



THE PERFORMANCE-BASED SCHOLARSHIP DEMONSTRATION

PROMOTING FULL-TIME ATTENDANCE AMONG ADULTS IN COMMUNITY COLLEGE

Early Impacts from the
Performance-Based Scholarship
Demonstration in New York

Lashawn Richburg-Hayes

Colleen Sommo

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MAY 2011

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BUILDING KNOWLEDGE
TO IMPROVE SOCIAL POLICY

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Overview

Many adult students struggle to finance their educations, often contending with work and child care expenses in addition to the extra cost of remedial courses. Moreover, there is little need-based grant aid to help. This report presents early findings from an evaluation of a program in New York City targeted to low-income adults (ages 22 to 35) who need remedial course work. Part of MDRC's national Performance-Based Scholarship (PBS) Demonstration, the program operated at Borough of Manhattan Community College and Hostos Community College, both part of the City University of New York, in 2008 and 2009. Participating students were eligible for either a \$1,300 scholarship for two consecutive semesters (totaling up to \$2,600) or for \$1,300 for each of those semesters *and* one summer term (totaling up to \$3,900), if they maintained at least part-time enrollment, met attendance benchmarks, and earned at least a "C" average across six credits of courses. Scholarships were paid directly to students in increments and did not supplant other aid for which students qualified.

This innovative program, along with those in five other states in the PBS Demonstration, builds on lessons from MDRC's Opening Doors Demonstration in Louisiana, which led to higher rates of persistence and credit accumulation. The Louisiana program offered performance-based scholarships to low-income parents for two semesters; counselors met with students periodically and disbursed the scholarships. Unlike the Louisiana program, the New York PBS program did not include counseling and focused on adult students needing remediation.

The PBS evaluation randomly assigned approximately 1,500 low-income students to one of two program groups eligible to receive up to either \$2,600 or \$3,900 in scholarships, or to a control group eligible only for usual financial aid. Comparing outcomes of the combined program groups with control group outcomes measures the *impact* of the scholarship program. Comparing outcomes for the two program groups speaks to the relative importance of additional funding for summer attendance. Early analyses of student transcripts for about 60 percent of the total sample suggest that the program:

- **Encouraged more full-time enrollment.** Even though the scholarship required only part-time attendance, full-time enrollment increased 5.6 percentage points (7.9 percent) in the first semester and 7.4 percentage points (14 percent) in the second semester. Students may have used the funds to purchase more education.
- **Resulted in more students eligible for summer funding registering for summer courses.** Summer funding increased summer attendance by 7.8 percentage points — about a 40 percent increase over the usual 20 percent of students in such courses.

These findings suggest that incentive scholarships may increase full-time attendance and summer enrollment, which may, in turn, benefit low-income adults needing remediation by decreasing the time they need to earn degrees or certificates. Future reports will present impacts for the full sample on measures not covered here, including student retention, credit accumulation, graduation and transfer rates, motivation, and use of scholarship monies.

Contents

Overview	iii
List of Tables and Figures	vii
Preface	ix
Acknowledgments	xi
Introduction	1
The Policy Context for the New York Program	4
Performance-Based Scholarships in New York	6
Data Sources	13
Characteristics of the Performance-Based Scholarship Sample	14
Patterns of Scholarship Receipt	17
An Early Look at Program Impacts	19
Conclusion and Next Steps	25
Appendix	
A: Selected Characteristics of Sample Members at Baseline	27
References	33

List of Tables, Figures, and Boxes

Table

1	Selected Characteristics of Colleges Participating in the Performance-Based Scholarship Demonstration in New York	8
2	Selected Characteristics of Sample Members at Baseline, by Site, Fall 2008 and Spring 2009 Cohorts	15
3	Scholarship Receipt Among Program Group Members, Fall 2008 and Spring 2009 Cohorts	18
4	Academic Outcomes Among Sample Members: First and Second Program Semesters, Fall 2008 and Spring 2009 Cohorts	21
5	Academic Outcomes Among PBS, PBS Plus Summer, and Control Groups: First Summer Term, Fall 2008 and Spring 2009 Cohorts	24
A.1	Selected Characteristics of Sample Members at Baseline, by Research Group, Fall 2008 and Spring 2009 Cohorts	29

Figure

1	Basic Random Assignment Process for the Demonstration in New York	12
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Box

1	Average Expenses for BMCC Students and Maximum Available Need-Based Financial Aid, Academic Year 2007-2008	7
2	PBS Group Versus PBS Plus Summer Group	10

Preface

Community colleges are relatively affordable institutions. During the 2010-2011 academic year, the average cost of tuition and fees at community colleges was \$2,713, compared with \$7,605 for in-state tuition and fees at public, four-year colleges. However, once the additional costs of books, supplies, transportation, and other basic living expenses are included, the total yearly cost of attending a community college can become insurmountable for low-income students. As a result, these students often need supplements such as the federal Pell Grant and state financial aid to help pay for college. This may be especially true of nontraditional students, who are older, often work, attend school part time, and are financially independent of their parents (and may be parents themselves). Yet their part-time status and work income can limit their access to financial aid programs, which are often designed for more traditional students fresh out of high school and without work and family obligations.

Could a performance-based scholarship help such students accelerate their progress toward a degree by providing additional financial support and creating an incentive to complete their courses? MDRC's Performance-Based Scholarship Demonstration seeks to answer this question and others by testing variations of performance-based scholarships in Arizona, California, Florida, New Mexico, New York, and Ohio.

This report describes early findings from two City University of New York (CUNY) colleges, Borough of Manhattan Community College and Hostos Community College. Older (22-35 years), low-income students who required remediation were randomly assigned to a control group that received the colleges' standard financial aid package or to one of two program groups that were eligible to receive the scholarship in addition to their standard financial aid packages. The program offered awards of up to \$2,600 over two semesters or \$3,900 over two semesters *and* a summer semester for maintaining at least part-time enrollment, meeting attendance benchmarks, and earning at least a "C" average across six credits of courses.

The early findings suggest that the program encouraged students to enroll full time during the first and second semesters of operation. The modest effect on full-time enrollment is somewhat surprising, given that the program required only part-time enrollment. In addition, eligibility for a summer scholarship encouraged more students to enroll in and pass summer courses. Summer attendance may be an important step for nontraditional students, as it may help decrease the time needed to earn a degree or certificate.

While these findings are modest, the full story on the effectiveness of performance-based scholarships has yet to be told. A future report on these two colleges and the other demonstration sites will continue to build evidence about the value of this innovative way to deliver additional financial support.

Gordon L. Berlin
President

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We are grateful to Dr. Antonio Pérez, president of BMCC, and Dr. Sadie Bragg, Provost of BMCC, for allowing the study to take place on their campus and for providing staff and other support to the project. Howard Entin, the Director of Financial Aid at BMCC, served as the program site liaison and coordinator of the project for BMCC. Julia Meltreger and Jose Altamirano from BMCC's financial aid office supported program operations, administered payments to sample members, and provided payment data for the analysis. We would also like to thank Dr. Jane Lee Delgado, BMCC's Dean for Institutional Effectiveness and Strategic Planning, for her ongoing support of this project. At Hostos Community College, Dr. Deirdre Aherne, Assistant Dean of Student Development and Enrollment Management, served as the program site liaison to the project, and Hugo Monroy Caceres, former Student Services Assistant, served as the Hostos project coordinator. We received assistance accessing student transcripts for this analysis from Kimberly Gargiulo, Coordinator of Assessment, and Liza Adams, Institutional Analyst, at BMCC and from Dr. Richard Gampert, Director of Institutional Research and Student Assessment, at Hostos.

Many MDRC staff members have contributed to the PBS Demonstration and to this report. Robert Ivry, in addition to others inside and outside MDRC, developed the demonstration and provided valuable guidance on the study in New York. On the project team, we would like to recognize: Vanessa Martin for senior operations support; Amanda Grossman for operations support and resource management; Reshma Patel for data management; Sahil Raina, Mary Clair Turner, and Hannah Fresques for data processing; and Monica Cuevas and Katherine Morriss for research assistance and fact-checking. Thomas Brock, Dan Bloom, John Hutchins, and Charles Michalopoulos read several drafts of the report and provided invaluable feedback. Random assignment and baseline data collection would not have been possible without the hard work of Joel Gordon, Galina Farberova, and Shirley James and her staff in the data room. Susan Blank edited the report, and David Sobel prepared it for publication.

