

Headed to College

The Effects of New York City's Small High Schools of Choice on Postsecondary Enrollment

By Rebecca Unterman

Since 2010, MDRC has released three research reports on the New York City Department of Education's multiyear initiative to create small public high schools that are open to any student who wants to attend. This brief adds evidence from a fourth cohort on high school graduation and presents MDRC's first results with respect to these schools' effects on postsecondary enrollment.¹

MDRC's rigorous assessment has demonstrated that these schools have markedly increased graduation rates for disadvantaged students of color, many of whom start high school below grade level.² Yet it is no longer enough to improve high school graduation rates. In an economy that is increasingly characterized by technological change and globalization, it is widely accepted that enrollment and success in postsecondary education is necessary for young people to be prepared for the world of work.

New York City's new small public high schools of choice ("SSCs" for short) are well positioned to meet this challenge because of their focus on providing academically rigorous curricula and personalized learning environments for their students. As noted above, this approach has led to success: SSC enrollees have experienced large, positive effects on high school graduation rates compared with their control group counterparts, regardless of students' family income, race/ethnicity,

or prior academic achievement. And while this study occurred during a period when the State of New York raised its high school graduation standards and New York City was taking steps to meet those standards — and thus graduation rates were rising across the city — students who enrolled in SSCs consistently outperformed their control group counterparts in each of the years studied. Furthermore, SSCs achieve these gains at a lower *cost per graduate* than that of the high schools attended by their control group counterparts, in large part because more SSC enrollees successfully graduate from high school and fewer SSC enrollees need to attend a fifth year of high school.³

Using college enrollment and degree attainment data from the National Student Clearinghouse, this policy brief provides evidence that the positive academic effects of attending an SSC continue beyond high school. Specifically, findings indicate that attending an SSC in high school substantially increases students' enrollment and persistence in postsecondary education — a finding that holds true for students of a wide range of abilities entering colleges across the spectrum of selectivity.

WHAT ARE SSCs?

The impetus for small school creation by the New York City Department of Education (NYCDOE) began in the 1990s. In 2002, the NYCDOE instituted a district-

wide high school admissions process that emphasized student choice and began establishing over 100 new academically nonselective small public schools. Because these new small schools were intended to be accessible options for students with widely varying backgrounds, MDRC researchers call them “small schools of choice.” The NYCDOE created SSCs in partnership with a consortium of funders as well as with the United Federation of Teachers, the Council of School Supervisors and Administrators, New Visions for Public Schools, and a number of other intermediary organizations.⁴ About 94 percent of students attending SSCs are black or Hispanic, 84 percent qualify for free or reduced-price lunch, and 75 percent enter high school performing below grade level in reading or mathematics.⁵

The staff, structure, and mission of each SSC were built “from scratch” as part of a competitive application process that solicited proposals from parents, community members, teachers, and administrators with a commitment to educational excellence. Each SSC planning team had the authority to choose a school theme and a community or business partner. However, all teams were required to propose curricula and school structures that promoted academic *rigor*, real-world *relevance*, and personalized *relationships*. In addition, each SSC planning team was encouraged to partner with an outside intermediary organization that could provide additional supports. These supports ranged from funding to assisting with the hiring of new teachers and staff to providing students with opportunities to connect their schoolwork with the world of work.⁶

Since June 2010, MDRC has used the lottery procedure embedded in the NYCDOE high school admissions process, which determines placement when a given school has more applicants than seats, to identify a sample of over 100 SSCs and over 21,000 students. These lotteries provide a random-assignment-like experimental condition that allows researchers to estimate the effects of attending an SSC (as opposed to some other type of New York City public high school). The resulting findings demonstrate that attending an SSC substantially improves students’ academic transition into high school and markedly increases their high school graduation rates. Students of all backgrounds experience these effects.⁷

WHAT IS THIS POLICY BRIEF ABOUT?

