

**NYU**Steinhardt

Steinhardt School of Culture, Education, and Human Development

# The New York City High Schools Contributing the Most to the Achievement of Black and Latino Males

**METROPOLITAN CENTER FOR URBAN EDUCATION**

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## Technical Report

### The New York City High School Contributing the Most to the Achievement of Black and Latino Males

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The New York City High Schools Contributing the Most to the Achievement of Black and Latino Males is written by: Ben Meade and Frank Gaytan

We are grateful for the expert advice and support of the **Black and Latino Male Advocacy Coalition**, which represents a group of more than 10 organizations and individuals that meet regularly to coordinate research with advocacy activities throughout New York City. The goal of the **Advocacy Coalition** is to monitor the impact of New York City Department of Education reforms on the academic performance of Black and Latino male students. The coalition is comprised of researchers, community-based organizations, educators, and advocates dedicated to improving the social and academic outcomes of Black and Latino males in NYC.

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## Executive Summary

Evidence shows that different approaches to serving vulnerable students at the high school level can make a significant difference in explaining why students with similar achievement levels upon entering high school successfully complete or drop out (Lee and Burkham 2003; Croninger and Lee 2001; Roderick 2003). Several studies suggest that how schools support vulnerable students during their transition to high school and help them to address the academic, social, and emotional challenges that they often encounter in the 9<sup>th</sup> grade are particularly important (Allensworth and Easton 2007; Neild, Stoner-Eby, and Furstenberg 2008).

Following in this line of research, this study identifies factors distinguishing the schools that best serve Black and Latino males – two groups of students with alarmingly low average levels of high school performance. The study focuses particular attention on approaches and interventions in these schools that might be replicated in different contexts.

In this report, we first determine which schools contribute the most to Black and Latino males graduating with a Regents Diploma in four years, and then examine the characteristics that distinguish these schools. Below, we present the key findings around the factors that distinguished the most effective schools.

## Key Findings

Although we did not observe especially strong or consistent patterns, there did appear to be notable differences among schools with higher and lower estimated contributions to Black and Latino male graduation. Schools with higher estimated contributions were found to have the following characteristics, in order of the strength of the observed pattern:

- Higher attendance rates
- Higher school climate ratings, particularly higher levels of academic expectations
- Lower percentages of ELL students
- Higher percentages of students that were proficient on the 8th grade math test

We found less consistency in relationships between our imprecise measures of teacher quality (e.g., experience and education level) and funding per student and the school level estimate. The highest-performing schools tend to have more resources (e.g., teacher to pupil ratio, per pupil spending) and better teacher quality (e.g., credentials, years of experience) than the lowest performing schools, but the relationship of these variables to the performance of the large number of middle-performing schools was not clear. We observed a similar pattern in the relationship between school selectivity and estimated contribution, as the more selective schools tended to have stronger estimates – although there was variation in the relationship between other selection types and the school level estimate.

Along with examining broad patterns, we identified the 20 schools that had the highest overall estimated contribution on the performance of Black and Latino males and worked to

determine what distinguished these schools. While differences between these schools in the prior achievement of the students served are not significant, the top 20 schools tend to have more positive school climates. The factors that best distinguish the top 20 schools is the performance of Black and Latino male students in those schools as many perform better than predicted by their 8<sup>th</sup> grade test scores beginning in the 9<sup>th</sup> grade and through their four years of high school. Another notable difference is the significant percentage of schools among the top-20 list serving grades 6–12 rather than the typical 9–12 span.

## **Conclusion**

We are able to see distinct differences in the ability of schools to promote on-time graduation among Black and Latino males. While these differences are clearly demonstrated, the underlying characteristics of schools that contribute to these differences are not as clear. Among the stronger patterns observed in the analysis, it appears that schools with higher expectations for students and more supportive school climates were more effective. Although further analysis is needed, we believe that effective schools combine strong levels of personal support and high academic expectations for Black and Latino males and a safer school environment. There is a clear need to better understand the processes that occur within the most effective schools in order to understand their contribution to the success of Black and Latino male students.

## Introduction

Evidence shows that different approaches to serving vulnerable students at the high school level can make a significant difference in explaining why students with similar achievement levels upon entering high schools successfully complete or drop out (Lee and Burkham 2003; Croninger and Lee 2001; Roderick 2003). Several studies suggest that how high schools support vulnerable students during their transition to high school and help them to address the academic, social, and emotional challenges that they often encounter in their first year of high school are particularly important (Allensworth and Easton 2007; Neild, Stoner-Eby, and Furstenberg 2008).

Informed by this research, this report examines whether there are characteristics distinguishing New York City high schools that appear to contribute the most to the achievement of Black and Latino males. Our analysis focuses on Black and Latino male high school students in New York City due to their continuing status as the most vulnerable of student populations, as evidenced by continuing low high school completion rates and high dropout rates (Orfield et al. 2004; DOE 2008).<sup>1</sup>

The analysis is divided into three components. In the first, we use multilevel logistic regression analysis to identify the schools that appear to contribute the most to supporting four-year graduation among New York City Black and Latino males. Our approach for measuring the school-level effects is described in detail in the Data and Methods section. In the next component of our analysis, we examine the relationship between the school-level graduation estimates and variables that are potentially associated with school effectiveness, such as school size, climate, and student composition. The analysis and variables are informed by prior research examining the influence of school resource, organization, and structure-related variables on high school student achievement. We present a review of this research in the next section. In the third component of our analysis, we present detailed findings related to the 20 schools with the highest school-level estimates and then examine, to the extent possible with the available data, what if anything distinguishes these schools. We conclude the report with a summary and discussion of the policy implications of our findings and a discussion of the need for further research.

### Prior Research on Factors Contributing to School Effectiveness

While individual differences between students are the most important factors in explaining variation in student learning, there is evidence that school quality matters in explaining why students from similar background are either more or less successful in school (Konstantopoulos 2006). Even after controlling for individual difference between students in SES, prior achievement, and other factors, differences between schools have been found to account for between 10 and 20 percent of the variation in student test scores (Konstantopoulos 2006).

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<sup>1</sup> The targeted focus is not meant to minimize the needs and challenges of other groups of students and we theorize that strategies that are effective for serving these two groups are relevant for other groups.

Researchers have been challenged, however, in attempting to identify the factors most important in explaining variation in outcomes between schools.

The following literature review briefly summarizes factors identified in research that explain why some schools are more successful than others in producing positive outcomes, especially among disadvantaged high school students.

**The quality of classroom teachers:** What occurs in the classroom between teachers and students has been identified as the fundamental component in explaining student achievement (see Jepson 2005, Akiba, LeTendre and Scribner 2007; Konstantopoulos 2006; Kukla-Acevedo 2009; Sanders and Rivers 1996; Abidza 2006; Hanushek 2003). Researchers have been challenged, however, in identifying characteristics that distinguish high quality teachers (Jepson 2005; Konstantopoulos 2006). Among the factors associated with teacher quality, there is evidence that teachers tend to improve in the first three to five years of teaching (Rivkin, Hanushek, and Kain 2005). There is also evidence that teachers with higher verbal and math skills, more course hours in the subject they are teaching, or higher undergraduate GPAs are more effective (Ferguson and Ladd 1996; Kukla-Acevedo 2009).

**The quality of the school climate:** School climate refers to the general tone and atmosphere of schools (Sweetland and Hoy 2000). Climate is believed to influence school staff and students' attitudes and behaviors, and is therefore considered an important organizational characteristic (Sweetland and Hoy 2000). Positive relationships between and among adults and students are among the school-climate-related factors identified by researchers as being associated with learning outcomes, particularly for vulnerable students (Lee and Smith 1999; Lee and Burkham 2003). Good schools have also been found to often have a strong normative culture committed to student learning (Elmore 2004). According to Elmore, "...it is increasing the level of intensity, cognitive demand, and coherence around instructional practices that produces gains in student performance, and that process requires that everyone, including students, teacher, and support staff, develop increasing agreement about what the work is" (Elmore 2004, p. 240).

**The level of individualized support provided to students:** There is some evidence that the levels of personal and emotional support available for students in high school might play a role in explaining why some high schools are more effective than others in helping vulnerable student graduate (Lee and Burkam 2003; Roderick 2003). The transition to high school has been shown to be a challenge for all students, but particularly challenging for Black and Latino males (Isakson and Jarvis 1999; Roderick 2003). Evidence shows that more effective high schools serving disadvantaged populations assist vulnerable students through this transition by targeting supports to those students and promoting strong connections between students and adults in the school (Lee and Burkam 2003; Kahne et al. 2008).