The Authors

Introduction

This report presents early results from a rigorous evaluation of a performance-based scholarship program for low-income adults in community college in New York City who require some remedial coursework.¹ The evaluation uses an experimental design, similar to those used in medical trials, to measure the effects of the program on academic success and persistence. Students who consented to participate in the study were randomly assigned to one of three groups:

1. A program group (known as the *PBS group*) that was eligible for a scholarship of up to \$1,300 each semester for two semesters (or up to \$2,600);
2. A second program group (called the *PBS plus summer group*) eligible for the above scholarship *and* a performance-based scholarship of up to \$1,300 for one consecutive summer term (or up to \$3,900 total); or
3. A control group eligible to receive whatever regular financial aid package for which the members qualified.

The three-group design permits the evaluation to examine whether additional summer support enhances the effects of the scholarship. The grants were paid *on top of any other financial aid awarded* so that they represent a net increase in financial aid. Scholarships were paid in increments to students who met attendance and grade benchmarks. By being structured around benchmarks and incremental payments, the grants acted as an incentive that rewarded behavior associated with academic success.

This program, which started in fall 2008, is part of MDRC's national Performance-Based Scholarship (PBS) Demonstration. The PBS Demonstration was launched in 2008 to evaluate whether performance-based scholarships are an effective way to improve persistence among low-income college students. Performance-based scholarships are need-based, contingent grants that are paid *in addition* to other existing financial aid programs. In other words, the intervention generally results in students receiving more money. The scholarships are paid to students based on their academic performance in the current term, regardless of what happened in previous terms. That is, students receive a payment in each term if they meet certain performance benchmarks in that term — and the award of the payment is independent of whether they received any performance-based scholarship payments in prior terms. The scholarships are designed to be paid directly to students rather than credited to their accounts with their college.

¹The terms “remedial” education and “developmental education” are used interchangeably throughout this report.

This permits students to use the funds for their most pressing needs, whether those needs are for books, car repairs, child care, or for other expenses that have the potential to disrupt studies.

Evidence from MDRC’s Study of Performance-Based Scholarships in Louisiana

The PBS Demonstration builds on the promising findings from MDRC’s Opening Doors study of performance-based scholarships in Louisiana. In that study, which operated from 2004 to 2005, two colleges implemented a performance-based scholarship program for low-income parents who were predominantly single mothers.² The program provided students with scholarships of up to \$1,000 for each of two semesters (up to \$2,000 per student in total), paid in increments based on each student’s success in meeting key benchmarks:³

- \$250 upon enrollment (at least half-time, defined as six or more credit-hours);
- \$250 after midterms, contingent upon staying enrolled at least half-time and earning a “C” average or better; and
- \$500 upon completion of courses, with a “C” average or better across all courses (overall, not per class).

Performance-based scholarships were distributed in addition to other financial aid for which students were eligible. The scholarships were designed to help offset some of the financial burdens of attending college, including living expenses, while also rewarding academic achievement. The Louisiana program also provided dedicated counselors who monitored students’ performance, verified that the benchmarks were met, and handed out scholarship checks to their students.

The early findings showed that this approach resulted in substantial improvements in scholarship recipients’ grades, credit accumulation, and semester-to-semester persistence.⁴ For example, compared with 50 percent of the control group students, 65 percent of the program group students registered for courses in their second semesters (for an increase of 30 percent).

²The Opening Doors Demonstration tested several interventions to improve student success at community colleges. See Scrivener and Coghlan (2011) for a synthesis of the findings from the various studies.

³The \$2,000 scholarship in Louisiana eliminated about 19 percent of unmet need. The scholarship payment in New York was calibrated to reflect the assumption that \$2,600 represents about 22 percent of the estimated unmet need for students living away from their parents.

⁴Brock and Richburg-Hayes (2006); Richburg-Hayes et al. (2009); Barrow et al. (2009). Unfortunately, the devastation inflicted by Hurricane Katrina has made it impossible to determine any longer-term effects of the program, such as its impact on transfer and graduation rates.

Moreover, these positive trends extended to the third and fourth semesters, when most students were no longer eligible to receive the scholarships. These effects are among the largest that have been detected in random assignment studies of programs designed to increase persistence among community college students.⁵

Background on the Performance-Based Scholarship Demonstration

While the Louisiana Opening Doors study is an important contribution to the literature because it is one of only a handful of studies that is able to measure the effect of additional financial aid on academic success, it is just one test.⁶ The positive findings could result from the location of the study in a state with few need-based resources or from the nature of the target group of low-income parents (who may be more mature and capable of utilizing the scholarship than other students) or from a combination of these two factors. The goal of the PBS Demonstration is to build more evidence about whether performance-based scholarships help at-risk students succeed academically and persist at higher rates than they normally would in the absence of such an intervention.

Currently, eight colleges and one intermediary organization across six states are participating in the PBS Demonstration: Two of the institutions are the subjects of this report — Borough of Manhattan Community College and Eugenio Maria de Hostos Community College (called Hostos College in the report) in New York. The other institutions in the demonstration are: Lorain County, Owens, and Sinclair Community Colleges in Ohio; the University of New Mexico; Pima Community College in Arizona; Hillsborough Community College in Florida, and a state-level intermediary in California. While the amount and duration of the scholarships, performance criteria, and target groups for the intervention vary among the programs, all programs offer an incentive scholarship designed to address the financial needs of low-income students that are not fully covered by existing federal and state financial aid programs.⁷

Each state intervention is being evaluated using random assignment. Random assignment ensures that the motivation and personal characteristics of students in the program group and the control group are the same at the beginning of each study; hence, any subsequent

⁵See Brock (2010) for a review of experimental and quasiexperimental evaluations of program interventions that target low-income college students.

⁶Factors that are associated with financial need, such as a low income, are also associated with a lack of academic success, making it difficult to isolate the effect of additional financial aid on student achievement. However, those nonexperimental analyses that have been conducted suggest a positive relationship between grant aid and persistence. See Bettinger (2004); Choy (2002); Dynarski (2003); and Leslie and Brinkman (1987). Two random assignment studies of financial incentives also suggest a positive relationship for a subgroup of students. See Angrist, Lang, and Oreopoulos (2009), and Leuven, Oosterbeek, and van der Klaauw (2006).

⁷See Richburg-Hayes et al. (2009) for an overview of the programs in each state.

differences in educational or other outcomes can be attributed with a high level of confidence to the PBS project. In this way, the demonstration is testing whether performance-based scholarships are an effective way to improve persistence in postsecondary education and success among low-income students in different geographic locations with different amounts of monies offered over different durations of time.

Recruitment for the New York study began in fall 2008 and ended in fall 2009. Slightly more than 1,500 students were recruited over the three semesters. Students' participation in the scholarship programs is now finished, but the research for the demonstration is still in progress. This report presents findings only for the fall 2008 and spring 2009 cohorts — in other words, students who were randomly assigned at the beginning of the fall or spring semesters. These cohorts account for about 60 percent (882 students) of the full sample. The remainder of this report provides additional background information on why the performance-based scholarship program in New York is worth testing, describes the implementation of the program at the New York colleges, and reports early impact findings.

The Policy Context for the New York Program

Over half of all students attending postsecondary institutions — about 55 percent — are adults aged 22 and older.⁸ Yet financial aid policy continues to best serve “traditional” students — 18 to 21-year-old high school graduates who are financially dependent on their parents and pursue degrees full time. As a result of financial aid regulations, adult students often have higher levels of unmet need than traditional students.⁹ This is in part because the federal aid calculations for independent students assume that even though they are now enrolled in college, their previous year's incomes will remain available throughout their courses of study. Further, adult students are expected to contribute a large proportion of their incomes toward their education despite other financial responsibilities they may bear — for example, the costs of caring for dependents or work expenses.¹⁰ In addition to these possible barriers to success, adult

⁸Snyder, Dillow, and Hoffman (2008), Table 183.

⁹The total cost of attendance includes tuition and fees, books, transportation, and room and board. Unmet need is the difference between the total cost of attendance, a family's estimated contribution toward the student's education, and awarded financial aid. Independent students typically have higher living expenses (including room and board) than traditional students. As a result, their total cost of attendance is higher.

