

Appendix A: School Segregation in Third Grade

For our report on achievement gaps we documented the extent of segregation in New York City's public schools, as experienced by our cohort (third graders in 2008-2009). We examined the extent to which students from one race were exposed to students from another race, and how schools were distributed in terms of enrollment of students from multiple races. The exercise is repeated with respect to students classified by performance to document the exposure of low-performing students to high-performing students, further disaggregated by race.

Based on our analysis of the 2008-2009 third grade cohort, New York City public elementary school students were highly segregated along racial lines (Table A-1). Given that Hispanics and blacks constitute the largest racial groups, almost all schools had at least a 5 percent share of Hispanic students and a large majority of schools had at least a 5 percent share of black students. A much smaller share of schools (41 percent) had at least 5 percent white students but because of clustering along racial lines, whites constituted a majority in 10 percent of the schools. Similarly, Asian students made up at least 5 percent of students in 44 percent of schools and were a majority in 6 percent. Black and Hispanic students each comprised the majority in about a third of schools.

Overall, almost 80 percent of schools had students from one race in the majority and there were few schools with even distribution of students from various races. As a result of clustering of students across schools by race only about a quarter of schools with 25 or more third graders had more than 5 percent white and at least 5 percent black students (Table A-1, Panel B). A larger share had at least 5 percent white and at least 5 percent Asian students, despite the fact that the citywide share of Asian students was less than half of that of black students. Because of their larger overall shares, almost half of the schools had at least 15 percent of Hispanic students and at least 15 percent of black students. Similarly there were few elementary schools where whites and Asians, or Asians and Hispanics each comprised a quarter of more of total students. Only a handful of schools contained a significant presence of students from three (or four) races.

As expected, segregation of students by race and large racial achievement gaps resulted in a highly skewed concentration of top-performing students. Few of the city's public schools serving 25 or more third graders had a significant presence of both high- and low-performing students. Trends were generally similar across ELA and mathematics, though high-performing students were more segregated than low-performers, in either subject.

Table A-1. School-Level Segregation, by Race and Third Grade Performance

Schools with at least 25 third graders in 2008-2009 taking the English Language Arts and mathematics tests

Panel A. Concentration of Students, Each Individual Race	White Students	Black Students	Hispanic Students	Asian Students		
Percentage of Schools With at Least						
5 percent of students of this race	41%	79%	94%	44%		
10 percent of students of this race	33%	68%	84%	33%		
25 percent of students of this race	23%	49%	57%	18%		
50 percent of students of this race	10%	30%	32%	6%		
Panel B. Concentration of Students From Two or More Races	White & Black Students	Hispanic & Black Students	Hispanic & Asian Students	White & Asian Students	White & Black & Hispanic Students	All Four Races
Percentage of Schools With at Least						
5 percent of students of this race	24%	74%	43%	32%	24%	18%
10 percent of students of this race	12%	57%	29%	21%	11%	5%
25 percent of students of this race	6%	45%	19%	15%	5%	1%
50 percent of students of this race	1%	25%	7%	7%	0%	---

SOURCE: IBO analysis of Department of Education data

NOTE: There were 751 New York City public schools with at least 25 third graders in 2008-2009.

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We also compare school peer composition for students belonging to various races, focusing on the school-level breakdown of students by race, poverty, and performance in third grade mathematics. Students of each race are much more likely to attend schools with higher shares of same-race students (Table A-2, Panel A). Hispanic and black students attend schools that have many more disadvantaged students, particularly compared with white students. They also attended schools with smaller shares of high-performing students.

The average high-performing student attended a school with a very different peer composition compared with the average low-performing student (Table A-2, Panel B). The differences across races are along expected lines, as seen earlier. The average high-performing black or Hispanic attended a school much different than that attended by the average high-performing white or Asian. High-performing blacks and Hispanics were enrolled in schools that were generally more similar to the schools attended by their same-race

low-performing peers, but vastly different compared with the schools attended by high-performing white and Asian students. A black high performer in math attended a school where the share of low-performing students was 25 percent whereas a white low-performer in math attended a school where that share was only 22 percent.

