August 2018

Middle School Concentration:
Some Schools Had a Large Share of Students From Lower-Income & Education, High-Crime Neighborhoods

Summary

Most studies that have looked at the effect of where a student lives on their academic success have focused on poverty. In this report IBO goes a step further, bringing three factors from a student's neighborhood into play: median household income, educational attainment of adults in the community, and the rate of violent crime.

In bringing these three neighborhood characteristics together we create a profile of the socioeconomic status of the student body at individual schools. We have done this concentrating on the city's public middle schools because these school years play such a large role in shaping a student's academic progress. Our study includes 158,450 students at 279 public middle schools (traditional and charter) in grades 5-8 in school year 2013-2014. For each of these students we capture the neighborhood characteristics based on the census tract in which they lived. We use these individual student profiles to compare the socioeconomic status of middle school students citywide with the socioeconomic make-up of each middle school. And we define low socioeconomic status as meaning students lived in neighborhoods with at least one of these characteristics: census tracts with comparatively low median household incomes, or low educational attainment among adults, or high rates of violent felonies. Among our findings:

- Students in the city's public middle schools tended to come from neighborhoods with lower median household incomes, lower rates of educational attainment, and higher rates of violent felonies than neighborhoods in the city as a whole.
- More than half of the city's students who came from neighborhoods with low socioeconomic status were concentrated in just 25 percent of the city's public middle schools.
- Nearly one-third of middle schools had enrollments in which 85 percent to 99 percent of students resided in low-socioeconomic status neighborhoods.

If students were randomly distributed across neighborhoods and across middle schools, the share of students from neighborhoods with low socioeconomic status would be similar from school to school. Clearly, this was not the case. The report's appendix includes a list of the 25 middle schools with the highest and lowest concentrations of students from neighborhoods with low socioeconomic status.

Background

Research over the last several decades has cited the impact of students' neighborhood socioeconomic conditions on students and schools, but most of the empirical literature on neighborhood effects has focused on poverty, which is almost always defined in economic terms.[1] This brief will add to newer studies that highlight the value of multiple measures of neighborhood socioeconomic status (SES) in education research. The goal of this brief is to present and analyze the distribution of three characteristics of students' neighborhoods, including median household income, the level of educational attainment of adults in the community, and the rate of violent felony crime.

Studies show the concentration of neighborhood factors in a school can affect students' motivation, achievement, and interactions with classmates and teachers.[2] Neighborhood household income and level of educational attainment are a proxy for the financial resources and formal learning opportunities available to students in their daily lives. For example, a recent study has shown children who relocate to neighborhoods with higher rates of bachelor's degree attainment and higher median income have higher rates of college attendance and earnings as adults.[3] The incidence of violent crime is a measure of the safety of the neighborhood. Exposure to, or fear of, a violent felony affects students' ability to focus on academic tasks and has been associated with reduced standardized test performance.[4] By aggregating students' neighborhood characteristics to the school level, we will describe the socioeconomic profile of middle schools in New York City as well as the concentration of students' neighborhood characteristics within and across schools.

We chose middle schools to begin examining neighborhood data because the middle school years are when community factors play a larger role in shaping students' academic trajectories. Students at this age begin spending more time out in their neighborhood unsupervised by adults, allowing more opportunity for the social environment to affect their academic achievement.[5] Also, middle schools in New York have used a centralized choice process since 2008-2009. Thus, understanding the make-up of a middle school's student population depends in part on understanding the conditions of the neighborhoods that those students come from.

