

New York City's Small Schools of Choice

A First Look at Effects on Postsecondary Persistence and Labor Market Outcomes

By Rebecca Unterman and Zeest Haider

In 2002, the New York City Department of Education (NYCDOE) launched a bold set of education reforms designed to transform the educational experiences of all high school students: They instituted a district-wide high school choice process that assigned all rising ninth-graders to specific high schools; they closed large, low-performing high schools; and they created over 100 new small schools to serve students in the lowest-income areas of the city. Because these small schools are located in the communities they intended to serve, do not screen students based on their prior academic achievement, and thus represent a realistic small school option for many students who previously did not have one, MDRC researchers call these new schools Small Schools of Choice (SSCs).

Since 2010, MDRC has used naturally occurring lotteries within New York City's high school assignment process to rigorously study these SSCs and has reported that they have large, positive impacts on students' secondary school and college outcomes.¹ Specifically, for the sample of over 21,000 students who entered a lottery for a seat in an SSC during the study period, students who won a lottery and enrolled in an SSC (target SSC enrollees) were 9.5 percentage points more likely to graduate from high school than those who lost a lottery and did not enroll in an SSC (their control group counterparts). This effect was experienced by students of all backgrounds — low-income students, students who performed below grade level in

eighth grade, English-language learners, and students receiving special education services. Seven cohorts of rising ninth-graders have experienced these effects, even as other school options (the schools that make up the counterfactual) have improved.² Preliminary evidence suggests that these impacts extended at least one year into students' subsequent enrollment in postsecondary education. Finally, SSCs generated these effects at no additional cost per graduate.³

Recent MDRC research provides suggestive evidence that four organizational inputs of schools (leadership quality, teacher empowerment, data-driven instruction, and teacher-parent communication) and three dimensions of students' school experiences (academic rigor, personalized learning, and teacher-student respect) produced part of SSCs' positive impacts on student graduation rates.⁴ Furthermore, in interviews with SSC administrators and focus groups with teachers, administrators and teachers reported that close personal relationships with students were key to the success of SSCs, and that without these relationships teachers could not effectively promote an academically rigorous curriculum.⁵

This brief examines whether the positive effects of SSCs translate into impacts on students' postsecondary degree attainment and performance in the labor market. While nonexperimental research suggests that high school graduates are employed at higher rates and earn more than those who do

not graduate,⁶ few experimental studies have followed students from high school into postsecondary education and the labor market, and it is unclear how far an effective four-year high school intervention can reach. Findings from the few studies that have been conducted are mixed. Some show that, after students leave high school, any effects on postsecondary education quickly begin to fade; others show that after a reasonable length of time — eight years or more — high school interventions can improve students' future labor market performance.⁷

STUDY AND FINDINGS

Findings in this policy brief bring together a uniquely diverse set of data — NYCDOE high school enrollment and graduation data, National Student Clearinghouse data, and New York State (NYS) unemployment insurance data — to provide an early look at the SSC sample's experiences in college and work after high school, a pivotal transitional period in an adolescent's life. Box 1 describes how the research team built this diverse dataset. An earlier MDRC report on SSCs found that their impact on high school graduation translated into a similar size impact on enrollment in postsecondary school after high school graduation.⁸ This brief presents findings from a study of SSCs' impact on postsecondary education and labor market outcomes that follows four cohorts for four years after high school graduation and one of these cohorts for six years after graduation. In addition, for a subset of students in these four cohorts, it gives a first look at whether SSCs had an effect on students' employment prospects or outcomes four years after graduating from high school, and how much income they earned. The study found the following:

- Through the follow-up period, the original effect that SSCs had on enrollment in postsecondary education decreased but *persisted*: After four years, SSC enrollees were 4.6 percentage points more likely to be enrolled in postsecondary education than their control group counterparts. Students of all backgrounds experienced this positive

effect. For the one cohort of students that the research team was able to follow for six years, there was a small, positive, but not statistically significant, effect on postsecondary degree attainment; the sample was small and further follow-up is needed.