**Availability of special programs for students:** Some evidence suggests that schools are better able to support vulnerable students through in- or after-school services or by having stronger systems of support for students (Dynarski et al. 2008). These services include tutoring or homework help programs, while systems of support include trained adults assigned to work to

address the academic and social needs of students. Such interventions appear to support student learning and progression through high school, although the quality of the interventions themselves and how they are targeted towards students appear to be important in explaining their effectiveness (Lauer et al. 2006; Dynarski et al. 2008; Larson and Rumberger 1995, cited in Dynarski et al. 2008; Sinclair et al. 1998, cited in Dynarski et al. 2008).

**Organizational practices:** How schools implement policies and organizational practices in schools also play a role in explaining school effectiveness. Among the practices that appear to be most important to the effectiveness of disadvantaged students is whether schools push and challenge all students to succeed (Lee and Smith 1999; Lee et al. 1999). Lee and Smith’s (1999) study, for example, suggests that supportive relationships between students and teachers, while important, do not contribute to school effectiveness unless strong support is combined with teachers and administrators pushing students to succeed in their school work. Their research suggests that *both* support and academic pressure are key elements to school effectiveness (Lee and Smith 1999).

**The composition of the student body:** Another related factor that could, in theory, be connected to school effectiveness is the composition of peers, particularly the average achievement level of students in a school (Hanushek et al. 2003; Sund 2009). Going to school with higher-achieving peers may serve as a source of motivation and inspiration for students, particularly those with lower levels of achievement, and may contribute to a climate conducive to learning – if the higher-achieving peers have fewer behavioral problems. Some studies have indeed found that there are positive effects for attending schools with higher-achieving peers and the effects appear to be greater for lower-achieving students (Hanushek et al. 2003; Sund 2009).

## Data and Methods

The first step of our analysis is to estimate the contribution of individual schools to whether Black and Latino males graduate in four years with a Regents Diploma. We then, to the extent possible with the available data, examine characteristics of schools with higher and lower estimates. We selected the Regents Diploma as our outcome indicator for two reasons: because it is now the only standard graduation option open to new high school students in New York, and because it is theorized to be a better indicator than other secondary school completion indicators (e.g., Local Diploma or GED) that students are ready for post-secondary education.

The findings from this report, as well as our analytical approach, are descriptive. Due to severely skewed distributions among school level variables, low sample size, and important missing variables, we are careful in attempting to isolate single variables that explain why some schools are more effective than others. Important school-level variables, like the type of special programs offered for students in schools or meaningful measures of the quality of teaching staff, are missing from the data. Also, due to the complications of the New York City

administrative system, measures such as school size and level of selectivity are not as straightforward as they might appear. A seemingly large school, for example, might be organized into houses with distinct themes and systems of individualized student support that more closely resemble a small school. Also, even though a school might be labeled as a selective school, the school might have a flexible selection criterion that admits a large portion of lower-achieving students. Additionally, we want to clarify that our findings are for only a select group, Black and Latino males, within a single New York City cohort. *We therefore emphasize that our findings are at best suggestive for this population.*

We use a multilevel modeling strategy to identify the schools contributing most to Black and Latino student graduation. The first stage of the analysis involves estimating a logistic regression predicting the log odds that a Black or Latino male student from the 2007 cohort graduated with a Regents Diploma in four years with random school intercepts. To perform our analysis, we use a subsample of Black and Latino males from the 2007 cohort. Students were assigned to the cohort when they first entered 9<sup>th</sup> grade, either within New York City public schools or any other school system. We exclude students in full-time special education programs, students who entered into the system after their first year of high school, students who were home schooled, and students without 8<sup>th</sup> grade New York State test scores. We also exclude students in schools with fewer than 10 students from our sample as well as four schools that are permitted by New York State to exempt students from taking the Regents Exams. We do not exclude students who transferred after their first year of high school, theorizing that including these students serves as a weight to the school-level effect for those schools with low-performing students who transfer after their first year.

Our student-level logistic regression model includes 15,934 students, approximately 67 percent of the total 23,820 Black and Latino male students that were in the 2007 cohort data who attended 211 high schools in their first year of high school. The logistic regression model is illustrated below.

$$\text{PR}(\text{GRAD}_{ij}=1) = \text{logit}^{-1} (\text{STUD}_i\beta + \alpha_j + \epsilon_{ij})$$

In the model, the outcome variable is a dummy variable indicating if student  $i$  in school  $j$  graduated with a Regents Diploma in four years.  $\text{STUD}$  is made up of the student-level social- and academic-related factors theorized to be correlated with student high-school performance. Principal among the factors is student achievement prior to high school, which is measured by the average 8<sup>th</sup> grade math and reading score.<sup>2</sup> Other controls include dummy variables indicating whether a student qualifies for free lunch, was one year or more overage at the beginning of their first year of high school, transferred in middle school, is Latino, is foreign born, was identified as a English language learner (ELL), speaks a language other than English at home, or was in part-time special education.<sup>3</sup>

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<sup>2</sup> We use the Z-score with mean 0 and standard deviation of 1 rather than the scale score in order to estimate the school level intercept for a student with average performance on 8<sup>th</sup> grade math.

<sup>3</sup> A total of 25 percent of Black and Latino males in the 2007 cohort transferred after their first year of high school and the school level mean transfer rate for students in our sample is 20 percent. Achievement levels among

Also in the model are  $\alpha$ , the random school-level intercept, and  $\epsilon$ , the student-level residuals. The average within-school sample size is approximately 69. In theory,  $\alpha$  captures all time-constant school-level covariates that cause some students to be more prone to graduate with a Regents Diploma than others. Both the error and the school-level intercept are assumed to have zero means and be normally distributed and independent. After estimating the model parameters, we predict the means of the school-level intercepts (Rabe-Hesketh, Skrondal, Pickles 2005; Rabe-Hesketh and Skrondal 2008).<sup>4</sup> These school-level intercepts provide an indication of each school's contribution to the log odds of whether students in our cohort attending that school in at least their first year of high school graduated in four years with a Regents Diploma.

After attaining the school level intercept, we run a series of descriptive analyses to determine whether there are relationships between the school-level estimates and the variables theorized to be associated with student performance. The school-level data comes from four sources. First, we take data related to the demographic population of the school including the percent of individuals that are Black or Latino or free lunch and school-resource-related variables including the per-student spending and the percentage of teachers with two or more years experience for the 2003-04 school year from school report card data.<sup>5</sup> Due to the fact that some of the schools included in the analyses were new and enrollment figures might not accurately reflect school size as cohorts were added to the school, we used enrollment for the 2006-07 school year from the Learning Environment Survey (LES) data, unless enrollment data for that year was unavailable, in which case we used data for an earlier year.

Second, we collect school-climate-related factors from the Learning Environment Survey. The LES was created by the DOE and drew items from existing constituent surveys including the Consortium on Chicago School Research Student and Teacher Surveys, the National Education Longitudinal Study, the Oakland Unified School District Use Your Voice Student Survey, and the World Health Organization Survey. The survey was administered to parents, students, and teachers at each school in the spring of 2007. Administration sought to maximize responses at each school. The mean high school response rate was 60 percent for the Student Survey, 43 percent for the Teacher Survey, and 17 percent for the Parent Survey. Scores on individual domains range from 0 to 10 and represent the mean of the question scores making up the

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transferring students tend to be much lower than students who do not transfer. Only 26 percent of students who transferred graduated with a Regents or Local Diploma compared to 55 percent of students who did not transfer. These figures are likely negative biased, however, as students who drop out after their first years are not included among transferring students. When we run the regression analysis excluding the students who transferred after three years, our list of schools changes to include seven schools with relatively high transfer rates.

<sup>4</sup> More specifically, we use empirical Bayes predictions to estimate the mean posterior distribution of the random school-level intercept "with model parameters plugged in" (Rabe-Hesketh and Skrondal 2008, p. 265). The models were estimated using the GLLAMM program in STATA (Rabe-Hesketh, Skrondal, Pickles 2005).

<sup>5</sup> For 28 cases in which data for 2003-04 is missing, we filled in missing values with data for later years.

domain.<sup>6</sup> The domains include communication, engagement, academic expectations, and safety and respect. To give some examples, items from the Teacher Survey incorporated in the academic expectations construct include “My school has high expectations for all students” and “Teachers in this school set high standards for student work in their classes.” Items from the communication construct of the Student Survey include “Most of the adults I see at school every day know my name or who I am” and “On a scale of 1 to 4, how available are teachers and other adults at your school to talk about a problem you are having in a class.”