All student data is from the 2013-2014 school year. Throughout this paper, all discussion of students refers to middle school students attending public middle schools
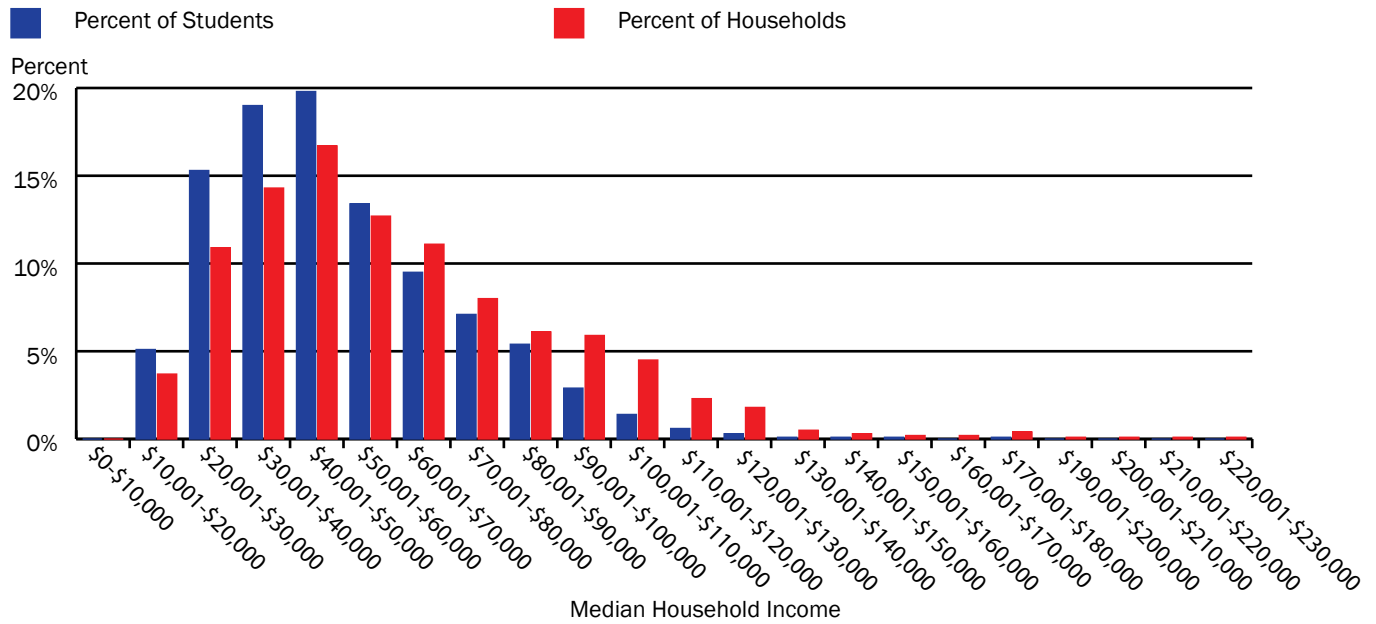
(both charter and traditional, or district, schools) in New York City. Our sample includes 279 middle schools totaling 158,450 students in grades 5 through 8 in school year 2013-2014. Our middle school sample comprises schools configured as 5-8 that serve at least two of those grade levels. We exclude homeschooled students, schools and programs devoted exclusively to special education (District 75), and alternative education programs (District 79).

Neighborhood Characteristics

All neighborhood characteristics are measured on the census tract level. Census tracts are geographically small enough to capture a realistic definition of a neighborhood. Furthermore, their population, which ranges from 1,200 to 8,000 residents—with an average and median of roughly 4,000 and 3,500 residents, respectively—is large enough to provide sufficiently reliable estimates.[6] There are a total of 2,167 census tracts in New York City. IBO identifies the census tract in which each student resides based on data that includes each student's home address. The variables we analyzed at the tract level include: 1) the share of residents ages 25 and older that have attained a bachelor's degree or higher (master's, doctorate, or professional degree), which reflects data that is averaged across five years, 2009-2013, by the U.S. Census Bureau and published as part of the American Community Survey; 2) median household income, which also comes from the 2009-2013 American Community Survey (incomes are adjusted for inflation and averaged across the five years); and 3) the five-year average rate of violent felony crime per 1,000 residents, a figure we calculate based on the number of crimes that occurred from 2009 through 2013 as recorded by the New York Police Department.[7]

We examine the distribution of neighborhood variables across three levels of measurement: for the city as a whole, for public middle school students, and for the particular students at each public middle school. Because New York City is so diverse in its social and economic characteristics, we first look at the distribution of socioeconomic characteristics across all New York City census tracts to provide a broad view of neighborhoods across the city. Second, we look at the characteristics of the 2,137 census tracts in which middle school students live. Many New Yorkers do not have school-age children or children enrolled in a public school, thus the communities in which New York City public middle school students reside are not necessarily representative of the city as a whole. Third, we aggregate each student's census tract data to the school level to describe the socioeconomic status of the student body at individual middle schools and
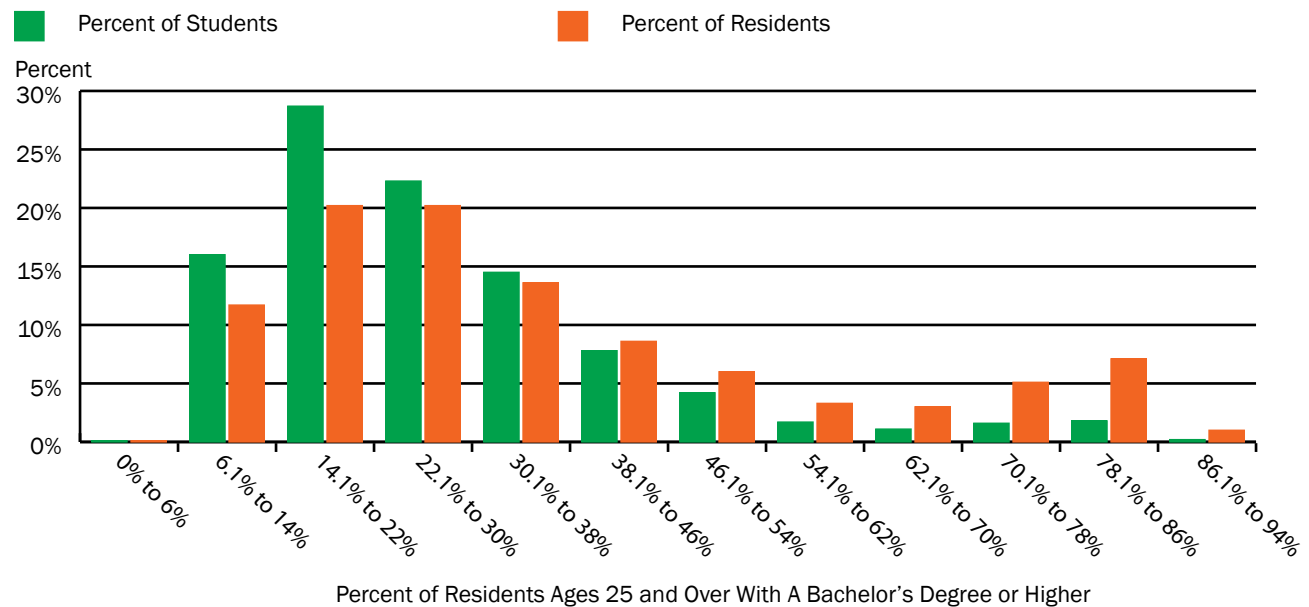
Distribution of Median Household Income