This policy brief updates MDRC’s research on SSCs by (1) updating high school graduation effects with an additional (fourth) student cohort and (2) following four student cohorts into postsecondary education.⁸ On the second point, it addresses the following questions:

- What is the effect of attending an SSC on students’ rates of enrollment in postsecondary education?
- To what extent does this effect differ for postsecondary institutions of varying selectivity?
- To what extent does this effect differ by students’ background characteristics, such as their race, income, or prior academic achievement?
- What is the effect of attending an SSC on students’ persistence over time in the pursuit of a postsecondary degree?

HAVE SSC EFFECTS ON HIGH SCHOOL GRADUATION BEEN SUSTAINED?

Results for the new student cohort confirm previous findings that SSCs appreciably increase high school graduation rates; graduation is defined in this brief as “on time” if it occurs at the end of a student’s fourth year of high school.⁹ Findings in Table 1 indicate that, for the four student cohorts in the present analysis, attending an SSC increased average on-time high school graduation rates by 9.4 percentage points (to 71.6 percent for target SSC enrollees from 62.2 percent for their control group counterparts). This effect is consistent across

all four cohorts — that is, students entering ninth grade in the four school years 2005-2006 through 2008-2009 — even though, as noted above, the benchmark graduation rate of students attending other New York City high schools, against which SSCs are judged, was also rising during this period.¹⁰ Equally impressive results evident through the fourth cohort include:

- The higher graduation rate of SSC enrollees was driven by students earning Regents diplomas (50.2 percent among target SSC enrollees, compared with 43.5 percent of their control group counterparts).
- A higher percentage of SSC enrollees achieved a score of 75 or above on the English Regents exam, a measure of

TABLE 1. SSC Effects on Four-Year High School Graduation Rates, College Readiness, and Postsecondary Enrollment: Cohorts 1-4

OUTCOME (%)	TARGET SSC ENROLLEES	CONTROL GROUP COUNTERPARTS	ESTIMATED EFFECT	P-VALUE FOR ESTIMATED EFFECT
GRADUATION				
GRADUATED FROM HIGH SCHOOL	71.6	62.2	9.4 **	0.000
LOCAL DIPLOMA GRANTED	13.2	11.4	1.8	0.160
REGENTS DIPLOMA GRANTED	50.2	43.5	6.7 **	0.001
ADVANCED REGENTS DIPLOMA GRANTED	8.2	7.3	0.9	0.514
COLLEGE READINESS				
PASSED ENGLISH REGENTS AT 75 OR HIGHER	42.1	35.8	6.3 **	0.001
PASSED MATH A REGENTS AT 75 OR HIGHER	25.1	24.5	0.5	0.760
POSTSECONDARY ENROLLMENT				
ENROLLED IN POSTSECONDARY EDUCATION	49.0	40.7	8.4 **	0.000

NOTES: Findings in this table are based on four-year follow-up data for 14,608 participants. Estimates of the effect of enrolling in an SSC were obtained by comparing mean outcomes for winners and losers of students’ first SSC lottery while accounting for which lottery participants enrolled in an SSC and which did not, using the lottery outcome interacted with a binary lottery indicator as an instrumental variable for SSC enrollment and adjusting estimated standard errors for student clustering by the first school they attended. Some findings may not sum exactly due to rounding error.

A two-tailed t-test was used to assess the statistical significance of each SSC estimated effect with significance levels indicated as ** = 1 percent and * = 5 percent.

college readiness used by the City University of New York (42.1 percent, compared with 35.8 percent among the control group counterparts).

- The positive effects of SSC enrollment held up for different subgroups, including black males, whose graduation rate from SSC schools is now 12.2 percentage points higher than that of their control group counterparts.
- The graduation rate for SSC students eligible for special education services has reached statistical significance and is 13.4 percentage points higher than that of their control group counterparts.

For more details, see Supplementary Tables 1 and 2, available online.¹¹

WHAT ARE THE EFFECTS OF SSCs ON ENROLLMENT IN POSTSECONDARY EDUCATION?

