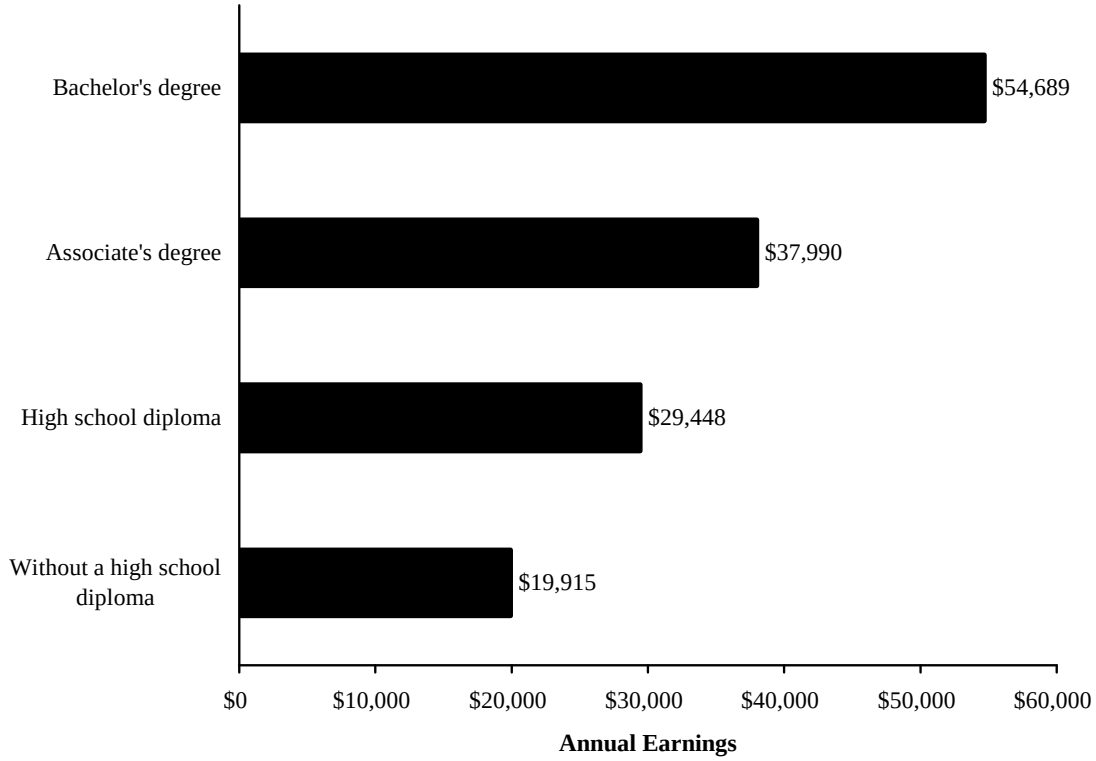
[6]See Matus-Grossman and Gooden (2002) for a discussion of the focus group results.

The Opening Doors Demonstration

Figure 1.1

Average Annual Earnings, by Educational Attainment: Adults, Nationwide, 2005

Kingsborough Community College Report



SOURCE: U.S. Bureau of the Census (2007).

- **Curricular and instructional innovations,** including learning communities in which students take blocks of classes with the same group of peers, customized instructional support, academic instruction for students on academic probation, and enhanced orientation courses to help students navigate the college experience
- **Enhanced student services,** including stronger, more personalized academic advisement, career counseling, and tutoring
- **Supplementary financial aid,** such as special scholarships or money directed to specific education-related costs, like vouchers for textbooks

After a nationwide search, MDRC selected six community colleges in four states to participate in the demonstration and evaluation. MDRC worked with each college to develop an Opening Doors program that combined two or three of the strategies listed above. Table 1.1 lists the participating colleges and provides a brief summary of their Opening Doors programs and the groups of students who were targeted and served. Findings from the evaluation yield information about how to improve the rate of student success and will speak to the focus of the Spellings Commission — the U.S. Secretary of Education's Commission on the Future of Higher Education — on the need for investments that lead to better student outcomes.

As noted above, this report focuses on Kingsborough Community College, which, in the fall of 2003, was the first demonstration site to begin operating its Opening Doors program. A later section of this chapter provides some information on Kingsborough and its Opening Doors program.

The Research Design and Conceptual Model

The evaluation of the Opening Doors programs is being conducted by MDRC, a group of scholars who are part of the MacArthur Foundation-funded Research Network on Transitions to Adulthood, and an expert on the relationship between education and health at Princeton University.[7] To measure the effects of Kingsborough's program, as well as the effects of the other colleges' programs, the evaluation is using a random assignment research design, a first in large-scale community college research. At each college, students who met the site's eligibility criteria and agreed to take part in the study were assigned, at random, either to a program group that received enhanced Opening Doors services or to a control group that received the college's standard services. The study is tracking both groups over time to find out whether the enhanced services result in better outcomes for students. Random assignment ensures that the motivation levels and personal characteristics of students in the program group and control group were similar at the beginning of the study; hence, any subsequent substantial differences in educational or other outcomes can be attributed with a high level of confidence to Opening Doors. The study is estimating the

[7]Members of the Research Network on Transitions to Adulthood are Gordon L. Berlin (MDRC), Mark Courtney (University of Washington), Sheldon Danziger (University of Michigan), Connie A. Flanagan (Pennsylvania State University), Frank F. Furstenberg (University of Pennsylvania), Vonnie C. McLoyd (University of North Carolina, Chapel Hill), Wayne Osgood (Pennsylvania State University), Jean E. Rhodes (University of Massachusetts, Boston), Cecilia E. Rouse (Princeton University), Rubén G. Rumbaut (University of California, Irvine), Richard Settersten (Oregon State University), and Mary C. Waters (Harvard University). Christina Paxson of Princeton University is leading the evaluation component focused on health outcomes.

The Opening Doors Demonstration

Table 1.1

Opening Doors Programs and Target Groups

Kingsborough Community College Report

Site	Brief Program Description	Target Group
Chaffey College Rancho Cucamonga, California	**College Survival Skills and Enhanced Student Services:** Students took a one-semester guidance course that provided instructional support as well as advising; students were required to visit the college's Success Centers, which provided extra academic support.	Students ages 18-34 on academic probation who earned fewer than 35 credits and who either had a cumulative grade point average below 2.0 (C) or did not complete at least half the courses in which they enrolled.
Delgado Community College and **Louisiana Technical College-West Jefferson** New Orleans area, Louisiana	**A Scholarship Predicated on Academic Performance:** Students were eligible for $1,000 scholarship for each of two semesters; scholarship was tied to maintaining at least half-time enrollment and a grade point average of 2.0 (C).	Parents ages 18-34 whose family income was below 200 percent of the federal poverty level.
Kingsborough Community College Brooklyn, New York	**Learning Communities and a Book Voucher:** Groups of students took three linked courses together; students received enhanced advising and tutoring and vouchers to pay for textbooks.	Incoming freshmen ages 17-34 who planned to attend college full time.
Lorain County Community College Elyria, Ohio	**Enhanced Student Services and a Modest Scholarship:** Students were assigned to an Opening Doors adviser with a small caseload with whom they were expected to meet frequently; students had access to designated contact in financial aid office; students were eligible for $150 scholarship for each of two semesters, paid after mandatory meetings with adviser.	Students ages 18-34 whose family income was below 250 percent of the federal poverty level and who either were incoming freshmen or had completed fewer than 13 credits and had a history of academic difficulties.
Owens Community College Toledo, Ohio	**Enhanced Student Services and a Modest Scholarship:** Students were assigned to an Opening Doors adviser with a small caseload with whom they were expected to meet frequently; students had access to designated contact in financial aid office; students were eligible for free one-on-one tutoring and for $150 scholarship for each of two semesters, paid after mandatory meetings with adviser.	Students ages 18-34 whose family income was below 250 percent of the federal poverty level and who either were incoming freshmen or had completed fewer than 13 credits and had a history of academic difficulties.

SOURCE: MDRC field research data.

value added of Opening Doors, above and beyond what students at the colleges normally receive.

In designing the evaluation and developing the key research questions, MDRC and its research partners considered the basic conceptual model illustrated in Figure 1.2. The model provides a framework for linking the Opening Doors reforms to various outcomes that are important for a successful educational experience and transition to a better life. As illustrated in the figure, the Opening Doors reforms in curriculum and instruction, student services, and financial aid theoretically affect some key "early" educational or academic outcomes, while the program is operating (such as the number of credits completed and academic performance), as well as some "later" educational outcomes, including semester-to-semester persistence, graduation, and transfer to another postsecondary institution.

As Figure 1.2 illustrates, the effects on the educational outcomes, if they are positive and strong, would in turn lead to improved labor market outcomes in the longer term, including better jobs and higher earnings and enhanced well-being. Some of the social, personal, and health outcomes (such as social networks or sense of self) might be affected in the short term, while others (such as physical and mental health) are more likely to be affected only in the longer term.

The model illustrated in Figure 1.2 shows some basic relationships and, as noted above, helped guide the design of the study. As Opening Doors evolved, it became clear that some of the relationships observed in the study may be a bit more complicated. For example, in a learning communities program, such as the one tested at Kingsborough, groups of students take classes together as a cohort. This, in itself, could lead to changes in social networks, connections with peers, and similar outcomes. In fact, as discussed below, social changes such as these are central to the theory behind why learning communities might help students succeed. The relationships, in other words, are not all linear and one-directional, as illustrated in the simplified figure. This report examines a range of educational and well-being outcomes. Chapters 4 and 5 provide more information on the hypotheses about the likely effects of Kingsborough's program.

Key Research Questions

The Opening Doors evaluation includes three main components: an implementation analysis, an impact analysis, and a cost analysis. The key research questions in the implementation analysis follow:

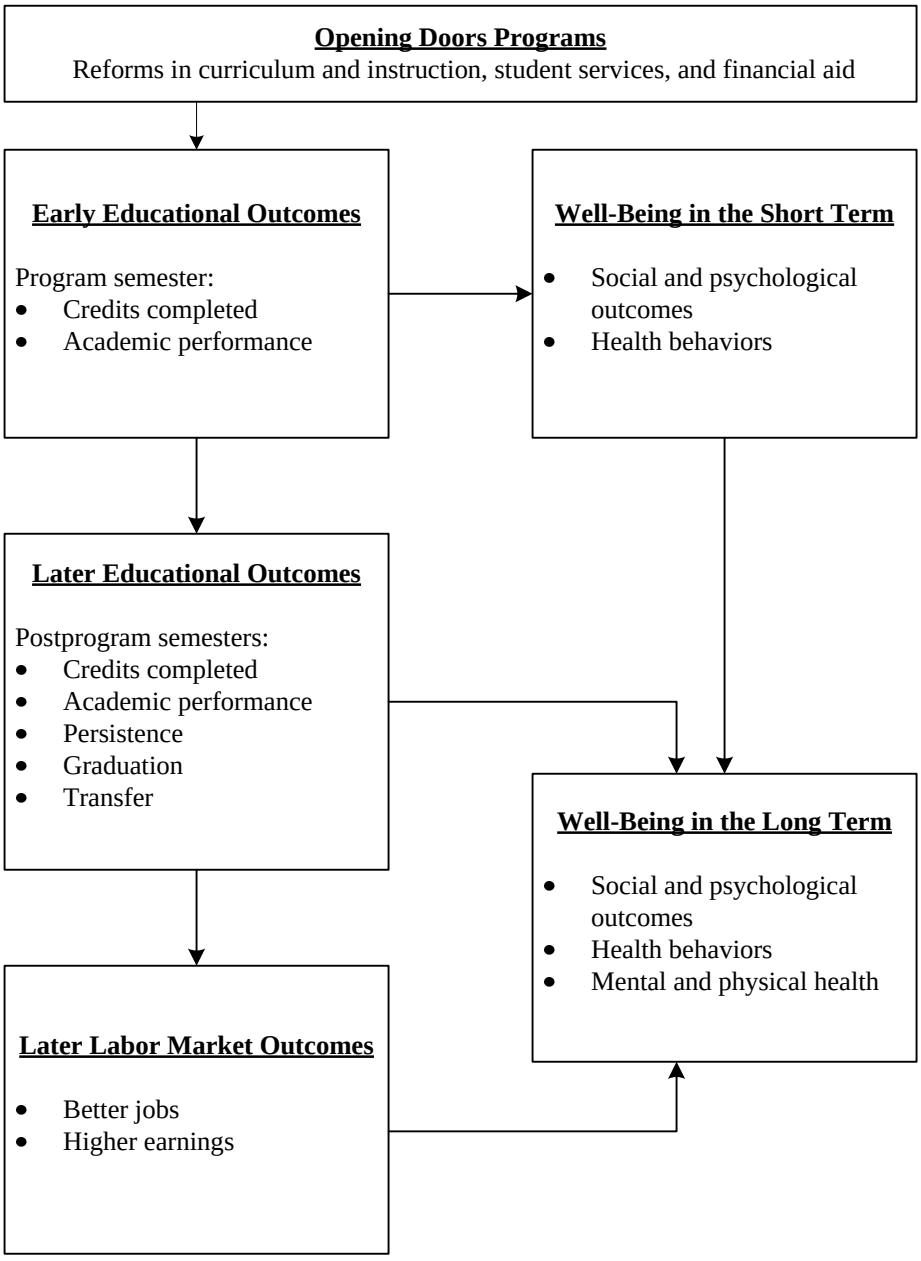
- Were the enhanced services sufficiently distinct from the services available to the study's control group to constitute a "fair test" of the intervention?

The Opening Doors Demonstration

Figure 1.2

Basic Conceptual Model for Evaluating the Effects of Opening Doors Programs

Kingsborough Community College Report



- What services were provided as part of the Opening Doors programs? What was their quality and intensity, and how might the programs help students?
- How were the programs managed and operated, and how were the services delivered?

Chapter 3 of this report addresses these implementation questions for Kingsborough's Opening Doors program.

As discussed above, the random assignment design provides a rigorous way to estimate the effects of the enhanced programs on various outcomes of interest. Reflecting the outcomes shown in Figure 1.2, the key research questions in the analysis of the programs' effects, or impacts, follow:

1. Do the Opening Doors enhancements in curriculum, student services, and financial aid in community colleges lead to more positive early educational outcomes — including completing more credits and earning better grades — compared with standard college courses and services? (The study is measuring the early educational outcomes only at the Opening Doors colleges, not other postsecondary institutions. See Chapter 2 for more detail on the data sources used in this report and what they measure.)
2. Do the enhancements lead to more positive later educational outcomes, including higher rates of persistence in school, of degree attainment, and of transfer to four-year institutions?
3. Do the enhancements or the resulting positive educational effects have a positive impact on students' personal development, social networks, civic participation, and health behaviors?
4. Do the enhancements or the resulting positive educational effects impact students' success in the labor market?

Chapter 4 provides some answers from the study at Kingsborough to the first two questions, and Chapter 5 provides some answers to the third. The impacts presented in this report cover up to two years following random assignment. MDRC will continue to track outcomes for the research sample for at least three years to understand the longer-term effects of the Kingsborough program, including on labor market outcomes (the fourth question listed above), and will present the results in a future report.

In each site in the study, MDRC and its research partners collected a range of data to help answer the impact and implementation research questions, including student tran-

script data and a survey that was administered about a year after students entered the study. Chapter 2 provides more information on the data sources used in the analyses in this report. In addition, MDRC has collected data on the costs of operating each of the Opening Doors programs, as well as on the costs of providing each college's standard classes and services. A future report will discuss the costs of the programs.

A Limitation of the Research Design

A random assignment evaluation is considered the most reliable way to test programs such as those in Opening Doors, but this study's design has an important limitation. The focus groups with students and the other research that MDRC conducted when designing Opening Doors pointed to the need for programs with multiple enhancements and supports. Also, it was important to ensure that the program interventions were as robust as possible and clearly different from the colleges' standard offerings. As a result, as noted above, each college operated a program with at least two different components. The study will determine whether that *package* of enhancements led to different outcomes, compared with the standard college classes and services. The evaluation will not, however, disentangle the effects of each component.

In Kingsborough, the study will determine whether the package of the learning community, enhanced counseling and tutoring, and textbook voucher lead to different student outcomes, compared with unlinked, standard courses and the college's standard services. It will not, however, determine the specific effect of each of the program's components, such as the enhanced counseling or textbook voucher. In addition, the study will not determine the effect of the difference in class size discussed in Chapter 3 or in any variation in quality of instruction. The implementation research at each college will shed light on which program dimensions may matter the most, but it will not yield definitive answers. That question will need to be addressed in future studies.

Kingsborough Community College and Its Opening Doors Program

This section describes Kingsborough and its setting and the origins of the college's Opening Doors Learning Communities program. It also briefly describes the program model. The section begins by providing some background on learning communities, the central element of Kingsborough's program.

Some Background on Learning Communities

Learning communities are seen by many as a promising strategy to promote student involvement with faculty, peers, and the subject matter they are studying, as well as student success.[8] Many experts believe that learning communities are particularly promising for students taking developmental (remedial) courses.[9] A key monograph on learning communities offers the following definition: "any one of a variety of curricular structures that link together several existing courses — or actually restructure the material entirely — so that students have opportunities for deeper understanding and integration of the material they are learning, and more interaction with one another and their teachers as fellow participants in the learning enterprise."[10] The four most common models of learning communities are paired or clustered courses, cohorts in large classes, team-taught programs, and residence-based programs.[11] The first model — upon which Kingsborough's program is based — links two or more individually taught courses. From 20 to 30 students take the courses together as a cohort, and, often, faculty redesign the curricula for the separate courses. Also, the courses are block scheduled, so that they meet Monday through Thursday, usually between 9 A.M. and 2 P.M.

The roots of the learning community approach can be traced back as far as the 1930s, to an experimental program at the University of Wisconsin that redesigned the first two years of college around an interdisciplinary study of democracy in ancient Athens and modern-day America.[12] The learning community models that are more familiar today, such as those described above, began to spring up in the 1970s. By 2002, the National Survey of First-Year Academic Practices found that 62 percent of responding colleges enrolled at least some cohorts of students into two or more courses. However, at most colleges, these programs involved only a small proportion of students. For example, about 60 percent of two-year colleges enrolled at least some students in learning communities, but fewer than 20 percent of these colleges enrolled more than 10 percent of freshmen in such programs.[13]

Many community colleges adopt learning communities with the goal of improving the retention, persistence, and success of their most vulnerable students. Tinto and Engstrom have conducted and synthesized research on student attrition and articulated the theoretical underpinnings of learning communities.[14] They posit that increasing students' at-

[8]The section on learning communities is adapted from Bloom and Sommo (2005); Price (2005); and Richburg-Hayes, Visher, and Bloom (2008).

[9]See, for example, Grubb (2001).

[10]Gabelnick, MacGregor, Matthews, and Smith (1990).

[11]Levine Laufgraben and Shapiro (2004).

[12]Shapiro and Levine (1999).

[13]Barefoot (2002).

[14]Tinto (1993, 1997, 1998); Engstrom and Tinto (2007).

tachment to the college and increasing their engagement through academic and social experiences in college are important factors in improving persistence and retention. According to Tinto, building a sense of community, both academically and socially, is central to solving attrition problems.[15] Astin studied both individual and organizational factors that were associated with persistence and found that engagement, particularly formed by interactions among students and between faculty and students, was important.[16]

An excellent resource that summarizes much of the research on learning communities is from the National Learning Communities Project monograph series.[17] Many studies of learning communities have discussed the programs' implementation and described students' and instructors' experiences. Some evidence suggests that learning communities can increase students' integration and sense of belonging in the college community and their overall satisfaction with their college experience. For example, one study cited in the monograph found that learning communities helped students make connections across disciplines and with peers.[18] Another recent, large-scale study of learning communities for academically underprepared students in 19 colleges found statistically significant impacts on engagement, the quality of relationships with classmates and faculty, and differences in classroom activities, such as participation in class discussions and using ideas from other courses.[19]

Despite the breadth of research on the learning community experience, few studies have measured the effect of learning communities on key student outcomes, such as persistence, course completion, and degree attainment. A few studies cited in the monograph mentioned above found that students in learning communities had the same grades as or better grades than similar students who were not in learning communities and were more likely to remain in college.[20] The study of learning communities for academically underprepared students in 19 colleges (see the preceding paragraph) found a modest but statistically significant positive effect on retention one year after enrolling in a learning community, averaged across the colleges.[21]

In sum, although past research on learning communities has found generally promising results, few studies have employed rigorous research designs, and none of the large-scale studies have used a random assignment research design. The Opening Doors random

[15]Tinto (1993).
[16]Astin (1993).
[17]Taylor (2003).
[18]Russo (1995); cited in Taylor, Moore, MacGregor, and Lindblad (2003).
[19]Engstrom and Tinto (2007).
[20]Tinto (1997); Tinto, Russo, and Kadel (1994); Gordon, Young, and Kalianov (2001).
[21]Engstrom and Tinto (2007).

assignment evaluation at Kingsborough provides an important contribution to the growing body of research on learning communities.

Kingsborough Community College and Its Environment

Before describing Kingsborough's Opening Doors Learning Communities program, it is worthwhile to consider the college and its environment. Kingsborough Community College is the only community college in Brooklyn, the largest borough of New York City, with a population of roughly 2.5 million people. Brooklyn has no majority racial/ethnic group: 43 percent are white; 35 percent are black; 9 percent are Asian; and 20 percent are Hispanic (any race). Close to half of all Brooklyn residents speak a language other than English at home. In 2006, 23 percent of Brooklynites lived below the federal poverty level.[22] This poverty rate is higher than the rate across the five boroughs of New York City, 19 percent, and the national poverty rate, 13 percent. In 2006, the average unemployment rate in Brooklyn was 7.4 percent, a bit lower than the rate across the five boroughs of New York, 7.8 percent. The unemployment rate in the United States that year was 6.4 percent.[23]

Founded in 1963, Kingsborough is one of six community colleges in the City University of New York (CUNY), the nation's largest urban university system.[24] A large urban college, Kingsborough's 70-acre campus boasts an unexpectedly scenic location next to a quiet residential neighborhood at the southern tip of Brooklyn, on the Atlantic Ocean. The campus has numerous outdoor sculptures and an array of amenities, including a beach, an aquarium, and an art gallery. The college has more than 800 staff and an operating budget of nearly $60 million.

Kingsborough serves about 35,000 students annually. The college reports that its students come from 110 countries and speak 68 languages. Kingsborough's student body is younger than that of many other community colleges — nearly three-fourths of Kingsborough students are under age 25 — and a large fraction of students (about half) attend full time. The college's Web site reports that Kingsborough ranks in the top 3 percent of community colleges nationwide in the number of degrees awarded to minority students.[25]

[22]The federal poverty level in 2006 for a family of four was $20,614 (U.S. Bureau of the Census, 2006b).

[23]The statistics in this paragraph are from the 2006 American Community Survey (U.S. Bureau of the Census, 2006a).

[24]CUNY also includes 11 four-year institutions, a graduate school, a law school, and a school of biomedical education.

[25]Kingsborough Community College Web site: www.kbcc.cuny.edu.

Community colleges in New York State are among the most expensive in the nation:[26] Full-time Kingsborough students pay more than $3,000 per year in tuition and fees. At the same time, New York has an unusually generous state-funded financial aid program, the Tuition Assistance Program (TAP), which provided more than $800 million in grants to nearly 400,000 students in 2003. Nearly 70 percent of Kingsborough students receive some form of federal or state aid.

The college, which accepts all students with a high school diploma or General Educational Development (GED) certificate, provides developmental-level courses and English as a Second Language (ESL) courses to help prepare students for other college courses. Kingsborough offers a wide array of associate's degree programs, including career-oriented programs and traditional liberal arts programs. Kingsborough's Office of Continuing Education operates the college's certificate training programs, customized training for business, preparation for the GED certificate exam, and other noncredit programs, while the academic side of the college operates its associate's degree programs.

The distinction between "credit" and "noncredit" programs at Kingsborough is complicated by the fact that many students in the degree programs take noncredit developmental English and math courses because they fail one or more of the skills assessment tests that are administered to all students who enter the CUNY system. Developmental courses at Kingsborough do not earn any college credit, although each such course is assigned "equated credits" to account for the hours spent in class. Equated credits count in determining whether a student is attending school full time.

In 1998, the CUNY Board of Trustees, with the strong support of Mayor Rudolph Giuliani, voted to eliminate developmental (remedial) classes from the university's four-year colleges. Once this policy took effect, students who failed any of the three skills assessment tests that are administered prior to enrollment — which covered reading, writing, and math — were directed to a community college for developmental coursework. The change generated great controversy. Critics, citing data showing that students who begin at community colleges are less likely to complete bachelor's degrees than comparable students who begin at four-year colleges, argued that the change would ultimately reduce the number of poor and minority students who obtained bachelor's degrees.[27]

Although all incoming freshmen at Kingsborough have earned a high school diploma or GED, only a small minority pass all three skills assessment tests. In 2003, when the Opening Doors study started, only 18 percent of incoming students passed the reading,

[26]American Association of Community Colleges (2003).
[27]See, for example, Lavin and Weininger (1999).

writing, and math tests — a rate that is typical for many urban community colleges. Students who fail the tests are not required to take developmental courses when they start school, but students in all of Kingsborough's associate's degree programs must complete any required developmental English courses, plus two credit-bearing English courses that are open only to students who have passed both the reading and the writing skills tests. Similarly, students cannot transfer to a CUNY four-year college until they have passed all three of the skills tests. In general, students who fail the skills tests before enrollment can retake the tests only after they have passed specific developmental courses.