¹⁰Independence may result in a higher Expected Family Contribution (EFC) — the amount the federal government estimates that a family is able to contribute to the expenses of higher education. Since the current financial aid system allocates a larger proportion of a student's income than the income of their parents toward college expenses, independent students can have higher EFCs than dependent students. Higher EFCs are associated with lower amounts of financial aid. Further, the EFC amount can change dramatically with small changes in income. This can be particularly problematic if a student receives a small raise. See Long (2007) and Choitz and Widom (2003).

students may face other financial hurdles unrelated to financial aid policy. For example, many adult students require remediation in math, English, or writing before attempting college-level work. Since developmental credits typically do not count toward a degree, the need for these courses increases the cost of education. Juggling these financial burdens can be difficult, particularly for low-income adult students — the very group most at risk of not persisting to complete a certificate or degree.¹¹

Why should one care about the education-related financial struggles of low-income adults? One important reason is related to current public policy goals designed to strengthen the U.S. economy and its human capital by greatly increasing the number of the nation’s community college graduates. For example, President Obama has articulated a goal of producing 5 million more graduates from community colleges by 2020, and major philanthropic foundations have endorsed similar increases. Given current demographic projections, these goals cannot be reached by targeting high school students alone. Moreover, higher education is associated with higher income, as college graduates earn substantially more than high school graduates. The New York performance-based scholarship program will provide needed information about whether this intervention works (or does not work) to increase graduation rates among low-income adults who are not fully prepared for college-level work.

Overview of Financial Aid for New York State Residents

The primary need-based financial aid program for college students in the United States is the federal Pell Grant program, which makes awards to students based on the cost of attendance at an institution minus the Expected Family Contribution (which takes into account available income and assets). From 2003 to 2007, the average Pell Grant award to students was just under \$2,500, and the maximum award was capped at \$4,310.¹² Under the Health Care and Education Reconciliation Act of 2010, the maximum award will be tied to increases in the Consumer Price Index and will increase to \$5,975 by 2017.¹³

In addition to the federal Pell Grant, many states provide need-based grants to state residents who attend postsecondary institutions within the state. New York State’s Tuition Assistance Program (TAP) — among the most generous state-funded financial aid programs in the country — provides up to \$5,000 in financial aid to eligible students, though the actual grant award cannot exceed the amount of tuition and fees.¹⁴ The program requires that students

¹¹Kazis et al. (2007).

¹²Shaw (2007).

¹³Congressional Research Service (2010).

¹⁴The income limit is \$80,000 for married independent students or independent students with dependents, and the maximum TAP award is \$5,000 or 100 percent of tuition. For single independent students without dependents, the maximum TAP award is \$3,025 or 100 percent of tuition, and the income limit is \$10,000.

matriculate full time during the freshman year in order to be eligible for a full-time or part-time grant in subsequent terms.¹⁵

The Pell Grant program and TAP provide the foundation of need-based aid for New York residents attending postsecondary institutions in the state. However, for several reasons adult students have substantially average lower TAP payments than traditional students.¹⁶ First, most adult students work full time to support themselves, and this full-time work places them in a bind: Their earnings prevent them from getting the maximum amount of TAP available and yet their earnings are insufficient to cover the full cost of their education.¹⁷ Second, many adult students attend college part time, which results in significantly lower grant amounts. Finally, TAP, which provides six semesters of support for an associate's degree and eight for a bachelor's degree, often runs out for students needing high levels of remediation before they are able to complete a two-year or four-year degree.¹⁸ This is particularly problematic for adult students requiring remediation who can only attend school part time. (See Box 1 for an illustration.)

Performance-Based Scholarships in New York

The Colleges

This study was implemented at Borough of Manhattan Community College (BMCC) and Hostos Community College, which are both part of the City University of New York (CUNY) system. BMCC is one of the largest community colleges in the CUNY system. In 2007, it served about 18,462 students, who hailed from all five boroughs of New York City and the adjacent suburbs of New Jersey. BMCC's student body is diverse, without a racial or ethnic majority, though black and Hispanic students each represent about one-third of the student population. (See Table 1.) Hostos, located in the Bronx, is a smaller institution; in 2007 it served about 4,400 students. As also shown in Table 1, Hispanic students represent a little more than half of the college's student population.

¹⁵To be eligible for Part-Time TAP, part-time students must have been a first-time freshman in the 2006-2007 academic year or later, must have earned 12 credits or more in each of two consecutive semesters, and must maintain a "C" average.

¹⁶For TAP eligibility requirements, see New York State Higher Education Services Corporation (2009). See, also, notes 14 and 15 above for information on income limits, maximum TAP awards, and eligibility requirements for part-time students.

¹⁷Kazis et al. (2007).

¹⁸Hilliard (2007).

Box 1

Average Expenses for BMCC Students and Maximum Available Need-Based Financial Aid, Academic Year 2007-2008

A low amount of financial aid is often a barrier to academic success and persistence for low-income adults because it results in high levels of unmet need. Unmet need is calculated as follows: *(total cost of attendance + family's estimated contribution) – awarded financial aid.*

The table below illustrates how limitations on financial aid affect adult students: As the table shows, tuition and fees at Borough of Manhattan Community College (BMCC) totaled \$3,068 during the 2007-2008 academic year, while the average cost of books and supplies was \$938. However, the total cost of attendance for independent students living away from their parents was \$16,396 because of the students' relatively high living expenses (an average of \$12,390).

For single independent students with children, the maximum New York State Tuition Assistance Program (TAP) award would have been \$3,068 in the 2007-2008 academic year — the amount of tuition and fees. However, most older students would have received far less than this amount because they often would have started college part time or would have interrupted their studies at some point. Even if such students were allotted the maximum TAP award and the maximum Pell Grant amount of \$4,310 (the maximum amount in the 2007-2008 academic year), they would have been left with upwards of \$9,018 in uncovered expenses. This large gap between need and financial support is fairly common among low-income adults attending community college.

Expenses and Financial Aid at BMCC, 2007-2008

Category	Amount
Total cost (\$)	16,396
Tuition and fees	3,068
Books and supplies	938
Living expenses	12,390
Maximum need-based financial aid (\$)	7,378
Maximum TAP	3,068
Maximum Pell Grant	4,310
Uncovered expenses ^a (\$)	9,018

SOURCES: Data are taken from the Integrated Postsecondary Education Data System (IPEDS). Financial aid data are the authors' calculation. The source for the calculation in note a, below, is <http://www.finaid.org/calculators/faaefc.phtml> (accessed January 17, 2011).

NOTES: ^aThe illustration does not include an estimated amount for Expected Family Contribution (EFC). Assuming that the student is independent of his or her parents, has a child, and has income at least 1.5 times the poverty threshold for a family of two in 2008 (income of \$22,260), the EFC would be about \$774. The unmet need equals the uncovered expenses (\$9,018) minus the EFC, or \$8,244.

The Performance-Based Scholarship Demonstration

Table 1

**Selected Characteristics of Colleges Participating in the Performance-Based
Scholarship Demonstration in New York**

Borough of Manhattan and Hostos Community Colleges

Characteristic	BMCC	Hostos
Total students	18,462	4,416
Enrollment (%)		
Full time	63.0	65.2
Part time	37.0	34.8
Gender (%)		
Male	40.3	28.6
Female	59.7	71.4
Age ^a (%)		
Under 25 years	66.0	58.4
25-29 years	16.1	16.0
30 years and over	17.9	25.6
Race/ethnicity (%)		
Hispanic	31.2	55.0
White	13.8	2.5
Black	33.7	28.3
Asian or Pacific Islander	11.0	2.7
Other ^b	10.3	11.5

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS).

NOTES: Data on undergraduate degree-seeking students are from fall 2007. Missing values are not included in individual variable distributions.

Distributions may not add to 100 percent because of rounding.

^aData on age are based on the entire undergraduate student population.

^bIncludes nonresident aliens, American Indians, and Alaskan Natives.

Target Population

The New York study was designed to help low-income adults who require some developmental course work. Specifically, in order to be included in the demonstration’s target population, students who entered the study had to:

- Be between the ages of 22 and 35
- Be living away from their parents
- Be eligible for a federal Pell Grant

- Have tested into (and not yet passed) at least one developmental/remedial course
- Be enrolled in at least six credit or contact hours at study intake

These criteria, along with the requirements of TAP, largely ensure that students in the demonstration's study sample had among the highest levels of unmet need of students in their colleges.