SSCs Boost Enrollment in Postsecondary Education

As shown in Table 1, SSCs not only turned out a higher percentage of graduates but also markedly increased the percentage of students going on to college. Attending an SSC increased the percentage of students who graduated from high school in four years and enrolled the next year in a postsecondary institution by 8.4 percentage points (to 49.0 percent for target SSC enrollees).¹² This effect is highly statistically significant and is consistent across the four annual student cohorts that were studied.¹³

Even among on-time graduates, the study found that SSC attendance increased the percentage who then enrolled in postsecondary education, compared with on-time graduates among the control group members. Specifically, looking at SSC effects on four-year high school

graduation rates and on college enrollment after on-time graduation (Table 1), the study found that, of the students who graduated from high school on time, 68.4 percent of target SSC students enrolled in a postsecondary institution the year after they graduated from high school, while 65.4 percent of their control group counterparts did so.¹⁴ Thus the overall increase in college enrollment caused by SSC attendance has two drivers: (1) a higher percentage of SSC graduates who enroll in college, and (2) a higher percentage of SSC attendees graduating from high school in four years.

These findings indicate that SSCs increase the likelihood of postsecondary education for those who graduate on time. One might suppose, however, that within five or six years after entering high school, control group members in the present analysis “catch up” with their treatment group counterparts. They do not. After six years, students who attended an SSC are 8.2 percentage points more likely than their control group counterparts to have graduated from high school. Thus the positive SSC effect on students’ high school graduation rates is almost fully sustained. Furthermore, very few students graduate from high school in five or six years and enroll the next year in a postsecondary institution, so the positive SSC effect on students’ college enrollment is also sustained. (See Supplementary Table 3, available online, for more information.)

SSCs Boost Enrollment in Colleges of All Kinds

Given how many SSC enrollees enter high school with weak academic skills, one might suppose that the effect of SSCs on college enrollment might be driven mainly by students who attend nonselective postsecondary institutions. Using Barron’s college selectivity ratings, which rank four-year degree-granting institutions on such

factors as student acceptance rates, graduation rates, and ACT and SAT scores, the study found that this is not the case.¹⁵

Table 2 indicates that target SSC enrollees who graduate from high school on time and enter college enroll in four-year institutions representing a range of selectivity levels, the most predominant being “very competitive,” “competitive,” and “noncompetitive” schools (with respective enrollment rates of 6.0 percent, 8.3 percent, and 9.3 percent). In addition, almost 20 percent of target SSC enrollees select a two-year community college or technical school. In terms of SSC effects on these enrollment rates, Table 2 indicates that attending an SSC modestly increased enrollment rates in postsecondary schools at

every selectivity level, with three of these seven estimated effects being statistically significant.

In total, 29.7 percent of target SSC enrollees attend a four-year degree-granting institution versus 19.3 percent for all other types of institutions, including community colleges.¹⁶ However, these proportions give a rough indication at best of enrollment in a four-year degree program, because the National Student Clearinghouse database does not indicate the type of program that students are enrolled in. Most of the four-year institutions attended by students in this sample also offer two-year degree programs, meaning that some students may be seeking two-year degrees within a four-year institution. Some may transfer to four-year degree programs within the institution, while

TABLE 2. SSC Effects on Enrollment in Postsecondary Education After Graduating from High School in Four Years, by Barron’s Selectivity Level: Cohorts 1-4

