New York City's Small Schools of Choice:
A First Look at Effects on Postsecondary Persistence and Labor Market Outcomes
Appendix

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A

APPENDIX TABLE A. SSC Effects on Enrollment in Postsecondary Education Four Years After Graduating High School, 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[a]	27.7	23.1	4.6	**	<0.001
BY BARRON'S SELECTIVITY LEVEL (COHORTS 1-4)					
FOUR-YEAR COLLEGES					
MOST COMPETITIVE	0.8	0.3	0.5		0.556
HIGHLY COMPETITIVE	0.9	-	1.1		0.446
VERY COMPETITIVE	4.5	3.2	1.3		0.647
COMPETITIVE	4.9	4.4	0.6		0.435
LESS COMPETITIVE	1.5	1.1	0.4		0.855
NONCOMPETITIVE	5.2	5.0	0.2		0.755
TWO-YEAR COLLEGES					
SPECIAL/UNRANKED/TWO-YEAR	10.0	9.5	0.5		0.657

NOTES: Findings in this table are based on data for 21,113 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. Values for "Highly competitive" are unable to be estimated due to small sample sizes.

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.

[a]This outcome includes students enrolled in a postsecondary institution at any point in the fourth year after four-year high school graduation.

B

APPENDIX TABLE B. SSC Effects on Enrollment in Postsecondary Education Four Years After Graduating High School, by Student Subgroup, Cohorts 1-4

STUDENT CHARACTERISTICS (%)	TARGET SSC ENROLLEES	CONTROL GROUP COUNTERPARTS	ESTIMATED EFFECT		P-VALUE FOR ESTIMATED EFFECT
LOW-INCOME STATUS					
ELIGIBLE FOR FREE/REDUCED-PRICE LUNCH	27.3	22.2	5.1	**	<0.001
NOT ELIGIBLE FOR FREE/REDUCED-PRICE LUNCH	32.1	29.0	3.1		0.055
RACE/ETHNICITY, BY GENDER					
BLACK MALE	21.2	14.0	7.2	**	<0.001
BLACK FEMALE	36.4	32.3	4.1	*	0.023
HISPANIC MALE	21.1	17.6	3.5		0.072
HISPANIC FEMALE	27.3	24.0	3.3		0.078
OTHER MALE	45.5	44.4	1.1		0.886
OTHER FEMALE	52.8	45.3	7.5		0.051
8TH-GRADE READING PROFICIENCY					
DID NOT MEET STANDARDS (LEVEL 1)	12.1	10.1	2.0		0.442
PARTIALLY MET STANDARDS (LEVEL 2)	20.4	15.7	4.7	**	<0.001
FULLY MET STANDARDS (LEVEL 3)	45.4	40.2	5.2	**	<0.001
MET STANDARDS WITH DISTINCTION (LEVEL 4)	53.7	51.2	2.5		0.873

NOTES: Findings in this table are based on data for 21,113 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.

C

Facts About the Data Used in This Policy Brief

NATIONAL STUDENT CLEARINGHOUSE

- How does the research team obtain these data?
  - ○ National Student Clearinghouse data is matched and given to the research team by the New York City Department of Education (NYCDOE).

- For whom does the research team have these data?
  - ○ The team has data for all students who graduated high school in four, five, or six years.

- What information does this dataset contain?
  - ○ The dataset contains flags for any valid registrations at postsecondary institutions by year; flags for degree attainment at postsecondary institutions by year; and variables for type of degree program, both for enrollment and degree attainment. The research team has converted these variables from academic year to follow-up year for students. The data contain information for academic years 2009-2010 through 2017-2018.

NEW YORK STATE UNEMPLOYMENT INSURANCE DATA

- How does the research team obtain these data?
  - ○ NYCDOE matches Summer Youth Employment (SYEP) program data to sample students.

- For whom does the research team have these data?
  - ○ The team has data for any student who applied to the SYEP program and was matched to the New York State unemployment insurance data.