Third, we include school-level variables for our sample of Black and Latino males where these variables exist for the entire school population, as in the case of our measure of prior achievement – 8<sup>th</sup> grade achievement levels on New York State tests. We also include school-level outcomes indicators for this population, such as the percentage of Black and Latino males in the sample that completed five or more credits in their first year of high school or graduated with a Regents Diploma in four years.

Finally, we draw from different New York City Department of Education (NYCDOE) sources including the High School Handbook to describe schools’ selection criteria, and the principal New York City school accountability measure, Progress Report grades, to show how schools are rated according to that measure. The year students from the sample cohort were expected to graduate, 2006-07, was the first time schools received Progress Report grades. In that year, the Progress Report grades were determined by students’ levels of academic performance and their progress over time, with an emphasis on progress, as well as student, parent, and teacher perceptions’ of the quality of the school environment.<sup>7</sup> The individual school grades were calculated by examining how each high school performed in relation to the 40 schools serving the students with the most similar levels of pre-high school achievement, as measured by proficiency levels on 8<sup>th</sup> grade State ELA and math tests.<sup>8,9</sup>

## Findings

There are substantial differences between schools in their contribution to students graduating with a Regents Diploma in four years. Figures 1 and 2 show the mean school-level

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<sup>6</sup> Mean responses for groups that do not meet the minimum response rate for a domain were given less weight. If a school did not have the minimum of responses on the Parent Survey, for example, the parent survey would be given a 20-percent weight while the Teacher and Student Surveys would be given 40-percent weights.

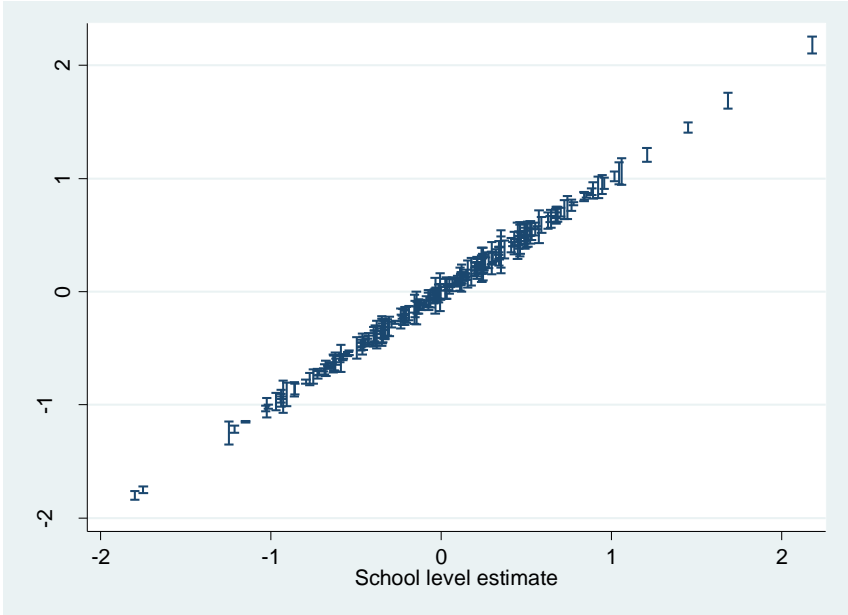
<sup>7</sup> For high schools, progress was determined by the percentage of students earning ten or more credits in the first, second, and third years of high school and the Regents pass rate. The pass rate was calculated by dividing the number of Regents Tests 9<sup>th</sup> and 10<sup>th</sup> grade students passed at the end of the school year by the number of tests that students were eligible to pass at the beginning of the school year. The pass rate gave additional weight to students that passed the Regents test but entered high school with lower achievement levels as measured by 8<sup>th</sup> grade New York State Tests and for students in a school’s lowest-performing third.

<sup>8</sup> Another key accountability measure included in the analysis was School Quality Reviews.

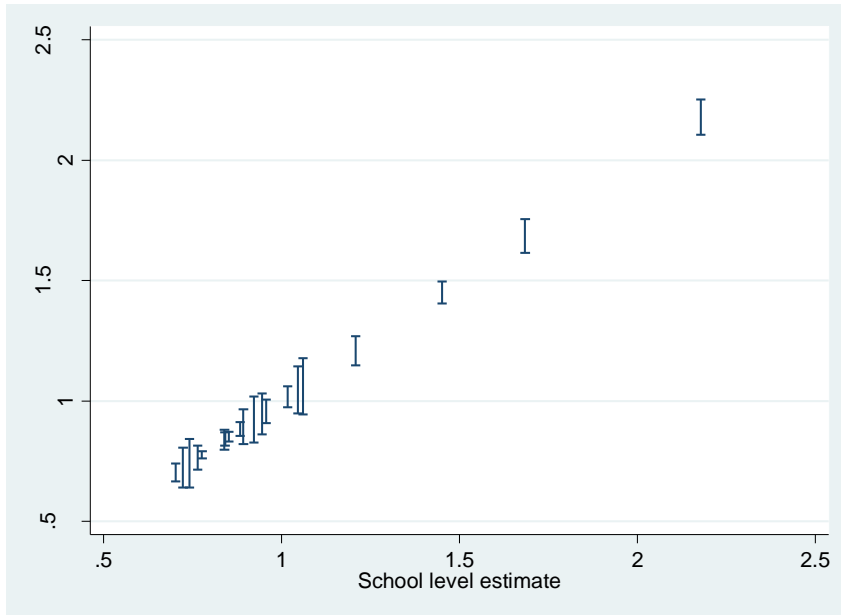
<sup>9</sup> Along with pressure that came with the public disclosure of grades on the DOE website and in local media, significant incentives and penalties are tied to the grades. Schools receiving low grades, (a D or F, or a C for three years in a row) “face a four-year cycle of target setting, leadership change, and if performance does not improve, more target setting and school closure” (DOE 2007). Schools receiving an A or a B are eligible to receive a bonus.

effects (in log odds arranged from lowest to highest) for all of the 213 schools included in the analysis (the first figure) and the top 20 schools (the second figure).<sup>10</sup> The figures also provide an indication of the estimated standard errors (represented by the vertical bars). The mean for the standard errors is 0.06 ranging from 0.007 to 0.19. Observable in the figures are the large level of variation in the school effects across schools and presence of some outlying schools. It is therefore apparent that after controlling for differences between individual students, there is a large range in how much individual schools contribute to whether Black and Latino males graduate with a Regents Diploma in four years. There also appears to be a group of schools contributing much more to student achievement. We examine these schools more closely in the third section of our analysis.

**Figures 1 and 2: School Level Estimates +/- Standard Errors Arranged Lowest to Highest among all Schools Included in the Analysis and Among the Top 20 Schools**



<sup>10</sup> In 2007, there were a total of 327 public schools serving the high school grades in New York City.



*Source:* Calculations by the Authors using data from the New York City Department of Education, 2008.  
*Notes:* Bars represent school-level mean log odds of the contribution of each school to a student graduating in four year with a Regents Diploma, controlling for prior achievement and student characteristics. The height of each bar shows the estimated standard error for each school-level intercept.

### ***Examining Factors Underlying the School Effects***

Below, we begin to examine whether there are any observable patterns in the relationship between variables theorized to be correlated with school effectiveness and the school-level estimates. Because many of the school-level variables do not have normal distributions, we examine differences in the means of the school level estimates by quintile of selected school level variables (Table 1) in addition to examining correlations. The first four rows relate to the demographic and special-need characteristics of the student populations, while the final three rows capture the achievement levels of peers as measured by proficiency levels on State ELA and math tests and school-wide attendance rates for the 2003-04 school year.

Although there are some observable patterns, standard deviations are extremely high across all of the variables and quintile ranks. The strongest and most consistent pattern is observable for the measures of the achievement levels of peers and the school-wide attendance rate. The correlation between the two variables is 0.48 and the mean for the school-level estimates range from -0.46 in the bottom school level quintile of attendance rates to 0.31 in the top. Standard deviations for all of the means, however, are extremely high and some schools with high-school-level contributions had low attendance rates. The relationship between schools' estimated contributions to student graduation could reflect the fact that more effective schools better encourage consistent attendance among students through higher levels of individual support or a more engaging curriculum. As 8<sup>th</sup> grade student attendance was not a variable incorporated in our model estimating the school contribution, the relationship between the school-level estimates and attendance could also reflect unmeasured differences in students

including higher levels of motivation and stronger non-cognitive skills. Students with the same scores on 8<sup>th</sup> grade test scores could have different levels of behaviors and associated achievement, and some schools might attract more- or less-motivated students.

