Is Demography Still Destiny?

Neighborhood Demographics and Public High School Students’ Readiness for College in New York City

A Research and Policy Brief

Annenberg Institute for School Reform

At Brown University
ABOUT THE ANNENBERG INSTITUTE FOR SCHOOL REFORM

The Annenberg Institute for School Reform (AISR) is a national policy-research and reform-support organization, affiliated with Brown University, that focuses on improving conditions and outcomes for all students in urban public schools, especially those attended by traditionally underserved children. AISR’s vision is the transformation of traditional school systems into “smart education systems” that develop and integrate high-quality learning opportunities in all areas of students’ lives – at school, at home, and in the community.

AISR conducts research; works with a variety of partners committed to educational improvement to build capacity in school districts and communities; and shares its work through print and Web publications. Rather than providing a specific reform design or model to be implemented, AISR’s approach is to offer an array of tools and strategies to help districts and communities strengthen their local capacity to provide and sustain high-quality education for all students.

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During the past decade, the Bloomberg administration has explicitly prioritized narrowing the racial achievement gap. Former Chancellor Joel Klein has often argued, “neither resources nor demography is destiny in the classroom,” and the New York City Department of Education has invested heavily in school choice to achieve this goal, remaking the high school choice system to increase the scope and equity of student assignment to high school. Yet a new study by the Annenberg Institute for School Reform at Brown University indicates that the college readiness of New York City high school graduates is still very highly correlated with the neighborhood they come from. In particular, the racial composition and average income of a student’s home neighborhood are very strong predictors of a student’s chance of graduating high school ready for college. The gaps between neighborhoods are enormous:

- Only 8 percent of students from Mott Haven graduate ready for college, while nearly 80 percent of students from Tribeca do.
- In the city’s neighborhoods with 100 percent Black and Latino residents, no more than 10 percent of high school students graduate ready for college.
- In the Manhattan neighborhoods with the highest college-readiness rates, fewer than 10 percent of the residents are Black or Latino.
- Eighteen of the twenty-one neighborhoods with the lowest college-readiness rates are in the Bronx (the other two are in Brooklyn).
- Thirteen of the fifteen neighborhoods with the highest college-readiness rates are in Manhattan (the other two are in Queens).

In spite of the city’s efforts to increase equity by expanding high school choice and creating five hundred new small schools and one hundred charter schools, college readiness rates are still largely predicted by the demographics of a student’s home neighborhood. This suggests that the strategies of school choice and school creation are not sufficient to create the equity that the administration has envisioned.

Other policies that would begin to address these gaps are:

- Create a more equitable distribution of in-school guidance and counseling resources to help families successfully navigate the school choice maze.
- Significantly increase the number of educational-option seats to ensure that students of all academic levels and all neighborhoods have a fair shot at seats in the high schools that are most likely to prepare them for college.
- Invest heavily in school improvement strategies, rather than just school creation and choice, to increase the capacity of existing schools to prepare students for college.

Without such comprehensive efforts, the vast disparity in opportunity that separates the city’s neighborhoods will persist.
Introduction

Over the past decade, Mayor Michael Bloomberg has reorganized the New York City school system using principles and strategies extrapolated from his corporate sector experience. The mayor and his administration have restructured the public school system into a portfolio district centered on choice, autonomy, and accountability. These strategies have been promoted as the most effective and efficient way to reduce the school system's substantial racial achievement gap and improve the quality of education for all the city's students. As a consequence, New York City's restructuring effort has been replicated in districts across the country, and the New York City school system is often defined as the nation's foremost exemplar of a portfolio district.

After a decade of implementation, a variety of student, school, and system-level outcomes offer a window into the successes and shortcomings of New York City's portfolio district reforms. This research brief examines one aspect of the impact of the nation's most comprehensive system of high school choice on equity of opportunity for the system's high school students. Our findings suggest that while high school choice may have improved educational options for individual students, choice has not been sufficient to increase systemic equity of opportunity. Our results indicate that universal high school choice has not disrupted the relationship of demography to educational destiny across the city's struggling neighborhoods.