- What information does this dataset contain?
  - ○ The dataset contains quarterly earnings from 2002 through Quarter 3 of 2015. The research team aggregates the quarterly data into follow-up years, aligned with school years for analysis. (Quarters 3, 4, 1, and 2 are added together to create a follow-up year aligned with the NYCDOE school calendar.) Each student has data for the year the student applied to SYEP, for up to prior three years, and for subsequent years. Missing values indicate a student has no match in the unemployment insurance data for that year. Zero values indicate no earnings, either reported or included in the dataset.

D

APPENDIX TABLE D. Baseline Characteristics of SSC First-Time Lottery Participants, Random Assignment Sample, Cohorts 1-4

CHARACTERISTIC (%)	SSC LOTTERY WINNERS	CONTROL GROUP MEMBERS	ESTIMATED DIFFERENCE	P-VALUE FOR ESTIMATED DIFFERENCE
RACE/ETHNICITY				
HISPANIC	47.2	47.8	-0.7	0.433
BLACK	43.9	43.7	0.2	0.789
INDIAN	0.5	0.6	0.0	0.725
WHITE	4.3	4.1	0.3	0.404
ASIAN	3.3	3.3	0.0	0.922
MALE	46.1	45.4	0.7	0.383
ELIGIBLE FOR FREE/REDUCED-PRICE LUNCH	83.9	84.1	-0.2	0.769
ENGLISH-LANGUAGE LEARNER	6.2	5.8	0.4	0.289
SPECIAL EDUCATION[a]	6.7	6.9	-0.2	0.640
OVERAGE FOR 8TH GRADE[b]	15.0	15.5	-0.5	0.445
8TH-GRADE READING PROFICIENCY[c]				
Z-SCORED 8TH-GRADE READING PROFICIENCY	-15.6	-14.5	-1.1	0.315
8TH-GRADE MATH PROFICIENCY[c]				
Z-SCORED 8TH-GRADE MATH PROFICIENCY	-24.1	-22.9	-1.1	0.298
SAMPLE SIZE (TOTAL=21,113)	10,836	10,277		
NUMBER OF LOTTERIES (TOTAL=305)				

SOURCES: MDRC's calculations use High School Application Processing System and New York City Department of Education (DOE) state test data for eighth-graders from the 2004-2005 to 2007-2008 school years, as well as data from DOE enrollment files from the 2005-2006 to 2008-2009 school years.

NOTES: Values for SSC lottery winners are the simple means for all lottery winners. Values for the difference between SSC lottery winners and control group members are obtained from a regression of a given baseline characteristic on a series of indicator variables that identify each lottery plus an indicator variable that equals 1 for lottery winners and 0 for lottery losers. The coefficient on the latter indicator variable equals the difference in the mean baseline characteristic for lottery winners and control group members. The value for control group members equals the corresponding value for SSC lottery winners minus the estimated difference between lottery winners and control group members. To facilitate computation, all variables are centered on the mean value for the lottery they represent. This approach is equivalent to directly accounting for each lottery by adding a 0/1 indicator variable for it (Wooldridge, 2000). In some cases, rounding may cause slight discrepancies.

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.

[a]This sample includes special education students who can be taught in the regular classroom setting. Special education students whom the DOE classified as requiring collaborative team teaching services or self-contained classes are not part of this sample.

[b]Lottery participants are classified as "overage for eighth grade" if they were 14 or older on September 1 of the eighth-grade school year.

[c]Students scoring at proficiency levels 1 and 2 are not considered to be performing at grade level for state math and reading exams.

E

APPENDIX TABLE E. Baseline Characteristics of SSC First-Time Lottery Participants, Cohorts 1-4 with Earnings Data