Also observable in Table 1 is that schools with higher school-level estimates tend to have lower proportions of Black and Latino and special education students, while schools with lower estimates tend to have higher proportions. For both of these variables, however, the relationships are weak.

**Table 1: Summary Statistics of School-Level Estimates by Quintile Rank on School-Level Demographic and Student Achievement Variables**

School-Level Variable	Correlation		1st Quintile	2nd Quintile	3rd Quintile	4th Quintile	5th Quintile
% Black/Latino	-0.17	Mean	0.19	0.01	-0.06	-0.09	-0.12
		SD	0.46	0.59	0.54	0.53	0.71
% ELL	-0.13	Mean	0.15	0.05	-0.04	-0.07	-0.17
		SD	0.59	0.60	0.57	0.54	0.57
% Free Lunch	-0.08	Mean	0.08	0.03	0.02	-0.11	-0.09
		SD	0.50	0.58	0.67	0.61	0.52
% Special Education	-0.24	Mean	0.23	0.13	-0.20	-0.09	-0.14
		SD	0.52	0.56	0.50	0.53	0.67
% Prof. 8th Grd Math	0.28	Mean	-0.26	-0.12	-0.01	0.01	0.31
		SD	0.58	0.65	0.48	0.51	0.54
% Prof. 8th Grd ELA	0.26	Mean	-0.14	-0.07	-0.19	0.08	0.26
		SD	0.59	0.67	0.50	0.49	0.54
Attendance Rate	0.48	Mean	-0.46	-0.18	0.17	0.09	0.31
		SD	0.54	0.42	0.54	0.53	0.54

Source: Calculations by the Authors using data from the New York City Department of Education, 2008.

Notes: The two variables “% Prof. 8th Grd Math” and “% Prof. 8th Grd ELA” represent the percentage of Black and Latino males in the sample that scored proficient or above on their 8<sup>th</sup> grade math tests. All other variables represent the school-wide population for a given year. Variables related to the demographic composition of the school (the first five rows) and the attendance rate are for 2003-04, except in cases where figures are missing for that year. In such cases, data for later years (2004-05 or 2006-07) are used to fill in missing values.

Table 2 shows the relationship between the estimated contribution of schools to Black and Latino male graduation and different school-climate- and school-resource-related measures. The first row in Table 2 shows means for the school-level estimates by quintile rank for the only variable in the table related to school structure, the total school enrollment of the 2007 school year. The next rows show means by ranks for various climate measures and the final rows includes means by quintile for the variables related to school resources including spending per pupil, the experience level of teachers in the school, and the proportion of teachers with masters degrees.

Among the stronger patterns observable in Table 2 is that schools with higher estimates tend to have more positive outcomes on school-climate measures, but there is again a great degree of variation within groups. Among the school-climate measures, the strongest pattern is observed on the academic-expectations construct. In line with other research, these findings provide some indication that schools contributing more to the performance of Black and Latino males are better able to create a school environment where students feel safe and receive support from staff, and where teachers have high expectations for all students (Roderick 2003; Lee and Smith 1999; Lee and Burkham 2003; Croninger and Lee 2001).

**Table 2: Summary Statistics of School-Level Estimates by Quintile Rank on School-Level Climate and Resource Variables**

School-Level Variable	Correlation		1st Quintile	2nd Quintile	3rd Quintile	4th Quintile	5th Quintile
<b>Size</b>							
<b>Enrollment</b>	-0.04	Mean	-0.11	0.14	0.13	-0.21	-0.01
		SD	0.74	0.51	0.50	0.53	0.54
<b>Climate</b>							
<b>Communication Score</b>	0.29	Mean	-0.26	0.00	-0.01	0.01	0.18
		SD	0.53	0.54	0.51	0.52	0.72
<b>Engagement Score</b>	0.24	Mean	-0.27	0.00	-0.01	0.03	0.17
		SD	0.48	0.62	0.52	0.51	0.69
<b>Acad. Expect. Score</b>	0.33	Mean	-0.24	-0.21	0.11	0.02	0.23
		SD	0.45	0.65	0.47	0.49	0.69
<b>Safety/Respect Score</b>	0.29	Mean	-0.25	-0.06	0.01	-0.16	0.37
		SD	0.48	0.58	0.47	0.60	0.57
<b>Resources/Teachers</b>							
<b>Students per Teacher</b>	-0.07	Mean	-0.01	0.02	-0.06	0.07	-0.15
		SD	0.54	0.53	0.62	0.62	0.50
<b>% Teachers w/&gt;2 yrs Exp. in School</b>	-0.16	Mean	0.13	-0.07	-0.02	-0.11	-0.11
		SD	0.59	0.48	0.62	0.53	0.54
<b>% Teachers w/&gt;5 yrs Exp. in any School</b>	-0.18	Mean	0.13	0.05	-0.05	-0.13	-0.16
		SD	0.50	0.64	0.56	0.52	0.60
<b>% Teachers w/Masters</b>	0.08	Mean	-0.11	0.07	-0.17	-0.10	0.15
		SD	0.57	0.49	0.55	0.68	0.50
<b>Avg. Spending per Pupil</b>	0.10	Mean	-0.04	-0.03	-0.11	-0.07	0.13
		SD	0.49	0.64	0.48	0.61	0.64

Source: Calculations by the Authors using data from the New York City Department of Education, 2008.

Notes: Data for enrollment is for the 2006-07 school year except for schools where data was missing for that year, in which case enrollment data was taken from an earlier year (2004-05 or 2003-04). Data on school-climate-related factors – the LES scores - is for the 2007 school year and are missing for five schools. Data for resources and teachers is for the 2003-04 or 2004-05 school year and are missing for 28 schools.

We also examine whether there are differences in other structural-related variables such as how students are selected among the schools that appear to be contributing the most to the performance of Black and Latino males (Table 3). Beginning in 2003-04, the year students from this cohort entered high school, New York City started using a school-selection process modeled after the system for matching medical-school students to residency programs. In the new system, students not admitted to one of the specialized testing high schools or who did not accept their placement rank their preferences and apply to up to 12 high schools, after which they are matched with the highest ranked schools that accepts them or in which the student is eligible to attend depending on the schools' admissions criteria (Abdulkadiroğlu, Pathak, and Roth 2005).<sup>11</sup> Implementation of the new system was associated with a large decrease in the number of students that were administratively assigned to their zoned school in 2003-04, indicating that far more high school students had at least some say in the high school they attended (Abdulkadiroğlu, Pathak, and Roth 2005).

We find that more selective schools tend to be concentrated in the two highest quintiles of the school-level estimates, but the pattern is not especially strong. About 60 percent of the schools that select students based on achievement on the Specialized High School Exam (Testing), other achievement measures (Selective), or based on performance on an arts-focused audition (Audition) are within the top two quintiles of the school-level estimate. The larger comprehensive high schools which tend to be concentrated among the schools selecting students based on Educational Option and more than one selection criteria (More than one) are fairly evenly distributed across quintiles. The small schools tend to select students based on the Limited Unscreened criterion, in which priority is given to students that visit school open houses. These schools are also evenly distributed across the quintiles.

Also in Table 3, are schools' Progress Report grades for 2007. The grades provide a sense of how our method of identifying schools that contribute the most to student performance matches with the DOE's. As can be observed, schools that received higher grades are concentrated in the top quintiles and only one of the schools in the top quintile received a C. All of the schools that received Fs, on the other hand, are concentrated in the bottom quintile.

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<sup>11</sup> Admission to seven of the specialized high schools (all but LaGuardia) is based solely on performance on the Specialized High Admission Test SHSAT and seat availability. Students rank their preferences at the time of the test. The highest-ranking students are offered their top choice on their list depending on seat availability.

**Table 3: School Admissions Criteria and 2007 Progress Report Grade Frequencies by Quintile Rank of School-Level Estimates**

	1st Quintile		2nd Quintile		3rd Quintile		4th Quintile		5th Quintile	
	N	%	N	%	N	%	N	%	N	%
<b>Selection Type</b>										
<b>Audition</b>	3	8.6	2	5.0	0	0.0	2	5.1	3	7.3
<b>Ed. Option</b>	9	25.7	14	35.0	15	35.7	8	20.5	9	22.0
<b>Limited Unscreened</b>	4	11.4	6	15.0	4	9.5	5	12.8	5	12.2
<b>Screened</b>	3	8.6	6	15.0	5	11.9	9	23.1	13	31.7
<b>Testing</b>	1	2.9	0	0.0	1	2.4	4	10.3	0	0.0
<b>Unzoned</b>	0	0.0	1	2.5	1	2.4	1	2.6	0	0.0
<b>More than one</b>	15	42.9	11	27.5	16	38.1	10	25.6	11	26.8
<b>Priority to Incoming 8th</b>										
	4	11.4	5	12.5	3	7.1	6	15.4	5	12.2
<b>Missing</b>	10		5		3		6		4	
<b>Grade</b>										
<b>A</b>	0	0.0	3	8.1	5	12.2	12	33.3	15	38.5
<b>B</b>	8	26.7	17	46.0	14	34.2	17	47.2	23	59.0
<b>C</b>	13	43.3	13	35.1	18	43.9	7	19.4	1	2.6
<b>D</b>	2	6.7	4	10.8	4	9.8	0	0.0	0	0.0
<b>F</b>	7	23.3	0	0.0	0	0.0	0	0.0	0	0.0
<b>Missing</b>	15		8		4		9		6	

Source: New York City Department of Education, 2008.