Legend: ■ Percent of Students (blue) ■ Percent of Households (red)

Percent

The chart shows Percent (y-axis, 0% to 20%) by Median Household Income (x-axis, ranging from $0-$10,000 to $220,001-$230,000).

SOURCES: American Community Survey; Department of Education

New York City Independent Budget Office

Distribution of Educational Attainment

Legend: ■ Percent of Students (green) ■ Percent of Residents (orange)

Percent

The chart shows Percent (y-axis, 0% to 30%) by Percent of Residents Ages 25 and Over With A Bachelor's Degree or Higher (x-axis, ranging from 0% to 6% through 86.1% to 94%).

SOURCES: American Community Survey; Department of Education
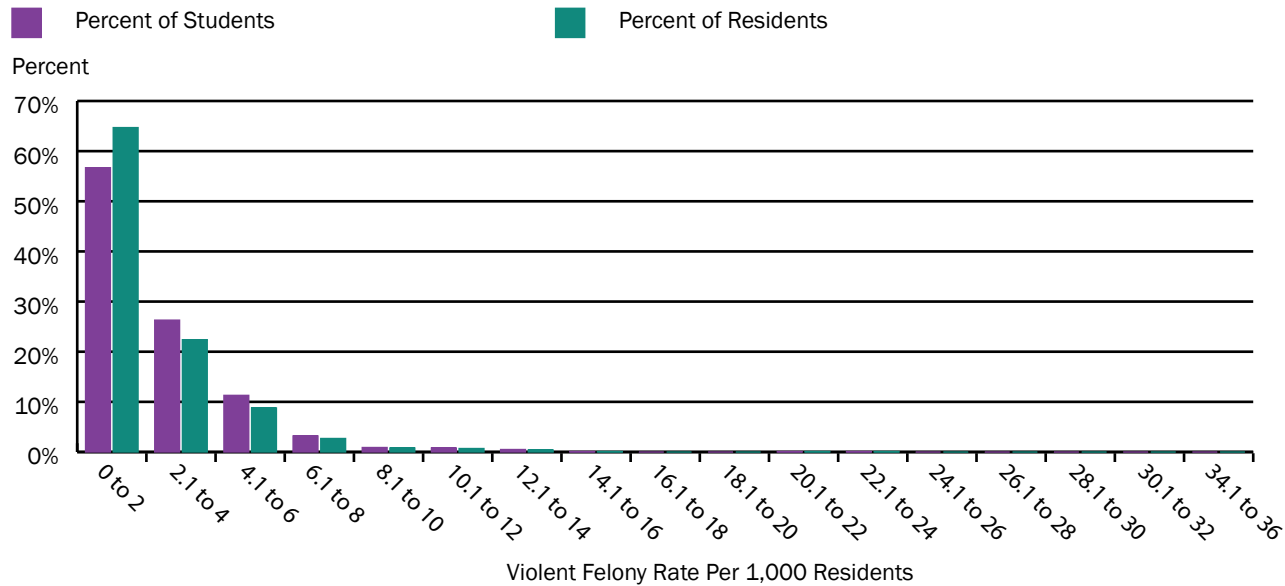
New York City Independent Budget Office

measure the extent to which neighborhood characteristics are concentrated within and across schools.