- Even though they were enrolled in postsecondary education at a greater rate, SSC enrollees were as likely as their control group counterparts to have been employed. For the subsample of students for whom both postsecondary enrollment and labor market data were available, there was no difference between the employment rates and annual earnings of SSC enrollees and those of control group students.
- However, when both postsecondary enrollment and employment are considered together or jointly, SSC enrollment had a positive effect of 4.8 percentage points on the number of students participating in a “productive activity” (enrolled in postsecondary education, employed, or both).

WHAT ARE SSCs?

SSCs trace their origins to the 1990s but were created at scale in 2002, when 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 (SSCs). The NYCDOE created them 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.

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. At each SSC, the staff was recruited, the premises built, and the

BOX 1. HOW THIS DATASET WAS BUILT

Few studies of secondary school have had the opportunity to follow students into postsecondary education *and* the labor market. This project has done so by compiling three different types of data: the New York City Department of Education high school records, National Student Clearinghouse postsecondary enrollment data, and New York State (NYS) employment and earnings records. This rich dataset allows the research team to describe student outcomes and trajectories for the majority of students in a unique way. For students who competed in lotteries for a seat in an SSC in Cohorts 1 through 4, the team knows that 71.7 percent of SSC enrollees and 62.2 percent of their control group counterparts graduated from high school. Of the high school students who graduated, the team has data on every student who attended a postsecondary institution registered with the National Student Clearinghouse, and it has the necessary student identifiers to match around 60 percent of the lottery sample students to their NYS unemployment insurance records (that is, documentation of taxable employment and income). For more details, see Appendix C at www.mdrc.org.

Though the research team does not have earnings data for the full sample of students, there is evidence showing that the sample for which earnings data are available (“earnings data sample”) is representative of the overall sample of students in Cohorts 1 through 4. First, the demographic characteristics of both samples are markedly similar (as shown in Appendix Tables D and E, at www.mdrc.org), and there are no differences for either sample between lottery winners and their control group counterparts. For example, 83.9 percent of SSC lottery winners in the full sample are eligible for free or reduced-priced lunch, and 84.9 percent of lottery winners in the earnings data sample are eligible. In addition, 15.0 percent of SSC lottery winners in the full sample are overage for the eighth grade, and 13.9 percent of lottery winners in the earnings data sample are overage for the eighth grade. Second, the estimated effect on four-year high school graduation rates is strikingly similar for both samples — 9.5 percentage points and 8.5 percentage points, respectively. For these reasons, the research team used these data in this brief to estimate the unbiased impacts of SSCs on students’ labor market outcomes and to learn about the possible effects of SSCs on the full sample, though it is important to remember that these data are limited. In future work, the research team aims to collect data on the full sample.

mission developed “from scratch,” as part of a competitive application process that solicited proposals from parents, community members, teachers, and administrators committed 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, knowledge relevant to the real world, 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 studies with the world of work.

Since June 2010, MDRC has used the lottery procedure integral to the NYCDOE high school admissions process, which determines placement when a given school has more applicants than seats, to create a sample of over 100 SSCs and more than 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 other types of New York City public high schools).⁹

EFFECTS ON PERSISTENCE IN POSTSECONDARY EDUCATION

As shown in Table 1, SSCs markedly increased the percentage of students graduating from high school in four years and going on to college. Specifically, for students in Cohorts 1 through 4, SSCs increased the proportion of students enrolling in postsecondary education the year after high school graduation by 7.4 percentage points (to 44.2 percent for target SSC enrollees). In each follow-up year, the proportion of students who enrolled in postsecondary education in both comparison groups decreased incrementally. However, SSCs continued to have a positive effect on the program group's persistence in postsecondary education. By the second year of postsecondary follow-up, SSCs increased the percentage of students who enrolled in postsecondary education by 7.0 percentage points (to 35.7 percent for target SSC enrollees); by the third

year of postsecondary education, this effect had decreased to 5.0 percentage points (to 30.8 percent for target SSC enrollees); and by the fourth year of postsecondary follow-up, this effect had decreased to 4.6 percentage points (to 27.7 percent for target SSC enrollees). These effects on persistence in postsecondary education hold true for all student subgroups, including those defined by poverty status, race or ethnicity, gender, and eighth-grade reading proficiency. (See Appendix B at www.mdrc.org.) In addition, SSC enrollees were just as likely to enroll in competitive colleges as their control group counterparts. (See Appendix A at www.mdrc.org.)