Notes: See Appendix A for a description of the different admission criteria. Admission criteria are for the 2007 school year and may not represent the year that the 2007 cohort entered the school – 2003-04. Percentages are for columns. “More than one” represents the number and percentage of schools within each quintile that have more than one selection criteria within the quintile. “Priority to 8<sup>th</sup> Grd.” represents the frequency and percentage of schools within the quintile that have two or more programs within a school with different selection criteria.

### Examining the Top 20 Schools

Next, we closely examine the 20 schools with the highest estimated contribution to Black and Latino male graduation. Table 4 lists the schools with the highest school estimates, ordered highest to lowest, along with the grade level served by the school, how students are selected for the schools, and both city and state-level accountability ratings. Although the six schools with the highest estimates select students based on their achievement or their performance in an audition, only one of the remaining 14 schools is selective. It is also important to point out

that there is variation within the Selective and Audition schools listed in how they select students. At Bedford Academy High School, for example, according to insideschools.org, “The program is ‘screened,’ but for every high-scoring student selected, the school chooses one middle-level and one low-achieving student as well” (insideschools 2009). Moreover, the majority of programs at Curtis High School and Edison High School are selective (insideschools 2009). As we describe below, despite the fact that many of the top 20 schools are selective we do not observe large differences in the performance levels of incoming students in the top 20 and other high schools.

Also notable in Table 4 is that three of the top four schools serve students in grades 6–12. Even controlling for prior achievement in 8<sup>th</sup> grade, which would be expected to be in part connected to the effectiveness of the school during the middle school grades, these schools stand out as promoting high graduation rates among Black and Latino males. The local- and state-level accountability ratings are more or less in line with our measure. The table also displays the sample Ns for the top 20 schools which average 49 and range from 159 to 20.

**Table 4: High-Performing School Grade Levels Served, Admissions Criteria, and Accountability Ratings for the 2007 School Year**

School Name	N	Grade Level	Selection Type	PR Grade	Quality Rev. Rating	NCLB Status
BEDFORD ACADEMY HS	32	9-12	S	A	Well-Dev.	In Gd. Stand.
EAST SIDE COMMUNITY HS	28	6-12	S(8)	A	Well-Dev.	In Corr. Act.
WADLEIGH ARTS HS	47	6-12	A(8)	A	Proficient	SINI - Year 1
LAGUARDIA HS	43	9-12	A	A	Well-Dev.	In Gd. Stand.
LINCOLN ACADEMY/ HOSTOS	16	6-12	S(8)	B	Proficient	In Gd. Stand.
MAN./HUNTER COLLEGE HS FOR SCI	19	9-12	S	A	Proficient	In Gd. Stand.
HS FOR LAW AND PUBLIC SERVICE	52	9-12	E	A	Well-Dev.	In Gd. Stand.
HS FOR INT. BUS. AND FINANCE	45	9-12	E	A	Well-Dev.	In Gd. Stand.
HS FOR CONTEMPORARY ARTS	22	9-12	L	A	Proficient	In Gd. Stand.
BRONX LEADERSHIP ACADEMY II HS	20	9-12	L	B	Proficient	In Gd. Stand.
BRONX THEATRE HS	28	9-12	L	B	Proficient	In Gd. Stand.
ENTERPRISE, BUS. AND TECH. HS	79	9-12	M	A	Well-Dev.	In Gd. Stand.
CURTIS HS	112	9-12	M	B	Well-Dev.	SINI - Year 1
BAYSIDE HS	80	9-12	M	B	Proficient	RAP - Year 1
MLK, JR HS FOR ARTS AND TECH	53	9-12	E	B	Proficient	In Gd. Stand.
THOMAS A EDISON VHS	159	9-12	M	B	Proficient	In Gd. Stand.
ACORN COMMUNITY HS	45	9-12	M	B	Well-Dev.	In Gd. Stand.
FOREIGN LANG. ACAD. OF GLOBAL STUDS.	18	9-12	E	B	Proficient	In Gd. Stand.
TALENT UNLIMITED HS	22	9-12	A	B	Well-Dev.	In Gd. Stand.
HS OF TELECOMMUNICATIONS	60	9-12	E	A	Proficient	In Gd. Stand.

Source: New York City Department of Education, 2008.

Notes: A= Audition, E=Educational Option, L=Limited Unscreened, S=Screened, M=School has multiple programs with different admissions criteria, (8)=School gives priority to continuing 8<sup>th</sup> graders – See Appendix A for a description of the admissions criteria.

\* School is listed as Selective in the 2007 and 2008 High School Handbooks but as Educational Option on the Inside Schools website as of May 2009.

Student characteristics and achievement levels among the top 20 schools are displayed in Tables 1B through 5B in Appendix B. Along with individual figures for the schools, the tables display means and standard deviations for the 20 schools and the other 191 schools included in the analysis. As can be observed in the tables, the demographics and prior-achievement levels of students among the top 20 schools and all New York City high schools included in the analysis are very similar. Outcomes on the school-climate-related measures tend to be higher in the top 20 schools and, in all but one case, the difference in means are statistically significant at the 95 percent confidence level. Moreover, attendance rates are significantly higher in the top 20 schools and the percentage of students repeating 9<sup>th</sup> grade and transferring significantly lower. Notably, there is no statistically significant difference in the average achievement levels

of entering Black and Latino students on state ELA or math exams. Moreover, eight of the top 20 schools had 23 percent or fewer Black and Latino male students scoring at the proficiency level on both exams.

Where the most notable differences between the top 20 schools and the other high schools included in our analysis are most apparent are on the achievement indicators. Beginning in the 9<sup>th</sup> grade, Black and Latino male students in the top 20 schools have much higher levels of performance. An average of only 1.4 percent of students in the top 20 schools completed 0 credits in their first year of high school compared to an average of 4 percent in the other schools, and there is a 10-and-a-half percentage point different in the average percentage of students completing more than 5 credits between the two groups. Also, the average percentage of students that transferred in the top 20 schools is about eight percentage points lower than the average for the other schools – although more than 20 percent of Black and Latino males transferred in four of the top 20 schools. The dropout rate is also more than five percentage points lower in the top 20 schools.

As would be expected given our outcome indicator, the largest difference on average achievement indicators observed is on the Black and Latino male four-year Regent Diploma graduation rate. The average in the top 20 schools, about 58 percent, is nearly 28 percentage points higher than the other schools (30 percent). There is a great degree of variation within the top 20, however, with the percentage ranging from a low of 35 percent to a high of 94 percent, although 50 percent or more Black and Latino males graduated with a Regents in four years in all but seven of the top 20.

## **Conclusion**

We see clear distinctions in our estimates of how different New York City high schools are contributing to whether Black and Latino Male students graduate in four years. We are able to establish some very general patterns distinguishing the high schools that appear to promote high achievement among Black and Latino males. While the high-performing schools tend to have more positive outcomes on the school-climate measures, there is a great deal of variation in the relationships between the estimates and the measures.

Consistent with other research, the climate indicator that stands out, and one that is both connected to the climate and organizational practices, is academic expectations (Lee and Smith 1999). Schools that do more to push and challenge students appear to be more effective in promoting positive outcomes among Black and Latino males. More research is clearly needed to examine how effective schools are able to both challenge and support vulnerable students.

A limitation of our analysis is that the school-level variables have limited utility for determining why some schools appear to be serving Black and Latino males more effectively than others. The fact that schools with higher attendance rates had higher estimates might reflect unmeasured differences in students – those schools might be able to attract more motivated students – or differences in the schools – those schools might have practices that

encourage more consistent attendance. Moreover, positive school climate is likely correlated with and possibly mediated by a number of variables that are missing or poorly measured in our analysis. The positive school climate in schools might be connected, for example, to certain schools being able to recruit teachers that share in their commitment and vision of promoting the achievement of vulnerable students (Lee and Burkham 2003; Croninger and Lee 2001; Roderick 2003). It is likely that rough indicators of teacher quality, like experience levels and whether a teacher has a master's degree, do not capture these elements. A strong normative school culture, in turn, is likely connected to the effectiveness of the school leadership in promoting this vision and commitment (Elmore 2004). Moreover, positive school climate is also likely connected to whether schools are able to recruit students with an interest in attending because they share an interest in the school's theme or other reasons.