New York City Neighborhoods and Middle School Students' Neighborhoods

The three distributions of socioeconomic status in the graphs above and on page 4 compare students' neighborhoods to neighborhoods across the city. We weight the citywide SES distributions by appropriate census tract population estimates to account for differences in relevant populations among census tracts.[8] The distributions of middle school students' neighborhood income and level of educational attainment are shifted to the left compared with the distributions of all neighborhoods citywide, indicating a larger share of students lived in neighborhoods with lower median income and lower levels of educational attainment compared with all New York City residents. For

Violent Felony Rates

Legend: ■ Percent of Students   ■ Percent of Residents

Percent

Y-axis: 70%, 60%, 50%, 40%, 30%, 20%, 10%, 0%

X-axis: 0 to 2, 2.1 to 4, 4.1 to 6, 6.1 to 8, 8.1 to 10, 10.1 to 12, 12.1 to 14, 14.1 to 16, 16.1 to 18, 18.1 to 20, 20.1 to 22, 22.1 to 24, 24.1 to 26, 26.1 to 28, 28.1 to 30, 30.1 to 32, 34.1 to 36

Violent Felony Rate Per 1,000 Residents

SOURCES: Department of Education; New York City Police Department via NYC OpenData

New York City Independent Budget Office

example, 5.1 percent of students lived in the lowest-income neighborhoods (those with $10,000 to $20,000 median household income) compared with 3.7 percent of the citywide population. Similarly, 16.1 percent of public middle school students lived in neighborhoods with the lowest average educational attainment (where 0 to 14 percent of adult residents attained a bachelor's degree or higher) compared with 11.8 percent of the citywide population.

Conversely, the distributions of students' neighborhoods' rates of violent crime are shifted slightly to the right, indicating a slightly larger share of middle school students lived in neighborhoods with higher rates of violent crime compared with all New York City residents. For example, 17 percent of students lived in neighborhoods with the highest rates of violent felonies, four or more violent felonies per 1,000 residents, compared with 13.7 percent of the citywide population.

City, Student, and School Distributions of Neighborhood Socioeconomic Status

Neighborhood Income. The neighborhoods in which New York City public middle school students resided tended to have lower incomes and lower levels of educational attainment, and slightly higher rates of violent felonies compared with the neighborhoods of the total population of New York City. We compared the socioeconomic status of students' neighborhoods with the averages for the student body of the middle schools they attended by computing the mean across the student-level measure of neighborhood

variables for each middle school. The student body of each middle school had, on average, lower income, lower educational attainment at the median and top quartile of the distribution, and higher rates of violent crime compared with those measures among all students' neighborhoods. The differences in the distributions of these three measures of socioeconomic status are summarized in the table below and two on page 5.

Focusing on the 2,137 New York City census tracts in which public middle school students reside shows that these students tended to live in lower income neighborhoods compared with the total population of New York City. The 25th and 75th percentiles, which mark the bottom and top quarters of the distribution of incomes in neighborhoods with middle school students, were $32,380 and $62,170, respectively; they were approximately $5,000 and $14,000 less than the income thresholds for the bottom quarter and top quarter for all neighborhoods in the city.[7]

Distribution of Median Household Income

	25th Percentile	Median	75th Percentile
New York City Neighborhoods	$37,222	$52,803	$76,431
Middle School Students' Neighborhoods	$32,380	$45,430	$62,170
Middle Schools' Average	$31,800	$40,220	$51,270

SOURCES: American Community Survey; Department of Education
New York City Independent Budget Office

In half of all middle schools, students came from neighborhoods with an average income of $40,220 or below, roughly $5,000 less than the neighborhood income level of half of the neighborhoods of the student population. The average income of the top quarter of middle schools, ranked by the income of the neighborhoods where the students at each school lived, was $51,300 and above. This was $11,000 lower than the top quarter when looking at the distribution of middle school students' neighborhood income. The difference between middle schools' average income and the income level of students' neighborhoods indicates that students from low-income neighborhoods were concentrated in a subset of all middle schools, with some middle schools serving large shares of students from lower-income neighborhoods.

Educational Attainment. The level of educational attainment in middle school students' neighborhoods was noticeably lower than for all neighborhoods in the city. In the top quarter of students' neighborhoods at least 34 percent of residents attained a bachelor's degree or higher, which was 13 percentage points lower than the level of educational attainment in the top quarter of all New York City neighborhoods. The median and bottom quarter of educational attainment in middle school students' neighborhoods, 24 percent and 16 percent, respectively, were approximately 5 percentage points and 3 percentage points lower than the level of educational attainment across all New York City neighborhoods.