Program Model

All program group students were eligible for the scholarship of up to \$1,300 for two consecutive semesters (excluding summer), for a total of up to \$2,600.¹⁹ The scholarship was paid *directly* to students in increments as the student met three key benchmarks:

- **Initial:** \$200 after registration (the first benchmark)²⁰
- **Midterm:** \$450 upon continued midsemester enrollment (the second benchmark)²¹
- **Final:** \$650 after receiving a grade of "C" or better (or a Pass in remedial courses) in at least six credits or equated credits²² (the third and final benchmark)

The first and second payments are designed to offer an incentive to maintain a minimum level of attendance, while the last payment is designed to offer an incentive for performance. In an effort to reward progress, the program allows students who miss the midterm payment to recoup that payment at the end of the semester if they meet the final performance benchmark. Also, as noted, eligibility for a scholarship in the subsequent semester is independent of performance during the previous semester. Thus, students have a new opportunity to earn the scholarship each semester.

¹⁹Financial aid regulations prohibit certain students from receiving financial aid in excess of their need. In these instances, federal work-study aid or loans may be displaced for the performance-based scholarship. Given the high levels of unmet need among the target group, less than 1 percent of students were affected by these regulations.

²⁰In order to receive the initial payment, each student had to have paid his or her tuition or established payment plan. As a result, the demonstration's definition of registration is more stringent than the usual definition, since students who have reached the point of paying or establishing a payment plan are more likely to attend classes than students who have only registered for classes.

²¹Students received this payment if they attended at least once in the first three weeks and at least once during the fourth or fifth weeks of the semester.

²²Equated credits are awarded in remedial courses. These credits do not count toward a degree or certificate.

Box 2

PBS Group Versus PBS Plus Summer Group

The Opening Doors Louisiana study shows that the performance-based scholarship program increased academic persistence. However, findings from the study also revealed that the increase in persistence was not constant across cohorts. (The term “cohort” refers to a group of students randomly assigned during a particular semester.) For example, the results suggest that the impact was largest when the second semester occurred in the summer — a term considered by some to be a nontraditional semester and one that students often bypass. While the results suggest that paying for persistence may go further if pay is granted for summer attendance, they are not definitive. This is because the effect of summer attendance cannot be cleanly disentangled from the effect of the payment in the Louisiana study. That is, larger impacts in summer are mainly evident when summer is the second (scholarship-eligible) semester. In the cases in which summer was not the second semester, results were mixed. Thus, the effect of the summer attendance cannot be cleanly disentangled from other possible effects associated with whether the payment was the second in a sequence.

Because the mechanism driving the large impacts during the summer semester in Louisiana is unclear, the New York study was designed to analyze directly whether the effects of the intervention are enhanced by offering funding for summer attendance. This was done by randomly assigning half of the program group to receive up to a \$2,600 grant over two semesters and half to receive up to a \$3,900 grant over two semesters *and* a summer term. By including a bonus for summer attendance to all cohorts (independent of whether summer was the cohort’s second semester), the three-way design allows researchers to determine whether additional funding for summer attendance greatly enhances the effect of the scholarship.

Encouraged by the compelling findings on summer attendance from the Louisiana program, researchers incorporated a summer component into the model used for the New York performance-based scholarship. (See Box 2 for more information.) In order to test the effect of the scholarship on summer attendance, half of the program group was randomly assigned to be eligible for an additional \$1,300 during the summer semester, for a total scholarship amount of up to \$3,900 across three semesters. Given that summer sessions are shorter than a regular semester, the summer disbursement schedule differed slightly from the schedule for a regular semester just outlined.

Another difference between the structure of the scholarships for regular and summer semesters is that part-time status during summer sessions was met when students took at least three credits, rather than the six credits that are required for part-time status during fall and spring terms. In addition, unlike the scholarships for the regular semesters, the summer scholar-

ships varied in amount depending on whether they were for part-time or full-time work. During the summer, eligible program group students were paid if they met the following benchmarks:

- **Initial:** \$200 after registration and
- **Final:**
 - *Part-time benchmark:* \$450 after receiving a grade of “C” or better (or a Pass in remedial courses) in three to five credits or equated credits²³

OR

- *Full-time benchmark:* \$1,100 after receiving a grade of “C” or better (or a Pass in remedial courses) in at least six credits or equated credits.

Implementation of PBS

The process for implementing the PBS program at both BMCC and Hostos had three phases — inviting students to participate, enrolling students into the program, and monitoring students’ progress and the disbursement of scholarships. (Figure 1 shows the basic random assignment process associated with enrollment.) For all of these activities, BMCC and Hostos designated staff to manage and implement the program. At BMCC, the Director of Financial Aid was responsible for the oversight of all aspects of program implementation, while at Hostos, the Assistant Dean for Student Development and Enrollment Management managed the recruitment and enrollment process, and the Director of Financial Aid managed the monitoring and payment process. In addition to the senior staff who had overall management responsibilities, both colleges had coordinators who were responsible for the day-to-day implementation of their projects.

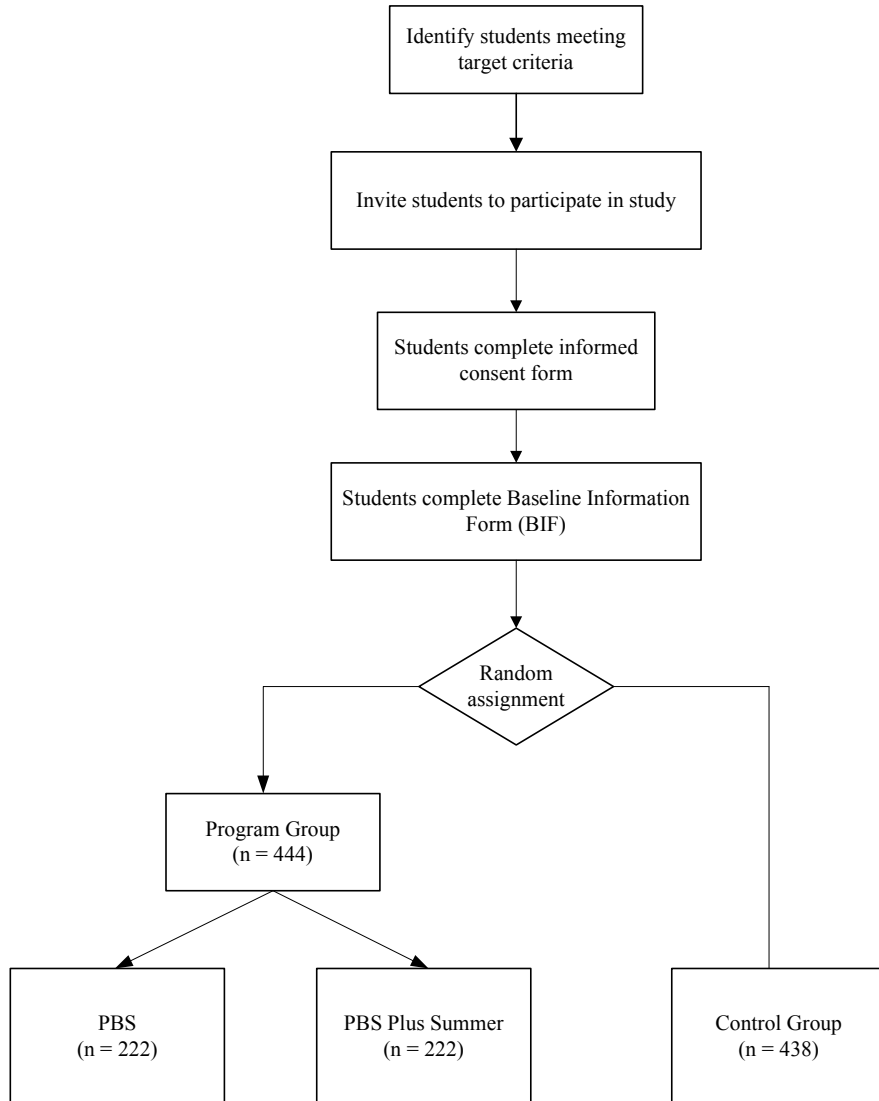
The staff at BMCC and Hostos committed to a systematic recruitment plan, which included mailing invitation letters to all students known to meet the eligibility criteria, creating an online reservation system, and conducting follow-up phone calls to students to encourage them to attend an orientation session to hear about the study and then to enroll in it. This recruitment effort was very successful at both colleges.