In sum, the skills assessment tests at CUNY act as a "gatekeeper" to an associate's degree or transfer to a four-year institution. In addition, as noted above, graduation rates for students who begin college in need of developmental education are particularly low. A key challenge and focus at Kingsborough, and in higher education more broadly, is how to effectively help students complete developmental requirements and move to college-level courses. (As discussed below, most of the students in the Opening Doors study at Kingsborough took a developmental English course. A goal of the program was to help students move more quickly through developmental English requirements, allowing them to take college-level English.)

Origins of the Opening Doors Learning Communities Program

Kingsborough's first learning communities program began in the mid-1990s and targeted English as a Second Language (ESL) students who were entering degree programs. Later, the college created another learning community program that targeted students in four "career majors": accounting, business, mental health, and early childhood education. Data collected by the college showed that students in the learning communities had higher rates of course completion and semester-to-semester retention and higher grade point averages than students at Kingsborough who were not in a learning community.

Based on this positive experience, the leadership at Kingsborough was eager to expand learning communities to a broader group of students. MDRC approached the college's leadership in 2002 to discuss the possibility of Kingsborough's participation in the Opening Doors demonstration, which offered an opportunity not only to expand learning communities but also to rigorously test their effects on students. With special funding from the Robin Hood Foundation, which supports programs that aim to reduce poverty in New York City, Kingsborough developed the Opening Doors Learning Communities program and started operating it in fall 2003.

The Opening Doors Learning Communities Model

Kingsborough targeted its Opening Doors Learning Communities program to students who met the following criteria:

- Was a first-time incoming freshman who planned to attend college full time during the day
- Did not test into ESL (that is, tested into either developmental English or college-level English)
- Was age 17 to 34[28]

ESL students were excluded from the study because they participated in the special learning communities program mentioned above. Similarly, students in the four "career majors" for which a separate learning community operated were excluded for the first year of the study. The career learning community program ended after the 2003-2004 academic year, and, after that, students in those majors were included in Opening Doors.

In designing Opening Doors Learning Communities, Kingsborough administrators were especially interested in targeting liberal arts majors, because they believed that many students in that group do not have clear academic or career goals and so might benefit from a model that provided enhanced structure and support. In addition, they made an effort to target students who missed the CUNY systemwide application deadline and applied directly to Kingsborough, often just weeks or even days before the start of classes. College data showed that these two overlapping groups of students tended to have poor outcomes, suggesting that they might benefit from Opening Doors.

The program placed students in groups of up to 25 that took three classes together during their first semester at Kingsborough, forming a learning community. The paired or clustered courses consisted of an English course, usually at the developmental level; an academic course required for the student's major; and a one-credit freshman orientation course. In addition to the linked courses, the Opening Doors program also offered additional components designed to help students succeed: enhanced counseling and support, which was provided by the instructor of the orientation course; enhanced tutoring; and textbook vouchers for use at the college's bookstore. Chapter 3 provides more detail on Kings-

[28]During the first semester of program operations, Kingsborough's Opening Doors program was open only to students between ages 18 and 34 who reported household income below 250 percent of the federal poverty level. In subsequent semesters, the income criterion was removed, having been deemed unnecessary because such a large proportion of Kingsborough students are from low- or moderate-income families, and 17-year-olds were admitted to the program with parental consent.

borough's program model as well as the on the key differences between the program and the services that were available to the study's control group.

Contents of the Report

Chapter 2 describes how students entered the research sample for the study at Kingsborough. It also presents some descriptive characteristics of the sample members and describes the data sources used in this report.

Chapter 3 provides further information about Kingsborough's Opening Doors program and discusses its implementation.

Chapter 4 presents the program's effects on various educational outcomes.

Chapter 5 provides information on the program's effects on selected social, psychological, and health outcomes.

Chapter 2

Sample Intake and Characteristics and Data Sources

The Opening Doors evaluation is using a random assignment research design to estimate the effects of each college's program, compared with their regular classes and services. This chapter describes how students became part of the research sample at Kingsborough Community College and presents some characteristics of the sample members. It also discusses the data sources used in this report and the follow-up periods for the impact analyses.

Identifying, Recruiting, and Randomly Assigning Students

To enroll students in the study, MDRC and Kingsborough staff worked together to insert the recruitment and random assignment procedures into the college's student registration process. This was a considerable challenge, as large community colleges must process many student registrations in a short time period. In addition, this was the first time that a large-scale random assignment study had been conducted at a community college. The design and research procedures were based on past studies set in other contexts, but they had to be adapted so that they would disrupt the normal college processes as little as possible. The Kingsborough administrators' and staff members' commitment to the study, coupled with their creativity and flexibility, were critical to the success of the research sample recruitment and intake processes.

Potential study participants were identified during the weeks prior to the start of each semester. Kingsborough staff began by reviewing lists of applicants who had already taken the City University of New York (CUNY) skills assessment tests; as noted in Chapter 1, scores on the reading and writing tests that are administered before enrollment determine most students' English placements. Applicants whose scores placed them in a developmental English course for native English speakers or in freshman English were invited to come to campus to register early for classes.[1]

Students who came in to register received a brief, general description of the Opening Doors program at Kingsborough and were told that the program had sufficient funding

[1]As discussed in Chapter 1, because some students were eligible for the English as a Second Language (ESL) learning communities program, those whose scores placed them in ESL were not included in Kingsborough's Opening Doors study.

to serve about half of eligible freshmen. Further, they were told that the program was part of a study, that it was open only to students who agreed to be in the study, and that a random process would be used to determine which study participants would be placed in the program. Students who agreed to participate in the study signed an informed consent form, provided some baseline demographic information, and completed a brief confidential survey. They received a $20 transit card as an incentive and as compensation for their time, and they were then randomly assigned either to the program group or to the control group and were given appropriate assistance registering for classes.[2]

This sequence was ideal, but, in reality, most Kingsborough freshmen apply and take the CUNY skills assessment tests so close to the start of the semester that they were unable to attend an early-registration appointment. As a result, the majority of sample members entered the study during four or five large registration sessions that occurred in the few weeks before each semester began. Opening Doors Learning Communities and MDRC staff attended these sessions and "intercepted" freshmen who had just learned their test scores and were about to register for classes. Potential study participants heard the explanation about the research and the learning communities program and, if interested, completed the research paperwork in small groups, rather than individually. Random assignment was conducted on the spot (typically through a phone call to MDRC's office), and students proceeded to register for classes. Chapter 3 describes how registration occurred for program group and control group members.

Students were brought into the research sample in four different groups, or cohorts, just before four different semesters: fall 2003, spring 2004, fall 2004, and spring 2005. Throughout the study, a total of 1,534 students were randomly assigned at Kingsborough.

Characteristics of the Sample

Table 2.1 presents some characteristics of the sample members at Kingsborough, based on the questionnaire that they completed just before random assignment: the Baseline Information Form (BIF). As the table shows, just over half of the sample members are female. The research sample, like the population of Brooklyn, is racially and ethnically di-

[2]It is worth noting that students who came to a random assignment appointment and who were placed in the control group were — like the program group students — allowed to register for classes earlier than most Kingsborough freshmen, and they received advice on the registration process from Opening Doors staff. These slightly enhanced services mean that the research design is not completely "pure," but it was deemed unethical and impractical to bring students to campus and then not allow them to register for classes.

The Opening Doors Demonstration

Table 2.1

Selected Characteristics of Sample Members at Baseline

Kingsborough Community College Report

Characteristic	Percentage of Full Sample
Gender	
Male	45.4
Female	54.6
Age	
17-18 years old	44.5
19-20 years old	34.2
21-34 years old	21.3
Marital status	
Married	3.9
Unmarried	96.1
Race/ethnicity[a]	
Hispanic/Latino	20.4
Black, non-Hispanic	37.7
White, non-Hispanic	26.9
Asian or Pacific Islander	8.6
Other	6.4
One child or more in household	8.7
Household receiving any government benefits[b]	28.4
Financially dependent on parents	74.2
Ever employed	78.2
Currently employed	35.5
Diplomas/degrees earned	
High school diploma	70.9
General Educational Development (GED) certificate	28.6
Occupational/technical certificate	2.0
Date of high school graduation/GED receipt	
During the past year	70.2
Between 1 and 5 years ago	22.8
More than 5 years ago	7.0
Main reason for enrolling in college	
To complete a certificate program	2.8
To obtain an associate's degree	29.7
To transfer to a 4-year college/university	50.2
To obtain/update job skills	10.8
Other	8.4

(continued)

Table 2.1 (continued)

Characteristic	Percentage of Full Sample
First person in family to attend college	33.4
Working personal computer in home	79.7
Owns or has access to a working car	25.6
Language other than English spoken regularly in home	46.9
U.S. citizen	72.6
Respondent born outside U.S.[c]	39.9
Respondent or respondent's parent(s) born outside U.S.[c]	74.4
Region in which respondent was born	
North America	60.0
Asia	6.3
Commonwealth of Independent States[d]	9.5
Latin America and the Caribbean	18.7
Other[e]	5.5
Region in which respondent's mother was born[f]	
North America	28.2
Asia	9.8
Commonwealth of Independent States[d]	11.0
Latin America and the Caribbean	41.5
Other[e]	9.6
Sample size	1,534

SOURCE: MDRC calculations using Baseline Information Form (BIF) data.

NOTES: [a]Respondents who indicated that they are Hispanic and who also chose a race are included only in the Hispanic/Latino category.

[b]Benefits include unemployment/dislocated worker benefits, Supplemental Security Income (SSI) or disability, cash assistance or welfare, food stamps, and Section 8 or public housing.

[c]"U.S." includes Puerto Rico.

[d]This commonwealth comprises Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Republic of Moldova, Russia, Tajikistan, Turkmenistan (until August 2005), Ukraine, and Uzbekistan.

[e]Other regions include the Baltics, eastern and western Europe, North Africa, Sub-Saharan Africa, the Near East, and Oceania. Countries are grouped by region according to the U.S. Bureau of the Census, International Data Base.

[f]The majority of respondents reported that both parents were born in the same region as each other.

verse: 38 percent of the sample members identified themselves as black (non-Hispanic); 27 percent, as white (non-Hispanic); and 20 percent, as Hispanic.

Reflecting the makeup of the college's entering full-time freshmen, the sample members were quite young when they entered the study: 45 percent were either 17 or 18, and only 21 percent were 21 or older. Very few of the Kingsborough sample members were married or had children. Almost three-fourths reported being financially dependent on their parents, and roughly one-third were working when they entered the study.

Most of the sample members (70 percent) had received their high school diploma or General Educational Development (GED) certificate during the past year. A small minority (7 percent) received their diploma or GED certificate more than five years before entering the study. Almost four-fifths of the sample members reported that their main reason for enrolling in college was either to obtain an associate's degree or to transfer to a four-year institution. One-third of the students in the study said that they were the first in their family to attend college.

Almost half of the sample members reported speaking a language other than English at home — the same proportion as in Brooklyn overall. A full 40 percent of the students in the study were born outside the United States: 19 percent were born in Latin America or the Caribbean; 10 percent were born in what is now known as the Commonwealth of Independent States (a group of former republics in the Soviet Union); and 6 percent were born in Asia. Almost three-fourths of the sample members reported that either they or at least one of their parents were born outside the United States.

Appendix Table A.1 shows the complete list of characteristics that were collected on the BIF. The table shows the characteristics for the full sample, the program group, and the control group. An asterisk in the rightmost column of the table indicates that the proportion of program group members with that characteristic is significantly different than the proportion of control group members. As the table shows, there are some small differences between the two research groups, but no more than would be expected randomly.[3]

As noted above, students at Kingsborough are required to take CUNY skills assessment tests prior to beginning classes. As Table 2.2 shows, three-fourths of the study's sample members passed the reading test, but only 29 percent passed the writing test, and 29

[3]Appendix Table A.1 does not include an additional statistical test (an omnibus F-test, applied to evaluate the joint significance of the individual characteristics); it showed that there are no systematic differences between the two research groups.

The Opening Doors Demonstration

Table 2.2

Outcomes on English Skills Assessment Tests at Baseline

Kingsborough Community College Report

Outcome	Percentage of Full Sample
Passed the reading test	74.6
Passed the writing test	29.3
Passed both the reading and the writing test	29.0
Sample size	1,534

SOURCE: MDRC calculations from City University of New York skills assessment test data.

percent passed both tests. Thus, only a minority of the sample members could avoid developmental-level English.

Data Sources and Follow-Up Periods

To examine the impacts and implementation of Kingsborough's Opening Doors program, the analyses presented in this report rely on several data sources, described below.

Baseline Data

As mentioned above, just before students were randomly assigned to the study groups, they completed a questionnaire, called the Baseline Information Form (BIF), and a baseline survey. The BIF collected demographic and other background information. The survey asked a series of questions about students' social and psychological well-being and their health. Baseline data were used to describe the research sample, make statistical adjustments in the impact analysis, and define subgroups of sample members for analysis.

Kingsborough Transcript Data

Kingsborough provided to MDRC transcript data for the sample members in the study. These data include various academic outcomes, including courses registered for, withdrawn from, and passed; number of credits earned; and grade point average (GPA). In this report, transcript outcomes are presented for the first semester that each sample member

was in the study (called the "program semester") and for the subsequent three semesters (called "postprogram semesters"), yielding a follow-up period of two years. Transcript data are used in Chapter 4 to provide a detailed look at sample members' performance at Kingsborough.

CUNY Skills Assessment Test Score Data

As discussed above, students are required to take the CUNY reading, writing, and math skills assessment tests before they begin classes at Kingsborough. MDRC collected test score data for all sample members who took the tests at Kingsborough or any other institution in the CUNY system. When the analyses for this report were conducted, test score data were available through the second postprogram semester. Test score data are used in this chapter and in Chapter 4.

National Student Clearinghouse Data

The National Student Clearinghouse, a nonprofit organization, collects and distributes enrollment, degree, and certificate data from more than 3,000 colleges that enroll more than 90 percent of the nation's college students.[4] The Clearinghouse data are used in Chapter 4 to provide important information about students in the study who may have attended a postsecondary institution other than Kingsborough. The Clearinghouse data provide information through the third postprogram semester, covering two years after sample members were randomly assigned.

The Opening Doors 12-Month Survey

A survey was administered to sample members approximately 12 months after random assignment.[5] MDRC attempted to locate and interview all sample members; in the end, 71 percent of the full research sample at Kingsborough completed the survey. The survey asked about a wide range of topics, including sample members' educational experiences, social relationships and supports, future outlook and identity, and health. Selected measures from the survey are used in Chapters 4 and 5.

[4]National Student Clearinghouse (2007).

[5]The Opening Doors 12-Month Survey used some questions from the Community College Survey of Student Engagement, with permission.

The Kingsborough Student Survey

During fall 2004, MDRC surveyed program and control group members who had entered the study that semester.[6] The survey measured students' experiences at Kingsborough, including activities and experiences in their courses, relationships with other students, and awareness of student services. The survey was targeted to all 242 program group members enrolled in an Opening Doors learning community that semester and to a random subset of 138 control group members; 84 percent of the program group members and 73 percent of the control group members responded. Because the sample size is much smaller than the sample for the Opening Doors 12-Month Survey, and because the Kingsborough Student Survey is limited to only one of the four research cohorts, the data are used to illustrate some important information about program implementation in Chapter 3, but the report's impact analyses do not rely on the Kingsborough survey data.

The Kingsborough Faculty Survey

In early 2005, MDRC distributed a survey to the faculty members who taught in the Opening Doors Learning Communities program during the fall 2004 semester. The survey asked a series of questions about the faculty members' experiences teaching in the learning community and covered such topics as interactions with students and other faculty members and the curricula and instruction in the learning community courses. Of the 24 faculty teaching in an Opening Doors Learning Community that semester, 21 completed the survey. Information from the faculty survey is used in Chapter 3 to help describe the implementation of the Opening Doors program at Kingsborough.

Field Research

During spring 2005, MDRC staff conducted a series of field research visits to Kingsborough. MDRC interviewed many college administrators, faculty, and staff, including those involved in Opening Doors. The interviews provided detailed information on the operation of the Opening Doors Learning Communities program and about the key differences between the program and the standard college courses and services that were available to the members of the study's control group. Throughout the study, prior to the formal field research visits, MDRC periodically interviewed the administrators and staff involved in Opening Doors and observed meetings between counselors and students. Information from all these visits is used in Chapter 3.

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[6]The Kingsborough Student Survey was adapted from the Pathways to Success Survey, created by Vincent Tinto. The Pathways to Success Survey is a modification of the Community College Survey of Student Engagement and was used with permission.

The Opening Doors Qualitative Study

MDRC conducted an in-depth qualitative study at Kingsborough and another Opening Doors college, Lorain County Community College in Elyria, Ohio, outside Cleveland. During spring 2005, interviews were conducted with 23 students from the program and control groups at Kingsborough to learn about their experiences in college and the factors that affected their ability to stay in school. The study's results were presented in a report in 2006,[7] and some of the interview data are used in Chapter 3.

[7]Gardenhire-Crooks, Collado, and Ray (2006).

Chapter 3

The Implementation of Opening Doors Learning Communities

The chapter describes how the Opening Doors Learning Communities program operated at Kingsborough Community College during the study period. After a brief summary, the chapter describes the program model and structure, examines how Kingsborough administrators mounted the program in fall 2003, discusses key operational issues that emerged over time, and finally describes how Opening Doors Learning Communities differed from the regular college environment facing the study's control group.

The key findings are:

- Opening Doors Learning Communities was well implemented at Kingsborough. Despite a compressed planning period and the program's large scale, all the key features were in place when operations began, and they remained in place throughout the study period. In interviews, many faculty, students, and administrators expressed positive views about the program. These accomplishments were possible because the program received strong, consistent support from the highest levels of the college administration.

- All the learning communities had the same basic structure, but they varied in their content and class sizes and in the degree to which faculty worked together and integrated their courses. Thus, while this study is a strong test of the structural features of a learning community (linked courses, block scheduling, and so on), it may not fully test the impacts of tightly integrating course curricula. That said, it seems likely that Kingsborough's program is at least as strong as, if not stronger than, the "typical" learning communities program at a community college, and so the results are probably widely applicable.

Finally, it is important to note that Kingsborough is, in general, a high-functioning community college. Thus, the study's control group probably received relatively high-quality instruction and relatively strong support. This means that the benchmark for achieving impacts may be higher at Kingsborough than it might have been at another college.

The Opening Doors Learning Communities Model

The Opening Doors Learning Communities program began in fall 2003 and still operates today. However, members of the Opening Doors research sample experienced the program only during its first four semesters of operation, from fall 2003 through spring 2005 (known as the "study period"). After the study period ended, Kingsborough expanded the program, with the goal of serving 80 percent of entering freshmen by 2010, and it made some modest changes in the model. At the time this report was written, about 65 percent of entering freshmen participated in Opening Doors Learning Communities. This chapter reflects the model and operations only during the study period (and thus is written in the past tense).

Program Components

Opening Doors Learning Communities used the common paired- or clustered-course model described in Chapter 1. That is, the students in each learning community took three courses together: an English course, with the level determined by the student's scores on the City University of New York (CUNY) reading and writing skills assessment tests that were administered prior to enrollment; an academic course required for their major, called a "content course" (for example, psychology, health, or history); and a one-credit freshman orientation class. This class, which is open to all Kingsborough freshmen, teaches time management, study skills, college rules and procedures, exploration of learning styles, career exploration, multicultural diversity, and other topics relevant to a new college student; similar courses are offered at many two-year and four-year colleges. As discussed later in the chapter, 31 of the 40 learning communities that operated during the study period included a developmental English course; the other 9 included a credit-bearing freshman English course for students who passed both the reading and the writing skills assessment tests prior to enrollment.

Figure 3.1 shows the actual class schedules for 2 of the 11 Opening Doors learning communities that operated during fall 2004, the third semester of the study period. The first panel of the figure shows the schedule for a learning community that linked a credit-bearing (that is, non-developmental) English course (English 12) with a sociology course (Sociology 31) and the freshman orientation course (Student Development [SD] 10). The second panel shows the schedule for a learning community that linked the lowest-level developmental English course (English 91) with a health course that is required for most Kingsborough students (Health 12) and the freshman orientation class.

Figure 3.1

Schedules Showing Linked Courses in the 2004 Opening Doors Learning Communities Program

Kingsborough Community College Report

Sociology Link (10)
English 12 (ENG 12) and Sociology 31 (SOC 31)

Period	Monday	Tuesday	Wednesday	Thursday	Friday
A (8:00-9:00)					
B (9:10-10:10)					
C (10:20-11:20)					
D (11:30-12:30)	**ENG 000LB** (0.0 Credits)				
E (12:40-1:40)	**SOC 31** (3.0 Credits)	**SD 10** (1.0 Credit)	**SOC 31** (3.0 Credits)	**SOC 31** (3.0 Credits)	
F (1:50-2:50)	**ENG 12** (4.0 Credits)	**ENG 12** (4.0 Credits)	**ENG 12** (4.0 Credits)	**ENG 12** (4.0 Credits)	
G (3:00-4:40)					

(continued)

As Figure 3.1 shows, the Opening Doors courses met one after the other (sometimes with a break for lunch). This scheduling system was designed to minimize the amount of time that a student needed to be on campus, making it easier to balance school with work and family obligations. In addition, all Opening Doors courses met at convenient times, generally between 9 A.M. and 3 P.M., Monday through Thursday.[1]

[1]After the study period for this report ended, Kingsborough began offering learning communities for evening students as well.

Figure 3.1 (continued)

Health Link (1)
English 91 (ENG 91) and Health 12 (HPE 12)

Period	Monday	Tuesday	Wednesday	Thursday	Friday
A (8:00-9:00)					
B (9:10-10:10)					
C (10:20-11:20)	**ENG 91** (8.0 EQ Credits)	**ENG 91** (8.0 EQ Credits)	**ENG 91** (8.0 EQ Credits)	**ENG 91** (8.0 EQ Credits)	
D (11:30-12:30)	**ENG 91** (8.0 EQ Credits)	**ENG 91** (8.0 EQ Credits)	**ENG 91** (8.0 EQ Credits)	**ENG 91** (8.0 EQ Credits)	
E (12:40-1:40)					
F (1:50-2:50)	**HPE 12** (3.0 Credits)	**HPE 12** (3.0 Credits)	**HPE 12** (3.0 Credits)	**SD 10** (1.0 Credit)	
G (3:00-4:30)					

SOURCE: Kingsborough Community College.

NOTES: The schedules represented here are actual schedules from Kingsborough Community College. Linked courses form the core of the Opening Doors Learning Communities program at Kingsborough. All combinations of Kingsborough's linked courses include one English course; one "content course" (covering an academic subject other than English); and Student Development 10 (SD 10), a skills course for new students.

"EQ credits" stands for equated credits. Equated credits are weekly class hours in developmental and compensatory courses for which actual credit is not allowed. For certain purposes, such as determining financial aid eligibility, equated credits may be counted in the same manner as regular credits.

A typical full-time course load at Kingsborough involves 12 credits (12 hours of class per week). Because the lower-level developmental English courses meet for eight hours each week, the content courses are typically three credits, and the freshman orientation class is one credit, students at the lower English levels usually took no additional unlinked courses. In contrast, students in higher-level English courses, which meet for fewer hours per week, usually took at least one non-Opening Doors course. For example, the linked Opening Doors courses for the schedule shown in the first panel of Figure 3.1 total only eight credits.

Faculty who taught the linked courses had a reduced teaching load, allowing them to meet regularly during the semester to discuss student progress, identify strategies to assist students having difficulty, and coordinate assignments. In effect, a three-credit course taught in the context of Opening Doors was treated as a four-credit course when determining a faculty member's teaching load. (After the first semester, participating faculty also received compensation for time spent planning their Opening Doors course during the six-week module preceding the semester.)

In addition to the linked-course structure, the Opening Doors Learning Communities program included several other components designed to address students' barriers to retention and academic success:

- **Enhanced counseling and support.** In each learning community, the freshman orientation course was taught by an Opening Doors counselor (usually called a "case manager"), who worked proactively to identify and resolve students' barriers to good attendance and performance. Ideally, the case manager/instructor participated in regular meetings with the other two faculty members in a given learning community during the semester, creating an effective "early-warning" system to identify students needing assistance — for example, students who had been missing classes or who were having difficulty with assignments. Typically, each Opening Doors case manager was responsible for three or four learning communities (75 to 100 students in all).

- **Enhanced tutoring.** Normally, tutors are assigned to developmental English courses at Kingsborough — and may actually attend the classes — but otherwise students access tutoring by visiting a central lab. In the Opening Doors Learning Communities program, a tutor was assigned to each learning community and attended the English course and, in many cases, the subject-matter course as well. The aim was to ensure that tutors were familiar with the material being covered — and with the students. They were well positioned both to help with the work in a given course and to help students draw connections across the linked courses.