By the end of the fourth year of follow-up, few target SSC enrollees had earned a degree or certificate (7.3 percent), and there is not a statistically significant difference in degree attainment between the target SSC enrollees and their control group counterparts. For the one cohort of students whose data the research team was able to follow for six years, the SSC

TABLE 1. SSC Effects on Enrollment in Postsecondary Education, Cohorts 1-4

OUTCOME IN FOLLOW-UP PERIOD (%)	TARGET SSC ENROLLEES	CONTROL GROUP COUNTERPARTS	ESTIMATED EFFECT		P-VALUE FOR ESTIMATED EFFECT
FOUR-YEAR HIGH SCHOOL GRADUATION	71.7	62.2	9.5	**	<0.001
ENROLLED IN POSTSECONDARY EDUCATION^a					
YEAR 1	44.2	36.8	7.4	**	<0.001
YEAR 2	35.7	28.7	7.0	**	<0.001
YEAR 3	30.8	25.8	5.0	**	<0.001
YEAR 4	27.7	23.1	4.6	**	<0.001
POSTSECONDARY DEGREE ATTAINMENT AT END OF YEAR 4	7.3	5.3	2.0		0.211

NOTES: Findings in this table are based on data for 21,113 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 follows: ** = 1 percent and * = 5 percent.

Cohorts 1,2,3, and 4 consist of students in the study who were eighth-graders in the spring of 2005, 2006, 2007, and 2008, respectively.

^aEach year includes students enrolled in a postsecondary institution at any point in that year after four-year high school graduation.

effect on postsecondary enrollment persisted and there was a small, positive, but not statistically significant, effect on degree attainment into the sixth year of follow-up.

EFFECTS ON EMPLOYMENT, EARNINGS, AND PRODUCTIVE ACTIVITY

As shown in Table 2, for the subsample of students for whom both postsecondary enrollment and labor market data were available, SSCs did not have an effect on employment or earnings. The table shows the effect of SSCs on

yearly employment and earnings for Cohorts 1 through 4 for four follow-up years. After the first follow-up year, an average of 60.0 percent of target SSC enrollees were employed, compared with 58.1 percent of their control group counterparts. This estimated difference of 1.9 percentage points is not statistically significant. In addition, target SSC enrollees earned an average of \$164 less than their control group counterparts, but this difference is also not statistically significant. The same pattern of findings persisted for all four years of follow-up and is consistent across all subgroups of students. (See Appendixes F and G at www.mdrc.org.)

TABLE 2. SSC Effects on Student Employment and Earnings, Cohorts 1-4 with Earnings Data

OUTCOME IN FOLLOW-UP PERIOD (%)	TARGET SSC ENROLLEES	CONTROL GROUP COUNTERPARTS	ESTIMATED EFFECT		P-VALUE FOR ESTIMATED EFFECT
FOUR-YEAR HIGH SCHOOL GRADUATION	75.6	67.0	8.5	***	<0.001
EMPLOYMENT AND EARNINGS AFTER HIGH SCHOOL GRADUATION					
YEAR 1					
EMPLOYED	60.0	58.1	1.9		0.397
EARNINGS	2,592.7	2,756.8	-164.1		0.512
YEAR 2					
EMPLOYED	67.7	66.3	1.4		0.495
EARNINGS	4,392.3	4,500.7	-108.4		0.730
YEAR 3					
EMPLOYED	71.4	71.4	0.0		0.994
EARNINGS	6,162.9	6,514.4	-351.5		0.370
YEAR 4					
EMPLOYED	71.2	70.5	0.6		0.757
EARNINGS	6,351.1	6,609.3	-258.2		0.514
INDICATOR OF PRODUCTIVE ACTIVITY IN YEAR 4 (WORKING, ATTENDING POSTSECONDARY EDUCATION, OR BOTH)					
	78.2	73.4	4.8	*	0.025

NOTES: Findings in this table are based on data for 10,830 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 follows: ** = 1 percent and * = 5 percent.

Cohorts 1,2,3, and 4 consist of students in the study who were eighth-graders in the spring of 2005, 2006, 2007, and 2008, respectively.