²³The total amount a student could receive for three credits in the summer is half the full amount that could be received for six credits.

**The Performance-Based Scholarship Demonstration
Basic Random Assignment Process for the Demonstration in New York**

Figure 1

Borough of Manhattan and Hostos Community Colleges



In collaboration with MDRC, each college also developed an effective process for enrolling students in the study. The process began with a presentation, which was followed by a question-and-answer period, and it ended with students completing an online survey, which asked them for basic demographic information and other basic information, for the research.

MDRC then randomly assigned students to the program group that was eligible to receive the performance-based scholarship or to the control group that received whatever financial aid package members would have received in the absence of the program. In response to concerns of college staff that randomly assigning students at the orientation sessions could result in strong emotional responses (since some students would be given an opportunity to earn a scholarship, while others would not), random assignment was conducted after the sessions. Shortly after random assignment, students were mailed letters informing them of the research group to which they had been assigned.

BMCC and Hostos staff monitored the progress of program group students to determine whether the students were eligible to receive payments based on each benchmark. Staff at both schools paid close attention to the payment process and were careful to note when students missed payments due to ineligibility. Given that the New York program did not have a counseling component, the scholarship payment staff restricted their interactions with students to answering questions related to financing their educations — for example, questions about when payments would be received or about what other financial aid options were available to students in the event that they did not meet the scholarship benchmarks.²⁴

Data Sources

Several data sources were used for the analyses presented in this report. First, as shown in Figure 1 and mentioned above, students completed a baseline questionnaire that asked them for demographic and other background information before they were randomly assigned to the program or control groups. Baseline data are used to describe the sample, and in future reports these data may be used to make statistical adjustments and define subgroups of sample members. Second, MDRC obtained performance-based scholarship payment records from BMCC and Hostos. Findings on the scholarship payments are presented to describe program implementation. Finally, BMCC and Hostos provided student-level transcript data for the sample members in the study. These data, which encompass measures like enrollment status, credits at-

²⁴Given that the scholarship program at BMCC was completely managed by the financial aid office, students were not likely to receive any additional guidance or counseling related to the program. There is suggestive evidence that students at Hostos received additional ad hoc advising, since the coordinator was part of the student services division.

tempted and earned, and grade point averages (GPAs), were used to provide a detailed look at sample members' performance in college.

Characteristics of the Performance-Based Scholarship Sample

This report presents the early findings for the first two cohorts of the research sample — the fall 2008 cohort and the spring 2009 cohort, which together comprise about 60 percent of the full sample of students in the New York sites (882 students out of the full sample of 1,502).²⁵ About half of these students were in the program group and half in the control group. As discussed, in addition to being eligible for the two-semester scholarship, about half of the program group was randomly selected to be eligible for a summer scholarship.

Table 2 presents the demographic characteristics of the students who enrolled in the PBS study at BMCC and Hostos for the fall 2008 and spring 2009 semesters. The first column shows characteristics for the full sample, and the subsequent columns present this information separately for each college.

The sample at both colleges was primarily female. About half of the sample was between the ages of 22 and 26 and the majority was unmarried (75.3 percent). Almost half of the sample members had one or more children.

Nearly all of the PBS sample members were financially independent of their parents. Slightly more than half of the sample members were working at the time they enrolled in the study. Of those who were working, about two-thirds worked an average of 21 or more hours per week. When asked why they enrolled, about half of the sample members said they wanted to earn an associate's degree, and 45.2 percent wanted to transfer to a four-year college (93.7 percent gave one or more of these responses; this finding is not shown in the table). Close to a third of the sample members said that they were the first person in their family to attend college.

While the samples at both colleges shared many similarities, there are also some characteristics that make the samples distinct. At Hostos, nearly 72 percent of sample members were Hispanic, and almost 80 percent reported that they regularly spoke a language other than English in the home. Compared with the Hostos sample, the sample at BMCC had students who

²⁵In this study, students were randomly assigned just prior to the start of a semester and were then considered to be part of that semester's cohort. In other words, a student randomly assigned near the start of the fall 2008 semester would be considered a member of the fall 2008 cohort.

The Performance-Based Scholarship Demonstration

Table 2

Selected Characteristics of Sample Members at Baseline, by Site,
Fall 2008 and Spring 2009 Cohorts

Borough of Manhattan and Hostos Community Colleges

Characteristic	Full Sample	BMCC	Hostos
Gender (%)			
Male	30.8	33.2	18.6
Female	69.2	66.8	81.4
Age (%)			
22-26 years	54.8	56.9	43.6
27-30 years	26.1	25.5	29.3
31 years and over	19.2	17.7	27.1
Average age (years)	26.7	26.6	27.5
Marital status (%)			
Married	17.0	15.4	25.7
Unmarried	75.3	77.2	65.0
Missing	7.7	7.4	9.3
Race/ethnicity ^a (%)			
Hispanic	43.9	38.5	71.9
White	7.1	8.3	0.7
Black	37.1	39.4	25.2
Asian or Pacific Islander	9.2	10.7	1.4
Other	2.7	3.1	0.7
Number of children (%)			
0	52.1	54.3	39.9
1	25.7	25.0	29.7
2	14.3	13.5	18.8
3 or more	7.9	7.2	11.6
Among sample members with children			
Average age of youngest child (years)	4.3	4.2	4.5
Household receiving any government benefits (%)	35.8	33.8	46.4
Missing	12.1	12.1	12.1
Financially dependent on parents (%)	1.4	1.2	2.1
Missing	5.4	4.4	10.7
Currently employed (%)	56.8	56.7	57.4

(continued)

Table 2 (continued)

Characteristic	Full Sample	BMCC	Hostos
<i>Among those currently employed</i>			
<i>Number of hours worked per week in current job (%)</i>			
<i>1-10 hours</i>	6.7	6.4	8.1
<i>11-20 hours</i>	24.4	23.4	29.7
<i>21-30 hours</i>	21.0	20.0	27.0
<i>31-40 hours</i>	44.8	47.0	32.4
<i>More than 40 hours</i>	3.1	3.2	2.7
<i>Average hourly wage at current job (\$)</i>	11.2	11.4	10.5
<i>Highest grade completed (%)</i>			
10th grade or lower	16.9	17.1	15.7
11th grade	12.9	12.8	13.6
12th grade	64.9	65.2	62.9
Missing	5.3	4.9	7.9
<i>Diplomas/degrees earned^b (%)</i>			
High school diploma	64.1	64.4	62.5
General Educational Development (GED) certificate	34.5	34.1	36.8
Occupational/technical certificate	13.7	13.9	12.5
Associate's degree or higher	2.2	1.8	4.4
None of the above	2.3	2.6	0.7
<i>Date of high school graduation/GED receipt (%)</i>			
During the past year	4.9	4.9	5.0
Between 1 and 5 years ago	28.3	29.1	24.3
Between 5 and 10 years ago	37.2	36.7	40.0
More than 10 years ago	21.1	21.0	21.4
Missing	8.5	8.4	9.3
<i>Main reason for enrolling in college^b (%)</i>			
To complete a certificate program	2.5	1.9	5.9
To obtain an associate's degree	49.8	49.4	52.2
To transfer to a 4-year college/university	45.2	45.7	42.6
To obtain/update job skills	3.1	3.1	2.9
Other	2.0	1.8	2.9
First person in family to attend college (%)	31.1	30.3	35.3
Language other than English spoken regularly in home (%)	52.6	47.6	79.3
Sample size	882	742	140

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

NOTES: Characteristics shown in italics are calculated for a proportion of the full sample.

Missing values are only included in variable distributions for characteristics with more than 5 percent of the sample missing.

Distributions may not add to 100 percent because of rounding.

^aRespondents who said they are Hispanic and chose a race are included only in the Hispanic category.

Respondents who are not Hispanic and chose more than one race are considered multiracial. "Other" includes American Indian /Alaskan Native, multiracial, and other.

^bDistributions may not add to 100 percent because categories are not mutually exclusive.

were less likely to be married (15.4 percent married versus 25.7 percent at Hostos) and who were more likely to have no children (54.3 percent versus 39.9 percent at Hostos).

The research sample should not be considered representative of the broader student bodies at BMCC and Hostos, whose characteristics are shown in Table 1. As discussed, the research sample consists only of low-income students who were between the ages of 22 and 35, living away from their parents, and in need of one or more developmental education requirements at the time of random assignment. A comparison of the research group with the universe of students meeting these target criteria is planned for a future report, after study intake is complete.