OUTCOME (%)	TARGET SSC ENROLLEES	CONTROL GROUP COUNTERPARTS	ESTIMATED EFFECT	P-VALUE FOR ESTIMATED EFFECT
ENROLLED IN POSTSECONDARY EDUCATION	49.0	40.7	8.4 **	0.000
BY BARRON’S SELECTIVITY LEVEL, FOR COHORTS 1-4				
FOUR-YEAR COLLEGES				
MOST COMPETITIVE	1.2	0.5	0.7 **	0.003
HIGHLY COMPETITIVE	1.6	0.4	1.2 ***	0.001
VERY COMPETITIVE	6.0	4.7	1.2	0.091
COMPETITIVE	8.3	7.2	1.1	0.188
LESS COMPETITIVE	3.3	2.1	1.2 *	0.019
NONCOMPETITIVE	9.3	8.3	1.0	0.312
TWO-YEAR COLLEGES				
SPECIAL/UNRANKED/TWO-YEAR	19.3	17.4	1.9	0.117

NOTES: Findings in this table are based on data for 14,608 participants. See notes to Table 1 for an explanation of how SSC effects were determined. Some findings may not sum exactly due to rounding error. A two-tailed t-test was used to assess the statistical significance of each SSC estimated effect with significance levels indicated as ** = 1 percent and * = 5 percent.

others might graduate with two-year degrees. A future report will provide more complete information on this issue by examining SSC effects on students' attainment of two-year and four-year degrees.

SSCs Raise Postsecondary Enrollment for Most Subgroups

Table 3 illustrates that SSCs have a consistent pattern of positive effects on college enrollment for most student subgroups, including low-income students and students of color. For example, SSCs boosted

postsecondary enrollment rates for students who were eligible for free or reduced-price lunch by 9.6 percentage points.¹⁷ Perhaps most notably, SSCs increased postsecondary enrollment by 11.3 percentage points for black males, a 36 percent increase relative to the enrollment rate of their control group counterparts.¹⁸ Black females, Hispanic males, and Hispanic females also experienced positive SSC effects on postsecondary enrollment that ranged from 5.6 to 7.0 percentage points. Three of these five estimated effects are highly statistically

TABLE 3. SSC Effects on Enrollment in Postsecondary Education After Graduating from High School in Four Years, by Student Subgroups: Cohorts 1-4

STUDENT CHARACTERISTICS (%)	TARGET SSC ENROLLEES	CONTROL GROUP COUNTERPARTS	ESTIMATED EFFECT	P-VALUE FOR ESTIMATED EFFECT	SAMPLE SIZE
LOW-INCOME STATUS					
ELIGIBLE FOR FREE/REDUCED-PRICE LUNCH	47.7	38.1	9.6 **	0.000	9,182
NOT ELIGIBLE FOR FREE/REDUCED-PRICE LUNCH	51.3	46.1	5.2 *	0.049	5,426
RACE/ETHNICITY, BY GENDER					
BLACK MALE	42.3	31.0	11.3 **	0.002	2,727
BLACK FEMALE	53.4	46.4	7.0 *	0.028	3,490
HISPANIC MALE	43.4	36.8	6.6	0.068	3,571
HISPANIC FEMALE	48.9	43.3	5.6	0.084	3,528
OTHER MALE	63.7	62.3	1.4	0.783	666
OTHER FEMALE	70.5	58.0	12.6 *	0.046	626
8TH-GRADE READING PROFICIENCY					
DID NOT MEET STANDARDS (LEVEL 1)	26.2	22.9	3.3	0.476	1,288
PARTIALLY MET STANDARDS (LEVEL 2)	42.7	34.1	8.5 **	0.000	8,221
FULLY MET STANDARDS (LEVEL 3)	62.8	52.1	10.7 **	0.000	4,551
MET STANDARDS WITH DISTINCTION (LEVEL 4)	71.1	69.2	1.9	0.848	548

NOTES: Findings in this table are based on data for 14,608 participants. See notes to Table 1 for an explanation of how SSC effects were determined. Some findings may not sum exactly due to rounding error.

A two-tailed t-test was used to assess the statistical significance of each SSC estimated effect with significance levels indicated as ** = 1 percent and * = 5 percent.

significant. (See Supplementary Table 4, available online, for further details.)