Middle schools' average for their students' neighborhood level of educational attainment was lower than that of the neighborhoods in which all public middle school students reside. On the one hand, the bottom quarter of middle schools' average level of educational attainment was approximately 3 percentage points higher than the bottom quarter of students' neighborhood educational attainment. But the top quarter of middle schools measured by the neighborhood educational attainment of the students

Distribution of Level of Educational Attainment: Bachelor's Degree			
	25th Percentile	Median	75th Percentile
New York City Neighborhoods	19.3%	29.1%	46.7%
Middle School Students' Neighborhoods	16.4%	23.8%	33.7%
Middle School Average	19.2%	23.0%	30.0%
SOURCES: American Community Survey; Department of Education			
New York City Independent Budget Office			

| Distribution of Violent Felonies Per 1,000 Residents			
	25th Percentile	Median	75th Percentile
New York City Neighborhoods	0.7	1.6	3.3
Middle School Students' Neighborhoods	1.0	2.2	3.8
Middle School Average	2.3	3.3	4.4
SOURCES: Department of Education; New York City Police Department via NYC OpenData			
New York City Independent Budget Office			

attending each middle school was roughly 4 percentage points lower than the neighborhood educational attainment of all middle school students. This indicates that some middle schools serve larger shares of students from neighborhoods that are on the lower end of the educational attainment spectrum.

Neighborhood Violence. New York City public middle school students lived in neighborhoods with a higher rate of violent felonies than the average New York City resident. The felony rate of the bottom quarter of students' neighborhoods—up to 1 felony per 1,000 residents—was 43 percent higher than that of the bottom quarter of all New York City neighborhoods. Likewise, half of all middle school students lived in neighborhoods with a felony rate of up to 2.2 per 1,000 residents, which was 38 percent higher than half of all New York City neighborhoods.

The average rate of violent felonies for each middle school, based on the neighborhoods of the school's students, was higher than that of the neighborhoods of all middle school students. In the bottom quarter of the distribution, middle schools' average felony rate was up to 2.3 felonies per 1,000 residents, more than twice the rate of the bottom quarter of the neighborhoods with middle school students. Similarly, half of all middle schools had an average felony rate of up to 3.3 felonies per 1,000 residents, which was 50 percent higher than the felony rate of half of students' neighborhoods. For the top quarter of middle schools ranked by the average of the neighborhood felony rate for the school's students there were 4.4 violent crimes per 1,000 residents, 15 percent higher than the felony rate in the top quarter of students' neighborhoods, citywide. The higher average neighborhood felony rate across middle schools implies that some middle schools served large shares of students from neighborhoods with higher incidences of violent crime.

When we aggregate students' census tracts to the school

Middle Schools' Shares of Students From Low Socioeconomic Status Neighborhoods
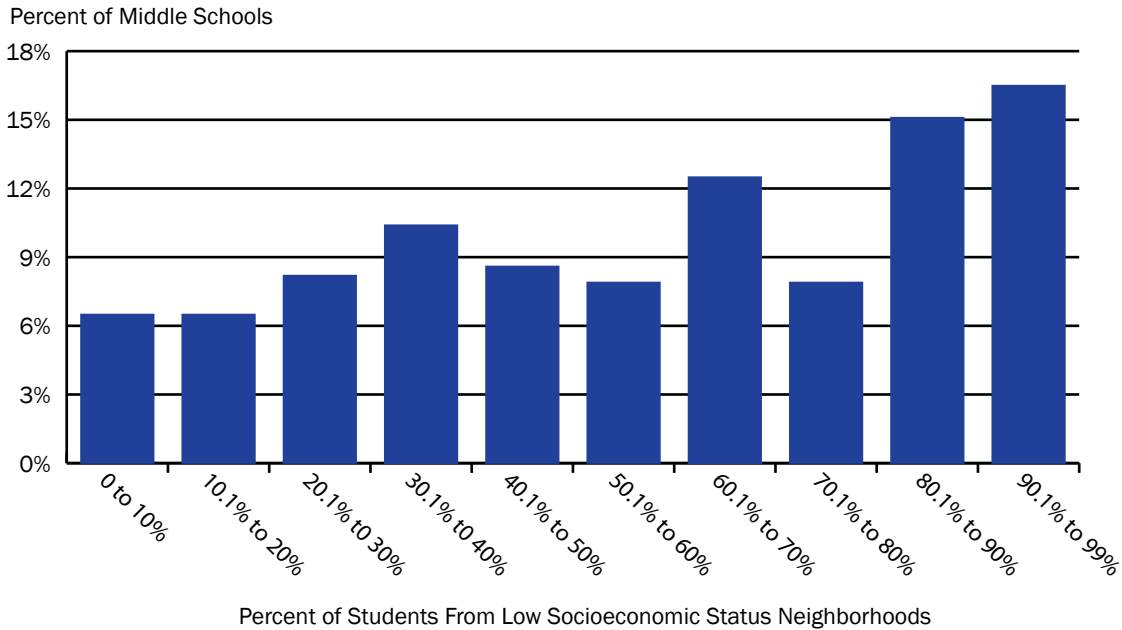
Percent of Middle Schools

Percent of Students From Low Socioeconomic Status Neighborhoods

SOURCES: American Community Survey; Department of Education

New York City Independent Budget Office

level, we find that middle schools on average had lower neighborhood income and lower neighborhood educational attainment, and higher crime rates compared with neighborhoods of the middle school student population as a whole. These differences are attributable to how students sort into schools. Even with a school choice process available to all middle school students, many schools tend to draw from limited geographic areas. In that case the students in a middle school likely come from the same census tract or tracts with similar socioeconomic profiles, leading to the clustering of students from particular socioeconomic levels.