Appendix Table 1 shows the same demographic characteristics as those reported in Table 1 for the full sample, program group, and control group. An asterisk in the last column of the table indicates that the percentage of program group members with that characteristic is significantly different from the percentage of control group members. There are a handful of differences between the two research groups, but no more than would be expected to occur randomly.²⁶

Patterns of Scholarship Receipt

A key implementation question is: What percentage of students in the program group earned the scholarship? Table 3 attempts to answer this question by presenting scholarship take-up rates for the first and second program semesters and first summer term.²⁷

Since students were already registered for six or more credits when they entered the study, it was expected that nearly all program group students would receive the first two payments of the first program semester. In fact, 99.3 percent and 96.8 percent did receive the first and second payments, respectively. Close to 70 percent met the benchmark at the end of the

²⁶An omnibus test was conducted to assess whether overall systematic differences in baseline characteristics were observed between the two research groups. The model's likelihood ratio test yielded a p-value of 0.44. Convention suggests that this probability is large enough such that these potential differences can be ignored in the analyses. In addition, characteristics of the PBS and PBS plus summer groups were compared. The omnibus test yielded a p-value of 0.81.

²⁷In this report, outcomes are presented for the first and second semesters that each sample member was in the study (called the "first program semester" and the "second program semester"). For example, for the fall 2008 cohort, the first program semester is fall 2008 and the second program semester is spring 2009. For the spring 2009 cohort, the first program semester is spring 2009 and the second program semester is fall 2009. As of the writing of this report, only partial information, such as enrollment data, is available for the second program semester. In addition to outcomes presented for the first and second semesters that each sample member was in the study, outcomes are shown for the first ensuing summer term — which for the students covered in this report was summer 2009.

The Performance-Based Scholarship Demonstration

Table 3

**Scholarship Receipt Among Program Group Members,
Fall 2008 and Spring 2009 Cohorts**

Borough of Manhattan and Hostos Community Colleges

Outcome	Program Group
<u>PBS and PBS Plus Summer</u>	
First program semester	
Received one or more scholarship payments (%)	99.3
Received initial payment	99.3
Received midterm payment	96.8
Received final payment	69.4
<i>Average scholarship amount (\$)</i>	<i>1,093</i>
Second program semester	
Received initial scholarship payment (%)	80.4
<hr/>	
Sample size	444
<u>PBS Plus Summer only</u>	
First summer term	
Received one or more scholarship payments (%)	34.7
Payment for enrolling in courses	30.2
Payment for participating in summer immersion program	4.5
Received initial payment	34.7
Received final payment	27.9
Received full-time scholarship	12.6
Received part-time scholarship	15.3
<i>Average scholarship amount (\$)</i>	<i>799</i>
<hr/>	
Sample size	222

SOURCE: MDRC calculations from Borough of Manhattan Community College and Hostos Community College scholarship payment data.

NOTES: Characteristics shown in italics are calculated for a subset of the full sample.

During the first program semester, 1 percent of the sample did not receive the initial and/or the midterm payment on the scheduled date, but recouped the appropriate payments at the end of the semester. In addition, 1 percent of the sample did not receive the full amount "earned" because the sample members owed an outstanding balance to the college. In this table, these sample members are counted as having received each of these payments.

semester and received the final payment, earning the full \$1,300. This suggests that while participation in the program during the first semester was quite high, a sizeable portion of the sample (about 30 percent) failed to earn the full scholarship amount. However, a strong majority (approximately 80 percent) of the program group members enrolled in six or more credits the following semester, earning them the initial payment for the second program semester.

The bottom panel of Table 3 shows that about a third of the PBS plus summer group received an initial payment of \$200. Students were eligible for a summer scholarship if they enrolled in three or more credits or participated in the colleges' summer immersion programs. These programs are designed to help students complete their developmental education requirements by offering them intensive workshops or tutoring. At the end of the programs, students are able to retake the CUNY placement exams. While there are no credits associated with the workshops or tutoring, a credit hour proxy was assigned to each of these activities based on the requirement that it was trying to fill. The proxy was used to make the part-time or full-time scholarship determination.

It is important to note that the majority of PBS plus summer group members did not enroll in courses or the summer immersion program, essentially leaving the summer scholarship money on the table. Many sample members may not have been able to take advantage of this offer because of competing family and work responsibilities. As noted, about half of the research sample consists of parents — and some of these parents may not have child care during the summer. Also, work schedules may not have permitted students to take one or more summer courses, especially since these courses, with their compressed time frames, typically require more hours per week than regular courses. For example, summer courses at BMCC and Hostos can require two or three times as many in-class hours per week as the same courses offered during the fall or spring semesters.

Most of the members of the PBS plus summer group who earned the initial payment also received the final payment. As shown in Table 3, almost 35 percent of the members of the PBS plus summer group earned the initial payment, while almost 28 percent of that same group received the final payment: About 13 percent of members of the PBS plus summer group received the remainder of the *full-time* scholarship, giving them a total of \$1,300 for the summer. The rest of those who received the final payment (or about 15 percent of members of the PBS plus summer group) earned the final *part-time* scholarship payment, giving them a total of \$650 for the summer.

An Early Look at Program Impacts

As discussed, a key goal of the PBS Demonstration is to test whether performance-based scholarships help students perform better in college. During the first program semester,

the scholarship may have induced program group members to complete more credits and earn higher GPAs than control group members. There may also have been increases in persistence in the second program semester, as well as an increase in credit accumulation. This section presents impacts on these early academic outcomes that might have been affected by the program.

First Program Semester

The top panel of Table 4 shows the results for the first program semester. The first column of the table shows outcomes for the program group, the second column shows outcomes for the control group, and the third column shows the difference between the two groups, or the impact of the program. The asterisks are used to designate differences that are statistically significant, or not likely due to chance. The last column shows the standard error of the impact estimate.

During the first program semester, nearly all members of both the program and control groups registered for one or more courses. This is not surprising because registering for at least six credits was one of the eligibility criteria for random assignment.

As shown in the second row of Table 4, members of the program group were more likely to be enrolled full time (taking 12 or more credits) than control group members — 76.4 percent versus 70.8 percent — yielding a statistically significant 5.6 percentage point difference. This difference was somewhat unexpected since the students in both groups had created their schedules before they entered the study. Part of this impact might have been driven by students in the program group deciding to add an extra course or choosing to keep a course they might have otherwise dropped — with the extra money from the scholarship permitting them to pay for an additional course or to work fewer hours, freeing up more time for school. Program group students may have also thought there was an advantage to enrolling in more credits to increase their odds of earning six credits with the required grade of “C” or better.

However, for about half of the sample, the impact on full-time enrollment rates is very likely attributable to factors others than the ones just mentioned. This is because approximately half of all sample members were not informed whether they were in the program or control groups — and thus not informed about whether they would or would not be eligible for the performance-based scholarship — until after the add/drop period had ended. Researchers will continue to examine this outcome in a future report that will draw on enrollment data for the full sample.

Tied to the increase in full-time enrollment, the program group, on average, attempted 0.5 more credits than the control group. Importantly, the program group also earned 0.6 credits more than the control group — an outcome that suggests that program group members were

The Performance-Based Scholarship Demonstration

Table 4

Academic Outcomes Among Sample Members: First and Second Program Semesters, Fall 2008 and Spring 2009 Cohorts

Borough of Manhattan and Hostos Community Colleges

Outcome	Program Group	Control Group	Difference	Standard Error
<u>First program semester</u>				
Enrolled as of semester end (%)	95.7	95.7	0.1	1.4
Full time ^a	76.4	70.8	5.6 *	3.0
Part time ^b	18.7	24.7	-6.0 **	2.8
Average number of credits attempted	12.5	12.1	0.5 *	0.3
Regular credits	7.9	7.6	0.3	0.3
Developmental credits	4.6	4.5	0.1	0.3
Average number of credits earned	8.6	8.1	0.6 *	0.3
Regular credits	6.3	5.9	0.4	0.3
Developmental credits	2.3	2.2	0.2	0.2
Number of credits earned (%)				
12 or more	36.3	31.5	4.7	3.2
6 to less than 12	39.4	41.8	-2.4	3.3
0 to less than 6	24.3	26.7	-2.4	2.9
Term GPA (%)				
3.0 to 4.0	36.9	38.6	-1.6	3.3
2.0 to 2.9	31.1	28.3	2.8	3.1
Less than 2.0	20.5	20.3	0.2	2.7
No GPA ^c	11.5	12.8	-1.3	2.2
Withdrew from any courses (%)	19.8	22.1	-2.3	2.7
Number of course withdrawals	0.3	0.3	0.0	0.0
<u>Second program semester</u>				
Enrolled as of semester end (%)	77.5	76.2	1.2	2.8
Full time ^a	59.9	52.5	7.4 **	3.3
Part time ^b	15.8	21.9	-6.1 **	2.6
Average number of credits attempted	9.8	9.3	0.6	0.4
Regular credits	7.4	7.0	0.4	0.3
Developmental credits	2.4	2.3	0.1	0.2
Sample size (total = 882)	444	438		

(continued)

Table 4 (continued)

SOURCE: MDRC calculations from Borough of Manhattan Community College and Hostos 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 college.