- **Textbook vouchers.** The high cost of college textbooks has been well documented, and studies have shown that many community college students do not purchase the books for their courses; they attempt to share or borrow books or simply get by without them.[2] Redeemable at the campus bookstore, the Opening Doors textbook voucher was worth up to $150 during the initial

[2] *Community College Week* (2003).

12-week session. Students who returned for the 6-week winter or summer module (described next) could receive a second voucher worth up to $75.[3]

At Kingsborough, each semester is divided into two "modules." The primary module (fall or spring) is 12 weeks, but students who attend that module full time can earn additional credits by attending the subsequent 6-week module (winter or summer) for no additional cost. (Courses typically meet for twice as many hours per week during the 6-week module.) Opening Doors Learning Communities operated only during a student's first semester at Kingsborough. In fact, the core feature of the program — the linked classes — existed only during the first 12-week module. Students were no longer scheduled as a cohort during the subsequent 6-week module, although those who chose to attend could receive a second textbook voucher and were still assigned to their Opening Doors case manager. Also, as discussed below, there were some social events designed to help students transition out of Opening Doors and into the regular college environment.

The Administrative Structure

A well-known technical assistance guide on learning communities describes the sharp split between the academic and student affairs divisions on many college campuses, and it identifies this split as a serious barrier that must be overcome in order to run an effective learning community program.[4]

The Opening Doors Learning Communities program grew out of an unusually close collaboration between the academic affairs and student services divisions at Kingsborough. Senior administrators in both divisions had close personal relationships and a long history of working together. The Director of Academic Affairs led the program and was responsible for recruiting faculty, building the linked schedules, and other key tasks, but she worked very closely with the Director of the Freshman Year Experience and other staff in the student services division to design and oversee key features of the program. The complex student recruitment and registration process that is described in Chapter 2 was developed collaboratively by staff from the two divisions and MDRC.

The close collaboration was reflected in the Opening Doors Learning Communities office, which housed both an academic coordinator (part of the academic affairs division) and the case managers (part of the student services division).

[3]During the 2003-2004 academic year, the textbook vouchers were worth up to $200 during the 12-week session and up to $100 during the 6-week session.

[4]Shapiro and Levine (1999).

Program Start-Up

In mounting Opening Doors, Kingsborough could build on the experience gained from its two earlier (albeit smaller) learning community initiatives described in Chapter 1. (One of the earlier learning communities was for English as a Second Language students, and one was for students in four "career majors.") At the same time, Kingsborough faced two special challenges. First, as discussed further below, operating the Opening Doors program in the context of a random assignment experiment created unique problems, particularly during the registration process.

Second, to meet the overall project schedule and take full advantage of external funding, Kingsborough needed to mount the program, at a large scale, very quickly. Detailed planning did not begin until the spring of 2003, after course assignments and schedules had already been set for the fall semester. Compounding the challenge, the academic affairs administrator with lead responsibility for planning the program became ill and missed several months of work just before and after the program was launched. One administrator noted that Kingsborough had to "build the ship while sailing it."

Given these difficult circumstances, it is impressive that Kingsborough was able to put the entire complex program structure in place for the start of the fall 2003 semester: Courses were identified and set aside for Opening Doors students; 10 block schedules were created; faculty were recruited to teach the Opening Doors courses; a mechanism for dispersing textbook vouchers was established; and the Opening Doors counseling staff were hired and on board in time for registration. This considerable achievement was possible only because Opening Doors received very strong support at all levels of the college administration and from many of the academic departments.

One of the most challenging aspects of the start-up process involved recruiting faculty to teach the linked courses. The technical assistance guide on learning communities that is mentioned above notes that, while college faculty are often innovators in the classroom and in their academic disciplines, they are "frequently slow to accept changes that appear to alter traditional relationships between faculty and administration, faculty and students, faculty in their own departments, other departments, and the [college] community at large. In this respect, learning communities introduce serious challenges to the usual way of doing things."[5]

The guide goes on to recommend a careful process for attracting and recruiting faculty to teach in learning communities. For example, it suggests giving faculty substantive roles in planning the program, thereby creating an atmosphere that attracts other faculty. Unfortunately, given the extremely tight time frame for program start-up, such a process was not feasible at Kingsbor-

[5]Shapiro and Levine (1999).

ough. Thus, some of the faculty who agreed to teach in Opening Doors Learning Communities did so enthusiastically (some had participated in one of the college's earlier learning community initiatives). Others, however, were recruited by department chairs, did not have prior experience teaching in a learning community, and may not have fully understood what was involved.

Similarly, the compressed schedule made it difficult to carefully consider how to pair faculty to teach the linked courses. Ideally, faculty pairs would have emerged through an organic process, based on professional relationships or shared academic interests. In reality, during the first semester, pairings were created mostly based on schedules and other logistical factors, and many faculty were asked to collaborate with people they had never met.

Finally, there was little time available to provide special training. Tasks such as integrating curricula and working collaboratively with counselors or case managers were new to many of the participating faculty, and, for the most part, they needed to learn such tasks through trial and error. Adding to the challenge was the fact that faculty did not receive special compensation for planning efforts prior to the start of the first semester (that is, during the preceding six-week module).

In interviews conducted near the end of the study period, Kingsborough administrators acknowledged that the initial faculty recruitment process was less than ideal owing to the tight time frame. As a result, they believed that Opening Doors may have been seen by some faculty as an administration initiative and that some of the initial faculty assignments were probably not appropriate. However, many of these issues were addressed in later semesters. For example, as knowledge about Opening Doors spread among faculty, more instructors began to come forward voluntarily to express interest in the program, and a waiting list eventually was needed. (When Kingsborough hired a large number of new faculty in 2004, administrators asked all candidates about their interest in teaching in a learning community.) In some cases, pairs of faculty from different departments proposed a specific linkage between courses they taught. In addition, faculty development opportunities (some of which were delivered by consultants associated with the National Learning Communities Project at Evergreen State College) were expanded in later semesters, and compensation for pre-semester planning was added.

In a survey of faculty who taught in Opening Doors Learning Communities during the fall 2004 — the third semester of program operations — most of the faculty who wrote comments expressed quite positive views about the program. For example, four faculty, all from different learning communities, wrote the following comments:

> It is a very enjoyable, though time-consuming experience, but seeing positive results is worth the investment.

> The program was awesome to teach in. Administrative support and student engagement were completely different (better) than non-OD courses. I asked to do it again.
>
> If there is a way to help students overcome their handicaps, the OD program is the way. Students become energized and motivated (for the most part). I believe Opening Doors is the way to conduct all classes.
>
> The Opening Doors program is a fabulous program for our KCC students. It provides them with an initial connection to faculty, as well as their peers.

This study did not gather data on whether the faculty who taught in Opening Doors Learning Communities differed from other faculty at Kingsborough — though this is an important factor to consider in assessing the results and the potential for replication or expansion of such programs.

Implementing Opening Doors Learning Communities

The key structural features of the Opening Doors Learning Communities program at Kingsborough Community College operated as intended, with minor glitches, throughout the study period. Thus, the overwhelming majority of students were assigned to linked classes with a cohort of fellow students in their English level; tutors and case managers with relatively small caseloads were assigned to each learning community; and textbook vouchers were distributed as planned. In other words, the program as a whole was well implemented.

This section goes beyond the basic structural elements of Kingsborough's program to discuss the day-to-day operation of some of its key features: registering students, linking courses, providing enhanced support, and transitioning students out of the program.

Registering Students

Chapter 2 describes the process of recruiting students and randomly assigning them to the program group or the control group. Once students learned that they had been assigned to the program group, they met immediately with a case manager for advisement and registration. In many cases, this was a relatively straightforward process because the choices were quite constrained. Students' English placements were determined by their scores on the reading and writing skills assessment tests administered prior to enrollment. The Opening Doors Learning Communities

program served students who had been placed in one of the three noncredit developmental English courses or the one credit-bearing freshman English course.[6]

As shown in Table 3.1, in fall 2004, students whose test scores placed them in the mid-level developmental English course (English 92) could choose from two possible schedules, but both included the same courses. Limited flexibility was inevitable, in part because there are relatively few college-level content courses that are appropriate for students whose reading and writing skills are poor.[7] Students in that semester who tested into the highest level of developmental English (English 93) could choose from four different learning communities, each with a different content course.

Table 3.1 also illustrates another challenge for the registration process: In order to design the learning communities, administrators needed to predict how many study participants would test into each of the four English levels and needed to create an appropriate number of learning communities at each level. They were guided by historical test score data, but the patterns tended to fluctuate from year to year. Moreover, administrators had no way to predict what proportion of the eligible students would agree to participate in the study.

To make matters worse, random assignment greatly reduced the margin for error. In discussing the random assignment process with MDRC up front, Kingsborough administrators wanted to fill the available Opening Doors slots and then assign any additional eligible students to the control group. Unfortunately, however, this would not have created comparable groups, because the students who register earlier may be systematically different from those who register later. To make the process work for the evaluation, each student who entered the study had to have a 50 percent chance of being placed in the program group.

As shown in Table 3.1, there were certain courses in each semester that were significantly underenrolled. For example, in fall 2003, the number of students who tested into the middle level of developmental English (English 92) was smaller than projected, so the three learning communities including that course were quite small. The problem was more widespread in spring 2004, when the overall number of incoming freshmen eligible for Opening Doors Learning Communities was much smaller than projected. Thus, the size of the learning communities varied substan-

[6]English 91 and 92 are lower-level developmental courses, targeted mainly to students who fail both the reading and the writing skills test. Both courses meet for eight hours per week. English 93, the highest-level developmental course (targeted to students who fail only the writing skills test) and English 12 (freshman English) meet for four hours per week.

[7]The Health class that is linked to English 91 and English 92 is a schoolwide requirement.

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Table 3.1

Opening Doors Learning Communities Offered and Class Size

Kingsborough Community College Report

Semester and Linked Courses	Number of Sections	Average Class Size
Fall 2003		
English 12, Philosophy, Student Development 10	1	20
English 12, Sociology, Student Development 10	1	23
English 91, Speech, Student Development 10	2	17
English 92, Music, Student Development 10	1	6
English 92, Health, Student Development 10	2	10
English 93, Political Science, Student Development 10	1	13
English 93, History, Student Development 10	1	19
English 93, Psychology, Student Development 10	1	20
Semester total	10	16
Spring 2004		
English 12, Political Science, Student Development 10	1	10
English 12, Sociology, Student Development 10	1	22
English 91, Health, Student Development 10	1	16
English 91, Speech, Student Development 10	1	7
English 92, Health, Student Development 10	2	7
English 93, Political Science, Student Development 10	1	12
English 93, History, Student Development 10	1	10
English 93, Psychology, Student Development 10	1	19
Semester total	9	12
Fall 2004		
English 12, Psychology, Student Development 10	1	25
English 12, Sociology, Student Development 10	1	25
English 12, Economics, Student Development 10	1	25
English 91, Health, Student Development 10	2	25
English 92, Health, Student Development 10	2	22

(continued)

Table 3.1 (continued)

Semester and Linked Courses	Number of Sections	Average Class Size
Fall 2004 (continued)		
English 93, Political Science, Student Development 10	1	22
English 93, Psychology, Student Development 10	1	21
English 93, History, Student Development 10	1	24
English 93, Biology, Student Development 10	1	9
Semester total	11	22
Spring 2005		
English 12, Sociology, Student Development 10	1	25
English 12, Economics, Student Development 10	1	22
English 91, Health, Student Development 10	2	17
English 92, Health, Student Development 10	2	11
English 93, Political Science, Student Development 10	1	14
English 93, History, Student Development 10	1	13
English 93, Psychology, Student Development 10	1	22
English 93, Biology, Student Development 10	1	8
Semester total	10	16
Grand total	40	17

SOURCE: MDRC calculations from Kingsborough Community College transcript data.

NOTES: English 12 is the first-level college-credit English course. English 91, 92, and 93 are the lowest, middle, and highest levels, respectively, of developmental English courses. Enrollment in these courses is based on the score from a skills assessment test that is required of all entering students. Class size may not represent the full class size in every case, as students outside the study may have enrolled in a study learning community. However, such occurrences were rare and would not significantly change the numbers.

While most students were enrolled in all three linked courses of a learning community, a small number withdrew from part of the link.

tially, and most of the learning communities operated with many fewer than 25 students. Administrators were reluctant to cancel or consolidate course sections after they had made commitments to faculty who had agreed to teach in the program and had already worked with their partner to redesign their course syllabus (see below). The process worked much more smoothly in the 2004-2005 academic year, as administrators and MDRC gained experience and worked together to refine the registration procedures.

Linking Courses

The linked-course structure was the heart of the Opening Doors Learning Communities program. The structure was designed to achieve many goals: to help students build close, supportive relationships with their peers to ease the transition into college; to enhance learning by emphasizing the substantive linkages across different disciplines; and to facilitate closer connections among students, faculty, and case managers. As noted earlier, the structural elements of the linked structure were put in place quite effectively at Kingsborough. This section explores several aspects of the linked structure as it played out in practice: curricular links, ongoing communication among faculty teams, and social linkages among students.

Curricular Links

Designing courses to help students see substantive links across different subjects is a challenging task, and, as noted above, many of the faculty who taught in Opening Doors Learning Communities did not have previous experience doing so. This was a major topic of the faculty development efforts, and while MDRC does not have detailed information on all 40 learning communities, it appears that faculty grew more comfortable with the task over time.

In some learning community programs, courses are fully integrated under a single theme. At the other extreme, courses may be block-scheduled, with little integration. In the Kingsborough program, the two courses remained separate and distinct, but they were coordinated to varying degrees.

As noted in Chapter 2, MDRC distributed a survey to Kingsborough faculty who taught Opening Doors Learning Communities during the fall 2004 semester, the third semester of program operations. There were 11 learning communities that semester, and 21 of the 24 participating faculty completed the survey.[8] All faculty reported that they had developed a new syllabus or adapted their regular syllabus for the learning community. (It is not clear whether any of the learning communities had a single syllabus.) All also reported that they gave at least some joint assignments with their partner, and most reported that they developed a grading scheme together. The survey was not detailed enough to determine how often these strategies were used, but examples of joint assignments or activities include the following:

- Several English instructors reported that they assigned novels or other readings that related to the subject matter of the content course; several teams assigned some of the same texts for both courses.

[8]There were 11 English instructors, 10 content-course instructors (1 instructor taught in two learning communities), and 3 freshman orientation instructors/case managers.

- Several teams made joint writing assignments that were graded or reviewed by both instructors. In other cases, English writing assignments included the requirement to use key terms from the content course.
- In a learning community that linked health with English, the students learned about stress in the health class, wrote scripts about the topic in the English course, and acted out the scripts in health class with the English instructor present.
- In a learning community that linked biology with English, the biology text was used in the English course, and a scientific paper was assigned for both classes and was graded by both instructors.
- In one learning community, the English and content faculty team-taught two class sessions.

From interviews with students conducted as part of a qualitative study (see Chapter 2), it seems clear that many Opening Doors Learning Communities participants were aware of, and appreciated, the linkages between their English and content course. One student who was interviewed for MDRC's qualitative study noted: "Every time we read stories [for the English class], we somehow related it to our economics class. So . . . I think it was kind of important." Another said: "It doesn't feel like you have different classes. Its like its all one class but different subjects. You can study easier. Use what you learned here [points to another place] here. Its like a web. Its all connected."[9] Some students also believed that Opening Doors Learning Communities involved less work because the same assignments could sometimes be completed for two classes.

Ongoing Communication Within Teams

Ideally, all three members of each learning community team (the English instructor, the content-course instructor, and the freshman orientation instructor/case manager) would meet prior to the semester to plan and integrate their courses, and then they would meet weekly or biweekly throughout the semester to review student progress, develop strategies to assist students in need, coordinate assignments and grading, and make midcourse corrections.

When this system worked smoothly, faculty reported that it was quite helpful. However, interviews with Kingsborough faculty throughout the study period, and the survey of the fall 2004 faculty, suggest great variation in how the teams functioned in practice. Although some of the reports by teammates are not consistent, results from the survey suggest that regular in-person meet-

[9]Gardenhire-Crooks, Collado, and Ray (2006).

ings including all three team members occurred in about 5 of the 11 learning communities that operated that semester. It appears that the English and content-course instructors met regularly, without the case manager/instructor, in at least four other links.

Interviews with faculty suggest that the lack of ongoing communication could sometimes be traced to logistical and scheduling issues. At Kingsborough, as at most community colleges, a large percentage of the faculty (about two-thirds) are part-time adjuncts. Similarly, several of the Opening Doors Learning Communities case managers worked part time. When two or more members of a team had different part-time schedules, it could be very difficult to organize regular face-to-face meetings. Some of the teams that did not meet frequently reported that they communicated by e-mail.

It also seems clear that some faculty did not fully understand or appreciate what the case manager could contribute. As noted above, the academic affairs and student development divisions forged a very close linkage at the administrative level, but it was challenging to translate this message of collaboration to the faculty involved. It is notable that, in several of the learning communities that did not meet regularly as a full team, there was still somewhat regular contact between the case manager/instructor and the English instructor. It appears that the English department was more fully engaged in this aspect of the program than were the other departments — perhaps this is not surprising, because the English department contributed an instructor to every learning community.

Social Linkages Among Students

When discussing Opening Doors Learning Communities, students at Kingsborough were most likely to refer to the fact that they took most or all of their courses with the same people; this was the most visible aspect of the program to them.

It is difficult to generalize based on the relatively small number of students who were interviewed, but it appears that most students appreciated this aspect of the program. They noted that they had made friends, that their classmates were supportive, and that they were more willing to participate in class discussions because they knew everyone in the class. Some students also reported that they formed study groups with their classmates. One student who was interviewed for the qualitative study said: “I make friends with people in my class, [and] if I’m absent and I need something, they’re there.” Another student, who was interviewed after leaving Opening Doors, contrasted the program to the regular school environment: “And now, I go to my classes and no one even takes me on! I hardly know anybody, like, if I need to call somebody for something, I don’t know anybody to call, because I have no friends [in class]. It’s just me alone in these big classes.” A third student said:

> Opening Doors was fun! We went to our classes and we did well. . . . I had a friend . . . and we got so close through the OD semester that we would compete among ourselves to see who would get the highest grade in our English class, you know? And sometimes she would and sometimes I would, but if I got the lower grade, she would be, like, "Come on — you know you have to beat me next time!"

At the same time, the authors of the qualitative study noted that most of the students said that the friendships they made in Opening Doors generally did not last beyond the program semester and that their closest friends were not from Kingsborough. In addition, some students discussed negative aspects of the group structure, saying that they found it stifling and that it reminded them of high school.

Interestingly, many students expressed contradictory views about this aspect of the program, appreciating the ability to make friends and gain support but also feeling as though they were not being treated as adults. The authors of the qualitative study concluded that "this conflicted yearning for both dependence and independence likely reflected their stage in life, at transition point from adolescence to adulthood."[10] In other interviews conducted by MDRC, students who were in the program complained that they were tired of attending classes with the same students every day. However, after leaving the program and experiencing the relatively anonymous life of a regular student, the same students admitted that they missed the program and understood the advantage of the group structure.

Although many faculty expressed positive views about the group structure, several reported that it sometimes contributed to a negative dynamic that was hard to control. For example, in the faculty survey mentioned above, one instructor wrote: "As the semester goes on, students tend to form negative attitudes, with the naysayers holding others back. It's a high schoolish clique kind of thing." Another wrote: "Students without much maturity go from class to class with each other only, and the insularity can reinforce the immaturity and counterproductive behavior patterns."

Enhancing Student Services

The enhanced student services component of Opening Doors Learning Communities revolved around the case managers. The staffing structure at Kingsborough varied somewhat from semester to semester, but typically it included two full-time positions and one part-time staff person. One of the full-time staff was the lead case manager and played a broader coordination or

[10]Gardenhire-Crooks, Collado, and Ray (2006).

management role, in addition to teaching three sections of the freshman orientation class. The part-time staff person taught three sections, and the second full-time counselor taught four sections. Thus, each case manager was involved in three or four learning communities and was responsible for 75 to 100 students — though, as discussed above, the number of students per learning community varied.

The freshman orientation class is a standard course that is offered to all Kingsborough freshmen. All sections, whether in or out of Opening Doors Learning Communities, cover the same general topics, but staff reported that they exercise discretion over the specific reading and writing assignments and over how they manage the class. For example, one Opening Doors Learning Communities instructor/case manager reported that she gave four writing assignments, while others reported that they assigned less writing. Most of the case managers reported that the freshman orientation class was not very closely linked to the English and content courses at the curricular level.

Teaching the freshman orientation class provided the case managers with an opportunity to see all their students at least once a week. However, all the case managers reported that they frequently saw students one-on-one in the program office, which had space for private discussions with students. One of the case managers required each student to schedule a formal in-person meeting with her within the first three weeks of the semester. The others reported that they attempted to meet with all their students at least once but did not enforce this policy rigidly. In addition to scheduled meetings, all the case managers reported that they would reach out to students who were not attending class or when they learned from another faculty team member that a student had poor attendance or was having difficulty in the English or content course. All the case managers also encouraged students to visit the office whenever they had questions or needed assistance.

The case managers described their role as a mix of academic advising and basic personal counseling. Academic advising included discussions about issues like what major to pursue or what courses to select, while counseling involved personal issues that may affect academic performance or progress.

The academic advising role was particularly important for liberal arts majors. All Kingsborough students in their first semester must see an adviser as they select courses for the upcoming semester. Students with a major other than liberal arts would typically be assigned to a faculty member in the appropriate department, or might visit the Academic Advisement Center, which was established midway through the study period. Liberal arts majors, who are not connected to an academic department, would normally be advised by staff from the Freshman Year Experience office. However, Opening Doors Learning Communities students who were liberal arts majors were advised by their case manager/instructor. Case managers reported that they also provided

academic advising to many non-liberal arts majors because they had closer relationships with these students than the faculty advisers or staff from the Academic Advisement Center.

Opening Doors Learning Communities case managers consistently made two general points in describing their counseling function. First, they noted that Kingsborough offers many specialized services for students, including a counseling center staffed by licensed psychologists, drug and alcohol counseling, a child care center, and a health services office. The case managers stressed that they were not trained to deal with these matters and saw their role as making referrals when serious issues emerged with Opening Doors students. All the case managers reported making numerous referrals to the counseling center.

Second, the case managers reported that their counseling role was typically more extensive with students in the lower-level developmental English courses, who were seen as "less mature" than students who tested into the higher-level English courses.

In describing the types of issues that they addressed with students, case managers mentioned stress and time management, helping students clarify their goals and reasons for attending college, and addressing inappropriate classroom behavior. The case managers also frequently helped students navigate college systems. For example, one case manager reported that a student who had a complicated question about financial aid could get an answer simply by walking into the financial aid office but that she could get it more quickly and more efficiently by making a call to someone she knew in that office.

In interviews, most students spoke very positively about their Opening Doors case managers. For example, one student said: "She was wonderful, I have to say. She's amazing. I was in her office every day. She was always there, and she always helped me."

Transitioning Students Out of the Program

As noted above, the core features of Kingsborough's Opening Doors program operated only during the first 12-week module of a student's first semester; the subsequent 6-week module served as a transition period. Students who attended classes during the shorter session continued to be assigned to their Opening Doors case manager — who would likely help them register for courses for the upcoming semester — and they received a second textbook voucher if they enrolled in courses during the 6-week module. Kingsborough decided that there was no practical way to maintain the linked-course structure after the first module, since students needed and wanted to take a variety of different courses in subsequent semesters.

Program administrators struggled to develop an appropriate way to ease students out of the highly structured, supportive environment of Opening Doors into the larger college community. During fall 2003, program staff organized a festive "graduation" ceremony to take place dur-

ing the 6-week winter module. Students received awards for completion of the program and were encouraged to meet the staff from the general freshmen counseling program. The event was successful, but attendance was uneven because only about half of the Opening Doors students had registered for classes during the module. In subsequent semesters, the event was held near the end of the 12-week module, while students were still on campus.

How Did Opening Doors Learning Communities Differ from the Control Group Environment?

Table 3.2 summarizes the key differences between Opening Doors Learning Communities at Kingsborough and the regular college environment (that is, the control group environment). As expected, the contrast is clearest with respect to course assignments and scheduling: Opening Doors Learning Communities students took three linked courses that were scheduled in a block, and all of them took an English course and the freshman orientation class. As discussed above, the extent of integration across the linked courses varied from learning community to learning community. Control group students took whatever courses were available to them (including, potentially, the same courses that were offered in Opening Doors), at whatever times those courses met, and were not required to take English or the freshman orientation. (Chapter 4 includes additional information about the courses that sample members took.) There was almost certainly no attempt by the regular college faculty to link the subject matter across courses.

Class sizes also differed. Campuswide, a standard lecture class has about 35 students, on average, but developmental English courses average about 25 students per section. Although Opening Doors Learning Communities was intended to have a uniform class size of about 25 students, some of the sections were unusually small (Table 3.1).