We also are not able to determine whether certain schools have specific interventions in place that might be helping Black and Latino males navigate the transition to high school and stay on track (Dynarski et al. 2008; Neild, Stoner-Eby, and Furstenberg 2008; Jacob and Lefgren 2007). While state-funded dropout prevention programs are located in 54 high schools with lower attendance levels, there may be differences in how schools implement the program. Differences might also be connected to whether schools implement policies like grade retention differently. In our analysis of factors contributing to whether Black and Latino males dropped out of high school, we observed differences in credit completion rates between students who were not promoted in high school indicating the policy might be implemented unevenly across schools (Meade, Gaytan, Fergus, and Noguera 2009).

## References

- Abdulkadiroğlu, A, Pathak, P. A. and Roth, A. E. (2005). The New York City High School Match. *Practical Market Design*, 95(2), 364-367.
- Abadzi, H. (2006). *Efficient Learning for the Poor: Insights from the Frontier of Cognitive Neuroscience*. Washington D.C.: The World Bank.
- Allensworth, E., and Easton, J.Q. (2007). *What matters for staying on-track and graduating in Chicago Public High Schools: A close look at course grades, failures and attendance in the freshman year*. Chicago: Consortium on Chicago School Research.
- Allensworth, E. (2005). Dropout Rates After High-Stakes Testing in Elementary School: A Study of the Contradictory Effects of Chicago's Efforts to End Social Promotion. *Educational Evaluation and Policy Analysis*, 27(4), 341-364.
- Andrews, M., Duncombe, W., and Yinger, J. (2002). Revisiting economies of size in American education: are we any closer to a consensus? *Economics of Education Review*, 21, 245–262
- Bryk, A.S., and Schneider, B. (2002). *Trust in schools: A core resource for improvement*. New York: Russell Sage Foundation.
- Card, D. and Krueger, A. (1996) School Resources and Student Outcomes: An Overview of the Literature and New Evidence from North and South Carolina. *The Journal of Economic Perspectives*, 10(4), 31-50.
- Cohen, D.K., Raudenbush, S.W., and Ball, D.L. (2003). Resources, instruction, and research. *Educational Evaluation and Policy Analysis*, 25(2), 1-24.
- Croninger, R. G., and Lee, V. E. (2001). Social capital and dropping out of high school: Benefits to at-risk students of teachers' support and guidance. *Teachers College Record*, 103(4), 548-581.
- Elmore, R. (2004). *School Reform from the Inside Out*. Cambridge, MA: Harvard Education Press.
- Ferguson, R. F., and Ladd, H. F. (1996). How and why money matters: An analysis of Alabama schools. In H. F. Ladd (Ed.), *Holding schools accountable: Performance-based reform in education* (pp. 265–298). Washington, DC: The Brookings Institution.
- Goldschmidt, P. and Wang, J. (1999). When can schools affect dropout behavior: A longitudinal multilevel analysis. *American Educational Research Journal*, 36(4), 715-738.
- Gootman, E. and Coutts, S. (2008, April 18). Lacking Credits, Some Students Learn a Shortcut. The New York Times.

Hanushek, E. A. (1996). Measuring Investment in Education. *Journal of Economic Perspectives*, Vol. 10(4), 9-30.

Hanushek, E. A. and Luque, J. A. (2003). Efficiency and Equity in Schools around the World. *Economics of Education Review*, 20(5), 481-502.

Hanushek, E. A., Kain, J. F., Markman, L. M., and Rivkin, S. G. (2003). Does peer ability affect achievement? *Journal of Applied Econometrics*, 18, 527–544.

Hedges, L. V., Laine, R., and Greenwald, R. (1994). Does money matter? A meta-analysis of studies of the effects of differential school inputs on student outcomes. *Educational Researcher*, 23, 5-14.

Isakson, K., and Jarvis, P. (1999). The adjustment of adolescents during the transition into high school: A short-term longitudinal study. *Journal of Youth and Adolescence*. 28, 1-26.

Jacob, B. A. and Lefgren, L. (2007). The Effect of Grade Retention on High School Completion. NBER Working Paper #13514. Cambridge, MA: National Bureau of Economic Research.

Jansen, J. D. (1995). Effective Schools? *Comparative Education*, 31(2), 181-200.

Jepsen, C. (2005). Teacher characteristics and student achievement: Evidence from teacher surveys. *Journal of Urban Economics*, 57(2), 302–319.

Johnson, B.R. and Onwuegbuzie, A.J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher*, 33(7), 14-26.

Kahne, J. E., Sporte, S. E., de la Torre, M., and Easton, J. Q. (2008). Small High Schools on a Larger Scale: The Impact of School Conversions in Chicago. *Educational Evaluation and Policy Analysis*, 30(3), 281-315.

Konstantopoulos, S. (2006). Trends of School Effects on Student Achievement: Evidence from NLS:72, HSB:82, and NELS:92. *Teachers College Record*. 108, 2550-2581.

Krueger, A. B. (2003). Economic considerations and class size. *Economic Journal*, 113(485), F34–F63.

Kukla-Acevedo, S. (2009). Do teacher characteristics matter? New results on the effects of teacher preparation on student achievement. *Economics of Education Review*, 28, 49–57.

Larson, K. A, and Rumberger, R. W. (1995). ALAS: Achievement for Latinos through Academic Success. In H. Thornton (Ed.), *Staying in school: A technical report of the dropout prevention projects for junior high school students with learning and emotional disabilities*. Minneapolis, MN: University of Minnesota, Institute on Community Integration.

Lauer, P.A., Akiba, M., Wilkerson, S.B., Apthorp, H.S., Snow, D., and Martin-Green, M. (2006). Out-of school time programs: A meta-analysis of effects for at-risk students. *Review of Educational Research*, 76, 275-313.

Lee, V. E. (2000). Using hierarchical linear modeling to study social contexts: The case of school effects. *Educational Psychologist*, 35, 125-141.

Lee, V. E. and Burkam, D. T. (2003). Dropping Out of High School: The Role of School Organization and Structure. *American Educational Research Journal*, 40(2), 353-393.

Lee, V. E., and Bryk, A. (1989). A multilevel model of the social distribution of educational achievement. *Sociology of Education*, 62, 172-192.

Lee, V. E., and Loeb, S. (2000). School size in Chicago elementary schools: Effects on teachers' attitudes and students' achievement. *American Educational Research Journal*. 37, 3-31.

Lee, V. E., and Smith, J. B. (1996). Collective responsibility for learning and its effects on gains in achievement for early secondary school students. *American Journal of Education*, 104, 103-145.

Lee, V. E., and Smith, J. B. (1997). High school size: Which works best, and for whom? *Educational Evaluation and Policy Analysis*, 19(3), 205-227.

Lee, V. E. and Smith, J. B. (1999). Social support and achievement for young adolescents in Chicago: The role of school academic press. *American Educational Research Journal*, 36(4), 907-945.

Lee, V. E., Smith, J. B., Perry, T. E. and Smylie, M. A. (1999). Social support, academic press, and student achievement: A view from the middle grades in Chicago. Chicago: Consortium on Chicago School Research at the University of Chicago.

Meade, B. Gaytan, F., Fergus, E., and Noguera, P. (2009). A Close Look at the Dropout Crisis: Examining Black and Latino Males in New York City. A report prepared for the Black and Latino Male Advocacy Coalition by the Metropolitan Center for Urban Education, New York University.

Neild, R. C., Stoner-Eby, S. and Furstenberg, F. (2008). Connecting Entrance and Departure the Transition to Ninth Grade and High School Dropout. *Education and Urban Society*, 40(5), 543-569.

New York City Department of Education (DOE). (2007). Children First Accountability Overview. Office of Accountability, Public Education Leadership Project.

New York City Department of Education (DOE). (2008). Graduation Rates for the Class of 2007, New York City Department of Education.

Nye, B., Hedges, L. V., and Konstantopoulos, S. (2001). Are the effects of small classes cumulative? Evidence from a Tennessee experiment. *The Journal of Educational Research*, 94, 336-345.