Students who dropped or withdrew from all of their courses are not considered registered. Their credits and grades are not included in the outcomes shown in this table.

A few regular courses have excess "compensatory credits" associated with them. These credits are used to calculate total credit hours, but do not count toward a degree. In this table, compensatory credits are included in the developmental credits category and make up less than 1 percent of those credits.

^aFull-time enrollment is defined as 12 or more credits.

^bPart-time enrollment is defined as 6 credits to less than 12 credits.

^cThe "No GPA" category includes students who are not enrolled and students who took only noncredit remedial courses, which are not included in GPA calculations.

able to manage their increased workloads. Both the difference in the average rates of credits attempted and the difference in the average number of credits earned were statistically significant.

An expected outcome of the program was an increase in term GPA. At this point, there was no significant difference between the program and control groups on this measure.

One question about the performance-based scholarship is whether it would encourage program group members to withdraw from courses at differing rates from those of control group members. It is plausible that some students in the program group would have devised strategies for earning the scholarship that would alter their course loads — for example, taking more courses to hedge their bets or withdrawing from some courses in order to focus their energies on fewer courses. However, the scholarship did not appear to influence the rate of withdrawal for the first two cohorts, since about the same proportion (less than a quarter) of both the program group and the control group withdrew from one or more courses.

Second Program Semester

The second panel of Table 4 presents registration information for the second program semester. Grade information for this semester was not available at the time of this writing.

As shown in the table, just under 80 percent of both groups registered for one or more courses; thus, the enrollment rates for the two groups were essentially the same. But as also shown in the table, the program group was more likely to enroll full time. There is a statistically significant difference of 7.4 percentage points, which represents a 14 percent increase in full-time enrollment.

First Summer Term

As mentioned, half of the program group members were eligible to receive a summer scholarship. To understand how adding a summer scholarship might have influenced a student's summer course-taking patterns and academic performance, an analysis was conducted to look at these outcomes separately for those in the PBS plus summer, PBS, and control groups. The results are presented in Table 5. Because this analysis is based on half of the report sample (the first two cohorts) and is broken down into three groups, the sample sizes are quite small and findings should be interpreted with caution.

The first three columns of this table present average outcome levels for the three research groups: the PBS plus summer group, the PBS group, and the control group. These columns are followed by columns that present comparisons of outcomes for these three groups. Each comparison answers a specific question. Comparing outcomes for the PBS plus summer group and the control group addresses the question: *What were the effects of a combined regular-year and summer scholarship program on summer semester attendance?* Comparing outcomes for the PBS group and the control group helps to answer the question: *What were the effects of a regular-year scholarship by itself on summer attendance?* Finally, comparing the PBS plus summer group and PBS group outcomes addresses the question: *What were the added effects of the summer scholarship on summer attendance?*

The first comparison looks at the PBS plus summer group versus the control group. About 28 percent of the PBS plus summer group registered for summer courses compared with 19.6 percent of the control group, yielding a statistically significant difference of 7.8 percentage points. This represents a 40 percent increase in summer enrollment. There is also a significant difference of about half a credit on credits attempted and earned.

The second comparison looks at the PBS group versus the control group. There are no statistically significant differences between outcomes for these groups during the first summer term. The final comparison presents the differences between the PBS plus summer and PBS groups, and again there are some significant differences between outcomes for the PBS summer group and outcomes for the comparison group — which in this case is the PBS group. Members of the PBS plus summer group enrolled at higher rates and attempted more credits than members of the PBS group. The impact on enrollment for these two groups is 6.7 percentage points, which is a 32 percent increase in rates of summer enrollment.

This analysis suggests that offering a summer scholarship can increase summer enrollment rates and the number of credits earned. However, if no scholarship for summer school is offered, earning a performance-based scholarship during the fall and/or spring semesters does not appear to have an effect on school attendance during the summer. These outcomes will be further examined in a future report that covers the full sample for the New York program.

The Performance-Based Scholarship Demonstration

Table 5

Academic Outcomes Among PBS, PBS Plus Summer, and Control Groups: First Summer Term, Fall 2008 and Spring 2009 Cohorts
Borough of Manhattan and Hostos Community Colleges

Outcome	Average Outcome Levels				PBS Plus Summer vs. Control		PBS vs. Control		PBS Plus Summer vs. PBS		
	PBS Plus Summer	PBS	Control Group	Difference	Standard Error	Difference	Standard Error	Difference	Standard Error	Difference	Standard Error
Enrolled as of term end	27.5	20.7	19.6	7.8 **	3.4	1.1	3.4	6.7 *	3.9		
Average number of credits attempted	1.6	1.1	1.1	0.5 **	0.2	0.1	0.2	0.5 *	0.2		
Regular credits	1.3	0.9	0.9	0.4 **	0.2	0.0	0.2	0.4 *	0.2		
Developmental credits	0.3	0.2	0.2	0.1	0.1	0.0	0.1	0.1	0.1		
Average number of credits earned	1.4	1.0	0.9	0.4 **	0.2	0.1	0.2	0.4	0.2		
Regular credits	1.2	0.9	0.8	0.4 **	0.2	0.1	0.2	0.3	0.2		
Developmental credits	0.2	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.1		
Number of credits earned (%)											
6 or more	11.3	8.6	7.5	3.7	2.3	1.0	2.3	2.7	2.7		
3 to less than 6	14.4	10.8	9.4	5.1 *	2.6	1.5	2.6	3.6	3.0		
0 to less than 3	74.3	80.6	83.1	-8.8 ***	3.3	-2.5	3.3	-6.3 *	3.8		
Sample size (n = 882)	222	222	438								

SOURCE: MDRC calculations from Borough of Manhattan Community College and Hostos 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 college.

Students who dropped or withdrew from all of their courses are not considered enrolled. Their credits and grades are not included in the outcomes shown in this table. A few regular courses have excess "compensatory credits" associated with them. These credits are used to calculate total credit hours, but do not count toward a degree. In this table, these compensatory credits are included in the developmental credits category and make up less than 1 percent of those credits.

Conclusion and Next Steps

This early look at the PBS demonstration in New York suggests that the program had a few modest effects, including increased full-time enrollment during both program semesters and increased credit attainment in the first program semester. The summer scholarship had a sizeable impact on rates of summer registration and credits earned. Given the limited follow-up period for this report, it will be interesting to see whether these early differences translate into long-term academic gains, such as higher rates of persistence and faster progress toward degree attainment.

A research report of longer-term findings will be released in early 2012. The report will contain findings from an implementation study, the impact study, and a cost study. The implementation study will describe how the performance-based scholarship program operates, identify promising recruitment strategies and other best practices, and capture the experiences and insights of students and administrators by analyzing information from focus groups and interviews. The impact study will extend the analyses presented in this report by looking at outcomes from the full sample and evaluating alternative explanations for the findings using data from administrative records (including data on patterns of student retention and credit accumulation, and on graduation and transfer rates) and from a student survey that will cover such topics as time spent studying, motivation, and use of scholarship monies. The cost study will provide a systematic analysis of the cost of operating the program.