For the final outcome shown in Table 2, the research team used both postsecondary enrollment records and NYS unemployment insurance records to measure whether students were working, enrolled in postsecondary education, or both after four years. At the end of the follow-up period, an average of 78.2 percent of target SSC enrollees were employed, enrolled in postsecondary education, or both, compared with 73.4 percent of their control group counterparts. This difference is statistically significant at the 0.05 level.

CONCLUSIONS

While it is not surprising that the SSC effect on postsecondary enrollment decreases as students' distance from high school grows, it is encouraging that the effects persist through four years. Future work by the research team will continue to follow students through six years or more after high school graduation, as many of the students may enroll in postsecondary education part time, may begin in remedial coursework and therefore need more time to attain a degree or certificate, or both. In addition, the research team is working to acquire more detailed data related to course enrollment for students who attend local educational institutions. (While data on course credits students earn and remedial coursework they take are not available from the National Student Clearinghouse, these data may be available for a subset of students from local institutions.)

Over time, the large, positive effect that SSCs have on high school graduation rates may yet translate into greater long-term labor market success for students, although these effects could be delayed in the short term. There are several reasons this may be the case — educational advantages such as a high school diploma and college enrollment take time to emerge as labor market differences. Moreover, at the four-year follow-up point, a higher proportion of SSC sample members are still enrolled in postsecondary education, which likely affects current employment. Enrollees in postsecondary

education do not have as much time to work as their counterparts who are not enrolled, and the work enrollees undertake through a work-study program or for academic credit are not counted in the NYS unemployment insurance data. Indeed, the similar employment rates but slightly lower earnings among program group members suggest that they are working and attending college at the same time.

The studies that have established a link between education interventions and later labor market success, namely the MDRC study on Career Academies and the study on Project STAR, followed students for 8 and 10 years after high school, respectively.¹⁰ For these reasons, the research team will continue to try to match a greater portion of the sample to labor market data and to follow students over time.

In future work, the research team will also examine variations in impacts on student outcomes across SSCs to identify potential school features that predict sustained positive effects on later outcomes. By doing so, the team intends to help policymakers and practitioners learn how to support students through this critical transitional period. For example, schools that place a greater emphasis on academic rigor may do a better job of preparing students for the demands of postsecondary education and thereby produce large impacts on enrollment and persistence in postsecondary education, while schools that offer internship opportunities and focus on success in the world of work may produce greater impacts on employment and earnings over time.

NOTES & REFERENCES

¹ 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). For more detail, see Howard Bloom and Rebecca Unterman, “Can Small High Schools of Choice Improve Educational Prospects for Disadvantaged Students?” *Journal of Policy Analysis and Management* 33, 2 (2014): 290-319.

2 For more information on where SSC enrollees' control group counterparts went to school — that is, the treatment contrast — see Table 3.1 in Howard Bloom, Saskia L. Thompson, and Rebecca Unterman, *Transforming the High School Experience: How New York City's New Small Schools Are Boosting Student Achievement and Graduation Rates* (New York: MDRC, 2010).

3 Bloom and Unterman (2014).

4 Howard Bloom, Rebecca Unterman, Sean Reardon, and Pei Zhu, “Lessons from New York City’s Small Schools of Choice about High-School Features That Promote Graduation for Disadvantaged Students,” unpublished paper presented at the Society for Research on Educational Effectiveness Spring 2018 Conference, Washington DC, February 28-March 3, 2018; Howard Bloom, Rebecca Unterman, Sean Reardon, and Pei Zhu, “Lessons from New York City’s Small Schools of Choice about High-School Features That Promote Graduation for Disadvantaged Students,” unpublished paper presented at the Association for Public Policy Analysis and Management 2018 Fall Research Conference, Washington DC, November 8-10, 2018.

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7 James J. Kemple, *Career Academies: Long-Term Impacts on Labor Market Outcomes, Educational Attainment, and Transitions to Adulthood* (New York: MDRC, 2008); Andrea Berger, Lori Turk-Bicakci, Michael Garet, Mengli Song, Joel Knudson, Clarisse Haxton, Kristina Zeiser, Gur Hoshen, Jennifer Ford, Jennifer Stephan, Kaeli Keating, and Lauren Cassidy, Early College, *Early Success: Early College High School Initiative Impact Study* (Washington, DC: American Institutes for Research, 2013).