SSCs also distinctly increased rates of postsecondary enrollment for students who had performed somewhat below or at grade level on their eighth-grade reading exam.¹⁹ For students who had performed somewhat below grade level, SSCs increased postsecondary enrollment by 8.5 percentage points; for students who had performed at grade level, SSCs increased it by 10.7 percentage points.

SSCs exhibited much smaller effects for students who had performed far above or far below grade level on their eighth-grade reading exam.²⁰ Very few students who perform far above grade level apply to SSCs, and, because the majority of these students graduate from high school whether or not they attend an SSC, they experience virtually no SSC effect on high school graduation. And, in turn, SSCs had virtually no effect on the probability of college enrollment for this subgroup.

For students who had performed far below grade level in eighth grade, SSCs increased on-time high school graduation rates by 7 percentage points but increased postsecondary enrollment rates by only 3.3 percentage points. This estimated effect is not statistically significant, however, so one cannot be sure that it represents a real effect. The postsecondary prospects for students who performed far below grade level in eighth grade are extremely low (the control group counterpart postsecondary enrollment rate is only 22.9 percent), and the small and non-statistically significant estimated effect on college ascension by these students suggests that more is needed to increase their postsecondary enrollment rates.

WHAT ARE THE EFFECTS ON PERSISTENCE IN POSTSECONDARY EDUCATION?

Table 4 reports findings for the one student cohort whose yearly postsecondary enrollment can be followed through the fall of their fourth year after on-time graduation from high school.²¹ Not surprisingly, postsecondary enrollment levels decrease consistently and substantially over time for both the target SSC enrollees and their control group counterparts. However, even as the absolute levels of persistence decline, target SSC enrollees maintain a consistent advantage. For example, during their first year after on-time high school graduation, 44.4 percent of target SSC enrollees attended a postsecondary education program, while 37.6 percent of their control group counterparts did so — for an impact of 6.8 percentage points. Two years later, this effect remains a similar 5.8 percentage points. Three of the four yearly estimated effects are statistically significant.

The follow-up period for this first cohort of students is limited to three and a half years after on-time high school graduation, so it is too early to examine effects on four-year degree attainment. However, if enrolled in postsecondary school full time, students may have had time to complete a two-year degree or certificate (depending on their remedial coursework requirements). Findings in Table 4 suggest that three and a half years after on-time high school graduation (fall of year four), having attended an SSC increased degree or certificate attainment by 1.4 percentage points (to 3.7 percent for target SSC enrollees from 2.3 percent for their control group counterparts).²² This SSC effect is statistically significant at the 0.10 level, but

TABLE 4. SSC Effects on Persistence in Postsecondary Education After Graduating from High School in Four Years: Cohort 1

OUTCOME IN FOLLOW-UP PERIOD (%)	TARGET SSC ENROLLEES	CONTROL GROUP COUNTERPARTS	ESTIMATED EFFECT	P-VALUE FOR ESTIMATED EFFECT
POSTSECONDARY ENROLLMENT				
YEAR 1 ^a	44.4	37.6	6.8 ^b *	0.011
YEAR 2	37.6	31.3	6.4 *	0.040
YEAR 3	31.7	25.8	5.8 *	0.046
FALL OF YEAR 4	25.1	19.5	5.7	0.064
POSTSECONDARY DEGREE COMPLETION				
FALL OF YEAR 4	3.7	2.3	1.4	0.096

NOTES: Findings in this table are based on data for 4,473 participants. See notes to Table 1 for an explanation of how SSC effects were determined. Some findings may not sum exactly due to rounding error.

A two-tailed t-test was used to assess the statistical significance of each SSC estimated effect with significance levels indicated as ** = 1 percent and * = 5 percent.

^aYear 1 includes students who enrolled in a postsecondary institution at any point in the first year after four-year high school graduation.