Low Socioeconomic Status: Across & Within Schools

Given the differences we observe at the school level, IBO took a closer look at the concentration of students from neighborhoods that have low socioeconomic status (low-SES). There are many thresholds that can be used to define low-SES. We considered a student's neighborhood as having low-SES if it falls into at least one of the three low-SES characteristics:

- the bottom quartile of students' neighborhood median income,
- the bottom quartile of students level of educational attainment,
- the top quartile of students' neighborhood violent felony rates.

The distribution of students from low-SES neighborhoods was measured using two metrics. First we looked at the cumulative share of low-SES students systemwide. There were 72,029 middle school students—45 percent of all middle school students in our sample—who resided in a low-SES neighborhood. To understand the pattern of access to middle schools that is specific to students from low-SES neighborhoods, we wanted to know whether a disproportionately large share of these students attended a small share of schools. As shown in the chart below, 48 percent of all students from a low-SES neighborhood attended 75 percent of middle schools in our sample;

25 Percent of Middle Schools Serve Over Half of All Students From Neighborhoods With at Least One Low Socioeconomic Status Characteristic
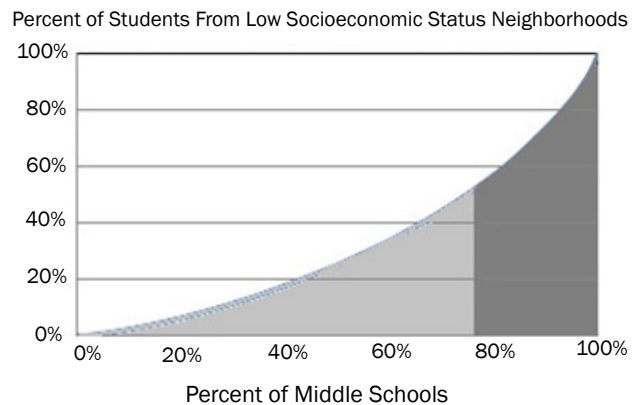
Percent of Students From Low Socioeconomic Status Neighborhoods

Percent of Middle Schools

SOURCES: American Community Survey; Department of Education
New York City Independent Budget Office

the full sample consisted of 279 schools. By extension, the other 52 percent of all students from a low-SES neighborhood attended just 25 percent of middle schools as shown in the darker grey area of the graph below. This 52 percent of students from low-SES neighborhoods represents a highly concentrated share; it is more than double the share that would be expected (25 percent) if low-SES students were equally distributed across schools.

Second, we examined the concentration of students from low-SES neighborhoods as a percentage of each middle school's enrollment. In the average middle school, 58 percent of students came from low-SES neighborhoods. In a majority of middle schools (60 percent of all middle schools) half or more students came from low-SES neighborhoods, ranging from 50 percent to 99 percent of students. Schools' shares of students from low-SES neighborhoods ranged from 0 percent to 99 percent. Nearly one-third of middle schools had enrollments in which 80 percent to 99 percent of students resided in low-SES neighborhoods. A table in the appendix lists the 25 middle schools with the highest and lowest concentrations of students from neightborhoods with low socioeconomic status in 2013-2014.

To examine the relationship between a school's size and its share of students from low-SES neighborhoods, we divided schools into three equal groups based on their enrollment. As the size of schools increased, the average share of students from low-SES neighborhoods decreased. In small schools, which ranged from 77 students to 293 students, on average 71 percent of students came from low-SES neighborhoods. In medium-sized schools, which ranged from 294 students to 559 students, on average 65 percent of students came from a low-SES neighborhoods. Large schools ranged from 576 to 2,442 students and had an average of 37 percent of students from low-SES

neighborhoods, just over half the share of low-SES students in small schools.

A Matter of Concentration

Our study elicited three main findings. The neighborhoods in which New York City public middle school students resided differed from neighborhoods in the city as a whole. They had lower median incomes, lower rates of educational attainment, and higher felony crime rates. While this indicates that public middle school students in general are from areas of the city with lower socioeconomic status, our study also looked at whether these differences are observed evenly across all middle schools.

If students were randomly distributed across neighborhoods and were also randomly distributed across middle schools, the share of students from low-SES neighborhoods would be similar from school to school. There would not be a concentration of such students in particular schools. But in stark contrast, we found a fraction of middle schools, 25 percent, served more than half of all students from low-SES neighborhoods. Lastly, when looking at the enrollment in each middle school, in the majority of schools, over half of the population was comprised of students from low-SES neighborhoods.

Differences in schools' socioeconomic status invite further research into the relationship between school SES and a host of measures of school quality, access, and outcomes. Ultimately, data on how students' neighborhood conditions aggregate into schools can provide an ecological approach to understanding some of the factors that affect students' academic progress and the ability of schools to foster it.