CHARACTERISTIC (%)	SSC LOTTERY WINNERS	CONTROL GROUP MEMBERS	ESTIMATED DIFFERENCE	P-VALUE FOR ESTIMATED DIFFERENCE
RACE/ETHNICITY				
HISPANIC	42.0	41.8	0.1	0.910
BLACK	52.4	52.9	-0.4	0.701
INDIAN	0.5	0.5	0.0	0.967
WHITE	2.3	2.0	0.3	0.394
ASIAN	2.2	2.3	-0.2	0.667
MALE	41.8	41.1	0.7	0.533
ELIGIBLE FOR FREE/REDUCED-PRICE LUNCH	84.9	85.6	-0.7	0.480
ENGLISH-LANGUAGE LEARNER	4.2	3.6	0.6	0.219
SPECIAL EDUCATION[a]	7.3	7.5	-0.2	0.712
OVERAGE FOR 8TH GRADE[b]	13.9	14.2	-0.3	0.706
8TH-GRADE READING PROFICIENCY[c]				
Z-SCORED 8TH-GRADE READING PROFICIENCY	-14.8	-14.5	-0.4	0.796
8TH-GRADE MATH PROFICIENCY[c]				
Z-SCORED 8TH-GRADE MATH PROFICIENCY	-25.2	-25.3	0.1	0.940
SAMPLE SIZE (TOTAL=10,830)	5,571	5,259		
NUMBER OF LOTTERIES (TOTAL=302)				

SOURCES: MDRC's calculations use High School Application Processing System and New York City Department of Education (DOE) state test data for eighth-graders from the 2004-2005 to 2007-2008 school years, as well as data from DOE enrollment files from the 2005-2006 to 2008-2009 school years.

NOTES: See notes to Appendix Table D for an explanation of how differences were determined. In some cases, rounding may cause slight discrepancies.

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.

[a]This sample includes special education students who can be taught in the regular classroom setting. Special education students whom the DOE classified as requiring collaborative team teaching services or self-contained classes are not part of this sample.

[b]Lottery participants are classified as "overage for eighth grade" if they were 14 or older on September 1 of the eighth-grade school year.

[c]Students scoring at proficiency levels 1 and 2 are not considered to be performing at grade level for state math and reading exams.

F

APPENDIX TABLE F. SSC Effects on Student Employment Four Years After High School, by Student Subgroups, Cohorts 1-4 with Earnings Data

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	69.7	68.6	1.1		0.665	5,881
NOT ELIGIBLE FOR FREE/ REDUCED-PRICE LUNCH	71.4	72.2	-0.9		0.818	3,020
RACE/ETHNICITY, BY GENDER						
BLACK MALE	67.7	60.0	7.7		0.118	1,882
BLACK FEMALE	71.5	74.6	-3.1		0.413	2,762
HISPANIC MALE	67.5	71.7	-4.2		0.441	1,600
HISPANIC FEMALE	73.8	70.0	3.8		0.364	2,103
OTHER MALE	68.1	27.4	40.7	*	0.019	235
OTHER FEMALE	64.8	71.4	-6.6		0.686	267
8TH-GRADE READING PROFICIENCY						
PERFORMED AT A LOW LEVEL	67.0	66.0	1.0		0.796	2,751
PERFORMED AT A MEDIUM LEVEL	71.3	70.9	0.3		0.902	4,917
PERFORMED AT A HIGH LEVEL	72.9	72.3	0.6		0.915	1,233

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.

G

APPENDIX TABLE G. SSC Effects on Student Earnings Four Years After High School, by Student Subgroups, Cohorts 1-4 with Earnings Data

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	5,992.5	6,009.2	-16.6		0.973	5,881
NOT ELIGIBLE FOR FREE/ REDUCED-PRICE LUNCH	6,488.2	7,025.8	-537.6		0.460	3,020
RACE/ETHNICITY, BY GENDER						
BLACK MALE	6,220.0	5,903.6	316.4		0.729	1,882
BLACK FEMALE	5,641.2	5,793.6	-152.5		0.809	2,762
HISPANIC MALE	6,436.6	9,418.3	-2,981.7	*	0.022	1,600
HISPANIC FEMALE	6,648.8	6,468.6	180.2		0.822	2,103
OTHER MALE	6,992.5	8,146.5	-1,154.0		0.789	235
OTHER FEMALE	4,969.7	-	5,817.1	*	0.015	267
8TH-GRADE READING PROFICIENCY						
PERFORMED AT A LOW LEVEL	5,669.7	5,796.9	-127.2		0.850	2,751
PERFORMED AT A MEDIUM LEVEL	6,339.6	6,883.8	-544.2		0.339	4,917
PERFORMED AT A HIGH LEVEL	6,454.7	5,694.9	759.8		0.526	1,233

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. Values for "Other female" are unable to be estimated due to small sample sizes.

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.