^bWhile the overall effect for students in all four cohorts who graduated from high school in four years and enrolled in a postsecondary institution the next year is 8.4 percentage points (see Table 1), this table looks only at students in cohort 1, where the effect is 6.8 percentage points.

it does not reach the 0.05 standard applied in this brief. Thus while the SSC effect on degree or certificate attainment after three and a half years of postsecondary education is promising, the study will have to wait for a larger follow-up sample and a longer follow-up period for definitive evidence about the effects of SSCs on their students' completion of college.

CONCLUSIONS

On average, attending an SSC increased on-time high school graduation rates for the four student cohorts in the present analysis by 9.4 percentage points, an effect that is equivalent in magnitude to roughly 44 percent of the gap in graduation rates between white students and students of color in New York City during the same period.²³ For these student cohorts, attending an SSC also increased the probability of graduating from high school in four years and attending a postsecondary education program the following year by 8.4 percentage

points. It is rare to find such large positive effects for a rigorously evaluated large-scale education reform and rarer still to see such effects continue into college. Hence, the present findings are unusually promising.

Remarkably, SSCs achieve these gains for enrollees at a lower average total cost per graduate than that for their control group counterparts — roughly 14 percent to 16 percent lower. Interestingly, both SSC enrollees and control group enrollees attend high schools that turn out to have per-pupil costs somewhat higher than those of the average New York City high school and substantially higher than those of the largest high schools, which have significant economies of scale. Yet the per-pupil costs for the specific high schools that SSC enrollees and their control group counterparts attended are roughly similar. And, because more SSC students successfully graduate and fewer require an expensive fifth year of high school, the

cost per graduate is significantly lower for SSC students than for their control group counterparts. These findings are consistent regardless of the approach used to estimate teacher costs, student composition, facility usage, start-up costs, or partner contributions to the schools.²⁴

Still, there is more work to be done. Roughly 30 percent of target SSC enrollees do not graduate from high school on time and, even among those who do, roughly 31 percent do not go on to postsecondary education.²⁵ In addition, the very small postsecondary effects reported for students who enter high school performing far below grade level suggest that additional investment will be required to help these students obtain the skills they need to make at least some form of postsecondary education a viable option, a transition that will become increasingly important in the twenty-first-century labor market.

Future MDRC reports will examine whether the present SSC effect on postsecondary enrollment translates into a corresponding effect on college degree attainment. Also, in an effort to understand the key components of SSCs that are responsible for their effects, these reports will explore SSC characteristics that might predict variation in their effects.

In summary, the present findings provide strong evidence that a large-scale high school reform for youths who are far along in the K-12 pipeline, many of whom are academically below grade level when they enter high school, can have sizable positive effects on high school graduation, attainment of a Regents diploma, and postsecondary enrollment.

NOTES

¹ The present findings are consistent with those reported by Abdulkadiroglu, Hu, and Pathak (2013), although the two analyses are based on different samples.

² Bloom and Unterman (2014).

³ Bloom and Unterman (2014); Bifulco, Unterman, and Bloom (2014).

⁴ The consortium of funders was led by the Bill & Melinda Gates Foundation, the Carnegie Corporation of New York, and the Open Society Institute.

⁵ These figures describe students who entered SSCs between the fall of 2002 and the fall of 2008.

⁶ For more detailed descriptions of New York City's SSCs, see Quint, Smith, Unterman, and Moedano (2010) and Bloom, Levy Thompson, and Unterman (2010).

⁷ For a description of MDRC's analytic approach and a more detailed discussion of these findings, see Bloom and Unterman (2014).

⁸ The four student cohorts included in this analysis are defined by the school year in which students participated as eighth-graders in the New York City high school application process: cohort one (2004-2005), cohort two (2005-2006), cohort three (2006-2007), and cohort four (2007-2008).

⁹ Since June 2010 MDRC has released a series of reports using data for students who were in lotteries produced by the New York City high school application processing system in order to document the positive effects of SSCs on students' academic attainment (Bloom, Levy Thompson, and Unterman 2010; Bloom and Unterman 2012; Bloom and Unterman 2013; Bloom and Unterman 2014). Abdulkadiroglu, Hu, and Pathak (2013) used some of these lotteries to study the effects of SSCs and, in so doing, confirmed MDRC's findings.