Report prepared by Stephanie Kranes

This report was corrected on October 26, 2018. The x-axis of the chart on page 6 " Middle Schools' Shares of Students From Low Socioeconomic Status Neighborhoods" was corrected. The text on page 7 was also corrected to reflect this change.

Share on

Facebook   Twitter   in

Appendix

Method of Constructing Scioeconomic Status Variables and Measures of Reliability

Student's home address and enrolled school were obtained from Department of Education files as part of IBO's regular data access process. Data was from the 2013-2014 school year. Addresses were geocoded by IBO to assign students to their census tract.

The median household income and educational attainment of each census tract were extracted from the American Community Survey, which is administered by the U.S. Census Bureau on an annual basis. We used the 2013 file, which reports five-year average data collected from 2009 through 2013. The income data represents pretax income, excluding noncash transfers, in 2013 inflation-adjusted dollars. Each survey estimate has an associated margin of error, from which we calculate the coefficient of variation (CV) as a measure of reliability. We follow the Census Bureau guidelines of excluding estimates that were either missing due to a lack of survey responses or a CV above 30 percent. Students who lived in a census tract whose data was excluded, or who have missing address data, do not have an estimate for that particular variable. For 3.5 percent of students the census tract median household income estimates were excluded. Of the 2,137 census tracts in which middle school students reside, 119 tracts were dropped. For 17.6 percent of middle school students the census tract level of educational attainment estimate was excluded and 190 tracts were dropped.

Felony crime data was downloaded from the New York City Police Department's Database of Historical Crime Data. Crimes were reported at the geographic midpoint of the street segment of their occurrence using degrees of latitude and longitude, which IBO geocoded to assign to census tracts. A total of 100,455 violent felony crimes were reported from 2009 through 2013 across the New York City's five boroughs. To calculate the rate of violent felonies for each census tract, we divided the total number of crimes that occurred in each census tract from 2009 through 2013 by five, representing the five years of data for each tract. This average number of crimes was then divided by the average number of residents in the tract over the same five-year period. Because violent felonies are relatively rare, the rates are calculated based on a segment of the population as opposed to per capita. Thus, the crime rate was multiplied by 1,000 to represent a fraction of the typical size of census tracts. Less than 1 percent of

students lived in a census tract where the population was less than 500 residents. The crime data in these students' tracts were dropped because the small census tract population resulted in an overstatement of their crime rate. Of the 2,137 census tracts in which middle school students reside, 53 tracts were dropped.

To account for variation in the population of census tracts, IBO weighted income estimates for each census tract by the population that the SES measure represents: median household income was weighted by the number of households in the tract, level of educational attainment was weighted by the number of residents ages 25 and older, and the rates of violent felony crime were weighted by the total population in the tract.

All New York City Neighborhoods vs. Public Middle School Students' Neighborhoods

Of the 2,167 census tracts in New York City, there are 30 census tracts in which none of the students who attend New York City public middle schools reside; a majority of these tracts are nonresidential and therefore we can expect no students to live in them. These 30 tracts are not included in the analysis on students' neighborhoods.

Aggregating Middle School Students' Census Tract Data to the School Level

When we aggregate students' census tracts to the school level, we calculate an average across students' neighborhood socioeconomic variables. Schools whose neighborhood SES data was missing from 20 percent or more of the student population were excluded from analysis. Sensitivity tests were applied to measure the loss of school-level information using various exclusion thresholds. A total of 57 schools' educational attainment data and four schools' income data were excluded. This allowed for more reliable school-level data without substantially compromising our sample size. The rates of violent felonies were retained in all schools. We do not weight schools' socioeconomic variables by their enrollment. The socioeconomic data for each school is automatically weighted by the number of times a particular census tract is entered into the school. For example, if a school draws 10 students from the same census tract with a median household income of $20,000, the average income of the students' neighborhoods in that school will reflect 10 instances of $20,000.

Schools With the Highest Shares of Students From Low-Socioeconomic Status Neighborhoods (93 Percent to 99 Percent) In 2013-2014

School Name	Borough	District
I.S. 229 Roland Patterson	Bronx	9
The Hunts Point School	Bronx	8
P.S./I.S. 224	Bronx	7
M.S. 302 Luisa Dessus Cruz	Bronx	8
The Angelo Patri Middle School	Bronx	10
Frederick Douglass Academy V. Middle School	Bronx	12
I.S. X303 Leadership & Community Service	Bronx	9
M.S. 203	Bronx	7
Essence School	Brooklyn	19
M.S. 301 Paul L. Dunbar	Bronx	8
I.S. 313 School of Leadership Development	Bronx	9
I.S. 232	Bronx	9
J.H.S. 022 Jordan L. Mott	Bronx	9
The Bronx School of Young Leaders	Bronx	10
I.S. 339	Bronx	9
Academy of Applied Mathematics and Technology	Bronx	7
Brownsville Collaborative Middle School	Brooklyn	23
Bronx Writing Academy	Bronx	9
Academy of Public Relations	Bronx	7
South Bronx Academy for Applied Media	Bronx	7
I.S. New Venture School	Bronx	9
J.H.S. 162 Lola Rodriguez de Tio	Bronx	7
Mott Hall III	Bronx	9
Thomas C. Giordano Middle School 45	Bronx	10
J.H.S. 292 Margaret S. Douglas	Brooklyn	19