The textbook vouchers represent another clear contrast: Program group students had access to the vouchers (and generally used them), while control group students did not. Interestingly, though, in a small-scale survey administered to program group and control group students in fall 2004, nearly equal percentages of students in the two groups reported that they had copies of necessary textbooks for their classes.[11]

[11]The Kingsborough Student Survey was adapted from the Pathways to Success Survey, created by Vincent Tinto. The Pathways to Success Survey is a modification of the Community College Survey of Student Engagement and was used with permission.

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Table 3.2

Key Differences Between the Opening Doors Learning Communities and the Regular College Environment During the First Semester

Kingsborough Community College Report

Feature	Opening Doors Learning Communities	Regular College Environment
Block scheduling	Cohort of up to 25 students took 3 courses together (in a group called a "learning community"); courses met one after the other.	Students took courses whenever they were offered and available, with different students in each class.
Curricular integration	Curricula for the linked courses were integrated.	There was no integration across courses.
Class size	Each course had a maximum of 25 students.	English courses typically had 25 students; content courses averaged 30 to 35 students.
Student development course	All Opening Doors Learning Communities students took 1-credit freshman orientation class.	Freshman orientation class was encouraged but not required.
English courses	All Opening Doors Learning Communities students took English, with the level being based on their scores on the City University of New York skills assessment tests.	Students were encouraged, but not required, to take an English course, with the level being based on their scores on the City University of New York skills assessment tests.
Tutoring	Tutors were assigned to each learning community and attended classes.	Tutors were assigned to developmental courses; otherwise, tutoring was accessed through central lab.
Counseling	An Opening Doors Learning Communities counselor was assigned to each learning community; each counselor was responsible for 75 to 100 students; counselors worked proactively to identify and resolve students' barriers to good attendance and academic performance.	Students could access counseling on their own initiative; caseload for freshmen counselors was roughly 500:1; counseling role was reactive.
Textbook voucher	Voucher had a value of $225 during the first semester.	No voucher was offered.

SOURCE: MDRC field research data.

Enhanced tutoring was, in principle, another important difference between Opening Doors and the regular college environment. However, it is interesting to note that this component of the program attracted the most consistently negative reviews from program group students, many of whom resented having to work with tutors.

It is more complicated to define the treatment difference with respect to student services. As noted above, Kingsborough offers an extensive array of specialized services for its students. There are also a number of programs targeted to particular populations, such as College Discovery, a CUNY-wide program for academically and financially disadvantaged freshmen. Moreover, Kingsborough's Freshman Year Experience program, established in 1998, is designed to help orient students to the college and help them develop a coherent academic and career plan. Finally, midway through the study period, Kingsborough opened a new Academic Advisement Center — another collaborative project between academic affairs and student services that is designed to enhance the quality and quantity of advising.

Given this extensive network of supports, it seems clear that students in both research groups had access to many of the same services. The key difference was that, in theory, the services in Opening Doors Learning Communities were more proactive and intensive. For example, although control group students were served by the Freshman Year Experience program, the ratio of students to staff was much higher than in Opening Doors Learning Communities. Moreover, staff for the Freshman Year Experience were not responsible for specific caseloads of students (thus, students would not necessarily see the same staff person at each office visit), and staff were not expected to reach out proactively to students who were having difficulty. Indeed, on the small-scale survey mentioned above, which was administered while Opening Doors Learning Communities students were still in the program, some of the largest differences between groups are on questions that reflect the level of support that students received. For example, 62 percent of the program group members reported that there was someone at Kingsborough whom they could turn to for advice or support, compared with 39 percent of the control group. The Opening Doors 12-Month Survey, discussed in Chapter 4, found similar results.

Chapter 4

Effects on Educational Outcomes

As discussed in Chapter 1, a key goal of learning communities is to increase educational attainment among students, particularly those who are not well prepared for college-level work. Thus, the effect of learning communities on educational outcomes is central. This chapter focuses on educational outcomes as far as four semesters after an individual first enrolled in the Opening Doors study at Kingsborough Community College in Brooklyn, New York.[1] These outcomes were measured using a survey conducted approximately 12 months after individuals were randomly assigned either to the program group (which was eligible to enroll in a learning community) or to the control group (which received the college's standard courses and services); transcript data from Kingsborough; skills assessment test data from all City University of New York (CUNY) campuses; and data on student enrollment from a national clearinghouse, which allows the analysis to account for the fact that many students enrolled at schools other than Kingsborough.[2]

The chapter first discusses the impact of being assigned to the program group on the students' educational experiences and outcomes, as measured by data from Kingsborough during their first semester in the study (the "program semester"); then it presents the impacts on their educational outcomes at Kingsborough during the following three semesters. Next, the chapter discusses the effects on a student's progression through the English requirements at Kingsborough, including the impacts on CUNY reading and writing assessment tests. The discussion then considers more general educational outcomes (including enrollment at institutions beyond Kingsborough) in at least one of the first four semesters after random assignment. The chapter's final section briefly discusses program effects for some subgroups of sample members.

The key findings are:

- Assignment to the program group significantly improved a student's college experience in terms of a sense of integration, belonging, and the value of the skills acquired, suggesting that learning communities change a student's perceptions of the college experience.

[1]In results not presented here, analysis of the Opening Doors 12-Month Survey suggests that there were no meaningful impacts of assignment to the program group on employment outcomes. This result is not surprising, given that the students in the study were so young that one would not expect to observe such impacts in so short a period of time.

[2]The data sources are described in Chapter 2.

- Further, the results suggest that learning communities improve educational outcomes along a number of dimensions in the program semester. For example, assignment to the program group increased the number of courses students attempted, whether they passed all courses, and the number of credits earned in the program semester.

- The evidence also indicates that students in learning communities are more likely to attempt both reading and writing CUNY assessment tests and were more likely to have passed them two semesters after completion of the learning community.[3]

- More generally, the results suggest that learning communities provide a short-term boost to educational attainment that subsequently plateaus, as the educational gains made by Kingsborough students who were assigned to the program group — including gains on CUNY assessment tests — did not generally increase after the program semester.[4] As an exception, however, there is evidence that learning communities may increase student persistence — in terms of college enrollment — over time.

- Impacts were examined for some different subgroups of students, and, for the most part, no meaningful differences across groups were found. The magnitude of several of the impacts is larger for men than for women, but most of the differences between the two groups are not statistically significant.

As described more fully in Box 4.1, the tables that follow present outcomes for the students assigned to the program group (the treatment group), outcomes for the control group, the difference between the two groups (the impact of the program), the standard error of the difference, and the estimated effect size. These means are adjusted for the student's cohort — which reflects the point at which the student was randomly assigned to the program group or control group — as well as the number of English assessment tests passed at baseline (random assignment). No other covariates are included.[5]

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[3]Similar results on impacts using the first cohort are reported in Bloom and Sommo (2005). One must keep in mind that this analysis does not isolate the impact of learning communities on passing an assessment test among students who attempt one. Rather, it reflects a combined impact of learning communities on attempting a test and their effect on passing it among those students who attempt it.

[4]One must exercise caution when interpreting these results, since part of any educational improvement observed at Kingsborough in semesters after the program semester is due, in part, to the fact that students in the learning communities were more likely to reenroll at Kingsborough in the first place.

[5]Nearly all the results are qualitatively similar if other covariates are included. Results without (other) covariates are presented because, with a randomized design, it is unnecessary to include them; the coefficient estimates are unbiased. Further, it is not at all clear how one decides which covariates to include. The number of baseline

(continued)

The Impact on Student Perceptions of College Experiences: Results from the Opening Doors Twelve-Month Survey

In order to properly interpret the impact of learning communities on student outcomes, one must first attempt to determine whether the study changed the educational experiences of those students randomly assigned to the program group. Since, ideally, a fully developed learning community involves an integrated curriculum between the linked courses that the students take together (see Chapter 3, Figure 3.1), one would expect that students who were assigned to the program group would feel a better sense of belonging and integration into the school and would be more engaged with their studies. To gauge students' perceptions, the 12-month survey asked respondents a battery of questions about their educational experiences at Kingsborough.[6] The components of each battery were then summed to create four scales: integration and sense of belonging at school, participation and engagement at school, using knowledge (critical thinking curriculum), and acquired academic and work skills.[7] Box 4.2 briefly describes each scale and provides a subset of its items; Appendix C describes the full battery of items.

Table 4.1 presents the impacts of learning communities on these four measures as well as whether the respondent rated the college experience as "good or excellent," how much time the respondent spent on campus in the first (program) semester, and how much time the respondent studied during the first semester. To facilitate interpretation of the scale scores, the table presents the fraction of students whose scaled score is either "high" (meaning it is 1 standard deviation *above* the average) or "low" (meaning it is 1 standard deviation *below* the average).

The table shows that, among the survey respondents, those who were assigned to the program group had a better overall college experience, had more connections with other

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English assessment tests passed is included because it explains a significant portion of the variation in test score outcomes in Tables 4.5 and 4.6 and, therefore, substantially decreases the estimated standard errors (without changing the estimated impacts); their inclusion does not change other estimated impacts (or their standard errors). It should also be noted that while students who were assigned to a learning community were less likely to be depressed (according to the K6 Screening Scale developed by Dr. Ronald Kessler at Harvard Medical School) and were less likely to smoke at baseline (and these differences are statistically significant), the results in this chapter are similar if the impacts are adjusted (controlled for in an Ordinary Least Squares [OLS] regression) for these baseline differences. Finally, the standard errors in all the tables account for the clustering of students into learning communities.

[6] See Appendix B for an analysis of the response rates for the Opening Doors 12-Month Survey.

[7] Factor analysis was performed on each potential scale to determine how the items lined up along factors or dimensions. Eigenvalues and screen plots were used to help determine whether there were multiple subscales within given scales, and the Cronbach statistics for the full scale were compared with those from the potential subscales. Final scales were constructed using these results. The scale items come from the Community College Survey of Student Engagement and were used with permission.

Box 4.1

How to Read the Tables in This Report

Most tables in this report use a similar format, illustrated below. The abbreviated table shows some educational outcomes for the program group and the control group. The first row, for example, shows that 93.1 percent of the program group members and 91.4 percent of the control group members registered for any courses at Kingsborough during their first semester in college (called the "program semester").

Because individuals were assigned randomly either to the program group or to the control group, the effects of the Opening Doors Learning Communities program can be estimated by the difference in outcomes between the two groups. The "Difference" column in the table shows the differences between the two research groups' outcomes — that is, the program's estimated *impacts* on the outcomes. For example, the estimated impact on registering for any courses at Kingsborough can be calculated by subtracting 91.4 percent from 93.1 percent, yielding an increase of 1.7 percentage points.

Differences marked with asterisks are "statistically significant," meaning that it is quite unlikely that the program had no impact. The number of asterisks indicates whether the impact is statistically significant at the 1 percent, 5 percent, or 10 percent level. (The lower the level, the less likely the estimated impact arises from a program with no true effect. One asterisk corresponds to the 10 percent level; two asterisks, the 5 percent level; and three asterisks, the 1 percent level.) For example, as the second row below shows, the Opening Doors program increased the likelihood that a student enrolled in a learning community at Kingsborough by 84.6 percentage points, a difference that is statistically significant at the 1 percent level.

The two rightmost columns of the impact tables in this report provide more information about the differences. The standard error of the impact estimate is the measure of uncertainty associated with it, and this is used to calculate the statistical significance of the impact. The effect size provides a way to interpret the substantive significance of an effect. It is calculated as the difference between the outcomes for the program group and control group, divided by the standard deviation of the control group. Thus the effect size "standardizes" the impacts across measures.

The Opening Doors Demonstration

Program Semester Transcript Outcomes

Kingsborough Community College Report

Outcome	Program Group	Control Group	Difference	Standard Error	Effect Size
Registered for any courses (%)	93.1	91.4	1.7	1.6	0.06
Enrolled in a learning community[a]	85.3	0.7	84.6 ***	2.3	10.50
Number of courses attempted	4.9	4.4	0.4 ***	0.1	0.22
Number of credits attempted	15.7	15.2	0.5	0.3	0.08
Regular credits	10.0	10.2	-0.3	0.3	-0.05
Equated credits	5.7	5.0	0.8 **	0.3	0.16

Box 4.2

Behind the Scales Measuring Classroom and College Experiences

Integration and Sense of Belonging

To gauge their sense of integration or belonging at the school, respondents were asked to rate whether they agreed or disagreed (on a scale of 1 to 4) with the following types of statements: I do not feel that I fit in or belong at this campus; the instructors and staff understand who I am, where I am coming from; I do not feel I am part of campus life; I know my way around this place.

Participation and Engagement at School

To measure each respondent's participation and engagement at the school, respondents were asked how often they had done the following types of activities (also on a scale from 1 to 4): Made a class presentation, worked on a paper or project that required integrating ideas or information from different classes, worked with classmates outside of class to prepare assignments, used e-mail to communicate with an instructor, discussed ideas from your readings or classes with instructors outside of class, worked with instructors on activities other than coursework.

Using Knowledge (Critical Thinking Curriculum)

To gauge the extent to which the curriculum in the learning communities developed critical thinking, respondents were asked to rate how much their coursework emphasized the following activities (on a scale from 1 to 4): analyzing the basic elements of an idea, experience, or theory; synthesizing and organizing ideas, information, or experiences in new ways; making judgments about the value or soundness of information, arguments, or methods; integrating ideas, information, or skills from different classes.

Acquired Academic and Work Skills

Respondents' ratings of how much their college experiences had affected them in the following areas were used to measure the extent to which they had acquired valuable academic and work skills in class (on a scale from 1 to 4): acquiring a broad general education, acquiring job or work-related knowledge and skills, writing clearly and effectively, thinking critically and analytically, learning effectively on your own, developing clearer career goals, developing a sense of confidence in your academic abilities.

students and faculty, were more engaged in the classroom, and experienced a curriculum that required more critical thinking. For example, 17.3 percent of students in the control group rated their sense of integration on campus as "low," compared with only 11.4 percent of students in the program group. The difference of 5.9 percentage points between the learning communities group and the control group reflects an effect size of 16 percent (or a decrease of 16 percent of a standard deviation) that they generally disagreed with the statements of feeling integrated. Importantly, this decrease is also statistically significant, meaning that it did not likely occur by chance.

More generally, learning communities appear to have had their greatest impact on a student's reporting having a poor experience (as proxied by having a "low" scale score on one of the measures). Students in the program group were 7.3 percentage points less likely to report "low" engagement, 5.9 percentage points less likely to report a "low" use of knowledge in their courses, and 5.6 percentage points less likely to report "low" levels of acquiring academic and work skills. When asked about their overall college experience, 83.2 percent of students in the program group rated their experience "good or excellent," compared with 76.2 percent of the control group students. Importantly, all these impacts are statistically significant.

Table 4.1 also reports that students in the program group spent *slightly* less time on campus than students in the control group. For example, the program group students spent, on average, 10.7 hours per week on campus in the first semester, compared with an average of 10.9 hours per week on campus for control group students. Similarly, program group students were 4.5 percentage points more likely to report spending 12 or fewer hours per week on campus in the first semester. While these differences are not statistically significant, they may seem surprising at first glance. However, as discussed in Chapter 3, when scheduling the courses that make up the learning communities, administrators aimed to group the classes together in order to minimize the time that students had to spend on campus between classes. The results suggest only a small difference between the program and control groups in the time that students spent on campus, suggesting either that the students in the control group were also able to schedule their classes effectively or that although students in the program group may have spent less time on campus as a result of their class schedule, they may have spent more time on campus for other reasons. Finally, Table 4.1 reports that students in the program group reported spending the same number of hours studying per week in the first semester as those in the control group.

The findings suggest that students who were randomly assigned to the program group were better integrated into the college, were more likely to participate in class, felt more engaged at Kingsborough, and were more likely to feel that the college curriculum

The Opening Doors Demonstration

Table 4.1

Classroom and College Experiences of Sample Members

Kingsborough Community College Report

Outcome	Sample Size	Program Group	Control Group	Difference	Standard Error	Effect Size
Integration and sense of belonging at school[a] (%)						
Low	984	11.4	17.3	-5.9 ***	2.1	-0.16
High	984	15.6	12.6	3.0	2.1	0.09
Participation and engagement[b] (%)						
Low	1,008	14.8	22.1	-7.3 ***	2.5	-0.18
High	1,008	18.0	12.4	5.5 **	2.4	0.17
Using knowledge (critical thinking curriculum)[c] (%)						
Low	1,012	12.3	18.1	-5.9 ***	2.2	-0.15
High	1,012	24.4	22.4	2.0	2.5	0.05
Acquired academic and work skills[d] (%)						
Low	1,005	12.5	18.1	-5.6 **	2.2	-0.15
High	1,005	21.1	16.3	4.8 **	2.3	0.13
Rated college experience good or excellent (%)	1,015	83.2	76.2	7.1 ***	2.5	0.17
Hours per week spent on campus in first semester	1,074	10.7	10.9	-0.2	0.3	-0.03
Spent 12 or fewer hours per week on campus in first semester (%)	1,074	42.4	37.9	4.5	3.1	0.09
Hours per week studying in first semester	1,068	7.6	7.6	0.0	0.4	-0.01
Studied 19 or more hours per week in first semester (%)	1,068	8.7	9.1	-0.5	1.8	-0.02

(continued)

Table 4.1 (continued)

SOURCE: MDRC calculations from the Opening Doors 12-Month Survey.

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.

Estimates are adjusted by research cohort and the number of English tests passed at baseline. Standard errors are clustered by learning community links.

[a]10-item scale about sense of integration with and belonging to the school community; response categories range from 1 = "strongly disagree" to 4 = "strongly agree." "Low" is the percentage of sample members scoring one standard deviation below the mean; "high" is the percentage of sample members scoring one standard deviation above the mean.

[b]15-item scale about participation in schoolwork, projects, and ideas; response categories range from 1 = "very often" to 4 = "never." "Low" is the percentage of sample members scoring one standard deviation below the mean; "high" is the percentage of sample members scoring one standard deviation above the mean.

[c]6-item scale about using aquired knowledge inside and outside the classroom; response categories range from 1 = "very much" to 4 = "very little." "Low" is the percentage of sample members scoring one standard deviation below the mean; "high" is the percentage of sample members scoring one standard deviation above the mean.

[d]16-item scale about aquiring academic and work skills, and a sense of self and community; response categories range from 1 = "very much" to 4 = "very little." "Low" is the percentage of sample members scoring one standard deviation below the mean; "high" is the percentage of sample members scoring one standard deviation above the mean.

furthered their critical thinking and that they had acquired valuable academic and work-related skills. The fact that these are precisely the goals of learning communities suggests that while implementation at Kingsborough may not have been perfect (see Chapter 3), it was still strong; assignment to the program group appears to have significantly changed the educational experiences of students, compared with the “regular” college experience at Kingsborough.

While the results in this section suggest that learning communities improve the educational experience of students, they do not establish that these experiences translate into better academic achievement as well. The next two sections present the impact of assignment to the program group (and, therefore, the impact of learning communities) on measures of academic achievement during the program semester and beyond.

Educational Outcomes During the Program Semester

The next question is whether assignment to the program group improved the academic outcomes of students during the semester when they were in a learning community (called the "program semester"). Table 4.2 presents these results using transcript data from Kingsborough.[8] In this first semester after random assignment, 93.1 percent of the program group and 91.4 percent of the control group registered for any courses at Kingsborough. (Thus, from 7 percent to 9 percent of each group elected not to enroll in the college in the first semester after random assignment, which, as discussed in Chapter 2, occurred just before registration.) While students in the program group were slightly more likely to enroll in this first semester, the difference is not statistically significant. In addition, over 85 percent of the students in the program group enrolled in a learning community during the program semester, compared with less than 1 percent of the control group.[9]

Notably, a positive impact of learning communities on academic achievement is evident in several measures shown in Table 4.2. For example, the students in the program group attempted just less than one-half of a course more (for an average course load of about 4.9 courses). In addition, only about 33 percent of the control group and 43 percent of the program group actually passed all of their courses. Students in the program group were, therefore, 10 percentage points more likely to pass all of their courses and were nearly 8 percentage points less likely to withdraw from any courses; they earned one more credit, on average, during this first semester. The distribution of grade point averages (GPAs) also generally suggests that the program group students' were higher averages. Strikingly, however, there is no statistical difference in the number of total credits attempted, largely be-cause the program group attempted slightly fewer regular credits and slightly more developmental (or "equated") credits.

Overall, the results in Table 4.2 suggest that, on average, students' educational outcomes significantly improve during a semester in which they are participating in a learning community.[10]

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[8]Richburg-Hayes, Visher, and Bloom (2008) present some findings from the Opening Doors study at Kingsborough. Some of the findings differ somewhat from those presented in this report, because the analyses for the article was based on fewer semesters of data.

[9]The analysis in Table 4.2 indicates that 93.1 percent of students in the program group registered for classes at Kingsborough, while only 85.3 percent actually enrolled in a learning community. The difference occurs for several reasons, such as that the students changed their minds, that their class schedule could not accommodate the learning community, or that they were assigned to a particular learning community but it was subsequently determined that their placement was not correct.

[10]One must keep in mind that most of the results in Table 4.2 require careful interpretation, as the outcomes are observed only for students who register or enroll at Kingsborough. In order to keep the analysis straightfor-

(continued)

Educational Outcomes After the Program Semester

In assessing whether the impact of learning communities persists after students leave that unique educational experience, two types of outcomes were considered. The first type of outcome reflects the educational attainment of students based on records from Kingsborough (and, for the analysis on student success on assessment tests, from CUNY records as well). The value of these data is that they are quite rich, with many different types of educational outcomes. The disadvantage is that to the extent students may have left Kingsborough (or the CUNY system) and enrolled at other educational institutions, the impacts that occurred at Kingsborough (or CUNY) may not fully reflect the impact of learning communities on educational attainment more broadly defined. As such, data from a wide range of institutions were also analyzed to assess whether learning communities improve educational attainment beyond Kingsborough.

Overall, one does not observe a large impact of learning communities on college enrollment and numbers of credits attempted and earned in the first two semesters after the program semester (which are called "postprogram semesters"). In contrast, there appears to be an impact on enrollment in the third postprogram semester. Through the second postprogram semester, students in learning communities are more likely to attempt both reading and writing assessment tests and are more likely to have passed them. One must keep in mind that this analysis does not isolate the impact of learning communities on passing an assessment test among students who attempt one. Rather, it reflects a combined impact of learning communities on attempting a test and of passing it among those who attempt one.

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ward, outcomes have been effectively "imputed" for those students who did not register or enroll in any particular semester. For example, among the students who "did not pass all courses at Kingsborough" or who "withdrew from any courses" are those who did not attempt any courses, either. Strictly speaking, these students did not take any courses at Kingsborough, and, therefore, they did not pass all of their courses or withdraw from any courses. As a result, however, part of the estimated differences in outcomes reflects the fact that students in the control group were less likely to register for any courses and were less likely to attempt any courses in the first place. Similarly, those who did not attempt any courses at Kingsborough have "No GPA at Kingsborough," so that part of the improvement in GPA that is associated with being assigned to a learning community is due to an increased likelihood of attending Kingsborough, rather than simply to doing better in courses in which students are enrolled. Unfortunately, this latter impact — the effect of being assigned to the program group on course success among those who chose to enroll at Kingsborough — is not straightforward to estimate.

The Opening Doors Demonstration

Table 4.2

Transcript Outcomes: Program Semester

Kingsborough Community College Report

Outcome	Program Group	Control Group	Difference	Standard Error	Effect Size
Registered for any courses (%)	93.1	91.4	1.7	1.6	0.06
Enrolled in a learning community[a] (%)	85.3	0.7	84.6 ***	2.3	10.50
Number of courses attempted	4.9	4.4	0.4 ***	0.1	0.22
Number of credits attempted	15.7	15.2	0.5	0.3	0.08
Regular credits	10.0	10.2	-0.3	0.3	-0.05
Equated credits	5.7	5.0	0.8 **	0.3	0.16
Passed all courses (%)	43.1	33.0	10.1 ***	2.5	0.22
Number of courses passed	3.8	3.2	0.6 ***	0.1	0.30
Withdrew from any courses (%)	26.6	34.5	-7.9 ***	2.3	-0.17
Number of course withdrawals	0.5	0.7	-0.2 **	0.1	-0.13
Number of credits earned	11.5	10.4	1.2 ***	0.4	0.16
Regular credits	8.0	7.7	0.3	0.3	0.05
Equated credits	3.5	2.6	0.9 ***	0.3	0.22
Term GPA (%)					
No GPA[b]	8.7	11.8	-3.1 *	1.8	-0.09
3.0 to 4.0 or B/A	34.5	27.7	6.8 **	2.7	0.15
2.0 to 2.9 or C/B-	30.3	28.0	2.3	2.2	0.05
1.0 to 1.9 or D/C-	15.0	17.5	-2.5	1.8	-0.07
0 to 0.9 or F/D-	11.6	15.0	-3.5 **	1.7	-0.10
Sample size (total = 1,534)	769	765			

SOURCE: MDRC calculations from Kingsborough Community 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.

Estimates are adjusted by research cohort and the number of English tests passed at baseline. Standard errors are clustered by learning community links.