Figure 1, Panels A and B visually depict the segregation of students across the city's public schools by race and performance. Panel A shows that among the four races, black students were least exposed to high-performing students, followed by Hispanics. Most white and Asian students, on the other hand, attended schools with relatively high shares of high-performing students. Panel B documents these patterns are very similar if we restrict the sample of students to high performers, underlining the fact that many high-performing black and Hispanic students are concentrated in schools with low shares of high-performing students.

Table A-2. What Are The Types of Schools That Students From Each Race Attend?

Panel A: School Peer Composition					Whites	Blacks	Hispanics	Asians				
Ethnicity												
Percent of White Students					48%	5%	9%	19%				
Percent of Black Students					10%	61%	22%	11%				
Percent of Hispanic Students					23%	28%	58%	28%				
Percent of Asian Students					19%	5%	11%	42%				
Percent of Lunch-Eligible Students					55%	85%	87%	77%				
Percent of High-Performing Students (Math)					36%	19%	22%	36%				
Percent of Low-Performing Students (Math)					14%	32%	28%	15%				
					High-Performing Students (Math)				Low-Performing Students (Math)			
Panel B: School Peer Composition					White	Black	Hispanic	Asian	White	Black	Hispanic	Asian
Ethnicity												
Percent of White Students					50%	5%	11%	21%	40%	4%	7%	14%
Percent of Black Students					9%	62%	21%	9%	15%	60%	25%	17%
Percent of Hispanic Students					22%	26%	56%	27%	28%	31%	58%	33%
Percent of Asian Students					19%	6%	12%	43%	17%	4%	9%	35%
Percent of Lunch-Eligible Students					51%	83%	85%	74%	66%	87%	89%	85%
Percent of High-Performing Students (Math)					40%	26%	28%	40%	28%	15%	18%	27%
Percent of Low-Performing Students (Math)					12%	25%	22%	13%	22%	38%	34%	23%

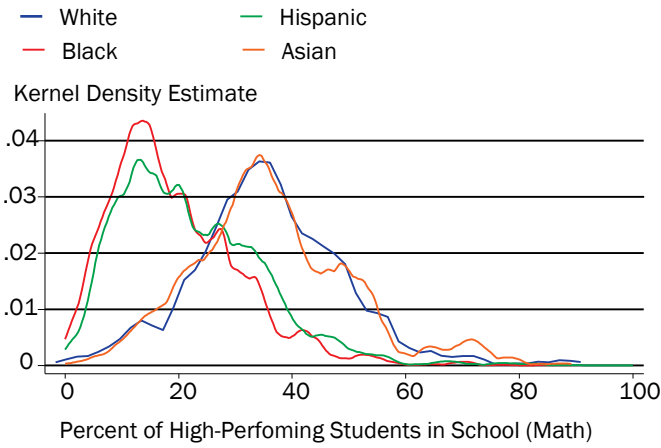
SOURCE: IBO analysis of Department of Education data

NOTES: The school peer composition data are at the school-by-grade level. The figures reflect peer characteristics that the average third grade student from each race faced in 2008-2009.

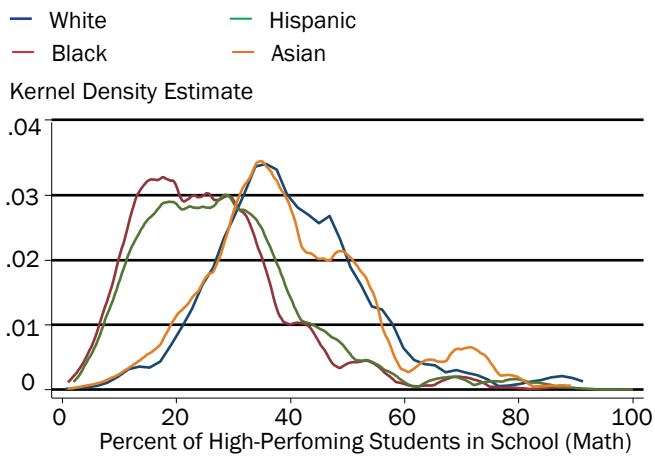
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Figure 1. Exposure to High-Performing (Math) Students, by Race and Third Grade Performance

Panel A: Exposure of Students From Various Races to High-Performing Students



Panel B: Exposure of High-Performing Students From Various Races to High-Performing Students



SOURCE: IBO Analysis of Department of Education data
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Appendix B: Different School Experience for Students of Different Racial Groups