Orfield, G., Losen, D., Wald, J., and Swanson, C., (2004). *Losing Our Future: How Minority Youth are Being Left Behind by the Graduation Rate Crisis*, Cambridge, MA: The Civil Rights Project at Harvard University.

Rabe-Hesketh, S. and Skrondal, A. (2008). *Multilevel and Longitudinal Modeling Using Stata, 2<sup>nd</sup> Edition*. College Station, TX: Stata Press.

Rabe-Hesketh, S., Skrondal, A. and Pickles, A. (2005). Maximum likelihood estimation of limited and discrete dependent variable models with nested random effects. *Journal of Econometrics*, 128(2), 301-323.

Riddell, A. (2008). *Factors Influencing Educational Quality and Effectiveness in Developing Countries: A Review of Research*. Sector Policy Advice and Promotion of Girls in Education. Eschborn, Germany: Deutsche Gesellschaft für Technische Zusammenarbeit and the German Federal Ministry for Economic Cooperation and Development.

Rivkin, G., Hanushek, E. A., and Kain, J. F. (2005). Teachers, Schools, and Academic Achievement, *Econometrica*, 73(2), 417-458.

Roderick, M. (2003). What's happening to the boys? Early high school experiences and school outcomes among African American male adolescents in Chicago. *Urban Education*, 38, 538-607.

Rothstein, R. (2004). *Class and Schools: Using social, economic, and educational reform to close the black-white achievement gap*. Washington, DC: Economic Policy Institute.

Sanders, W., and Rivers, J. (1996). Cumulative and residual effects of teachers on future student academic achievement (Research progress report). In University of Tennessee Value-Added Assessment Center, Knoxville, TN.

Sinclair, M. F., Christenson, S. L., Evelo, D. L., and Hurley, C. M. (1998). Dropout prevention for youth with disabilities: efficacy of a sustained school engagement procedure. *Exceptional Children*, 65(1), 7-21.

Sund, K. (2009). Estimating peer effects in Swedish high school using school, teacher, and student fixed effects. *Economics of Education Review*, 28, 329-336.

## **Appendix A: Description of High School Admissions Criterion**

**Testing:** Testing schools are the specialized high schools that admit students solely based on their performance on the Specialized High School Exam.

**Screened Admissions:** Schools that have screened admissions criteria are those that rank students for admissions based on their academic performance from the previous year.

**Audition:** Schools with the audition admissions select students based on their performance in a dance, theater, music, or visual arts audition.

**Limited Unscreened:** Schools that use the limited unscreened admissions criteria are typically small high schools that often focus on a particular theme and attempt to target students that show interest in their school by attending open houses or high school fairs. Administrators in limited unscreened programs are not to use student achievement in identifying students for which they have a preference.

**Educational Option:** In educational option programs, a total of 50 percent of students are selected by the school and the other 50 percent are randomly selected. Both select from a distribution of students representing 16 percent of the high range of achievement on the 7th grade NYS reading score, 68 percent of the average range, and 16 percent from the low range.

**Unscreened:** These are schools for which students are selected randomly by computer.

**Zoned:** The schools give priority to students who live in the geographical zoned area of the high school.

## Appendix B: Student Characteristics and School Resource and Achievement Levels among the Top 20 Schools

Table 1B: Student Characteristics among the Top 20 Schools

School Name	Enrollment	% Free Lunch	% Black/Latino	% ELL	% Special Education
BEDFORD ACADEMY HS	342	54.5	97.8	2.0	3.0
EAST SIDE COMMUNITY HS	562	70.6	88.6	5.5	24.7
WADLEIGH ARTS HS	838	76.6	98.4	6.7	17.2
LAGUARDIA HS	2519	18.7	37.0	2.5	0.7
LINCOLN ACADEMY/ HOSTOS	534	65.7	95.5	5.6	7.7
MAN./HUNTER COLLEGE HS FOR SCI	410	61.2	62.7	3.5	1.2
HS FOR LAW AND PUBLIC SERVICE	633	79.5	99.2	28.1	7.8
HS FOR INT. BUS. AND FINANCE	720	85.9	98.9	34.9	13.9
HS FOR CONTEMPORARY ARTS	403	70.4	95.4	3.1	8.2
BRONX LEADERSHIP ACADEMY II HS	402	68.6	96.4	9.4	7.5
BRONX THEATRE HS	368	75.8	95.9	5.5	8.8
ENTERPRISE, BUS. AND TECH. HS	816	90.7	98.0	14.3	15.7
CURTIS HS	2700	44.2	60.6	5.4	13.3
BAYSIDE HS	3908	21.6	39.3	8.5	7.0
MLK, JR HS FOR ARTS AND TECH	602	78.7	95.0	12.6	13.5
THOMAS A EDISON VHS	2643	28.3	55.1	1.5	6.6
ACORN COMMUNITY HS	709	79.4	97.0	3.8	16.2
FOREIGN LANG. ACAD. OF GLOBAL STUDS.	470	94.0	95.8	7.7	10.5
TALENT UNLIMITED HS	521	55.2	78.0	1.1	4.9
HS OF TELECOMMUNICATIONS	1209	60.2	68.0	7.2	16.2
<b>High Performing HS Level Avg</b>	1065.5	64.0	82.6	8.5	10.2
<b>High Performing HS Level SD</b>	1016.7	21.6	21.0	8.7	6.1
<b>Other School Level Average</b>	1292.2	59.2	81.9	9.4	10.6
<b>Other School Level SD</b>	1179.4	23.7	22.4	8.2	5.5

+ p < .10. \*p < .05. \*\*P<.01.\*\*\*p<.000

Source: New York City Department of Education, 2008.

Notes: Except for enrollment figures, this represent school-wide totals or proportions as of October 2003-04 or 2004-05. Data for enrollment is for the 2006-07 school year except for schools where data was missing for that year, in which case enrollment data was taken from an earlier year (2004-05 or 2003-04). High Performing Average and SD represent means and standard deviations for the top 20 schools and Other School Average and SD represent the same for all 234 schools with students from our sample in attendance. Statistical significance indicates if difference in means is statistically significantly different from 0.

**Table 2B: School Resources among the Top 20 Schools**

School Name	Students per Teacher	% Teachers w/>2 yrs Exp. in School	% Teachers w/>5 yrs Exp. in any School	% Teachers w/ Masters	Avg. Spending per Pupil
BEDFORD ACADEMY HS	19.8	0.0	40.0	80.0	\$14,011
EAST SIDE COMMUNITY HS	...	...	...	...	...
WADLEIGH ARTS HS	...	...	...	...	...
LAGUARDIA HS	17.9	72.5	64.8	83.8	\$10,013
LINCOLN ACADEMY/ HOSTOS	...	...	...	...	...
MAN./HUNTER COLLEGE HS FOR SCI	17.0	0.0	20.0	80.0	\$17,942
HS FOR LAW AND PUBLIC SERVICE	17.9	63.2	47.4	76.3	\$10,251
HS FOR INT. BUS. AND FINANCE	15.8	50.0	57.1	83.3	\$11,900
HS FOR CONTEMPORARY ARTS	12.3	0.0	25.0	75.0	\$13,302
BRONX LEADERSHIP ACADEMY II HS	15.9	0.0	9.1	54.5	\$10,402
BRONX THEATRE HS	15.2	0.0	16.7	66.7	\$15,142
ENTERPRISE, BUS. AND TECH. HS	14.6	58.8	49.0	70.6	\$12,328
CURTIS HS	18.8	72.2	65.3	84.0	\$9,379
BAYSIDE HS	23.2	55.0	56.4	84.3	\$7,468
MLK, JR HS FOR ARTS AND TECH	17.0	0.0	30.0	75.0	\$12,862
THOMAS A EDISON VHS	20.5	70.6	65.5	82.4	\$8,450
ACORN COMMUNITY HS	18.9	43.2	43.2	67.6	\$10,624
FOREIGN LANG. ACAD. OF G. STUDS.	16.2	55.0	55.0	95.0	\$12,529
TALENT UNLIMITED HS	18.0	44.0	32.0	56.0	\$10,086
HS OF TELECOMMUNICATIONS	17.8	59.7	51.4	79.2	\$9,825
<b>High Performing HS Level Avg</b>	17.5	37.9	42.8	76.1	\$11,559.6
<b>High Performing HS Level SD</b>	2.5	30.0	17.9	10.4	\$2,605.5
<b>Other School Level Average</b>	18.3	45.1	48.3	73.2	\$10,630.1
<b>Other School Level SD</b>	3.3	27.6	17.0	11.8	\$2,550.9

+ p < .10. \*p < .05. \*\*P<.01.\*\*\*p<.000

Source: New York City Department of Education, 2008.