SOURCES: IBO analysis of data from the American Community Survey; Department of Education; New York City Police Department via NYC Open Data

New York City Independent Budget Office

Schools With the Lowest Shares of Students From Low-Socioeconomic Status Neighborhoods (up to 17 Percent) In 2013-2014

School Name	Borough	District
J.H.S. 067 Louis Pasteur	Queens	26
I.S. 034 Tottenville	Staten Island	31
I.S. 075 Frank D. Paulo	Staten Island	31
I.S. 007 Elias Bernstein	Staten Island	31
M.S. 158 Marie Curie	Queens	26
J.H.S. 074 Nathaniel Hawthorne	Queens	26
I.S. 024 Myra S. Barnes	Staten Island	31
Irwin Altman Middle School 172	Queens	26
J.H.S. 216 George J. Ryan	Queens	26
I.S. 025 Adrien Block	Queens	25
J.H.S. 194 William Carr	Queens	25
Bell Academy	Queens	25
I.S. 072 Rocco Laurie	Staten Island	31
J.H.S. 234 Arthur W. Cunnigham	Brooklyn	22
I.S. 230	Queens	30
East Side Middle School	Manhattan	2
Marsh Avenue School for Expeditionary Learning	Staten Island	31
I.S. 141 The Steinway	Queens	30
J.H.S. 190 Russell Sage	Queens	28
Jean Nuzzi Intrermediate School	Queens	29
J.H.S. 185 Edward Bleeker	Queens	25
M.S. 255 Salk School of Science	Manhattan	2
J.H.S. 278 Marine Park	Brooklyn	22
I.S. 73-The Frank Sansivieri Intermediate School	Queens	24
I.S. R002 George L. Egbert	Staten Island	31

SOURCES: IBO analysis of data from the American Community Survey; Department of Education; New York City Police Department via NYC Open Data
New York City Independent Budget Office

Endnotes

[1]Sharkey, P., Schwartz, A., Ellen, I. (2013, March). High Stakes in the Classroom, High Stakes on the Street: The Effects of Community Violence on Students' Standardized Test Performance. Retrieved December 1, 2015, from http://furmancenter.org/files/Working_Paper_03-13.pdf.

[2]The Impact of School-Based Poverty Concentration on Academic Achievement & Student Outcomes. http://www.prrac.org/pdf/annotated_bibliography_on_school_poverty_concentration.pdf.

All Together Now: Creating Middle Class Schools. Richard Kahlenberg. Page 36, 170, 175. https://books.google.com/books?id=9GwxXpOP738C&pg=PA2&dq=all+together+now+creating+middle+class+schools+google+books&hl=en&sa=X&ved=0ahUKEwji_ZvX0PfSAhVpqFQKHX8HADIQ6AEIGjAA#v=onepage&q=concentration&f=false

[3]Chetty, R., Hendren, N., Katz, L. (2016, April). The Effects of Exposure to Better Neighborhoods on Children: New Evidence from the Moving to Opportunity Experiment. Retrieved April 14, 2016, from https://www.aeaweb.org/articles?id=10.1257/aer.20150572.

https://www.ets.org/s/research/pdf/poverty_and_education_report.pdf

[4]American Psychological Association (2016, January). Violence & Socioeconomic Status. Retrieved April 19, 2016, from http://www.apa.org/pi/ses/resources/publications/factsheet-violence.aspx

Sharkey, P., Schwartz, A., Ellen, I. (2013, March). High Stakes in the Classroom, High Stakes on the Street: The Effects of Community Violence on Students' Standardized Test Performance. Retrieved December 1, 2015, from http://furmancenter.org/files/Working_Paper_03-13.pdf.

American Psychological Association (2016, January). Violence & Socioeconomic Status. Retrieved April 19, 2016, from http://www.apa.org/pi/ses/resources/publications/factsheet-violence.aspx.

http://www.ncdsv.org/images/UNITY_ViolenceAndLearning.pdf.

[5]http://www.collab4youth.org/documents/NHSAAdultCompBrief.pdf.

[6]Throughout this paper "neighborhood" and "census tract" and "tract" are used interchangeably.

[7]The gap may reflect the share of middle school students enrolled in private school. According to the American Community Survey, the median share of private middle school enrollment across New York City census tracts averaged 9.8 percent during the five years, 2009-2013.