Student Attrition

Attrition from New York City Public Schools

Table A-3. Attrition From 2008-2009 Through 2013-2014

	Percent Attending New York City Public Schools				
	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
All Students	98%	94%	90%	87%	86%
Disaggregated by Race and Third Grade Performance					
White Students	96%	94%	88%	85%	83%
High-Performing Students	97%	95%	89%	86%	84%
Low-Performing Students	96%	92%	88%	84%	82%
Black Students	97%	94%	90%	87%	85%
High-Performing Students	97%	94%	90%	87%	85%
Low-Performing Students	97%	93%	91%	88%	85%
Hispanic Students	97%	94%	91%	89%	87%
High-Performing Students	98%	94%	91%	88%	86%
Low-Performing Students	97%	95%	92%	89%	88%
Asian Students	97%	94%	91%	88%	86%
High-Performing Students	97%	94%	91%	87%	85%
Low-Performing Students	98%	95%	91%	89%	89%

SOURCE: IBO analysis of Department of Education data

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School Level Attrition in Late Elementary Grades

Table A-4. Staying, Moving and Leaving: Student Mobility During Elementary School Years

	Mobility During Elementary School Years From 2008-2009 Through 2010-2011		
	In Same School	Transferred to Another New York City Public School	Left New York City Public Schools
All Students	78%	16%	6%
Disaggregated by Race and Third Grade Performance			
White Students	86%	8%	6%
High-Performing Students	89%	6%	5%
Low-Performing Students	77%	15%	8%
Black Students	73%	21%	6%
High-Performing Students	77%	17%	6%
Low-Performing Students	68%	25%	6%
Hispanic Students	76%	18%	5%
High-Performing Students	80%	14%	5%
Low-Performing Students	72%	23%	5%
Asian Students	83%	11%	6%
High-Performing Students	84%	10%	6%
Low-Performing Students	81%	14%	5%

SOURCE: IBO analysis of Department of Education data

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School Level Attrition in Middle Grades

	Mobility During Middle School Years From 2011-2012 Trough 2013-2014		
	In Same school	Transferred to Another New York City Public School	Left New York City Public Schools
All Students	86%	8%	6%
Disaggregated by Race and Third Grade Performance			
White Students	90%	4%	6%
High-Performing Students	91%	3%	6%
Low-Performing Students	83%	9%	8%
Black Students	82%	11%	7%
High-Performing Students	85%	8%	6%
Low-Performing Students	78%	15%	8%
Hispanic Students	86%	8%	6%
High-Performing Students	89%	5%	6%
Low-Performing Students	83%	11%	6%
Asian Students	91%	4%	5%
High-Performing Students	90%	3%	7%
Low-Performing Students	91%	5%	4%

SOURCE: IBO analysis of Department of Education data
 NOTE: For mobility during middle school years, the sample only includes students of the baseline cohort who were in a school in sixth grade in 2011-2012 that also served grades 7 and 8.

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Previous versus New Schools (for movers during elementary grades)

	Share of Low-Performing Students (Mathematics)		Share of High-Performing Students (Mathematics)	
	Old School (Third Grade)	New School	Old School (Third Grade)	New School
All Students	30%	30%	22%	22%
Disaggregated by Race and Third Grade Performance				
White Students	19%	19%	32%	32%
High-Performing Students	16%	14%	36%	37%
Low-Performing Students	26%	27%	26%	27%
Black Students	34%	35%	18%	18%
High-Performing Students	27%	30%	23%	21%
Low-Performing Students	39%	39%	15%	16%
Hispanic Students	31%	31%	20%	21%
High-Performing Students	24%	27%	26%	22%
Low-Performing Students	35%	34%	17%	19%
Asian Students	17%	15%	35%	36%
High-Performing Students	14%	13%	39%	39%
Low-Performing Students	24%	23%	28%	29%

SOURCE: IBO analysis of Department of Education data
 NOTE: The sample is restricted to students from the original cohort who had transferred from one New York City public school to another New York City public school between 2008-2009 and 2010-2011.