Evolution of High School Choice

The New York City school system has developed the nation's most comprehensive system of high school choice. In the century since Stuyvesant High School was opened as a citywide choice school, students' selection of high schools (and high schools' selection of students) has become an almost universal process. In the mid-1980s, the creation of Central Park East Secondary School as a high school of choice helped initiate a wave of small high school development, pioneered by New Visions for Public Schools and the Center for Collaborative Education and supported by the Aaron Diamond Foundation. Through these initiatives, in the early 1990s some thirty-five new small high schools of choice were developed. An equivalent number of new small high

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1 Stuyvesant High School began restricting admission based on academics in 1919. In 1972, the New York State legislature linked it with the Bronx High School of Science and Brooklyn Technical High School and mandated admission to those three schools to students with the highest scores on a special citywide test. Five additional high schools were subsequently added to this elite category of specialized schools by the New York City Department of Education during the Bloomberg administration.
schools were developed as part of the New York Networks for School Renewal, the Annenberg Foundation’s New York City Challenge grantee, in the mid-1990s. These efforts considerably expanded the universe of high school choice.

Starting in 2002, the Bloomberg administration, supported by grants from the Bill & Melinda Gates Foundation, Carnegie Corporation, and the Open Society Institute, greatly intensified the pace of small high school creation. The administration also recalibrated the high school choice process. Under former Schools Chancellor Joel Klein, the process was refined to increase the number of individual schools each student could select, and the selection process was improved by using a computer-driven algorithm similar to the formula that matches teaching hospitals and medical student interns to pair students’ choices with schools’ selections.

As a result, the percentage of students placed in one of their top choices of high school has increased every year since 2009. In 2011, for example, 83 percent of high school applicants were matched with one of their five top choices. Mayor Bloomberg and former Chancellor Klein frequently linked their school reform efforts to the goals of the civil rights movement; for example, in 2009 Klein proclaimed that “neither resources nor demography is destiny in the classroom.” One of the goals of the administration’s efforts to improve the high school selection process was to ensure that demography was not destiny for the city’s high school students. As the economists who developed the high school choice matching process observed in a journal article about the new process,

One impetus for increasing school choice was to make sure students who lived in disadvantaged neighborhoods were not automatically assigned to disadvantaged schools. (Abdulkadiroglu, Pathak & Roth 2005, p. 364)

But has the high school choice system succeeded in breaking the link between demography and destiny? The analysis in this brief begins to address that question.

In 2010 the New York State Education Department developed a set of indicators to assess student capacity to succeed in college, based on student performance on Regents exams and CUNY assessment tests. If students pass the Math Regents exam with a score of at least 80 and the English Regents exam with a score of at least 75, they are now defined by New York State as college ready.

**High School Choice and Demography/Destiny**

Methods

In 2011, the New York City Department of Education (NYCDOE) released data on college readiness indicators for each New York City high school, as an additional measure of school performance on the NYCDOE’s Annual Progress Reports. But

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2 New York State’s definition of college readiness, based strictly on Regents scores, is called the Aspirational Performance Measure. For the purposes of this analysis, we have used the NYCDOE’s more expansive College Readiness Index, which is defined as the percentage of students who graduate with a Regents diploma, earn a 75 or higher on the English Regents or score 480 or higher on the Critical Reading SAT, and earn an 80 or higher on one Math Regents and complete coursework in Algebra II/Trigonometry or a higher-level math subject, or score 480 or higher on the Math SAT. A student can demonstrate completion of math coursework by: (a) Passing a course in Algebra II/Trigonometry or higher and taking one of the following exams: the Math B Regents, Algebra II/Trigonometry Regents, AP Calculus, AP Statistics, or IB Math; or (b) Passing the Math B or Algebra II/Trigonometry Regents. We used this metric because it was the latest data available at the time of our analysis.

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“Neither resources nor demography is destiny in the classroom”

—Joel Klein

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because the choice system often severs the connection between students’ home neighborhoods and the high schools they attend (since students choose schools throughout the city), the data did not connect the demographics of students’ neighborhood residence with their college readiness scores to assess the extent to which neighborhood demographics are associated with students’ college readiness rates.

In 2011, researchers at the Annenberg Institute for School Reform (AISR) at Brown University requested and received data from the NYCDOE on the high school graduation and college readiness scores of all the city’s public high school students, broken down by the students’ residential zip code. AISR amalgamated the student data for individual zip codes into a citywide neighborhood index and then carried out a series of analyses to assess the relationship between students’ residential neighborhood demographic factors and students’ college readiness scores, aggregated up to the neighborhood level.