8 Rebecca Unterman, *Headed to College: The Effects of New York City's Small High Schools of Choice on Postsecondary Enrollment* (New York: MDRC, 2014).

9 This approach is described in greater detail in the Research Design section of Bloom and Unterman (2014).

10 Kemple (2008); Raj Chetty, John N. Friedman, Nathaniel Hilger, Emmanuel Saez, Diane Whitmore Schanzenbach, and Danny Yagan, “How Does Your Kindergarten Classroom Affect Your Earnings? Evidence from Project STAR,” *The Quarterly Journal of Economics* 126, 4 (2011): 1593-1660.

ACKNOWLEDGMENTS

This report is funded by the Walton Family Foundation; this project has also benefitted from funding from the Bill and Melinda Gates Foundation and the Spencer Foundation. The study would not have been possible without continued support and cooperation from so many people at the New York City Department of Education that there are too many to name. In addition, the study benefited from discussions with Alvin Roth, Parag Pathak, Atila Abdulkadiroglu, and Neil Dorosin, creators of New York’s High School Application Processing System, who shared their insights about the study design. Furthermore, the study received much helpful advice from Jennifer Hill, Brian Jacob, Thomas Kane, Jeffrey Kling, Sean Reardon, and Richard Murnane, and from current and former colleagues at MDRC: Gordon Berlin, Fred Doolittle, John Hutchins, Rob Ivry, James Kemple (formerly of MDRC), Saskia Levy Thompson (formerly of MDRC), Cynthia Miller, Pei Zhu, Sara Staszak, and Madeline Price. Finally, we would like to thank our MDRC colleague and collaborator Howard Bloom for his help with this policy brief.

Dissemination of MDRC publications is supported by the following funders that help finance MDRC’s public policy outreach and expanding efforts to communicate the results and implications of our work to policymakers, practitioners, and others: The Annie E. Casey Foundation, Charles and

Lynn Schusterman Family Foundation, The Edna McConnell Clark Foundation, Ford Foundation, The George Gund Foundation, Daniel and Corinne Goldman, The Harry and Jeanette Weinberg Foundation, Inc., The JPB Foundation, The Joyce Foundation, The Kresge Foundation, Arnold Ventures, Sandler Foundation, and The Starr Foundation.

In addition, earnings from the MDRC Endowment help sustain our dissemination efforts. Contributors to the MDRC Endowment include Alcoa Foundation, The Ambrose Monell Foundation, Anheuser-Busch Foundation, Bristol-Myers Squibb Foundation, Charles Stewart Mott Foundation, Ford Foundation, The George Gund Foundation, The Grable Foundation, The Elizabeth and Frank Newman Charitable Foundation, The New York Times Company Foundation, Jan Nicholson, Paul H. O’Neill Charitable Foundation, John S. Reed, Sandler Foundation, and The Stupski Family Fund, as well as other individual contributors.

The findings and conclusions in this report do not necessarily represent the official positions or policies of the funders.

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A First Look at the Effects of New York City’s Small Schools of Choice on Persistence in Postsecondary Education, Postsecondary Degree Attainment, and Labor Market Outcomes

By Rebecca Unterman and Zeest Haider



Taking advantage of lottery-like features in New York City’s high school admissions process, MDRC has previously conducted rigorous research and published reports providing evidence that new small public high schools (Small Schools of Choice, or SSCs) are narrowing the educational attainment gap and markedly improving high school graduation rates, particularly for disadvantaged students. Findings in this policy brief bring together a uniquely diverse set of data — high school enrollment and graduation data from the New York City Department of Education, National Student Clearinghouse data, and New York State unemployment insurance data — to inform the field about the transition from high school to postsecondary education and the labor market. After following enrollees in SSCs for four years after graduation, the research team found that SSCs’ positive effect on enrollment in postsecondary education decreased but *persisted* — SSC enrollees were 4.6 percentage points more likely to have been enrolled than their control group counterparts. Students of all backgrounds experienced this effect. Despite entering postsecondary education at a greater rate, the subsample of SSC enrollees, for whom both postsecondary education enrollment and labor market data were available, were similarly employed, and SSCs had a positive effect of 4.8 percentage points on their probability of participating in “productive activity” (being enrolled in postsecondary education, employed, or both).