¹⁰ The improvements in SSC enrollees' other high school options is evident in the control group counterparts' increasing high school graduation rate, which rose by 6.5 percentage points between the first cohort and the fourth. Using district-wide NYCDOE data, Kemple (2013) also documents that New York City's high school graduation rate rose during this period.

Students who entered high school before the 2008-2009 school year could graduate high school with a local diploma if they did not meet the statewide criteria for a Regents or Advanced Regents diploma. Beginning with the 2008-2009 ninth-grade cohort, the local diploma was no longer an option for general education students. More information on the Regents examination and course credit requirements for each diploma type can be found in Bloom, Levy Thompson, and Unterman (2010).

11 For more detail, see Supplementary Tables 1 and 2. Supplementary Tables 1-4 can be found in Rebecca Unterman, “Headed to College: The Effects of New York City’s Small High Schools of Choice on Postsecondary Enrollment — Supplementary Tables,” October 2014, on MDRC’s website (www.mdrc.org).

12 In this brief “target SSC enrollees” refers to students who won a lottery for an SSC and subsequently enrolled. See Bloom and Unterman (2014) for a more detailed explanation. The postsecondary enrollment data used in this report were obtained from the National Clearinghouse by the NYCDOE, which had requested data only for students who graduated from an NYCDOE school. Therefore postsecondary enrollment data for students who did not graduate from an NYCDOE school are not available.

13 See Supplementary Table 1 for cohort-by-cohort findings.

14 These findings were obtained for each group by dividing its percentage of postsecondary enrollees by its percentage of four-year high school graduates, as reported in Table 1, and converting the result to a percentage ($49/71.6 = 0.684$ or 68.4 percent for target SSC enrollees and $40.7/62.2 = 0.654$ or 65.4 percent for their control group counterparts).

15 No such ratings exist for postsecondary institutions other than four-year degree-granting institutions.

16 The proportion of target SSC enrollees attending a four-year degree-granting institution was calculated by summing the proportion of target SSC enrollees in four-year colleges reported in Table 2 ($1.2 + 1.6 + 6.0 + 8.3 + 3.3 + 9.3 = 29.7$).

17 In New York State, students qualify for free or reduced-price lunch if their annual family income is less than the equivalent of \$43,568 for a family of four.

18 The 36 percent increase for black males is calculated by dividing the 11.3 percentage point effect for this subgroup by its control group counterpart enrollment rate (31.0 percent).

19 New York State reports students’ eighth-grade reading test scores in four levels: did not meet standards (level 1), partially met standards (level 2), fully met standards (level 3), and met standards with distinction (level 4). Levels 1 and 2 represent student performance that is below grade level and levels 3 and 4 represent student performance that is at or above grade level.

20 The SSC effects across prior reading achievement subgroups are statistically significantly different from each other (p -value < 0.001).

21 Table 4 reports yearly postsecondary enrollment rates for students in the sample. It does not report on continuous postsecondary enrollment.

22 Roughly 3.7 percent of target SSC enrollees attained a degree or certificate within three and a half years after their on-time graduation from high school. This percentage may appear surprisingly low, but it is consistent with what is known about the attainment of associate of arts degrees from the City University of New York (CUNY) community college system. For example, a weighted average of three-year rates of attainment of associate’s degrees for first-time full-time freshmen in the six CUNY community colleges attended by 83 percent of target SSC enrollees attending community colleges is 12.3 percent (City University of New York Office of Institutional Research 2014). Assuming that 12.3 percent of the 19.3 percent of the target SSC enrollees attending a community college (reported in Table 2) attained a degree would amount to 2.4 percent of target SSC enrollees attaining a degree in three years. In addition, if one assumed that a third of the 29.7 percent of target SSC enrollees who attended four-year postsecondary institutions (Table 2) were, in fact, pursuing a two-year degree and 12.3 percent of them graduated within three years, this would add another 1.2 percent of target SSC enrollees who obtained a degree, producing a total of 3.6 percent.