Appendix A

Selected Characteristics of Sample Members at Baseline

The Performance-Based Scholarship Demonstration

Appendix Table A.1

Selected Characteristics of Sample Members at Baseline, by Research Group,
Fall 2008 and Spring 2009 Cohorts

Borough of Manhattan and Hostos Community Colleges

Characteristic	Full Sample	Program Group	Control Group
Gender (%)			
Male	30.8	31.3	30.3
Female	69.2	68.7	69.7
Age (%)			
22-26 years	54.8	54.3	55.3
27-30 years	26.1	25.9	26.3
31 years and over	19.2	19.8	18.5
Average age (years)	26.7	26.7	26.7
Marital status (%)			
Married	17.0	15.8	18.3
Unmarried	75.3	77.0	73.5
Missing	7.7	7.2	8.2
Race/ethnicity ^a (%)			
Hispanic	43.9	43.6	44.2
White	7.1	8.2	6.0
Black	37.1	36.6	37.7
Asian or Pacific Islander	9.2	9.3	9.1
Other	2.7	2.3	3.0
Number of children (%)			
0	52.1	55.2	48.9 *
1	25.7	22.7	28.8 **
2	14.3	14.3	14.3
3 or more	7.9	7.7	8.1
Among sample members with children			
Average age of youngest child (years)	4.3	4.1	4.4
Household receiving any government benefits (%)	35.8	35.3	36.3
Missing	12.1	12.6	11.6
Financially dependent on parents (%)	1.4	1.3	1.4
Missing	5.4	5.6	5.3
Currently employed (%)	56.8	56.6	56.9

(continued)

Appendix Table A.1 (continued)

Characteristic	Full Sample	Program Group	Control Group
Among those currently employed			
<i>Number of hours worked per week in current job (%)</i>			
1-10 hours	6.7	6.3	7.0
11-20 hours	24.4	27.8	21.0
21-30 hours	21.0	22.3	19.8
31-40 hours	44.8	40.6	48.9
More than 40 hours	3.1	3.0	3.3
<i>Average hourly wage at current job (\$)</i>	11.2	11.0	11.5
Highest grade completed (%)			
10th grade or lower	16.9	18.5	15.3
11th grade	12.9	11.9	13.9
12th grade	64.9	64.2	65.5
Missing	5.3	5.4	5.3
Diplomas/degrees earned ^b (%)			
High school diploma	64.1	63.3	65.0
General Educational Development (GED) certificate	34.5	34.9	34.1
Occupational/technical certificate	13.7	11.6	15.8 *
Associate's degree or higher	2.2	2.3	2.1
None of the above	2.3	2.3	2.3
Date of high school graduation/GED receipt (%)			
During the past year	4.9	3.6	6.2 *
Between 1 and 5 years ago	28.3	31.5	25.1 **
Between 5 and 10 years ago	37.2	35.4	39.0
More than 10 years ago	21.1	21.4	20.8
Missing	8.5	8.1	8.9
Main reason for enrolling in college ^b (%)			
To complete a certificate program	2.5	3.0	2.1
To obtain an associate's degree	49.8	49.5	50.1
To transfer to a 4-year college/university	45.2	46.1	44.3
To obtain/update job skills	3.1	3.0	3.2
Other	2.0	1.4	2.6
First person in family to attend college (%)	31.1	32.7	29.4
Language other than English spoken regularly in home (%)	52.6	51.2	54.1
Sample size	882	444	438

(continued)

Appendix Table A.1 (continued)

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

NOTES: To analyze whether baseline characteristics jointly predicted research group status, a likelihood ratio test was performed. This yielded a p-value of 0.44. Convention suggests that these probabilities are large enough that these potential differences can be ignored in the analyses.

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 site.

Characteristics shown in italics indicate nonexperimental data. Significance tests are not calculated for nonexperimental data.

Missing values are only included in variable distributions for characteristics with more than 5 percent of the sample missing.

Distributions may not add to 100 percent because of rounding.

^aRespondents who said they are Hispanic and chose a race are included only in the Hispanic category.

Respondents who are not Hispanic and chose more than one race are considered multiracial. "Other" includes American Indian /Alaskan Native, multiracial, and other.

^bDistributions may not add to 100 percent because categories are not mutually exclusive.

References

- Angrist, Joshua D., Daniel Lang, and Phillip Oreopoulos. 2009. "Incentives and Services for College Achievement: Evidence from a Randomized Trial." *American Economic Journal: Applied Economics* 1, 1: 1-28.
- Barrow, Lisa, Lashawn Richburg-Hayes, Cecilia Rouse, and Thomas Brock. 2009. "Paying for Performance: The Education Impacts of a Community College Scholarship Program for Low-Income Adults." Working Paper No. 2009-13. Chicago: Federal Reserve Bank of Chicago.
- Bettinger, Eric. 2004. "How Financial Aid Affects Persistence in College." Pages 207-233 in C. M. Hoxby (ed.), *College Choices: The Economics of Where to Go, When to Go, and How to Pay for It*. Chicago: University of Chicago Press.
- Brock, Thomas. 2010. "Young Adults and Higher Education: Barriers and Breakthroughs to Success." *The Future of Children* 20, 1: 109-132.
- Brock, Thomas, and Lashawn Richburg-Hayes. 2006. *Paying for Persistence: Early Results of a Louisiana Scholarship Program for Low-Income Parents Attending Community College*. New York: MDRC.
- Choitz, Vickie, and Rebecca Widom. 2003. *Money Matters: How Financial Aid Affects Non-traditional Students in Community Colleges*. New York: MDRC.
- Choy, Susan P. 2002. *Access and Persistence: Findings from Ten Years of Longitudinal Research on Students*. Washington, DC: Center for Policy Analysis, American Council on Education.
- Congressional Research Service. 2010. "H.R. 4872 — 111th Congress: Health Care and Education Reconciliation Act of 2010." GovTrack.us (database of federal legislation). Web site: <http://www.govtrack.us/congress/bill.xpd?bill=h111-4872&tab=summary>.
- Dynarski, Susan. 2003. "Does Aid Matter? Measuring the Effect of Student Aid on College Attendance and Completion." *American Economic Review* 93, 1: 279-288.
- Hilliard, Tom. 2007. *Working to Learn, Learning to Work: Unlocking the Potential of New York's Adult College Students*. Albany, NY: Schuyler Center for Analysis and Advocacy.
- Kazis, Richard, Abigail Callahan, Chris Davidson, Annie McLeod, Brian Bosworth, Vickie Choitz, and John Hoops. 2007. *Adult Learners in Higher Education: Barriers to Success and Strategies to Improve Success*. Employment and Training Administration Occasional Paper 2007-03. Boston: Jobs for the Future.
- Leslie, Larry L., and Paul T. Brinkman. 1987. "Student Price Response in Higher Education: The Student Demand Studies." *Journal of Higher Education* 58: 181-204.

- Leuven, Edwin, Hessel Oosterbeek, and Bas van der Klaauw. 2006. "The Effect of Financial Rewards on Students' Achievement: Evidence from a Randomized Experiment." *Artefactual Field Experiments* 0065, The Field Experiments Web site (www.fieldexperiments.com). Web site http://karlan.yale.edu/fieldexperiments/pdf/bonus_jan2006b.pdf.
- Long, Bridget. 2007. "Financial Aid and Older Workers: Supporting the Nontraditional Student." Paper prepared for the Strategies for Improving Economic Mobility of Workers Conference, Federal Reserve Bank of Chicago, November 15-16.
- New York State Higher Education Services Corporation. 2009. "About TAP." Web site: http://www.hesc.com/Content.nsf/SFC/2/About_TAP.
- Richburg-Hayes, Lashawn, Thomas Brock, Christina Paxson, Cecilia Rouse, and Lisa Barrow. 2009. *Rewarding Persistence: Effects of a Performance-Based Scholarship Program for Low-Income Parents*. New York: MDRC.
- Richburg-Hayes, Lashawn, Paulette Cha, Monica Cuevas, Amanda Grossman, Reshma Patel, and Colleen Sommo. 2009. *Paying for College Success: An Introduction to the Performance-Based Scholarship Demonstration*. New York: MDRC.
- Scrivener, Susan, and Erin Coghlan. 2011. "Opening Doors to Student Success: A Synthesis of Findings from an Evaluation at Six Community Colleges." MDRC Policy Brief (March). New York: MDRC.
- Shaw, Theresa S. 2007. "Department of Education Dear Colleague Letter." Washington, DC: National Association of Student Financial Aid Administrators. Web site: <http://www.nasfaa.org/publications/2007/p0701022207.html>
- Snyder, Thomas D., Sally A. Dillow, and Charlene M. Hoffman. 2008. *Digest of Education Statistics 207* (NCES 2008-022). Washington, DC: National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education.

About MDRC

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

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

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

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

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