AISR used an online data tool, developed by the Infoshare Community Information Service, to merge U.S. Census data, primarily neighborhood indicators by New York City zip code, with the college readiness scores by students’ residential zip code provided by the NYCDOE. To aggregate from the zip code to the neighborhood level, we used data provided by Infoshare that specifies the overlap of neighborhoods and zip codes. Whenever neighborhood boundaries did not coincide with those of zip codes, we used 2009 Census tract populations, broken down by the Census tracts in each zip code and neighborhood, to calculate the proportion of the neighborhood’s population that comes from each zip code. We assigned each neighborhood a college readiness score that represents the weighted average of the college readiness scores of those zip codes that overlap with the neighborhood. We used the same procedures for any demographic variable we converted to the neighborhood level.

Findings

AISR’s analysis found that several neighborhood socio-economic factors, such as single motherhood, extent of mother’s education, unemployment rate, and citizenship status, were significantly correlated with students’ college readiness rates. For example, the higher the average mother’s level of education in any New York City neighborhood, the higher the college readiness scores of the students residing in that neighborhood. Conversely, the higher a neighborhood’s percentage of single mothers, the lower the college readiness scores of students living in that neighborhood. The mean income level in each neighborhood was particularly strongly correlated with students’ college readiness scores – the lower a neighborhood’s mean income, the lower the college readiness scores of the students living in that neighborhood.

No single neighborhood factor was as strongly associated with college readiness as racial/ethnic composition.

3 We use Infoshare’s definition of a New York City neighborhood: “one of 292 neighborhoods in which New Yorkers generally think of themselves as residing” (www.infoshare.org).

4 These residential neighborhood demographic factors were culled from the U.S. Census 2005–2009 American Community Survey averages for New York City. The five-year averages are the most reliable, have the largest sample size, and are best used when examining Census tracts and small areas such as neighborhoods.
lower the college readiness scores of the high school graduates (in 2011) in those neighborhoods. Figure 1, with all the city’s neighborhoods represented by circles, illustrates this very strong negative log-linear relationship.

The relationship between the two variables – students’ college readiness scores and the racial composition of neighborhoods across New York City – is remarkably tight. When we examined the relationship of other demographic factors (e.g., income, single motherhood, citizenship status) to college readiness rates, we could identify several outliers – neighborhoods that broke the pattern. But the very strong relationship between race and college readiness yielded only one neighborhood (Woodlawn – see Figure 2 on next page) as a possible outlier, and this is explained by unusual population patterns in the neighborhood.

Figure 2 shows that no more than 10 percent of the high school students in the Bronx neighborhoods of Morrisania, Woodstock, Longwood, Claremont, and Mott Haven graduated high school college ready in 2011. These neighborhoods with low college readiness rates have the highest percentages of Black and Latino residents in New York City. In fact, eighteen of the twenty-one neighborhoods with the lowest college readiness rates are in the Bronx, the borough with the highest percentage of Black and Latino residents.
FIGURE 2
New York City high schools with lowest college readiness rates
Note high percentages of Black and Latino neighborhood residents

<table>
<thead>
<tr>
<th>Neighborhood</th>
<th>Borough</th>
<th>College Readiness (%)</th>
<th>Black/Latino* (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>East New York</td>
<td>Brooklyn</td>
<td>12</td>
<td>96</td>
</tr>
<tr>
<td>Ocean Hill</td>
<td>Brooklyn</td>
<td>12</td>
<td>99</td>
</tr>
<tr>
<td>North Baychester</td>
<td>Bronx</td>
<td>12</td>
<td>93</td>
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<tr>
<td>Edenwald</td>
<td>Bronx</td>
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<td>93</td>
</tr>
<tr>
<td>Melrose</td>
<td>Bronx</td>
<td>12</td>
<td>100</td>
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<tr>
<td>Hunt's Point</td>
<td>Bronx</td>
<td>12</td>
<td>100</td>
</tr>
<tr>
<td>East Tremont</td>
<td>Bronx</td>
<td>12</td>
<td>98</td>
</tr>
<tr>
<td>Mount Hope</td>
<td>Bronx</td>
<td>11</td>
<td>98</td>
</tr>
<tr>
<td>Bathgate</td>
<td>Bronx</td>
<td>11</td>
<td>95</td>
</tr>
<tr>
<td>Brownsville</td>
<td>Brooklyn</td>
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<td>100</td>
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<td>Bronx</td>
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<td>Bronx</td>
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<td>Claremont</td>
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<tr>
<td>Matt Haven</td>
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</tr>
<tr>
<td>Woodlawn</td>
<td>Bronx</td>
<td>8</td>
<td>52**</td>
</tr>
</tbody>
</table>

* Black/Latino refers to the proportion Black plus the proportion Latino, which can sometimes be more than 100 percent because some people identify as both. Where percentages added up to more than 100, we rounded to 100.