23 On average, across cohorts that entered high school in 2005-2006 through 2008-2009, the graduation gap between white students and students of color was approximately 21.18 percentage points (New York City Department of Education 2014).

24 See Bifulco, Unterman, and Bloom (2014).

25 The percentage of SSC graduates who do not go on to postsecondary institutions was calculated as follows $((71.6 - 49.0)/71.6) * 100$ using the findings from Table 1.

REFERENCES

For all analyses in this brief, MDRC’s calculations use High School Application Processing System data from eighth-graders from 2004-2005 to 2007-2008, as well as data from New York City Department of Education course credits, Regents exam, enrollment, and National Student Clearinghouse files from the 2005-2006 school year through the fall of 2012.

Abdulkadiroglu, Atila, Weiwei Hu, and Parag A. Pathak. 2013. “Small High Schools and Student Achievement: Lottery-Based Evidence from New York City.” NBER Working Paper 19576. Cambridge, MA: National Bureau of Economic Research.

Bifulco, Robert, Rebecca Unterman, and Howard S. Bloom. 2014. *The Relative Costs of New York City’s Small Public High Schools of Choice*. Working paper. New York: MDRC.

Bloom, Howard S., Saskia Levy Thompson, and Rebecca Unterman, with Corinne Herlihy and Collin F. Payne. 2010. *Transforming the High School Experience: How New York City's New Small Schools Are Boosting Student Achievement and Graduation Rates*. New York: MDRC.

Bloom, Howard S., and Rebecca Unterman. 2012. *Sustained Positive Effects on Graduation Rates Produced by New York City's Small Public High Schools of Choice*. New York: MDRC.

Bloom, Howard S., and Rebecca Unterman. 2013. *Sustained Progress: New Findings About the Effectiveness and Operation of Small Public High Schools of Choice in New York City*. New York: MDRC.

Bloom, Howard S., and Rebecca Unterman. 2014. "Can Small High Schools of Choice Improve Educational Prospects for Disadvantaged Students?" *Journal of Policy Analysis and Management* 33, 2: 290-319.

City University of New York Office of Institutional Research. 2014. "Institution Retention and Graduation Rates." Website: <http://cuny.edu/about/administration/offices/ira/ir/data-book/current/retention-graduation/institution.html>.

Kemple, James. 2013. "The Condition of New York City High Schools: Examining Trends and Looking Towards the Future." New York: Research Alliance for New York City Schools.

New York City Department of Education. 2014. "Cohorts of 2001 through 2009 (Classes of 2005 through 2013) Graduation Outcomes." Website: <http://schools.nyc.gov/accountability/data/graduationdropoutreports/default.htm>.

Quint, Janet, Janet Smith, Rebecca Unterman, and Alma Moedano. 2010. *New York City's Changing High School Landscape: High Schools and Their Characteristics, 2002-2008*. New York: MDRC.

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CHANGE SERVICE REQUESTED

Headed to College

The Effects of New York City's Small High Schools of Choice on Postsecondary Enrollment

By Rebecca Unterman

T

aking advantage of lottery-like features in New York City's high school admissions process, previous MDRC reports have provided rigorous evidence that new small public high schools are narrowing the educational attainment gap and markedly improving high school graduation prospects, particularly for disadvantaged students. The new findings in this policy brief demonstrate that these schools are also having a sustained effect on students' enrollment and persistence in postsecondary education, with positive impacts for many different subgroups, including male and female students of color, students who partially or fully met their eighth-grade proficiency standards in math or English, and students eligible for free or reduced-price lunch. These gains involve postsecondary institutions representing a broad range of selectivity. Given available data, it is too early to determine the resulting effect on college degree attainment.