[a]While most students were enrolled in all three linked courses, a small number withdrew from part of the link.

[b]The "No GPA" category includes students who did not enroll and students who took only developmental courses, which are not included in GPA calculations.

Kingsborough- and CUNY-Specific Educational Outcomes

Table 4.3 presents the academic outcomes from Kingsborough transcript data for the first, second, and third postprogram semesters (that is, for the second, third, and fourth semesters after random assignment). A common pattern among community colleges that is also readily apparent in these data is that, after the program semester, there is substantial attrition from Kingsborough for students in both the program and the control group. For example, in the first postprogram semester, only about three-quarters of the students in the study registered for any classes at Kingsborough; in the second postprogram semester, only 60 percent registered; and in the third postprogram semester, only about one-half registered for any courses. In each of these semesters, while the students in the program group were more likely to register than those in the control group, the difference between the two groups is statistically significant only in the third postprogram semester, when students in the program group were 5 percentage points more likely to register — an 11 percent increase over the control group.

In addition, during the first postprogram semester, students in the program group attempted and earned slightly more regular credits than students in the control group. Specifically, the program group attempted and earned about one-half more regular credits than the control group, although only the impact on attempted credits is statistically significant. There is virtually no difference in equated credits between the two groups: Members of the control group attempted 2.3 equated credits, compared with 2.2 attempted equated credits among members of the control group. Each group earned about 1 equated credit. The fact that assignment to the program group had a greater impact on regular credits than equated credits in the first postprogram semester suggests that the intervention may initially help students to move beyond developmental courses — an outcome studied directly in Table 4.6, below.

In the second and third postprogram semesters, these gains faded. For example, in the second postprogram semester, while students in the program group attempted just under one-half more regular credits than those in the control group, this difference is not statistically significant. Further, there is virtually no difference in the number of regular credits actually earned between the two groups of students. Importantly, students who had been assigned to the program group attempted 9.9 total credits and earned 7.1 total credits, compared with totals of 9.6 attempted credits and 6.9 earned credits among students in the control group. These differences are so small that they are not educationally meaningful, and they may have occurred by chance.[11]

[11]In addition, part of any educational improvement observed at Kingsborough in postprogram semesters is due to the fact that students in the program group were more likely to reenroll at Kingsborough in the first place. (continued)

Cumulative impacts reflecting the program semester through the third postprogram semester are reported in Table 4.4. Over the course of four semesters at Kingsborough, the program group registered for *slightly* more semesters and earned 2.4 more credits than the control group. However, these educational gains are primarily due to the impacts observed

Unfortunately, as noted in the preceding footnote, it is not straightforward to estimate the impact of learning communities on these subsequent outcomes that is net of their effect on enrollment at Kingsborough.

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Table 4.3

Transcript Outcomes: First, Second, and Third Postprogram Semesters

Kingsborough Community College Report

Outcome	Program Group	Control Group	Difference	Standard Error	Effect Size
First postprogram semester					
Registered for any courses (%)	77.4	75.0	2.4	2.1	0.05
Number of credits attempted	12.5	11.8	0.7 *	0.4	0.09
Regular credits	10.2	9.6	0.6 *	0.3	0.08
Equated credits	2.3	2.2	0.1	0.3	0.02
Number of credits earned	8.6	8.0	0.6 *	0.3	0.09
Regular credits	7.5	7.0	0.5	0.3	0.08
Equated credits	1.1	1.0	0.1	0.2	0.03
Term GPA (%)					
No GPA[a]	24.8	26.3	-1.5	2.1	-0.03
3.0 to 4.0 or B/A	22.7	23.0	-0.3	2.1	-0.01
2.0 to 2.9 or C/B-	25.7	22.2	3.5 *	2.0	0.08
1.0 to 1.9 or D/C-	13.1	15.4	-2.3	1.8	-0.06
0 to 0.9 or F/D-	13.7	13.1	0.6	1.6	0.02
Second postprogram semester					
Registered for any courses (%)	61.3	59.2	2.0	2.4	0.04
Number of credits attempted	9.9	9.6	0.2	0.4	0.02
Regular credits	8.7	8.3	0.4	0.4	0.05
Equated credits	1.1	1.3	-0.2	0.2	-0.07
Number of credits earned	7.1	6.9	0.1	0.4	0.02
Regular credits	6.6	6.3	0.2	0.4	0.04
Equated credits	0.5	0.6	-0.1	0.1	-0.06
Term GPA (%)					
No GPA[a]	40.1	41.7	-1.6	2.5	-0.03
3.0 to 4.0 or B/A	17.6	20.4	-2.8	2.0	-0.07
2.0 to 2.9 or C/B-	22.2	17.1	5.1 **	2.0	0.14
1.0 to 1.9 or D/C-	10.4	13.0	-2.6	1.9	-0.08
0 to 0.9 or F/D-	9.7	7.9	1.9	1.2	0.07
Third postprogram semester					
Registered for any courses (%)	52.9	47.8	5.1 *	2.7	0.10
Number of credits attempted	7.9	7.2	0.7 *	0.4	0.09
Regular credits	7.1	6.5	0.6	0.4	0.09
Equated credits	0.7	0.7	0.1	0.1	0.03

(continued)

Table 4.3 (continued)

Outcome	Program Group	Control Group	Difference	Standard Error	Effect Size
Number of credits earned	6.0	5.4	0.5	0.4	0.08
Regular credits	5.6	5.1	0.5	0.3	0.07
Equated credits	0.3	0.3	0.0	0.1	0.03
Term GPA (%)					
No GPA[a]	48.7	53.5	-4.8 *	2.7	-0.10
3.0 to 4.0 or B/A	16.7	17.5	-0.8	1.9	-0.02
2.0 to 2.9 or C/B-	19.0	15.6	3.4 *	2.0	0.09
1.0 to 1.9 or D/C-	9.5	8.5	1.0	1.5	0.04
0 to 0.9 or F/D-	6.1	5.0	1.2	1.2	0.05
Sample size (total = 1,534)	769	765			

SOURCE: MDRC calculations from Kingsborough Community 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.

Estimates are adjusted by research cohort and the number of English tests passed at baseline. Standard errors are clustered by learning community links.

[a]The "No GPA" category includes students who did not enroll and students who took only developmental courses, which are not included in GPA calculations.

during the program semester (and, to some extent, during the first postprogram semester). In addition, there is no discernable educationally meaningful impact on cumulative GPA.

Progression Through English Requirements

As discussed in Chapter 1, a goal of this program for students who failed one or both of the English skills assessment tests at baseline is to help them move more quickly through developmental English requirements, allowing them to take college-level English. To do so, a student first must pass the reading and writing assessment tests, and evidence that learning communities increase passing rates would be an important sign of their success. Analysis of the impact of learning communities on student assessment test outcomes is presented in Table 4.5. Drawn from all CUNY campuses, the assessment data reflect broader measures of educational success than can be obtained from the Kingsborough transcript data alone.

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Table 4.4

Cumulative Outcomes: Program Semester Through Third Postprogram Semester

Kingsborough Community College Report

Outcome	Program Group	Control Group	Difference	Standard Error	Effect Size
Registered for any courses (%)	95.2	94.2	1.0	1.3	0.04
Number of semesters registered	2.8	2.7	0.1 *	0.1	0.09
Number of credits earned	33.2	30.8	2.4 **	1.2	0.10
Regular credits	27.7	26.2	1.6	1.1	0.07
Equated credits	5.5	4.6	0.9 *	0.5	0.14
Cumulative GPA[a] (%)					
No GPA[b]	7.3	9.0	-1.8	1.5	-0.06
3.0 to 4.0 or B/A	25.2	24.3	0.9	2.2	0.02
2.0 to 2.9 or C/B-	33.7	29.6	4.1 *	2.2	0.09
1.0 to 1.9 or D/C-	19.7	20.4	-0.7	2.0	-0.02
0 to 0.9 or F/D-	14.0	16.6	-2.6	1.9	-0.07
Sample size (total = 1,534)	769	765			

SOURCE: MDRC calculations from Kingsborough Community 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.

Estimates are adjusted by research cohort and the number of English tests passed at baseline. Standard errors are clustered by learning community links.

[a]Cumulative GPA is based on credit-bearing courses taken from random assignment through the end of the third postprogram semester. Courses in which students did not receive a passing grade and that they subsequently repeated are not included in the cumulative GPA, as per Kingsborough Community College policy.

[b]The "No GPA" category includes students who did not enroll and students who took only developmental courses, which are not included in GPA calculations.

The upper panel of Table 4.5 assesses the impact of assignment to the program group on assessment test outcomes during the program semester. The results suggest that 13.0 percent of the program group attempted a reading assessment test in the first semester, compared with 9.4 percent of the control group. Further, a slightly higher percentage of the program group had passed the reading test by the end of the first semester (83.8 percent of the program group, compared with 81.2 percent of the control group). Neither of these impacts, however, is statistically significant.

While there is not a great impact on reading assessment tests — perhaps because so many of the students had passed the test at baseline — there appears to be a larger impact on attempting a writing test. During the program semester, students in the program group were nearly 11 percentage points more likely to attempt a writing assessment test — an impact that is statistically significant. Given that students must have successfully completed a developmental English course before being eligible to retake the assessment test, the finding of an impact on attempting the test is noteworthy. Students in the program group were also 6.3 percentage points more likely to have passed the writing test and 6.0 percentage points more likely to have passed both tests during this first semester — differences that are also statistically different from zero.

The lower panel of Table 4.5 presents the impact of assignment to the program group on assessment test outcomes in the first three semesters after random assignment (that is, the program semester plus two postprogram semesters).[12] In total, students in the program group were more likely to have attempted either a reading or a writing test, made more attempts to pass the tests, and were more likely to have passed the tests; and these differences are statistically significant. Most of these impacts, however, appear to be driven by results from the program semester. In addition, one must keep in mind that interpreting the effects on passing assessment tests includes the impact of being assigned to the program group on test-taking attempts. That is, the greater percentage of program group students who passed the writing test, for example, may be due, in part, to more test-taking attempts.

[12]When this report was written, assessment data were not available for later semesters.

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Table 4.5

English Skills Assessment Test Outcomes

Kingsborough Community College Report

Outcome (%)	Program Group	Control Group	Difference	Standard Error	Effect Size
Program semester					
Attempted reading test	13.0	9.4	3.7	2.5	0.13
Passed reading test by end of semester	83.8	81.2	2.6	1.7	0.07
Attempted writing test	36.2	25.7	10.5 ***	3.6	0.24
Passed writing test by end of semester	53.3	47.0	6.3 **	2.8	0.13
Attempted either English skills assessment test	41.5	30.9	10.6 ***	3.9	0.23
Passed both English skills assessment tests by end of semester	52.3	46.3	6.0 **	2.7	0.12
Program and postprogram semesters[a]					
Attempted reading test	17.8	13.3	4.5 ***	1.7	0.13
Passed reading test by end of second postprogram semester	88.6	86.0	2.5 *	1.5	0.07
Attempted writing test	46.8	39.1	7.7 ***	2.5	0.16
Passed writing test by end of second postprogram semester	66.2	60.5	5.7 **	2.7	0.12
Attempted either English skills assessment test	50.5	42.0	8.5 ***	2.5	0.17
Passed both English skills assessment tests by end of second postprogram semester	65.2	60.0	5.2 *	2.7	0.11
Sample size (total = 1,534)	769	765			

SOURCE: MDRC calculations from City University of New York skills assessment 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.

Estimates are adjusted by research cohort and the number of English tests passed at baseline. Standard errors are clustered by learning community links.

[a]Outcomes include data from the program semester through the second postprogram semester.

The second aspect of a student's progression through English requirements is enrollment and completion of regular (credit-bearing) English courses — Freshman English I and Freshman English II — that are required for completion of an associate's degree. As discussed in Chapter 1, Kingsborough students cannot take the regular English courses until they have passed both the reading and the writing skills assessment tests. Table 4.6 presents the percentage of students in the program and control groups that were enrolled in Developmental English, Freshman English I, and Freshman English II in the program semester and in the first and second postprogram semesters. The analysis is conducted separately for students who had failed both English tests at baseline, those who had failed only one English test at baseline, and those who had passed both English tests at baseline. If learning communities accelerate progression through these requirements, as intended, one would expect to see declining proportions of students in the program group — relative to the control group — who enrolled in Developmental English in subsequent semesters and increasing relative proportions who enrolled in the regular English courses. In all cases, learning communities should increase the relative proportions of program students who have passed the English courses, as these are cumulative measures. The data on course enrollment and passage reflect those measures only at Kingsborough; the data on having passed the English skills assessment tests are based on CUNY-wide information.

Consider first students who had failed both English assessment tests at baseline. Students in the program group were nearly 17 percentage points more likely to enroll in Developmental English during the program semester than students in the control group. Further, they were 5 percentage points more likely to have passed both English assessment tests as of the end of the program semester — a result that mirrors the overall impacts on assessment tests in Table 4.5, although it is not statistically significant. In the first postprogram semester, the students in the program group were 12.5 percentage points more likely to be enrolled in Developmental English and 9.2 percentage points more likely to have passed both English assessment tests. By the second postprogram semester, they were less likely to be enrolled in Developmental English but were more likely to be enrolled in Freshman English I. However, because these differences are not statistically significant, they are only suggestive.

There is a roughly similar pattern among those who had passed one of the English assessment tests at baseline. Students in the program group were 14.2 percentage points more likely to be enrolled in Developmental English during the program semester; they were also 5.2 percentage points more likely to be enrolled in Freshman English I. Similarly, these students were 10.2 percentage points more likely to have passed Developmental English and 5.8 percentage points more likely to have passed Freshman English I, compared with the control group students. These impacts are all statistically significant. These impacts

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Table 4.6

English Progression, by English Skills Assessment at Baseline

Kingsborough Community College Report

Outcome (%)	Program Group	Control Group	Difference	Standard Error	Effect Size
Failed both English tests at baseline					
Program semester					
Enrolled in one or more English courses[a]					
Developmental English	87.3	70.8	16.6 ***	4.8	0.36
Freshman English I	1.0	0.5	0.5	0.8	0.07
Freshman English II	0.0	0.0	0.0	NA	NA
Passed by end of semester					
Both English skills assessment tests[b]	14.7	9.6	5.1	4.3	0.17
Freshman English I	0.0	0.5	-0.5	0.5	-0.06
Freshman English II	0.0	0.0	0.0	NA	NA
First postprogram semester					
Enrolled in one or more English courses[a]					
Developmental English	51.3	38.8	12.5 **	5.7	0.26
Freshman English I	14.1	9.2	4.9	3.8	0.17
Freshman English II	1.0	1.6	-0.6	1.2	-0.05
Passed by end of semester					
Both English skills assessment tests[b]	28.9	19.7	9.2 *	5.0	0.23
Freshman English I	10.6	9.1	1.4	3.2	0.05
Freshman English II	1.0	1.6	-0.6	1.2	-0.05
Second postprogram semester					
Enrolled in one or more English courses[a]					
Developmental English	24.3	28.3	-4.0	4.7	-0.09
Freshman English I	14.7	9.6	5.1	3.8	0.17
Freshman English II	8.1	9.1	-1.0	2.9	-0.03
Passed by end of semester					
Both English skills assessment tests[b]	36.1	27.6	8.5	5.3	0.19
Freshman English I	22.3	17.1	5.2	4.2	0.14
Freshman English II	8.5	9.7	-1.1	3.2	-0.04
Sample size (total = 385)	197	188			
Failed only one English test at baseline					
Program semester					
Enrolled in one or more English courses[a]					
Developmental English	88.6	74.4	14.2 ***	3.4	0.32
Freshman English I	8.9	3.7	5.2 **	2.2	0.28
Freshman English II	0.0	0.0	0.0	NA	NA

(continued)

Table 4.6 (continued)

Outcome (%)	Program Group	Control Group	Difference	Standard Error	Effect Size
Passed by end of semester					
Both English skills assessment tests[b]	42.7	32.5	10.2 **	4.7	0.22
Freshman English I	8.9	3.1	5.8 ***	2.1	0.33
Freshman English II	0.0	0.0	0.0	NA	NA
First postprogram semester					
Enrolled in one or more English courses[a]					
Developmental English	25.1	29.9	-4.9	3.7	-0.11
Freshman English I	30.1	27.6	2.4	3.9	0.05
Freshman English II	10.3	5.9	4.4 *	2.4	0.19
Passed by end of semester					
Both English skills assessment tests[b]	56.3	44.5	11.8 ***	4.5	0.24
Freshman English I	31.4	25.2	6.3	4.0	0.14
Freshman English II	8.6	5.1	3.5 *	2.0	0.16
Second postprogram semester					
Enrolled in one or more English courses[a]					
Developmental English	10.9	17.5	-6.6 **	2.9	-0.17
Freshman English I	14.7	14.0	0.8	2.6	0.02
Freshman English II	19.1	16.7	2.4	3.3	0.06
Passed by end of semester					
Both English skills assessment tests[b]	59.2	52.3	6.9	4.5	0.14
Freshman English I	42.2	35.5	6.7 *	4.0	0.14
Freshman English II	23.1	20.1	3.0	3.6	0.07
Sample size (total = 704)	347	357			
Passed both English tests at baseline					
Program semester					
Enrolled in one or more English courses[a]					
Developmental English	0.0	0.0	0.0	NA	NA
Freshman English I	90.8	88.5	2.4	3.9	0.07
Freshman English II	11.1	12.3	-1.2	3.1	-0.04
Passed by end of semester					
Both English skills assessment tests[b]	100.0	100.0	0.0	NA	NA
Freshman English I	73.0	68.9	4.1	4.5	0.09
Freshman English II	8.9	10.0	-1.1	2.7	-0.04
First postprogram semester					
Enrolled in one or more English courses[a]					
Developmental English	0.0	0.0	0.0	NA	NA
Freshman English I	12.4	11.0	1.4	3.0	0.04
Freshman English II	47.1	43.1	4.0	4.1	0.08

(continued)

Table 4.6 (continued)

Outcome (%)	Program Group	Control Group	Difference	Standard Error	Effect Size
Passed by end of semester					
Both English skills assessment tests[b]	100.0	100.0	0.0	NA	NA
Freshman English I	80.5	74.5	6.1	3.8	0.14
Freshman English II	46.0	43.9	2.1	4.3	0.04
Second postprogram semester					
Enrolled in one or more English courses[a]					
Developmental English	0.0	0.0	0.0	NA	NA
Freshman English I	3.5	3.2	0.3	1.6	0.02
Freshman English II	14.2	11.3	2.9	3.3	0.09
Passed by end of semester					
Both English skills assessment tests[b]	100.0	100.0	0.0	NA	NA
Freshman English I	81.4	75.8	5.6	4.0	0.13
Freshman English II	56.2	50.7	5.5	3.7	0.11
Sample size (total = 445)	225	220			

SOURCES: MDRC calculations from City University of New York skills assessment test data and Kingsborough Community 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.

Estimates are adjusted by research cohort and the number of English tests passed at baseline. Standard errors are clustered by learning community links.

[a]Kingsborough Community College's semesters comprise two sessions. Fall semesters include fall and winter sessions, and spring semesters include spring and summer sessions. In some cases, students took an English course in each session, resulting in two English courses for one semester.

[b]The skills assessment tests are City University of New York (CUNY)-wide and include test-taking attempts at any CUNY campus.

on enrollment and passage of the regular English classes generally persist, although the impacts are only marginally statistically significant for English II in the first postprogram semester and for English I in the second postprogram semester. Importantly, however, the impacts are of nearly the same magnitude as the impacts observed after the program semester. Given that these are cumulative measures, the fact that they do not increase suggests that most of the gains were obtained during the program semester. Notably, however, students in the program group were less likely to have enrolled in Developmental English in

the first and second postprogram semesters than one would expect, given the positive impact on passing the assessment tests.

Finally, among those students who had passed both English tests at baseline, there are no observed gains in terms of English course progression for students in the program group.

Overall, the results suggest that learning communities significantly improve a student's likelihood of passing the English assessment tests during the program semester. And, there is some evidence that learning communities improve a student's success in passing regular English courses as well. These impacts largely remain constant after the first postprogram semester, suggesting that one-semester learning communities provide a one-time boost in educational attainment that then plateaus.

General Educational Outcomes

Given that nearly 10 percent of the study students enrolled in another institution (while not enrolled at Kingsborough) in at least one of the first four semesters after random assignment, data from institutions beyond Kingsborough are needed to fully understand the impact of learning communities on students' educational outcomes.

Table 4.7 presents results for a broader measure of educational attainment: persistence in college as measured by enrollment at Kingsborough and other postsecondary institutions, using data from the National Student Clearinghouse. As discussed in Chapter 2, while the Clearinghouse data offer broad coverage of postsecondary institutions, their measures of a student's educational attainment are quite limited. Specifically, these data indicate only enrollment (by type of institution) and degree attainment.

As was evident from the transcript data from Kingsborough, the likelihood that a student — in either the program group or the control group — was enrolled in college declined with time. Thus, while over 85 percent of students were enrolled at any college during the learning communities semester, this proportion had fallen to just over 50 percent by

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Table 4.7

Enrollment Outcomes

Kingsborough Community College Report

Outcome	Program Group	Control Group	Difference	Standard Error	Effect Size
Program semester					
Enrolled in any college (%)	87.3	84.7	2.6	1.9	0.07
Enrolled in any 2-year college (%)	87.1	84.7	2.4	1.9	0.07
Enrolled in any 4-year college (%)	0.4	0.0	0.4 *	0.2	N/A
First postprogram semester					
Enrolled in any college (%)	74.4	71.2	3.2	2.2	0.07
Enrolled in any 2-year college (%)	72.3	70.3	2.0	2.2	0.04
Enrolled in any 4-year college (%)	2.1	1.0	1.0 *	0.6	0.10
Second postprogram semester					
Enrolled in any college (%)	62.5	61.1	1.5	2.4	0.03
Enrolled in any 2-year college (%)	58.1	57.0	1.1	2.5	0.02
Enrolled in any 4-year college (%)	4.4	4.1	0.4	1.1	0.02
Third postprogram semester					
Enrolled in any college (%)	58.7	53.0	5.6 **	2.5	0.11
Enrolled in any 2-year college (%)	52.0	47.2	4.9 *	2.7	0.10
Enrolled in any 4-year college (%)	7.2	6.1	1.0	1.3	0.04
Any semester[a]					
Enrolled in any college (%)	91.2	89.4	1.8	1.6	0.06
Enrolled in any 2-year college (%)	90.7	88.6	2.1	1.6	0.07
Enrolled in any 4-year college (%)	8.7	6.7	2.1	1.4	0.08
Number of semesters enrolled in any college	2.8	2.7	0.1 *	0.1	0.09
Sample size (total = 1,534)	769	765			

(continued)

Table 4.7 (continued)

SOURCE: MDRC calculations from the National Student Clearinghouse 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.

Estimates are adjusted by research cohort and the number of English tests passed at baseline. Standard errors are clustered by learning community links.

[a]Outcomes include data from the program semester through the third postprogram semester.

the third semester after random assignment (or 1.5 years after the Opening Doors Learning Communities semester).[13]

In each of the first three semesters after random assignment, students in the program group were only slightly more likely than those in the control group to enroll in any college or any two-year college. There is a suggestion that a higher proportion of them were more likely to enroll in a four-year college in the first semester after random assignment (the program semester) and in the second semester after random assignment, but the percentage of program group students who enrolled in a four-year college is so small that these differences are not educationally important; the difference also disappears in the third semester after random assignment.

Note that, in the third postprogram semester, students in the program group were 5.6 percentage points more likely to be enrolled at any college and were 4.9 percentage points more likely to be enrolled at a two-year college — impacts that were also observed in the Kingsborough transcript data and that are statistically significant. In terms of degree attainment, there was generally no statistically detectable educational advantage of having been assigned to the program group (not shown in Table 4.7). That said, one may not have expected much of an impact on degree attainment only 1.5 years after random assignment.

In general, using broader measures of student achievement in college, there is some evidence that learning communities may improve student persistence in college, as measured by enrollment, over time.

[13]The percentages of students registered at Kingsborough in each semester according to Table 4.3 do not exactly match the percentages of students enrolled at any college or even any two-year college according to Table 4.7 due to the fact that some students in the study did not match to the Clearinghouse data, mostly because of nonexistent or invalid Social Security numbers.

Impacts for Selected Subgroups

Impacts on educational outcomes were examined for some different subgroups of students, defined using characteristics measured at baseline. The analyses found no meaningful differences in impacts according to the students' immigrant status, their race or ethnicity, whether they were the first in their family to attend college, the number of English assessment tests that they had passed at baseline, or whether they had a high school diploma or a General Educational Development (GED) certificate. The analysis for subgroups defined using gender shows that the magnitude of several of the impacts is larger for men than for women, but most of the differences between genders are not statistically significant. Appendix D presents the results for the gender-defined subgroups.