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Choice of Middle School

Table A-7. Student Peer Groups in Fifth Grade School Versus in Sixth Grade School, Sixth Graders in 2011-2012

	Share of Low-Performing Students (Mathematics)		Share of High-Performing Students (Mathematics)	
	5 th Grade School	6 th Grade School	5 th Grade School	6 th Grade School
All Students	22%	22%	27%	27%
Disaggregated by Race and Third Grade Performance				
White Students	13%	12%	37%	39%
High-Performing Students	11%	10%	41%	43%
Low-Performing Students	19%	19%	31%	30%
Black Students	28%	28%	20%	21%
High-Performing Students	24%	22%	26%	28%
Low-Performing Students	34%	32%	17%	17%
Hispanic Students	25%	25%	23%	23%
High-Performing Students	20%	20%	29%	28%
Low-Performing Students	30%	29%	19%	19%
Asian Students	13%	13%	38%	39%
High-Performing Students	12%	11%	40%	43%
Low-Performing Students	21%	21%	29%	26%

SOURCE: IBO analysis of Department of Education data
 NOTE: The sample is restricted to sixth graders who had changed schools between the fifth and sixth grades—from one New York City public school in 2010-2011 when they were in fifth grade to another New York City public school in sixth grade in 2011-2012.

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Progress Through Late Elementary and Middle Grades

Grade Progression

Table A-8. Cumulative Grade Progression, Students Scoring in Bottom Quartile in Third Grade Math
Percent of original group enrolled in standard grade each year, leavers omitted

	2009-2010 Fourth Grade or Above	2010-2011 Fifth Grade or Above	2011-2012 Sixth Grade or Above	2012-2013 Seventh Grade or Above	2013-2014 Eighth Grade or Above
All Students	98.7%	96.5%	95%	93.5%	92.3%
White Students	99.6%	99%	98.6%	98.5%	98.2%
Black Students	98.2%	94.3%	92.1%	89.8%	87.8%
Hispanic Students	98.5%	96.3%	94.7%	92.8%	91.3%
Asian Students	99.5%	98.9%	98.6%	98.3%	98%
Low-Performing Students	95.6%	88.5%	84.4%	80.6%	77.9%
White	97.3%	93.3%	90.8%	90.1%	83.8%
Black	95.3%	85.9%	81.3%	77.2%	73.8%
Hispanic	95.6%	89.7%	85.9%	81.9%	79.3%
Asian	96.1%	89.9%	87.8%	86.1%	83.8%

SOURCE: IBO analysis of Department of Education data

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	Classification Into and Out of Special Education			
	Share in 2008-2009	Share in 2013-2014	Percent Newly Declassified (compared with 2008-2009)	Percent Newly Classified (compared with 2008-2009)
All Students	18%	21%	3%	6%
Disaggregated by Race and Third Grade Performance				
White Students	18%	16%	5%	3%
High-Performing Students	6%	3%	3%	1%
Low-Performing Students	55%	61%	3%	10%
Black Students	19%	24%	2%	8%
High-Performing Students	6%	5%	3%	1%
Low-Performing Students	34%	48%	2%	15%
Hispanic Students	21%	26%	3%	7%
High-Performing Students	8%	6%	4%	2%
Low-Performing Students	40%	52%	3%	15%
Asian Students	8%	7%	3%	2%
High-Performing Students	3%	2%	2%	0%
Low-Performing Students	33%	43%	2%	11%

SOURCE: IBO analysis of Department of Education data

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Suspensions in Middle School Grades

	All Students		Male Students		Female Students	
	Share of Students Suspended	Average Days Suspended	Share of Students Suspended	Average Days Suspended	Share of Students Suspended	Average Days Suspended
All Students	11%	2	14%	2	8%	1
Disaggregated by Race and Third Grade Mathematics Performance						
White Students	7%	1	11%	1%	3%	0
High-Performing Students	4%	0	6%	0	2%	0
Low-Performing Students	15%	2	21%	3	8%	1
Black Students	16%	3	20%	5	13%	2
High-Performing Students	9%	1	12%	2	7%	1
Low-Performing Students	21%	5	24%	6	18%	4
Hispanic Students	11%	2	14%	2	8%	1
High-Performing Students	7%	1	10%	1	5%	1
Low-Performing Students	15%	2	19%	3	11%	1
Asian Students	5%	0	8%	1	2%	0
High-Performing Students	4%	0	6%	1	1%	0
Low-Performing Students	11%	1	15%	2	6%	0

SOURCE: IBO analysis of Department of Education data

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