Notes: Data is for the 2003-04 or 2004-05 school year and are missing for 28 schools. Statistical significance indicates if difference in means is statistically significantly different from 0.

**Table 3B: School Climate as Measured by the 2007 Learning Environment Survey among the Top 20 Schools**

School Name	Safety and Respect	Communication	Engagement	Academic Expectations
BEDFORD ACADEMY HS	8.4	7.5	7.3	8.6
EAST SIDE COMMUNITY HS	7.7	7.6	6.9	7.7
WADLEIGH ARTS HS	5.9	5.3	5.5	6.5
LAGUARDIA HS	7.4	5.5	5.7	6.9
LINCOLN ACADEMY/ HOSTOS	6.6	5.6	5.5	6.6
MAN./HUNTER COLLEGE HS	7.3	6.2	6.2	7.6
HS FOR LAW AND PUB. SERV	7.2	6.6	6.6	7.6
HS FOR INT. BUS. FINANCE	7.1	6.5	6.1	7.5
HS FOR CONTEMP. ARTS	6.9	6.1	6.1	7.1
BRONX LEADERSHIP ACAD. II	5.9	5.6	5.3	6.5
BRONX THEATRE HS	6.6	6.1	6.0	7.0
ENTERPRISE, BUS. AND TECH.	5.8	5.8	5.5	6.5
CURTIS HS	6.2	6.2	6.3	7.2
BAYSIDE HS	6.1	5.2	5.4	6.4
MLK, JR HS, ARTS AND TECH	6.5	5.4	5.4	6.5
THOMAS A EDISON VHS	5.9	5.4	5.3	6.6
ACORN COMMUNITY HS	6.3	5.7	5.3	6.7
FOREIGN LANG. ACAD.	6.5	6.2	5.8	7.1
TALENT UNLIMITED HS	7.5	5.5	5.8	6.8
HS OF TELECOMM.	7.3	6.4	6.3	7.6
<b>High Performing HS Level Avg</b>	6.7*	6.0*	5.9+	7.0*
<b>High Performing HS Level SD</b>	0.7	0.7	0.6	0.6
<b>Other School Level Average</b>	6.3	5.7	5.6	6.7
<b>Other School Level SD</b>	0.7	0.5	0.6	0.6

+ p < .10. \*p < .05. \*\*P<.01.\*\*\*p<.000

Source: New York City Department of Education, 2008.

Notes: Data is for the 2007 school year and are missing for five schools. Statistical significance indicates if difference in means is statistically significantly different from 0.

**Table 4B: Student Achievement Levels among Black and Latino Males in the 2007 Cohort among the Top 20 Schools**

School Name	N	Attend. Rate	% Prof. 8th Grd. Math	% Prof. 8th Grd. ELA	% Repeat 9th	% Transfer
BEDFORD ACADEMY HS	32	91.5	43.75	46.88	3.13	6.25
EAST SIDE COMMUNITY HS	28	85.8	13.33	7.14	17.86	10.00
WADLEIGH ARTS HS	47	87.5	14.29	14.58	2.08	12.24
LAGUARDIA HS	43	95.8	79.55	79.55	0.00	4.55
LINCOLN ACADEMY/ HOSTOS	16	88.7	38.89	62.50	0.00	0.00
MAN./HUNTER COLLEGE HS	19	94.7	52.38	60.00	4.76	9.52
HS FOR LAW AND PUB. SERV	52	87.4	20.00	15.38	22.64	16.36
HS FOR INT. BUS. FINANCE	45	87.5	16.07	8.70	20.00	16.36
HS FOR CONTEMP. ARTS	22	90.4	22.73	13.64	0.00	22.73
BRONX LEADERSHIP ACAD. II	20	81.3	33.33	35.00	0.00	33.33
BRONX THEATRE HS	28	85.1	32.14	14.29	7.41	14.29
ENTERPRISE, BUS. AND TECH.	79	84.8	27.71	30.00	18.52	12.05
CURTIS HS	112	86.3	13.71	15.18	30.51	23.39
BAYSIDE HS	80	89.7	41.86	30.00	24.10	16.47
MLK, JR HS, ARTS AND TECH	53	78.3	17.54	16.67	5.45	19.30
THOMAS A EDISON VHS	159	92.0	63.58	47.80	1.24	9.88
ACORN COMMUNITY HS	45	79.1	16.67	22.22	31.25	22.92
FOREIGN LANG. ACAD.	18	87.2	35.00	27.78	20.00	5.00
TALENT UNLIMITED HS	22	91.8	45.45	36.36	0.00	0.00
HS OF TELECOMM.	60	89.7	28.57	26.67	46.67	9.68
<b>High Performing HS Level Avg</b>	20	87.7**	32.8	30.5	12.8***	13.2**
<b>High Performing HS Level SD</b>		4.6	17.9	19.9	13.6	8.4
<b>Total School Level Average</b>	191	83.9	28.3	25.0	29.8	21.3
<b>Total School Level SD</b>		6.4	21.1	20.1	21.2	12.2

+ p < .10. \*p < .05. \*\*P<.01.\*\*\*p<.000

Source: Calculations by the Authors using data from the New York City Department of Education, 2008.

Notes: With the exception of "Attend. Rate," figures represent calculations for Black and Latino males in the 2007 cohort that were included in the analysis. "Attend. Rate" is the school-wide attendance rate for all students in the school for the 2006-07 school year. Statistical significance indicates if difference in means is statistically significantly different from 0.

**Table 5B: Student Achievement Levels among Black and Latino Males in the 2007 Cohort among the Top 20 Schools**

School Name	% 0 Credits	% > 5 Credits	% Dropout	% Still Enrolled	% Local	% Regents	% Grad
BEDFORD ACADEMY HS	0.00	100.00	3.13	0.00	3.13	93.75	96.88
EAST SIDE COMMUNITY HS	0.00	83.33	6.67	20.00	13.33	56.67	70.00
WADLEIGH ARTS HS	0.00	100.00	4.08	20.41	16.33	51.02	67.35
LAGUARDIA HS	0.00	100.00	0.00	4.55	2.27	93.18	95.45
LINCOLN ACADEMY/ HOSTOS	0.00	100.00	5.56	5.56	5.56	83.33	88.89
MAN./HUNTER COLLEGE HS	0.00	95.24	0.00	14.29	0.00	85.71	85.71
HS FOR LAW AND PUB. SERV	0.00	92.73	20.00	12.73	18.18	41.82	60.00
HS FOR INT. BUS. FINANCE	1.79	91.07	14.29	16.07	25.00	41.07	66.07
HS FOR CONTEMP. ARTS	0.00	100.00	4.55	9.09	31.82	54.55	86.36
BRONX LEADERSHIP ACAD. II	0.00	100.00	4.76	19.05	9.52	61.90	71.43
BRONX THEATRE HS	3.57	92.86	3.57	25.00	21.43	50.00	71.43
ENTERPRISE, BUS. AND TECH.	1.20	89.16	10.84	14.46	26.51	46.99	73.49
CURTIS HS	12.10	71.77	8.87	38.71	8.87	37.10	45.97
BAYSIDE HS	0.00	83.72	12.79	23.26	4.65	56.98	61.63
MLK, JR HS, ARTS AND TECH	0.00	89.47	21.05	26.32	15.79	35.09	50.88
THOMAS A EDISON VHS	1.23	93.83	4.94	19.14	8.02	66.67	74.69
ACORN COMMUNITY HS	2.08	79.17	6.25	29.17	14.58	39.58	54.17
FOREIGN LANG. ACAD.	5.00	85.00	15.00	20.00	10.00	55.00	65.00
TALENT UNLIMITED HS	0.00	100.00	0.00	4.55	31.82	63.64	95.45
HS OF TELECOMM.	1.59	87.30	11.11	20.63	20.63	44.44	65.08
<b>High Performing HS Level Avg</b>	1.4**	91.7***	7.9**	17.1***	14.4*	57.9***	72.3***
<b>High Performing HS Level SD</b>	2.9	8.2	6.2	9.4	9.6	18.3	15.0
<b>Other School Level Average</b>	4.09	81.23	13.12	31.31	21.53	30.23	51.76
<b>Other School Level SD</b>	4.33	12.80	8.36	11.96	13.41	20.24	17.95

+ p < .10. \*p < .05. \*\*P<.01.\*\*\*p<.000

Source: Calculations by the Authors using data from the New York City Department of Education, 2008.

Notes: Figures represent calculations for Black and Latino males in the 2007 cohort that were included in the analysis. Statistical significance indicates if difference in means is statistically significantly different from 0.