Chapter 5

Social, Psychological, and Health Outcomes

Community college reforms like the Opening Doors Learning Communities program that was implemented at Kingsborough Community College may come to affect the well-being of participating students over time. "Well-being" is broadly defined to include a range of social, psychological, and health outcomes. This chapter examines whether these learning communities had any effects on well-being among the Kingsborough sample at the 12-month follow-up point. Following a baseline description of well-being for this sample, findings from analyses conducted to identify 12-month program impacts on these types of outcomes are presented. The chapter concludes with a brief discussion of the implications of these findings for future studies of community college reforms and student well-being.

In sum, the key findings from these analyses are:

- Students in the Kingsborough research sample were — in addition to being young — generally resilient and healthy at the start of the study, which decreases the odds that the learning communities will have significant impacts on their social, psychological, and health outcomes over time.
- Analyses of data from the Opening Doors 12-Month Survey produced little evidence to suggest that the learning communities had an impact on social, psychological, or health outcomes at the 12-month follow-up point.

Opening Doors and Well-Being

The fundamental goal of Opening Doors is to help community college students achieve better educational outcomes, like persistence in college, better grades, and degree completion. Some of these effects will be achieved in the near term (that is, during the first, or "program," semester of Opening Doors Learning Communities), and others will become visible only with the passage of time (in postprogram semesters and after graduation).

Early program impacts on educational outcomes — especially if they are initially strong or enduring — have the potential to influence not only educational attainment but also labor market outcomes (like employment, better jobs, and higher income) and indicators of well-being in the longer term. In sum, Opening Doors can act as a lever that helps students capitalize on the benefits of education and enjoy greater socioeconomic status

(SES)[1] and subsequently an enhanced sense of well-being.[2] The indicators of well-being that are examined in this chapter include positive social, psychological, and health outcomes, such as having a strong sense of self, better interpersonal relationships and greater social supports, more civic engagement and prosocial behavior, greater capacity to manage stress, healthier attitudes and behaviors, and — ultimately — better physical and mental health.

Although these outcomes are of great interest, it is sensible to have low expectations about the degree to which Opening Doors Learning Communities might affect them during a 12-month period. As shown in the conceptual framework that guides the Opening Doors demonstration (see Chapter 1, Figure 1.2), the learning communities are theorized to have the greatest potential for influencing well-being through indirect effects, which emanate from a direct impact of the intervention on educational outcomes, which in turn can lead to greater SES. As discussed below, SES has consistently been shown to be a powerful determinant of well-being. This hypothesized causal chain of effects cannot fully evolve in a 12-month time frame, although the earliest signs of it might. Moreover, even direct effects of the learning community program on well-being — for example, positive changes in students' self-esteem or peer networks stemming directly from their experience of the intervention — will also require considerable time before leading to observable changes in health behaviors. Likewise, changes in health behaviors typically do not lead to immediate effects on health.

Therefore, expectations of finding impacts on well-being should not be high. However, some outcomes may be more likely to change within the 12-month follow-up period of the survey. Therefore, three general kinds of well-being are distinguished and examined: (1) social and psychological well-being, (2) health behaviors, and (3) mental and physical health. As discussed above, outcomes in the first two categories are more susceptible to change than those in the third category, particularly within a 12-month time frame.

Relevant Research

The most compelling evidence to support the theorized relationships discussed above comes from the long-standing research literature that documents a strong positive association between education and health. Individuals with higher levels of education have

[1]SES is a multidimensional construct reflecting a person's position in the class structure of a society. SES is typically assessed with measures of educational attainment, income, and occupational status or prestige, all of which are important to studies of health (Cockerham, 2007, page 63).

[2]It is also possible that some community college reforms may have direct and independent effects on longer-term outcomes such as these, and these relationships are also examined.

lower mortality and morbidity rates from many types of disease[3] and display better health habits. For example, they demonstrate lower levels of smoking and binge drinking, and they also have a lower prevalence of obesity.[4]

However, it is important to emphasize that although there is clear evidence that higher levels of education are associated with enhanced well-being,[5] it is not clear whether this association represents a causal effect of education on these outcomes. Instead, it could be that factors that lead to greater success in school and higher educational attainment — such as having a wealthier or more supportive family or having had better health in childhood — account for the observed relationship. The Opening Doors study is especially important since, because of its randomized design, it can provide information on whether improvements in educational opportunities can indeed improve social, psychological, and health outcomes. In short, to the extent to which the Opening Doors Learning Communities have early impacts on educational outcomes, the program has the potential to empirically demonstrate the subsequent effects of education on well-being one year after random assignment.

This focal relationship between education and health must also be understood as part of a more fundamental relationship between SES and health,[6] which is especially relevant to any discussion of the well-being of low-income populations. Research has consistently identified a "SES health gradient,"[7] wherein improvements in components of SES — such as social class, education, income, and occupational prestige — are associated with better health. Therefore, although education — among indicators of SES — may be the most significant determinant of well-being, it should be viewed as part of this larger construct of SES.[8] This is important to consider, given the Opening Doors focus on low-income students, who — according to all measures of SES — have considerable ground to gain.

In addition, education is believed to foster a greater sense of self and connectivity to others.[9] For example, greater educational attainment can strengthen and expand the social networks from which one can draw guidance, help, and support. It can also bring about greater awareness of social issues and civic engagement. Colleges and universities provide students with access to social support through relationships with fellow students, faculty,

[3]Lleras-Muney (2005).

[4]Christenson and Johnson (1995); Deaton and Paxson (2001); Elo and Preston (1996).

[5]Kolata (2007).

[6]Link and Phelan (1995).

[7]Adler and Newman (2002); Marmot and Wilkinson (1999).

[8]Recent research suggests that education is more predictive of the onset of health problems, while income is more strongly associated with the progression of such problems (Herd, Goesling, and House, 2007).

[9]For research and commentary on the deleterious effects of social isolation on health, see Berkman and Glass (2000) and House (2001).

and staff,[10] some of whom are likely to become role models and mentors, and studies show that students who have mentors may have a greater sense of self-worth, be better able to weather personal crises, become more aware of educational and career opportunities, and ultimately set higher goals for themselves.[11] Moreover, to the extent that institutions successfully create a supportive and "bonding" environment, students — younger students especially — may be less likely to engage in behaviors that compromise their own and their community's well-being.[12] Learning communities are especially focused on building this type of connectivity. Moreover, studies illustrate that educational attainment is positively associated with broader social involvements, as indicated by effects on voting, volunteerism, newspaper readership, civic knowledge, and involvement in social groups and clubs.[13] Thus, to the degree to which the Opening Doors Learning Communities program influences early educational outcomes, it may also affect some social and psychological indicators of well-being at the 12-month follow-up.

Review of Relevant Findings on Educational Outcomes

This chapter focuses on social, psychological, and health outcomes among participants in Opening Doors Learning Communities. However, lessons from earlier analyses help to frame those outcomes presented here.

As reported in Chapter 4, the program significantly influenced the courses that Kingsborough students took, as well as some educational outcomes, like passing classes during the program semester. However, those early effects on educational outcomes faded in subsequent semesters. Although the preceding analyses hint at the possibility of an enduring program impact on persistence in college, they do not offer strong evidence to suggest some of the indirect, longer-term effects of Opening Doors Learning Communities on well-being that are hypothesized above.

More promising to the chapter at hand are the direct and positive effects of the Opening Doors Learning Communities program on the students' overall college experience — in particular, on their enhanced sense of integration and belonging at Kingsborough. The program appears to have succeeded in creating a more supportive and bonding environment

[10] A large body of research suggests that people who enjoy strong and supportive relationships with others are better able to handle stressful life events and circumstances and, consequently, to preserve their emotional and physical well-being (Thoits, 1995; Turner and Turner, 1999).

[11] Rhodes (2002).

[12] Eccles and Gootman (2001); Neumark-Sztainer, Story, French, and Resnick (1997); Resnick et al. (1997).

[13] Dee (2004); Delli Carpini and Keeter (1996); Sullivan and Transue (1999); Uslaner, 2002.

for participating students, and these initial good feelings may be precursors to an enriched sense of social and psychological well-being that transcends the school context.

Measures of Well-Being

The measures of well-being that are examined in this chapter can be grouped into three general categories: (1) social and psychological outcomes; (2) health behaviors; and (3) mental and physical health, as illustrated below.

Social and Psychological Outcomes

- **Outlook and identity:** optimism, goal orientation, life engagement, and self-esteem and sense of self
- **Social support and civic engagement:** general social support, having friends who value education, volunteerism, and civic engagement
- **Antisocial behavior:** having spent time in reform school or prison (either the respondent or close friends)

Health Behaviors

- Smoking, binge drinking, illegal drug use, and having a relatively high number of sexual partners

Mental and Physical Health

- Perceived stress, psychological distress,[14] self-rated health, and body mass index (BMI), which is based on a calculation using one's height and weight

Data for all these outcomes were collected via the Opening Doors 12-Month Survey, and data for a subset of Kingsborough study participants were collected at baseline using a briefer instrument. (Chapter 2 describes these data sources.) Some of these variables are represented with scale measures, which are summarized in Box 5.1 and detailed in Appendix E. All other variable measures are described in the notes of the tables that follow.

[14]Scale measures of "nonspecific psychological distress" are designed to assess or "screen for" a range of broadly defined mental disorders — such as mood or anxiety disorders — rather than any one disorder in particular (for example, major depression) (Kessler et al., 2002; Furukawa, Kessler, Slade, and Andrews, 2003).

Box 5.1

Behind the Scales Measuring Well-Being

Outlook and Identity

Optimism. To assess respondents' level of optimism, they were asked the degree to which they agreed (on a scale of 1 to 4) with the following types of statements: *In uncertain times, I usually expect the best;* and *Overall, I expect more good things to happen to me than bad.*

Goal orientation. To gauge respondents' level of orientation in working toward their goals, they were asked the degree to which they agreed (on a scale of 1 to 4) with the following types of statements: *I don't think much about my long-term goals;* and *It is important for me to take time to plan out where I'm going in life.*

Life engagement. To gauge respondents' level of engagement in life in general, they were asked the degree to which they agreed (on a scale of 1 to 4) with the following types of statements: *I have lots of reasons for living;* and *I value my activities a lot.*

Self-esteem. To measure respondents' level of self-esteem, they were asked the degree to which they agreed (on a scale of 1 to 4) with the following types of statements: *I am able to do things as well as most other people;* and *I feel that I have a number of good qualities.*

Sense of self. To measure the degree to which respondents have a well-developed sense of themselves as individuals and in relation to significant others, they were asked the degree to which they agreed (on a scale of 1 to 4) with the following types of statements: *There is at least one person who knows "the real you"; You have a pretty good sense of the path you want to take in life and the steps to take to get there; You feel your life is filled with meaning, a sense of purpose;* and *People often seek your advice and support.*

Social Support and Civic Engagement

General social support. To assess respondents' perceived level of social support, they were asked the degree to which they agreed (on a scale of 1 to 4) with the following types of statements: *There are people I know will help me if I need it;* and *I have a trustworthy person to turn to if I have problems.*

Friends value education. To gauge the degree to which respondents have friends who value educational pursuits, they were asked the extent to which they felt that their friends supported their efforts to achieve educational goals as well as had educational goals of their own (on a scale of 1 to 4). This was done with the following types of statements: *How supportive are your friends of you attending college?* and *Among your friends, how important is it to get good grades?*

Civic engagement. To measure respondents' level of civic engagement, they were asked whether they had done things like *registered to vote* and *donated time or money to a political campaign.*

Mental Health Outcomes

Stress. To measure respondents' level of stress, they were asked how often (on a scale of 1 to 5) they felt, for example, *unable to control the important things in life* and that *difficulties were piling up so high [that you] could not overcome them.*

Psychological distress. To measure respondents' level of psychological distress, they were asked how often (on a scale of 0 to 4) they felt, for example, *hopeless; restless or fidgety;* and *worthless.*

Baseline Indicators of Social and Psychological Well-Being and Health

The Opening Doors Learning Communities program was designed for first-time, incoming freshmen who were attending school full time. As a consequence, this sample is young. About 95 percent were age 25 or younger at baseline. As shown in Table 5.1, they reported high levels of social support and low levels of stress and distress at random assignment. For example, the cut point for meeting criteria for "serious psychological distress" in the past 30 days according to Kessler's K6 Screening Scale measure is a score of 13 (the range is 0 to 24), and the average score in this sample is 4.60. Only 3.6 percent scored 13 or higher.[15] Similarly, only 3.4 percent of this sample reported that their overall health was "fair" or "poor" at baseline (as compared with "good," "very good," or "excellent"). Just over a third (33.9 percent) were either overweight or obese, according to the standard weight-status categories associated with the body mass index (BMI) measure. While this may seem high at first glance, it is considerably lower than the national average for U.S. adults (65 percent).[16] Thus, these baseline indicators collectively portray that the students in the Kingsborough research sample are — in addition to being young — generally resilient and healthy, which decreases the odds that the Opening Doors Learning Communities program will have significant impacts on social, psychological, and health outcomes over time, simply because large improvements in health are not possible.

Table 5.1 also demonstrates that there were few differences between the program and control groups in terms of students' well-being at baseline. An important exception is that the program group had fewer current smokers than the control group at the start of the study (13.3 percent versus 19.1 percent). In addition, the program group was slightly less distressed according to their K6 scores. Consequently, both baseline smoking status and psychological distress are controlled in the 12-month impact models discussed next. In addition, to be consistent with the methods used in Chapter 4, the analysis also controls for the Kingsborough students' baseline status on the City University of New York (CUNY) skills assessment tests in reading and writing, which students are required to take before enrollment in the CUNY system. (Chapter 1 provides more information about the skills assessment tests, and Table 2.2 in Chapter 2 shows sample members' performance on the tests.)

[15]This is about the same percentage as is seen in the general population of adults (National Health Interview Survey, 2007).

[16]Based on results from the National Health and Nutrition Examination Survey (National Center for Health Statistics, 2007).

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Table 5.1

Social Psychological and Health Measures at Baseline

Kingsborough Community College Report

Outcome	Sample Size	Full Sample	Program Group	Control Group	
General social support[a] (1-4)	1,411	3.18	3.18	3.19	
Perceived stress[b] (1-5)	1,467	2.34	2.34	2.35	
K6 score for psychological distress[c] (0-24)	1,419	4.60	4.41	4.78	*
Indicator of high psychological distress[d] (%)	1,419	3.6	3.4	3.8	
Health status fair or poor (%)	1,512	3.4	3.7	3.2	
Body mass index[e] (kg/m^2)	1,432	24.20	24.18	24.22	
Overweight or obese (BMI $\geq$ 25)[f] (%)	1,432	33.9	33.1	34.6	
Current smoker (%)	1,470	16.2	13.3	19.1	***

SOURCE: MDRC calculations from the Opening Doors Baseline Survey.

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.

Estimates are adjusted by research cohort.

[a]8-item scale about the presence of social support; response categories range from 1 = "strongly disagree" to 4 = "strongly agree." Items are averaged.

[b]4-item scale about feelings of social stress; response categories range from 1 = "never" to 5 = "very often." Items are averaged.

[c]6-item scale about nonspecific psychological distress; response categories range from 0 = "none of the time" to 4 = "all of the time." Items are summed.

[d]Indicator if the K6 Screening Scale measure of psychological distress exceeds 12.

[e]BMI = weight in kilograms divided by height in meters squared.

[f]1 = BMI of 25 or greater; 0 = BMI of less than 25. Standard weight-status categories associated with BMI ranges for adults: underweight = <18.5; normal weight = 18.5 to 24.9; overweight = 25.0 to 29.9; and obese = 30 or greater.

Twelve-Month Impacts on Social, Psychological, and Health Outcomes

These analyses produced little evidence to suggest that Opening Doors Learning Communities had an impact on social or psychological outcomes at the 12-month follow-up point. Results for these outcomes are shown in Table 5.2. For only one indicator — a measure of how strongly one's friends value education — is there a statistically significant difference between the program and control groups. The finding that survey respondents in the program group have friends who more strongly value education may be consistent with results shown in Chapter 4, where it is reported that students in the program group have a greater sense of integration and belonging at Kingsborough. However, there are no statistically significant differences between the two groups for any of the other social and psychological indicators, including measures of outlook and identity, social support and civic engagement, and antisocial behavior.

Table 5.3 demonstrates there are no significant differences in any of the health behaviors and only one significant difference in an indicator of health. These data suggest a statistically significant effect on the indicator of high psychological distress, as measured by a K6 score in excess of 12. However, given that there is no statistically significant difference in mean K6 scores between the program and control groups — as well as the fact that the two groups do not differ in perceived stress (the other mental health outcome) — this result concerning high psychological distress may be the product of chance rather than a true program impact.

Implications for Future Research

Overall, these analyses of the Opening Doors 12-Month Survey data do not indicate that the Opening Doors Learning Communities program in Kingsborough has improved students' social, psychological, and health outcomes. This is not surprising. These are longer-term outcomes that not only take time to develop but also are contingent on the strength of earlier program impacts, and, as shown in Chapter 4, the learning communities, for the most part, have not had enduring effects on educational outcomes to date. Moreover, the baseline data on well-being of the Kingsborough sample clearly portray it as a resilient and healthy group among whom large improvements in most of these variables over time were very unlikely; consequently, the odds of uncovering program effects in these areas were low.

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Table 5.2

Social Psychological Outcomes

Kingsborough Community College Report

Outcome	Sample Size	Program Group	Control Group	Difference	Standard Error	Effect Size
Outlook and identity						
Optimism[a] (1-4)	1,054	2.97	3.00	-0.03	0.0	-0.07
Goal orientation[b] (1-4)	1,067	3.52	3.48	0.04	0.0	0.08
Life engagement[c] (1-4)	1,063	3.46	3.46	0.00	0.0	0.00
Self esteem[d] (1-4)	1,064	3.46	3.50	-0.04	0.0	-0.08
Sense of self[e] (1-4)	1,064	3.52	3.51	0.01	0.0	0.03
Social support and civic engagement						
General social support[f] (1-4)	1,065	3.25	3.24	0.01	0.0	0.03
Friends value education[g] (1-4)	1,010	3.35	3.27	0.08 **	0.0	0.12
Did unpaid volunteer or community work in the past year (%)	1,075	22.9	21.9	1.0	2.5	0.02
Civic engagement[h] (0-1)	1,064	0.26	0.26	0.00	0.0	0.02
Antisocial behavior						
Spent time in reform school or prison in past year (%)	1,075	3.3	3.6	-0.4	1.1	-0.02
Close friend spent time in reform school or prison in past year (%)	1,075	21.5	23.3	-1.8	2.5	-0.04

(continued)

Despite the lack of significant impacts in the 12-month impact study of the Opening Doors Learning Communities program at Kingsborough Community College, these social, psychological, and health outcome data remain a rich resource. In addition, significant program effects on well-being may be discovered in other sites in the Opening Doors demonstration, especially where the target population is somewhat older and demonstrates greater variability in social, psychological, and health outcomes. (Table 1.1 in Chapter 1 describes the

Table 5.2 (continued)

SOURCE: MDRC calculations from the Opening Doors 12-Month Survey.

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.

Estimates are adjusted by research cohort, baseline psychological distress, baseline smoking status, and the number of English tests passed at baseline. Standard errors are clustered by learning community links.

[a]6-item scale about feelings of optimism; response categories range from 1 = "strongly disagree" to 4 = "strongly agree." The six items are averaged.

[b]3-item scale about feeling focused on one's goals; response categories range from 1 = "strongly disagree" to 4 = "strongly agree." The three items are averaged.

[c]6-item scale about feelings that life is purposeful and worthwhile; response categories range from 1 = "strongly disagree" to 4 = "strongly agree." The six items are averaged.

[d]4-item scale about feelings of self-esteem; response categories range from 1 = "strongly disagree" to 4 = "strongly agree." The four items are averaged.

[e]13-item scale about feeling a strong sense of who one is, who one wants to be, and connections to others; response categories range from 1 = "strongly disagree" to 4 = "strongly agree." The thirteen items are averaged.

[f]8-item scale about the presence of social support; response categories range from 1 = "strongly disagree" to 4 = "strongly agree." The eight items are averaged.

[g]6-item scale about the importance of education to friends; response categories range from 1 = "not very" to 4 = "extremely." The six items are averaged.

[h]4-item scale of activities indicative of civic engagement (registered to vote; voted in presidential election; donated time or money to a political campaign; attended a political speech, rally, or march). Each item is coded as a 0 ("no") or 1 ("yes"), and the four items are averaged.

other sites, their programs, and their target groups.) Finally, nonexperimental analysis aimed at better understanding the nature of the relationship between well-being and key educational outcomes or trajectories — outside the program context — might also hold interesting lessons for researchers and policymakers.

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Table 5.3

Health and Health Behaviors

Kingsborough Community College Report

Outcome	Sample Size	Program Group	Control Group	Difference	Standard Error	Effect Size
Mental and physical health						
Perceived stress[a] (1-5)	1,070	2.24	2.18	0.06	0.0	0.08
K6 score for psychological distress[b] (0-24)	1,066	5.56	5.35	0.21	0.2	0.05
Indicator of high psychological distress[c] (%)	1,066	9.0	4.9	4.1 **	1.7	0.16
Health status fair or poor (%)	1,071	14.2	11.5	2.7	1.9	0.08
Body mass index[d] (kg/m^2)	1,002	24.41	24.33	0.09	0.3	0.02
Overweight or obese (BMI $\geq$ 25)[e] (%)	1,002	35.7	36.8	-1.1	2.7	-0.02
Health behaviors						
Current smoker (%)	1,072	20.4	20.7	-0.3	1.7	-0.01
Binge drinking in past month (%)	1,069	17.2	19.9	-2.7	2.5	-0.07
Illegal drug use in past month (%)	1,064	10.7	12.8	-2.1	1.8	-0.06
3 or more sexual partners in past month (%)	1,010	14.0	15.2	-1.2	2.0	-0.03

SOURCE: MDRC calculations from the Opening Doors 12-Month Survey.

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.

Estimates are adjusted by research cohort, baseline psychological distress, baseline smoking status, and the number of English tests passed at baseline. Standard errors are clustered by learning community links.

[a]4-item scale about feelings of social stress; response categories range from 1 = "never" to 5 = "very often." Items are averaged.

[b]6-item scale about nonspecific psychological distress; response categories range from 0 = "none of the time" to 4 = "all of the time." Items are summed.

[c]Indicator if the K6 Screening Scale measure of psychological distress exceeds 12.

[d]BMI = weight in kilograms divided by height in meters squared.

[e]1 = BMI of 25 or greater; 0 = BMI of less than 25. Standard weight-status categories associated with BMI ranges for adults: underweight = <18.5; normal weight = 18.5 to 24.9; overweight = 25.0 to 29.9; and obese = 30 or greater.

Appendix A

Supplementary Table for Chapter 2

The Opening Doors Demonstration

Appendix Table A.1

Characteristics of Sample Members at Baseline

Kingsborough Community College Report

Characteristic	Full Sample	Program Group	Control Group	
Gender (%)				
Male	45.4	42.2	48.7	**
Female	54.6	57.8	51.3	**
Age (%)				
17-18 years old	44.5	44.9	44.1	
19-20 years old	34.2	35.8	32.6	
21-34 years old	21.3	19.3	23.3	*
Average age (years)	19.7	19.6	19.8	
Marital status (%)				
Married	3.9	3.7	4.2	
Unmarried	96.1	96.3	95.8	
Race/ethnicity (%)				
Hispanic/Latino	20.4	21.2	19.6	
Black, non-Hispanic	37.7	38.1	37.2	
White, non-Hispanic	26.9	24.5	29.3	**
Asian or Pacific Islander	8.6	9.4	7.8	
Other	6.4	6.8	6.0	
One child or more in household (%)	8.7	8.3	9.1	
Among sample members with children:				
Average age of youngest child (years)	*3.0*	*2.7*	*3.3*	
Average household size (excluding roommates or boarders)	3.8	3.8	3.7	
Household receiving any of the following benefits[a] (%):				
Unemployment/Dislocated Worker benefits	3.9	2.3	5.6	***
Supplemental Security Income (SSI) or disability	10.4	10.8	10.0	
Cash assistance or welfare (TANF)	5.7	6.5	4.9	
Food stamps	9.0	9.9	8.0	
None of the above	78.1	78.5	77.7	
Household in public or Section 8 housing (%)	15.4	16.6	14.4	
Household receiving any government benefits (%)	28.4	28.8	28.1	

(continued)

Appendix Table A.1 (continued)

Characteristic	Full Sample	Program Group	Control Group	
Financially dependent on parents (%)	74.2	76.0	72.4	
Ever employed (%)	78.2	76.4	79.9	*
Among those ever employed:				
Number of months employed at least half time in the past year (%)				
None	*24.0*	*24.9*	*23.2*	
1-3 months	*25.3*	*26.9*	*23.8*	
4-6 months	*21.6*	*20.6*	*22.5*	
7-9 months	*8.9*	*8.8*	*9.0*	
10-12 months	*20.2*	*18.8*	*21.5*	
Number of hours worked per week at current or last job (%)				
1-10 hours	*13.1*	*13.3*	*13.0*	
11-20 hours	*23.3*	*24.1*	*22.4*	
21-30 hours	*28.7*	*28.3*	*29.1*	
31-40 hours	*25.9*	*26.0*	*25.8*	
More than 40 hours	*9.0*	*8.3*	*9.7*	
Average hourly wage at current or last job ($)	*7.6*	*7.6*	*7.6*	
Currently employed (%)	35.5	34.1	36.9	
Among those currently employed:				
Number of hours worked per week in current job (%)				
1-10 hours	*9.6*	*9.5*	*9.8*	
11-20 hours	*25.4*	*25.1*	*25.6*	
21-30 hours	*31.5*	*30.9*	*32.0*	
31-40 hours	*25.0*	*25.9*	*24.2*	
More than 40 hours	*8.5*	*8.5*	*8.4*	
Average hourly wage at current job ($)	*7.8*	*7.9*	*7.8*	
Respondent or household member receiving (%):				
Unemployment/Dislocated Worker benefits	*3.1*	*2.1*	*4.0*	
Supplemental Security Income (SSI) or disability	*7.3*	*7.6*	*7.0*	
Cash assistance or welfare (TANF)	*2.7*	*2.3*	*3.0*	
Food stamps	*7.5*	*8.9*	*6.3*	
Highest grade completed (%)				
8th grade or lower	1.5	1.4	1.5	
9th grade	4.3	3.7	4.9	
10th grade	7.9	6.4	9.4	**
11th grade	11.0	11.0	11.0	
12th grade	75.3	77.4	73.2	*
Diplomas/degrees earned[a] (%)				
High school diploma	70.9	72.9	68.8	*
General Educational Development (GED) certificate	28.6	25.7	31.4	**
Occupational/technical certificate	2.0	2.1	2.0	

(continued)

Appendix Table A.1 (continued)

Characteristic	Full Sample	Program Group	Control Group	
Date of high school graduation/GED receipt (%)				
During the past year	70.2	72.3	68.0	*
Between 1 and 5 years ago	22.8	21.4	24.3	
More than 5 years ago	7.0	6.3	7.7	
Main reason for enrolling in college[a] (%)				
To complete a certificate program	2.8	3.3	2.2	
To obtain an associate's degree	29.7	29.1	30.3	
To transfer to a 4-year college/university	50.2	50.1	50.3	
To obtain/update job skills	10.8	9.7	11.9	
Other	8.4	10.0	6.7	**
Completed any college courses/credits (%)	7.3	6.9	7.8	
Among those who completed any college courses/credits:				
Average number of courses completed	*2.3*	*1.8*	*2.8*	
First person in family to attend college (%)	33.4	34.9	31.9	
Working personal computer in home (%)	79.7	79.8	79.6	
Owns or has access to a working car (%)	25.6	25.2	26.1	
Language other than English spoken regularly in home (%)	46.9	48.6	45.2	
U.S. citizen (%)	72.6	72.4	72.7	
Respondent born outside U.S.[b] (%)	39.9	42.3	37.6	*
Respondent or respondent's parent(s) born outside U.S.[b] (%)	74.4	76.0	72.9	
Location of respondent's birthplace (%)				
North America	60.0	57.8	62.2	*
Asia	6.3	7.6	4.9	**
Commonwealth of Independent States[c]	9.5	8.4	10.6	
Latin America and the Caribbean	18.7	20.6	16.9	*
Other[d]	5.5	5.6	5.4	
Location of respondent's mother's birthplace[e] (%)				
North America	28.2	26.3	30.0	
Asia	9.8	11.1	8.6	
Commonwealth of Independent States[c]	11.0	9.7	12.2	
Latin America and the Caribbean	41.5	43.0	39.9	
Other[d]	9.6	9.9	9.3	
Sample size	1,534	769	765	

(continued)

Appendix Table A.1 (continued)

SOURCE: MDRC calculations using Baseline Information Form (BIF) data.

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

Estimates are adjusted by research cohort.

Italics indicate nonexperimental data.

Missing values are not included in individual variable distributions.

Distributions may not add to 100 percent because of rounding.

[a]Distributions may not add to 100 percent because categories are not mutually exclusive.

[b]"U.S." includes Puerto Rico.

[c]This commonwealth includes Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan (until August 2005), Ukraine, and Uzbekistan.

[d]Other regions include the Baltic states, eastern and western Europe, North Africa, Sub-Saharan Africa, the Middle East, and Oceania. Countries are grouped by region according to the U.S. Bureau of the Census, International Data Base.

[e]The majority of respondents (over 80 percent) reported that both parents were born in the same region.

Appendix B

Survey Response Analysis

This appendix reviews the derivation of the final research sample for the Opening Doors 12-Month Survey at Kingsborough Community College, provides the survey response rate, and assesses the potential for selection bias in survey response.

Final Survey Sample and Survey Response Rate

There were 1,534 sample members in the Opening Doors study at Kingsborough. The Opening Doors 12-Month Survey, which asked sample members questions about a wide range of topics — including their educational experiences, social relationships and supports, future outlook and identity, and health — was fielded for 1,520 sample members. Fourteen sample members were not attempted to be surveyed because they were ineligible, incarcerated, or incapacitated. A sample member who lived 50 miles beyond where the field interviewers were located and who did not have a telephone was considered ineligible. A sample member who was in the military and deployed outside the United States, had moved outside the United States, or was seriously injured in an accident and unable to be interviewed during the interview period was classified as incapacitated.

Of the 1,520 surveys fielded, 1,111 sample members (73.0 percent) responded to the survey. Although MDRC received survey data for 1,111 sample members, 36 sample members (3.2 percent of the respondents) were dropped from the research sample because their interviews were conducted past the interview cutoff date. Many of the questions asked specifically about the respondent's life during the previous 12 months, and those respondents who were interviewed more than 18 months after random assignment referred to periods that did not correspond to the time period of interest. This left a final research sample of 1,075 sample members and a response rate of 70.7 percent for the 12-month survey at Kingsborough.

Assessment of Selective Survey Response

Background Characteristics

Appendix Table B.1 compares the baseline characteristics of the survey respondent sample with the characteristics of the nonrespondent sample. The table indicates that females were more likely than males to respond to the survey, accounting for 57.4 percent of the respondents and 48.7 percent of the nonrespondents. This difference is statistically significant, meaning that the detected differences are real and not due to chance. Additionally, the table indicates that blacks, high school graduates, and sample members receiving government benefits at the point of random assignment were also more likely to respond to the survey. A joint test of the characteristics presented in the table shows that several of them

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Appendix Table B.1

Characteristics of Twelve-Month Survey Respondents and Nonrespondents

Kingsborough Community College Report

Characteristic	Full Sample	Respondents	Nonrespondents	
Gender (%)				
Female	54.9	57.4	48.7	***
Age (%)				
17-18 years old	44.6	46.2	40.6	*
19-20 years old	34.0	32.8	37.1	
21-34 years old	21.4	21.0	22.3	
Average age (years)	19.7	19.6	19.8	
Marital status (%)				
Married	4.0	4.2	3.5	
Race/ethnicity (%)				
Hispanic/Latino	20.2	19.2	22.8	
Black, non-Hispanic	37.7	40.8	30.4	***
White, non-Hispanic	27.0	25.4	30.8	**
Asian or Pacific Islander	8.6	8.4	9.0	
Other	6.4	6.2	6.9	
Average household size (excluding roommates or boarders)	3.8	3.9	3.6	**
Household receiving any government benefits (%)	28.5	30.8	22.8	***
Financially dependent on parents (%)	74.3	75.4	71.7	
Ever employed (%)	78.1	77.5	79.4	
Currently employed (%)	35.4	33.7	39.6	**
Highest grade completed (%)				
8th grade or lower	1.4	1.1	2.0	
9th grade	4.3	4.0	4.9	
10th grade	8.0	7.4	9.5	
11th grade	11.0	10.3	12.6	
12th grade	75.3	77.2	71.0	**
Diplomas/degrees earned[a] (%)				
High school diploma	71.1	72.7	67.0	**
General Educational Development (GED) certificate	28.4	26.8	32.3	**
Occupational/technical certificate	2.0	1.9	2.4	

(continued)

Appendix Table B.1 (continued)

Characteristic	Full Sample	Respondents	Nonrespondents
Date of high school graduation/GED receipt (%)			
During the past year	70.1	71.0	67.9
Between 1 and 5 years ago	22.9	22.5	23.7
More than 5 years ago	7.1	6.5	8.4
Main reason for enrolling in college[a] (%)			
To complete a certificate program	2.8	2.6	3.2
To obtain an associate's degree	29.8	29.3	31.0
To transfer to a 4-year college/university	50.2	51.0	48.4
To obtain/update job skills	10.8	10.7	11.2
Other	8.2	8.4	7.8
Completed any college courses/credits (%)	7.4	8.0	5.9
Among those who completed any college courses/credits:			
Average number of courses completed	*2.3*	*2.1*	*3.2*
Language other than English spoken regularly in home (%)	46.8	45.7	49.5
U.S. citizen (%)	72.6	73.7	69.9
Respondent born outside U.S.[b] (%)	39.9	38.8	42.6
Respondent or respondent's parent(s) born outside U.S.[b](%)	74.4	73.5	76.7
Sample size	1,520	1,075	445

SOURCE: MDRC calculations using Baseline Information Form (BIF) data.

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

Estimates are adjusted by research cohort and research group.

Italics indicate nonexperimental data.

Missing values are not included in individual variable distributions.

Distributions may not add to 100 percent because of rounding.

[a]Distributions may not add to 100 percent because categories are not mutually exclusive.

[b]"U.S." includes Puerto Rico.

seem associated with students' survey participation. (However, the results presented in the report do not qualitatively change when controlling for these characteristics.)

Appendix Table B.2 compares the baseline characteristics of survey respondents in the program group with the characteristics of respondents in the control group to show whether respondents who had certain baseline characteristics are concentrated more in one research group than the other. The table shows that there are no statistically significant differences between the research groups regarding gender or receipt of government benefits. Blacks and high school graduates were also no more likely to be assigned to one research group or the other. Although the differences in these characteristics are shown as being statistically significant in Appendix Table B.1, it is unlikely that these differences affected any analyses comparing research groups.

However, the asterisks in the rightmost column of Appendix Table B.2 indicate a few statistically significant differences between the two research groups' baseline characteristics. This suggests that there is the potential for some selection bias in the analyses that compare survey responses by research group. It is important to keep these differences in mind when looking at the impact analyses utilizing survey data.

Academic Records

MDRC received transcript data from Kingsborough for all 1,534 sample members in the study. If a sample member did not enroll at the college during a particular semester, there would still be a record for that individual, but the data fields would be empty. Thus, academic records data provide consistent and reliable information on academic performance at Kingsborough.

As indicated in Appendix Table B.3, transcript data show that sample members who enrolled at Kingsborough were more likely than nonenrollees to respond to the 12-month survey. This is not surprising, given that the school required updated contact information from such students. The updated information allowed the survey firm to track and interview these sample members more easily than sample members who were not enrolled at the college.

The Opening Doors Demonstration

Appendix Table B.2

Characteristics of Twelve-Month Survey Respondents, by Research Group

Kingsborough Community College Report

Characteristic	Full Sample	Program Group	Control Group	
Gender (%)				
Female	57.2	59.4	54.9	
Age (%)				
17-18 years old	46.6	46.3	47.0	
19-20 years old	32.7	35.0	30.2	*
21-34 years old	20.7	18.7	22.7	
Average age (years)	19.6	19.5	19.7	
Marital status (%)				
Married	4.1	4.2	4.1	
Race/ethnicity (%)				
Hispanic/Latino	19.0	19.7	18.2	
Black, non-Hispanic	40.3	40.8	39.8	
White, non-Hispanic	26.1	23.1	29.2	**
Asian or Pacific Islander	8.4	9.9	6.7	*
Other	6.2	6.5	6.0	
Average household size (excluding roommates or boarders)	3.9	4.0	3.7	**
Household receiving any government benefits (%)	30.3	29.1	31.5	
Financially dependent on parents (%)	75.4	78.2	72.5	**
Ever employed (%)	77.3	75.5	79.1	
Currently employed (%)	33.7	33.4	34.1	
Highest grade completed (%)				
8th grade or lower	1.2	1.3	1.1	
9th grade	4.2	3.9	4.4	
10th grade	7.3	6.4	8.2	
11th grade	10.1	9.2	11.0	
12th grade	77.3	79.2	75.3	
Diplomas/degrees earned[a] (%)				
High school diploma	72.9	75.0	70.6	
General Educational Development (GED) certificate	26.6	23.9	29.4	**
Occupational/technical certificate	1.8	1.8	1.7	

(continued)

Appendix Table B.2 (continued)

Characteristic	Full Sample	Program Group	Control Group	
Date of high school graduation/GED receipt (%)				
During the past year	71.4	74.6	68.1	**
Between 1 and 5 years ago	22.0	19.5	24.5	*
More than 5 years ago	6.6	5.9	7.4	
Main reason for enrolling in college[a] (%)				
To complete a certificate program	2.6	3.6	1.7	*
To obtain an associate's degree	29.3	27.7	30.9	
To transfer to a 4-year college/university	50.8	50.3	51.3	
To obtain/update job skills	10.7	10.5	10.9	
Other	8.7	10.4	6.9	**
Completed any college courses/credits (%)	8.2	7.3	9.1	
Among those who completed any college courses/credits:				
Average number of courses completed	*2.1*	*1.8*	*2.4*	
Language other than English spoken regularly in home (%)	45.9	48.3	43.3	
U.S. citizen (%)	73.8	71.9	75.7	
Respondent born outside U.S.[b] (%)	38.9	42.8	35.0	***
Respondent or respondent's parent(s) born outside U.S.[b] (%)	73.3	75.1	71.4	
Sample size	1,075	547	528	

SOURCE: MDRC calculations using Baseline Information Form (BIF) data.

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

Estimates are adjusted by research cohort.

Missing values are not included in individual variable distributions.

Distributions may not add to 100 percent because of rounding.

[a]Distributions may not add to 100 percent because categories are not mutually exclusive.

[b]"U.S." includes Puerto Rico.

The Opening Doors Demonstration

Appendix Table B.3

Transcript Outcomes:
Twelve-Month Survey Respondents and Nonrespondents

Kingsborough Community College Report

Outcome (%)	Full Sample	Respondents	Nonrespondents	
Registered for any courses during program semester	92.3	93.3	89.8	**
Registered for any courses during first postprogram semester	76.7	80.1	68.5	***
Registered for any courses during second postprogram semester	60.8	66.3	47.4	***
Registered for any courses during third postprogram semester	50.7	56.2	37.5	***
Sample size	1,520	1,075	445	

SOURCE: MDRC calculations from Kingsborough Community College transcript data.

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

Estimates are adjusted by number of English tests passed at baseline, research cohort, and research group. Standard errors are clustered by learning community links.

Conclusion

Survey responses were collected from close to 71 percent of the full research sample at Kingsborough — a response rate that is suitable for a student population that traditionally is mobile and difficult to track. Additionally, while analyses indicate some sources of potential bias, the number of sources is small and did not warrant any control in the outcome analyses. (Additional analyses that controlled for some of these characteristics did not qualitatively differ from those presented in this report.) Thus, while one should keep these caveats in mind while looking at the analyses, the Opening Doors 12-Month Survey should be considered a reliable measure of educational, social, and health outcomes for the Opening Doors study at Kingsborough.

Appendix C

Description of Scales Presented in Chapter 4

The following multi-item scale measures are presented in Chapter 4 and were created using data from the Opening Doors 12-Month Survey. Multi-item scales are useful for measuring complex constructs, such as those outlined below, because such constructs cannot be assessed easily with a single-item measure. All except one of these scale measures were created using questions that are included in the 2004 version of the Community College Survey of Student Engagement (CCSSE), a widely used assessment of student engagement.[1] The one exception is the "integration and sense of belonging at school" scale, which was created from survey questions developed for the Opening Doors demonstration. For each of these scales, a summary scale score is calculated and then divided by the number of items that make up the scale, to create an average scale score. Finally, Cronbach's alpha — an indicator of how well the items included in the scale measure a common underlying construct[2] — is presented for each scale.

Classroom and College Experiences

Integration and Sense of Belonging at School (10-item scale; Cronbach's alpha = .77)

1. This is an unfriendly place. [responses were reversed in order to calculate the scale score]
2. I do not feel that I fit in or belong at this campus. [responses were reversed]
3. The instructors and staff understand who I am, where I am coming from.
4. It is difficult to make good friends with other students. [responses were reversed]
5. The other students do not understand who I am, where I am coming from.
6. This campus has the feeling of a community, where many people share the same goals and interests.
7. Many people on this campus know me by name.
8. I do not feel I am a part of campus life. [responses were reversed]
9. I know my way around this place.
10. I am proud to be a student here.

Response categories: Strongly disagree (1)
Disagree (2)
Agree (3)
Strongly agree (4)

Responses were summed and averaged. Scores range from 1 to 4.

[1]Community College Survey of Student Engagement (2007).
[2]Cronbach (1951).

Participation and Engagement (18-item scale; Cronbach's alpha = .82)

1. Asked questions in class or contributed to class discussions.
2. Made a class presentation.
3. Prepared two or more drafts of a paper or assignment before turning it in.
4. Worked on a paper or project that required integrating ideas or information from different classes.
5. Came to class without completing readings or assignments. [responses were reversed when calculating the scale score]
6. Worked with other students on a project during class.
7. Worked with classmates outside of class to prepare class assignments.
8. Participated in a community-based project as part of a regular course.
9. Used a listserve, chat group, Internet, etc. to discuss or complete an assignment.
10. Used e-mail to communicate with an instructor.
11. Discussed grades or assignments with an instructor.
12. Talked about career plans with an instructor or adviser.
13. Discussed ideas from your readings or classes with instructors outside of class.
14. Worked harder than you thought you could to meet an instructor's standards or expectations.
15. Worked with instructors on activities other than coursework.
16. Discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.).
17. Had serious conversations with students of a different race/ethnicity than your own.
18. Had serious conversations with students who differ from you in terms of their religious beliefs, political opinions, or personal values.

Response categories: Very often (1)
Often (2)
Sometimes (3)
Never (4)

Responses were summed and averaged. Scores range from 1 to 4.

Using Knowledge (Critical Thinking Curriculum) (6-item scale; Cronbach's alpha = .78)

1. Analyzing the basic elements of an idea, experience, or theory.
2. Synthesizing and organizing ideas, information, or experiences in new ways.
3. Making judgments about the value or soundness of information, arguments, or methods.
4. Applying theories or concepts to practical problems or in new situations.
5. Using information you have read or heard to perform a new skill.
6. Integrating ideas, information, or skills from different classes.

Response categories: Very much (1)
Quite a bit (2)
Some (3)
Very little (4)

Responses were summed and averaged. Scores range from 1 to 4.

Acquired Academic and Work Skills (16-item scale; Cronbach's alpha = .92)

1. Acquiring a broad general education.
2. Acquiring job or work-related knowledge and skills.
3. Writing clearly and effectively.
4. Speaking clearly and effectively.
5. Thinking critically and analytically.
6. Solving numerical problems.
7. Using computing and information technology.
8. Working effectively with others.
9. Learning effectively on your own.
10. Understanding yourself.
11. Understanding people of other racial and ethnic backgrounds.
12. Developing a personal code of values and ethics.
13. Contributing to the welfare of your community.
14. Developing clearer career goals.
15. Gaining information about career opportunities.
16. Developing a sense of confidence in your academic abilities.

Response categories: Very much (1)
Quite a bit (2)
Some (3)
Very little (4)

Responses were summed and averaged. Scores range from 1 to 4.

Appendix D

Supplementary Tables for Chapter 4

The Opening Doors Demonstration

Appendix Table D.1

Classroom and College Experiences of Sample Members, by Gender

Kingsborough Community College Report

Outcome	Sample Size	Program Group	Control Group	Difference	Standard Error	Effect Size
Male subgroup						
Integration and sense of belonging at school[a] (%)						
Low	413	12.0	14.2	-2.2	3.5	-0.06
High	413	16.2	16.3	-0.1	3.5	0.00
Participation and engagement[b] (%)						
Low	426	20.3	25.1	-4.8	4.0	-0.11
High	426	14.6	11.3	3.4	3.6	0.10
Using knowledge (critical thinking curriculum)[c] (%)						
Low	427	11.9	18.0	-6.0 *	3.4	-0.16
High	427	23.3	19.4	3.8	3.8	0.10
Acquired academic and work skills[d] (%)						
Low	423	15.2	21.1	-5.9	3.6	-0.15
High	423	19.1	16.4	2.7	3.6	0.07
Rated college experience good or excellent (%)	428	79.0	76.6	2.4	4.0	0.06
Hours per week spent on campus in first semester	460	10.8	10.9	-0.1	0.4	-0.02
Spent 12 or fewer hours per week on campus in first semester (%)	460	40.4	36.3	4.1	4.6	0.09
Hours per week studying in first semester	459	7.5	7.3	0.1	0.5	0.02
Studied 19 or more hours per week in first semester (%)	459	7.9	8.6	-0.7	2.5	-0.02

(continued)

Appendix Table D.1 (continued)

Outcome	Sample Size	Program Group	Control Group	Difference	Standard Error	Effect Size
Female subgroup						
Integration and sense of belonging at school[a] (%)						
Low	571	10.7	20.0	-9.3 ***	2.9	-0.23
High	571	15.6	9.2	6.4 **	2.7	0.22
Participation and engagement[b] (%)						
Low	582	11.2	19.5	-8.3 ***	3.1	-0.21
High	582	20.4	13.1	7.3 **	3.2	0.22
Using knowledge (critical thinking curriculum)[c] (%)						
Low	585	12.3	18.5	-6.2 **	3.0	-0.16
High	585	25.4	24.5	0.8	3.4	0.02
Acquired academic and work skills[d] (%)						
Low	582	10.5	16.0	-5.5 *	3.1	-0.15
High	582	22.2	16.7	5.5 *	3.3	0.15
Rated college experience good or excellent (%)	587	86.1	75.8	10.3 ***	3.4	0.24
Hours per week spent on campus in first semester	614	10.7	10.9	-0.2	0.4	-0.03
Spent 12 or fewer hours per week on campus in first semester (%)	614	43.5	39.7	3.8	3.8	0.08
Hours per week studying in first semester	609	7.6	7.8	-0.2	0.5	-0.03
Studied 19 or more hours per week in first semester (%)	609	9.2	9.5	-0.3	2.3	-0.01

(continued)

Appendix Table D.1 (continued)

SOURCE: MDRC calculations from the Opening Doors 12-Month Survey.

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

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

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

Estimates are adjusted by research cohort and the number of English tests passed at baseline. Standard errors are clustered by learning community links.

[a]10-item scale about sense of integration with and belonging to the school community; response categories range from 1 = "strongly disagree" to 4 = "strongly agree." "Low" is the percentage of sample members scoring one standard deviation below the mean; "high" is the percentage of sample members scoring one standard deviation above the mean.

[b]15-item scale about participation schoolwork, projects, and ideas; response categories range from 1 = "very often" to 4 = "never." "Low" is the percentage of sample members scoring one standard deviation below the mean; "high" is the percentage of sample members scoring one standard deviation above the mean.

[c]6-item scale about using aquired knowledge inside and outside the classroom; response categories range from 1 = "very much" to 4 = "very little." "Low" is the percentage of sample members scoring one standard deviation below the mean; "high" is the percentage of sample members scoring one standard deviation above the mean.

[d]16-item scale about aquiring academic and work skills, and a sense of self and community; response categories range from 1 = "very much" to 4 = "very little." "Low" is the percentage of sample members scoring one standard deviation below the mean; "high" is the percentage of sample members scoring one standard deviation above the mean.

The Opening Doors Demonstration

Appendix Table D.2

Transcript Outcomes, by Gender: Program Semester

Kingsborough Community College Report

Outcome	Program Group	Control Group	Difference	Standard Error	Effect Size
Male subgroup					
Registered for any courses (%)	91.9	90.1	1.8	2.4	0.06
Enrolled in a learning community[a] (%)	83.7	0.6	83.1 ***	2.8	9.28
Number of courses attempted	4.7	4.2	0.5 ***	0.2	0.24
Number of credits attempted	15.3	14.5	0.8	0.5	0.13
Regular credits	9.6	9.8	-0.3	0.4	-0.05
Equated credits	5.7	4.7	1.0 **	0.4	0.23
Passed all courses (%)	40.5	27.3	13.2 ***	3.6	0.30
Number of courses passed	3.6	2.9	0.7 ***	0.1	0.35
Withdrew from any courses (%)	27.7	37.1	-9.3 ***	3.3	-0.19
Number of course withdrawals	0.6	0.7	-0.2 **	0.1	-0.14
Number of credits earned	10.9	9.3	1.7 ***	0.5	0.23
Regular credits	7.6	7.1	0.5	0.4	0.08
Equated credits	3.3	2.1	1.2 ***	0.4	0.33 †
Term GPA (%)					
No GPA[b]	10.3	12.5	-2.3	2.5	-0.07
3.0 to 4.0 or B/A	30.3	24.4	5.9	3.9	0.14
2.0 to 2.9 or C/B-	32.2	25.1	7.0 **	3.4	0.16 †
1.0 to 1.9 or D/C-	15.6	20.6	-5.0 *	2.8	-0.12
0 to 0.9 or F/D-	11.8	17.4	-5.6 **	2.6	-0.15
Sample size (total = 697)	325	372			
Female subgroup					
Registered for any courses (%)	94.1	92.4	1.7	1.9	0.06
Enrolled in a learning community[a] (%)	86.7	0.5	86.2 ***	2.4	12.10
Number of courses attempted	5.0	4.6	0.3 **	0.1	0.19
Number of credits attempted	16.0	15.8	0.2	0.4	0.03
Regular credits	10.3	10.5	-0.3	0.4	-0.05
Equated credits	5.7	5.3	0.5	0.3	0.10
Passed all courses (%)	45.1	38.3	6.8 *	3.5	0.14
Number of courses passed	4.0	3.4	0.5 ***	0.1	0.25

(continued)

Appendix Table D.2 (continued)

Outcome	Program Group	Control Group	Difference	Standard Error	Effect Size
Withdrew from any courses (%)	25.7	32.0	-6.2 *	3.2	-0.13
Number of course withdrawals	0.5	0.7	-0.1	0.1	-0.11
Number of credits earned	12.0	11.4	0.6	0.5	0.09
Regular credits	8.4	8.3	0.1	0.4	0.02
Equated credits	3.6	3.1	0.5	0.3	0.12
Term GPA (%)					
No GPA[b]	7.5	11.1	-3.7 *	2.1	-0.12
3.0 to 4.0 or B/A	37.7	30.7	7.0 **	3.4	0.15
2.0 to 2.9 or C/B-	28.9	30.7	-1.8	3.0	-0.04
1.0 to 1.9 or D/C-	14.7	14.5	0.2	2.3	0.01
0 to 0.9 or F/D-	11.2	13.0	-1.7	2.2	-0.05
Sample size (total = 837)	444	393			

SOURCE: MDRC calculations from Kingsborough Community 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.

Estimates are adjusted by research cohort and the number of English tests passed at baseline. Standard errors are clustered by learning community links.

[a]While most students were enrolled in all three linked courses, a small number withdrew from part of the link.

[b]The "No GPA" category includes students who did not enroll and students who took only developmental courses, which are not included in GPA calculations.

The Opening Doors Demonstration

Appendix Table D.3

Transcript Outcomes, by Gender: First, Second, and Third Postprogram Semesters

Kingsborough Community College Report

Outcome	Program Group	Control Group	Difference	Standard Error	Effect Size
Male subgroup					
First postprogram semester					
Registered for any courses (%)	77.6	71.8	5.8 *	3.1	0.13
Number of credits attempted	12.4	11.3	1.1 *	0.6	0.13
Regular credits	10.0	9.0	1.0 **	0.5	0.15
Equated credits	2.4	2.3	0.0	0.4	0.01
Number of credits earned	8.3	7.4	0.8	0.6	0.12
Regular credits	7.2	6.3	0.9 *	0.5	0.15
Equated credits	1.1	1.1	-0.1	0.2	-0.03
Term GPA (%)					
No GPA[a]	24.6	29.3	-4.6	3.2	-0.10
3.0 to 4.0 or B/A	18.9	19.5	-0.6	2.8	-0.01
2.0 to 2.9 or C/B-	26.9	20.8	6.1 *	3.2	0.15
1.0 to 1.9 or D/C-	13.3	15.8	-2.4	2.7	-0.07
0 to 0.9 or F/D-	16.2	14.6	1.6	2.7	0.05
Second postprogram semester					
Registered for any courses (%)	62.4	54.4	8.0 **	3.5	0.16 ††
Number of credits attempted	9.9	8.8	1.1 *	0.6	0.13 †
Regular credits	8.6	7.5	1.2 **	0.6	0.15 †
Equated credits	1.3	1.3	0.0	0.2	-0.01
Number of credits earned	6.7	6.1	0.6	0.6	0.08
Regular credits	6.2	5.6	0.5	0.5	0.08
Equated credits	0.6	0.5	0.1	0.1	0.04 †
Term GPA (%)					
No GPA[a]	38.9	46.7	-7.8 **	3.6	-0.16 ††
3.0 to 4.0 or B/A	15.6	15.4	0.1	2.9	0.00
2.0 to 2.9 or C/B-	21.0	16.6	4.4	3.2	0.12
1.0 to 1.9 or D/C-	12.1	13.9	-1.7	2.6	-0.05
0 to 0.9 or F/D-	12.4	7.4	5.0 **	2.0	0.19

(continued)

Appendix Table D.3 (continued)

Outcome	Program Group	Control Group	Difference	Standard Error	Effect Size
Third postprogram semester					
Registered for any courses (%)	51.9	42.8	9.1 **	3.8	0.18
Number of credits attempted	7.7	6.5	1.2 *	0.6	0.14
Regular credits	7.0	5.8	1.2 **	0.6	0.17
Equated credits	0.6	0.7	-0.1	0.2	-0.03
Number of credits earned	5.6	4.7	0.9 *	0.5	0.14
Regular credits	5.4	4.4	0.9 *	0.5	0.15
Equated credits	0.3	0.3	0.0	0.1	-0.02
Term GPA (%)					
No GPA[a]	49.3	58.0	-8.6 **	3.7	-0.17
3.0 to 4.0 or B/A	14.6	15.0	-0.4	2.7	-0.01
2.0 to 2.9 or C/B-	17.8	12.7	5.2 *	2.7	0.16
1.0 to 1.9 or D/C-	11.6	8.5	3.1	2.2	0.11
0 to 0.9 or F/D-	6.7	5.9	0.8	1.8	0.03
Sample size (total = 697)	325	372			
Female subgroup					
First postprogram semester					
Registered for any courses (%)	77.4	77.9	-0.4	2.9	-0.01
Number of credits attempted	12.6	12.2	0.3	0.5	0.04
Regular credits	10.3	10.1	0.2	0.5	0.03
Equated credits	2.3	2.1	0.1	0.3	0.04
Number of credits earned	8.9	8.5	0.4	0.4	0.06
Regular credits	7.7	7.5	0.2	0.4	0.03
Equated credits	1.2	1.0	0.2	0.2	0.08
Term GPA (%)					
No GPA[a]	24.8	23.7	1.1	3.0	0.03
3.0 to 4.0 or B/A	25.4	26.2	-0.8	3.1	-0.02
2.0 to 2.9 or C/B-	25.1	23.3	1.7	2.9	0.04
1.0 to 1.9 or D/C-	13.1	15.0	-2.0	2.3	-0.05
0 to 0.9 or F/D-	11.7	11.8	-0.1	2.0	0.00
Second postprogram semester					
Registered for any courses (%)	60.8	63.4	-2.6	3.4	-0.05
Number of credits attempted	9.9	10.4	-0.5	0.6	-0.06
Regular credits	8.8	9.1	-0.2	0.6	-0.03
Equated credits	1.0	1.4	-0.3 *	0.2	-0.11
Number of credits earned	7.4	7.7	-0.3	0.5	-0.04
Regular credits	6.9	6.9	0.0	0.5	-0.01
Equated credits	0.5	0.8	-0.3 **	0.1	-0.13

(continued)

Appendix Table D.3 (continued)

Outcome	Program Group	Control Group	Difference	Standard Error	Effect Size
Term GPA (%)					
No GPA[a]	40.6	37.4	3.2	3.4	0.07
3.0 to 4.0 or B/A	19.2	24.9	-5.6 **	2.9	-0.13
2.0 to 2.9 or C/B-	23.2	17.6	5.6 **	2.6	0.15
1.0 to 1.9 or D/C-	9.1	12.1	-2.9	2.4	-0.09
0 to 0.9 or F/D-	7.9	8.1	-0.2	1.8	-0.01
Third postprogram semester					
Registered for any courses (%)	53.8	52.4	1.4	3.4	0.03
Number of credits attempted	8.0	7.8	0.2	0.6	0.03
Regular credits	7.2	7.1	0.1	0.5	0.01
Equated credits	0.8	0.7	0.1	0.1	0.07
Number of credits earned	6.2	6.1	0.1	0.5	0.02
Regular credits	5.8	5.8	0.0	0.5	0.01
Equated credits	0.4	0.3	0.1	0.1	0.06
Term GPA (%)					
No GPA[a]	48.2	49.4	-1.2	3.5	-0.02
3.0 to 4.0 or B/A	18.2	19.8	-1.6	2.7	-0.04
2.0 to 2.9 or C/B-	19.7	18.4	1.3	2.6	0.03
1.0 to 1.9 or D/C-	8.2	8.3	-0.1	1.9	0.00
0 to 0.9 or F/D-	5.6	4.1	1.5	1.3	0.08
Sample size (total = 837)	444	393			

SOURCE: MDRC calculations from Kingsborough Community 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.

Estimates are adjusted by research cohort and the number of English tests passed at baseline. Standard errors are clustered by learning community links.

[a]The "No GPA" category includes students who did not enroll and students who took only developmental courses, which are not included in GPA calculations.

The Opening Doors Demonstration

Appendix Table D.4

Cumulative Outcomes, by Gender: Program Semseter Through Third Postprogram Semester

Kingsborough Community College Report

Outcome	Program Group	Control Group	Difference	Standard Error	Effect Size
Male subgroup					
Registered for any courses (%)	94.3	93.9	0.4	1.9	0.02
Number of semesters registered	2.8	2.6	0.2 **	0.1	0.19 †
Number of credits earned	31.6	27.6	4.0 **	1.7	0.17
Regular credits	26.4	23.5	2.9 *	1.6	0.14
Equated credits	5.2	4.1	1.2 *	0.6	0.20
Cumulative GPA[a] (%)					
No GPA[b]	8.5	9.5	-1.1	2.2	-0.04
3.0 to 4.0 or B/A	21.4	20.3	1.0	3.0	0.03
2.0 to 2.9 or C/B-	33.4	28.1	5.4	3.3	0.12
1.0 to 1.9 or D/C-	20.4	22.0	-1.6	2.9	-0.04
0 to 0.9 or F/D-	16.4	20.1	-3.8	3.0	-0.09
Sample size (total = 697)	325	372			
Female subgroup					
Registered for any courses (%)	95.9	94.4	1.5	1.6	0.07
Number of semesters registered	2.9	2.9	0.0	0.1	0.00
Number of credits earned	34.5	33.7	0.8	1.6	0.04
Regular credits	28.9	28.5	0.3	1.5	0.02
Equated credits	5.6	5.1	0.5	0.5	0.07
Cumulative GPA[a] (%)					
No GPA[b]	6.4	8.5	-2.1	1.9	-0.08
3.0 to 4.0 or B/A	28.1	28.0	0.1	3.1	0.00
2.0 to 2.9 or C/B-	34.1	30.9	3.2	3.0	0.07
1.0 to 1.9 or D/C-	19.2	19.0	0.3	2.6	0.01
0 to 0.9 or F/D-	12.1	13.5	-1.4	2.3	-0.04
Sample size (total = 837)	444	393			

(continued)

Appendix Table D.4 (continued)

SOURCE: MDRC calculations from Kingsborough Community 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.

Estimates are adjusted by research cohort and the number of English tests passed at baseline. Standard errors are clustered by learning community links.

[a]Cumulative GPA is based on credit-bearing courses taken from random assignment through the end of the third postprogram semester. Courses in which students did not receive a passing grade and subsequently repeated are not included in the cumulative GPA, as per Kingsborough Community College policy.

[b]The "No GPA" category includes students who did not enroll and students who took only developmental courses, which are not included in GPA calculations.

The Opening Doors Demonstration

Appendix Table D.5

English Skills Assessment Test Outcomes, by Gender

Kingsborough Community College Report

Outcome (%)	Program Group	Control Group	Difference	Standard Error	Effect Size
Male subgroup					
Program semester					
Attempted reading test	11.7	5.4	6.3 **	2.7	0.28 ††
Passed reading test by end of semester	85.0	78.9	6.1 **	2.4	0.15 ††
Attempted writing test	36.4	22.0	14.4 ***	4.5	0.35 †
Passed writing test by end of semester	46.9	38.0	8.9 ***	3.4	0.18
Attempted either English skills assessment test	41.5	25.8	15.7 ***	4.7	0.36 ††
Passed both English skills assessment tests by end of semester	46.3	37.5	8.8 **	3.4	0.18
Program and postprogram semesters[a]					
Attempted reading test	15.4	9.4	6.0 ***	2.3	0.21
Passed reading test by end of second postprogram semester	88.8	83.5	5.3 **	2.3	0.14 †
Attempted writing test	47.1	35.7	11.4 ***	3.8	0.24
Passed writing test by end of second postprogram semester	60.4	51.8	8.6 **	3.9	0.17
Attempted either English skills assessment test	50.7	38.2	12.5 ***	3.5	0.26 †
Passed both English skills assessment tests by end of second postprogram semester	60.1	51.8	8.3 **	3.9	0.17
Sample size (total = 697)	325	372			
Female subgroup					
Program semester					
Attempted reading test	14.0	13.2	0.7	2.7	0.02
Passed reading test by end of semester	82.9	83.4	-0.4	2.0	-0.01
Attempted writing test	36.0	29.4	6.6 *	3.8	0.14
Passed writing test by end of semester	58.4	54.8	3.6	3.1	0.07
Attempted either English skills assessment test	41.4	35.9	5.5	4.1	0.11

(continued)

Appendix Table D.5 (continued)

Outcome (%)	Program Group	Control Group	Difference	Standard Error	Effect Size
Passed both English skills assessment tests by end of semester	57.1	54.0	3.1	3.0	0.06
Program and postprogram semesters[a]					
Attempted reading test	19.4	17.0	2.4	1.9	0.07
Passed reading test by end of second postprogram semester	88.4	88.4	-0.1	1.8	0.00
Attempted writing test	46.5	42.4	4.1	2.9	0.08
Passed writing test by end of second postprogram semester	70.8	68.3	2.5	3.1	0.05
Attempted either English skills assessment test	50.2	45.8	4.4	2.9	0.09
Passed both English skills assessment tests by end of second postprogram semester	69.3	67.3	2.0	3.1	0.04
Sample size (total = 837)	444	393			

SOURCE: MDRC calculations from City University of New York skills assessment 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.

Estimates are adjusted by research cohort and the number of English tests passed at baseline. Standard errors are clustered by learning community links.

[a]Outcomes include data from the program semester through the second postprogram semester.

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Appendix Table D.6

Enrollment Outcomes, by Gender

Kingsborough Community College Report

Outcome	Program Group	Control Group	Difference	Standard Error	Effect Size
Male subgroup					
Program semester					
Enrolled in any college (%)	87.5	85.1	2.3	2.7	0.07
Enrolled in any 2-year college (%)	87.5	85.1	2.3	2.7	0.07
Enrolled in any 4-year college (%)	0.3	0.0	0.3	0.3	N/A
First postprogram semester					
Enrolled in any college (%)	75.6	69.2	6.5 **	3.2	0.14
Enrolled in any 2-year college (%)	73.8	68.3	5.5 *	3.2	0.12
Enrolled in any 4-year college (%)	1.8	1.1	0.7	0.9	0.07
Second postprogram semester					
Enrolled in any college (%)	62.8	58.5	4.3	3.5	0.09
Enrolled in any 2-year college (%)	59.2	53.9	5.3	3.6	0.11
Enrolled in any 4-year college (%)	3.6	4.6	-1.0	1.6	-0.05
Third postprogram semester					
Enrolled in any college (%)	56.8	49.0	7.7 **	3.7	0.15
Enrolled in any 2-year college (%)	51.2	43.7	7.5 *	3.9	0.15
Enrolled in any 4-year college (%)	6.8	5.4	1.4	1.8	0.06
Any postprogram semester[a]					
Enrolled in any college (%)	91.4	91.1	0.4	2.2	0.01
Enrolled in any 2-year college (%)	91.4	90.5	0.9	2.3	0.03
Enrolled in any 4-year college (%)	8.0	6.5	1.5	2.0	0.06
Number of semesters enrolled in any college	2.8	2.6	0.2 **	0.1	0.15
Sample size (total = 697)	325	372			

(continued)

Appendix Table D.6 (continued)

Outcome	Program Group	Control Group	Difference	Standard Error	Effect Size
Female subgroup					
Program semester					
Enrolled in any college (%)	87.2	84.2	3.0	2.6	0.08
Enrolled in any 2-year college (%)	87.0	84.2	2.8	2.6	0.08
Enrolled in any 4-year college (%)	0.4	0.0	0.4	0.3	N/A
First postprogram semester					
Enrolled in any college (%)	73.6	73.0	0.6	3.0	0.01
Enrolled in any 2-year college (%)	71.4	72.0	-0.6	3.1	-0.01
Enrolled in any 4-year college (%)	2.2	1.1	1.2	0.8	0.12
Second postprogram semester					
Enrolled in any college (%)	62.6	63.1	-0.5	3.2	-0.01
Enrolled in any 2-year college (%)	57.7	59.5	-1.9	3.4	-0.04
Enrolled in any 4-year college (%)	5.0	3.6	1.4	1.5	0.07
Third postprogram semester					
Enrolled in any college (%)	60.2	56.7	3.4	3.2	0.07
Enrolled in any 2-year college (%)	52.7	50.3	2.4	3.4	0.05
Enrolled in any 4-year college (%)	7.4	6.9	0.5	1.8	0.02
Any postprogram semester[a]					
Enrolled in any college (%)	91.0	87.8	3.2	2.2	0.10
Enrolled in any 2-year college (%)	90.1	86.7	3.4	2.3	0.10
Enrolled in any 4-year college (%)	9.2	6.9	2.3	1.9	0.09
Number of semesters enrolled in any college	2.8	2.8	0.1	0.1	0.05
Sample size (total = 837)	444	393			

(continued)

Appendix Table D.6 (continued)

SOURCE: MDRC calculations from the National Student Clearinghouse 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.

Estimates are adjusted by research cohort and the number of English tests passed at baseline. Standard errors are clustered by learning community links.

[a]Outcomes include data from the program semester through the second postprogram semester.

Appendix E

Description of Scales Presented in Chapter 5

The following multi-item scale measures are presented in Chapter 5 and were created using data from the Opening Doors 12-Month Survey. Multi-item scales are useful for measuring complex constructs, such as those outlined below, because such constructs cannot be assessed easily with a single-item measure. Most of these scale measures have been widely used in related literature, and footnotes are added to reference the original source from which scales were drawn or adapted. Three measures — "sense of self," "friends value education," and "civic engagement" — were developed for the Opening Doors demonstration.[1] The measures of "civic engagement" and "psychological distress" are coded as *summative scales*, which means that the values assigned to each response are added together to create a summary scale score. For the remaining measures, a summary scale score is calculated and then divided by the number of items that make up the scale, to create an average scale score. Finally, Cronbach's alpha — an indicator of how well the items included in the scale measure a common underlying construct[2] — is presented for each scale.

Social and Psychological Outcomes

Outlook and Identity

Optimism[3] (6-item scale; Cronbach's alpha = .60)[4]

1. In uncertain times, I usually expect the best. [responses were reversed in order to calculate the scale score]
2. If something can go wrong for me, it will.
3. I am always optimistic about my future.
4. I hardly ever expect things to go my way. [responses were reversed]
5. I rarely count on good things happening to me. [responses were reversed]
6. Overall, I expect more good things to happen to me than bad.

Response categories:
Strongly disagree (1)
Somewhat disagree (2)
Somewhat agree (3)
Strongly agree (4)

Responses were summed and averaged. Scores range from 1 to 4.

[1]Questions included in these new measures are similar to those used elsewhere.
[2]Cronbach (1951).
[3]Scheier, Carver, and Bridges (1994).
[4]Data on a subset of measures are available at both baseline and the 12-month follow-up. All Cronbach's alphas shown above were calculated using 12-month follow-up data.

Goal Orientation[5] (3-item scale; Cronbach's alpha = .59)

1. I don't think much about my long-term goals.
2. I have many long-term goals that I will work to achieve.
3. It is important for me to take time to plan out where I'm going in life.

Response categories: Strongly disagree (1)
Somewhat disagree (2)
Somewhat agree (3)
Strongly agree (4)

Responses were summed and averaged. Scores range from 1 to 4.

Life Engagement[6] (6-item scale, Cronbach's alpha = .76)

1. There is not enough purpose in my life. [responses were reversed in order to calculate the scale score]
2. I don't care very much about the things I do. [responses were reversed]
3. To me, the things I do are all worthwhile.
4. I have lots of reasons for living.
5. Most of what I do seems trivial and unimportant to me. [responses were reversed]
6. I value my activities a lot.

Response categories: Strongly disagree (1)
Somewhat disagree (2)
Somewhat agree (3)
Strongly agree (4)

Responses were summed and averaged. Scores range from 1 to 4.

[5]For a discussion of the measures of "reactive responding," see Psychosocial Working Group of the MacArthur Research Network on Socioeconomic Status and Health (2007). See also Taylor and Seeman (1999).

[6]Scheier et al. (2006).

Self-Esteem[7] (4-item scale; Cronbach's alpha = .62)

1. I am able to do things as well as most other people.
2. I feel that I'm a person of worth, or at least on an equal basis with others.
3. I feel that I have a number of good qualities.
4. I take a positive attitude toward myself.

Response categories:
Strongly disagree (1)
Somewhat disagree (2)
Somewhat agree (3)
Strongly agree (4)

Responses were summed and averaged. Scores range from 1 to 4.

Sense of Self (13-item scale; Cronbach's alpha = .85)

1. Your goals in life are becoming clearer.
2. People know they can count on you to "be there" for them.
3. You have a clear sense of your beliefs and values.
4. There is at least one person who knows "the real you."
5. You have a good deal of freedom to explore things in life that interest you.
6. You feel respected by others as an adult.
7. There is at least one person with whom you can talk about anything.
8. You feel that you are important, that you "matter," to other people.
9. You have a pretty good sense of the path you want to take in life and the steps to take to get there.
10. You can envision the kind of person you'd like to become.
11. You feel your life is filled with meaning, a sense of purpose.
12. It is easy for you to make close friends.
13. People often seek your advice and support.

Response categories:
Strongly disagree (1)
Somewhat disagree (2)
Somewhat agree (3)
Strongly agree (4)

Responses were summed and averaged. Scores range from 1 to 4.

[7]Adapted from Rosenberg (1965).

Social Support and Civic Engagement

General Social Support[8] (8-item scale; Cronbach's alpha = .74)

1. There are people I know will help me if I need it.
2. There is no one I feel comfortable talking about problems with. [responses were reversed in order to calculate the scale score]
3. I am with a group of people who think the same way I do about things.
4. If something went wrong, no one would help me. [responses were reversed]
5. I have a trustworthy person to turn to if I have problems.
6. I do not think that other people respect what I do. [responses were reversed]
7. There is no one who likes to do the things I do. [responses were reversed]
8. There are people who value my skills and abilities.

Response categories:
Strongly disagree (1)
Disagree (2)
Agree (3)
Strongly agree (4)

Responses were summed and averaged. Scores range from 1 to 4.

Friends Value Education (6-item scale; Cronbach's alpha = .87)

1. How supportive are your friends of you attending college?
2. Among your friends, how important is it to…Go to college?
3. …Get good grades?
4. …Complete a college degree or training program?
5. …Use a college degree or program certificate to get a better job?
6. …Pursue advanced study after college?

Response categories:
Not very (1)
Somewhat (2)
Quite a bit (3)
Extremely (4)

Responses were summed and averaged. Scores range from 1 to 4.

[8]Adapted from Cutrona and Russell (1987).

Civic Engagement (4-item summative scale; Cronbach's alpha = .54)

1. Are you registered to vote?
2. Did/do you plan to vote in the 2004 presidential election?
3. Since [date of random assignment], have you donated your time or money to a political campaign?
4. Since [date of random assignment], have you attended a political speech, rally, or march?

Each item has two response categories (1 = Yes and 0 = No). The four items are added together and divided by 4. Scores range from 0 to 1.

Health Outcomes

Mental Health

Stress[9] (4-item scale; Cronbach's alpha = .66)

1. In the last 30 days...How often have you felt you were unable to control the important things in your life?
2. …How often have you felt confident about your ability to handle your personal problems? [responses were reversed in order to calculate the scale score]
3. …How often have you felt that things were going your way? [responses were reversed]
4. …How often have you felt difficulties were piling up so high that you could not overcome them?

Response categories:
None of the time (1)
A little of the time (2)
Some of the time (3)
Most of the time (4)
All of the time (5)

Responses were summed and averaged. Scores range from 1 to 5.

[9]Adapted from Cohen, Kamarck, and Mermelstein (1983); Cohen and Williamson (1988).

Psychological Distress[10] (6-item summative scale; Cronbach's alpha = .77)

1. During the past 30 days…about how often did you feel nervous?
2. …did you feel hopeless?
3. …did you feel restless or fidgety?
4. …did you feel so depressed that nothing could cheer you up?
5. …did you feel that everything was an effort?
6. …did you feel worthless?

Response categories:
None of the time (0)
A little of the time (1)
Some of the time (2)
Most of the time (3)
All of the time (4)

Responses were summed and averaged. Scores range from 0 to 24, with a cut point of 13 to determine nonspecific psychological distress.

[10]Kessler et al. (2002).

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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.

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- Promoting Family Well-Being and Child 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.