** Woodlawn, which has a large White population, shares a zip code with Eastchester, a neighborhood that is predominately Black. There are disproportionately more Black high school students in this zip code, so its low college readiness rate reflects the characteristics of Eastchester.

Conversely, as Figure 3 shows, 74 percent or more of the high school students in more advantaged Manhattan neighborhoods such as Tribeca, Little Italy, Soho, and Lenox Hill graduated college ready in 2011. All four of these Manhattan neighborhoods with very high college-ready rates have 10 percent or less Black and Latino residents. An analysis of graduate rates showed a similar negative log-linear association with the proportion of Blacks and Latinos in the neighborhood populations. But there was more variation in graduation rates than college readiness rates among neighborhoods with the most Black and Latino residents, indicating that there is more equity in opportunity for high school outcomes than for college readiness.

Given that only 13 percent of the city’s Black and Latino students currently graduate high school prepared for college, compared with 50 percent of White students and 50 percent of Asian students, these findings are not surprising. Yet it is quite sobering that despite efforts to improve the high school choice system to increase educational opportunities for the city’s students, the relationship between demography and college readiness is so strong across the city’s neighborhoods. Because the college-ready indicator is so new, it has not been possible to construct comparisons to determine whether the relationship between neighborhood demographics and college readiness has changed across time. Thus our analysis is very time-limited – a snapshot based on one year of data. However, because the
relationship between race and outcomes demonstrated in Figure 1 could hardly be more tight, it is not likely to have lessened significantly in recent years.

In a broadside that former Chancellor Klein and Michelle Rhee published in 2010, they declared, “The single most important factor determining whether students succeed in school is not the color of their skin or their ZIP code or even their parents’ income – it is the quality of their teacher.” Yet our findings indicate that ZIP code, income, and, above all, the racial composition of students’ neighborhoods is very strongly correlated with student success.

In spite of the NYCDOE’s efforts to enhance both the extent of selectivity and the equity of high school choice, demography is still – and quite relentlessly – destiny in terms of the relationship between neighborhood race/ethnicity and college readiness across the city’s public school system. Universal high school choice seems not to have provided equity of outcomes for the city’s high school students.

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5 According to the NYCDOE School-Level Regents-Based Math/ELA Aspirational Performance Measure (2010), which is the only college readiness metric provided that is broken down by race. See http://schools.nyc.gov/NR/rdonlyres/193BB0DA-5DE1-4EEE-B49B-C8C45357441B/0/Graduation_Rates_Public_School_Apm.xls.
Exploring the Causes of the Choice/Demography Link

What might help to explain these disturbing results? Sean Corcoran and Henry Levin’s (2011) comprehensive analysis of the city’s high school choice system provides some suggestions. Corcoran and Levin found that under the Bloomberg administration, educational option program offerings, which control school choice to increase equity of student opportunity, have significantly diminished. Unscreened programs, in which students are randomly selected by computer, with priority given to those who attend a school open house or information session, have significantly increased. Researchers need to examine the equity implications of these policy changes.

Corcoran and Levin discovered that the average number of high school choices students made varied significantly by the middle school they attended. After controlling “for student characteristics (e.g., achievement, race, poverty) and residential area,” the authors observed “sizable middle school effects on choices” (p. 212). Efforts by the New York City Coalition for Educational Justice (2007, 2008) have demonstrated that patterns of inequity in middle school curricula, as well as disparities in resources such as teacher quality and student support, are associated with low student achievement in the city’s middle schools. Given Corcoran and Levin’s finding of “sizable middle school effects,” research efforts should assess whether predictable disparities in guidance-counselor-to-student ratios in middle schools are shaping these effects on high school choice.

Corcoran and Levin (2011) also found:

Students tended to prefer high schools that matched their own academic, racial, and socioeconomic background. . . . These patterns suggest that universal choice will be limited in its ability to prevent stratification of students across schools by race, socio-economic status, and academic ability. (pp. 214–215)

But Corcoran and Levin also observed a pattern of disparity between students’ first choice of high school, students’ middle schools, and the high schools students were ultimately assigned to. Essentially, they found that even given the students’ tendency to choose schools that matched their own backgrounds:

Students’ first-choice schools are on average more advantaged and less racially isolated than students’ middle schools . . . [but] students’ final school assignment is more similar to the students’ feeder school.

—Sean Corcoran and Harry Levin, “School Choice and Competition in the New York City Schools”
extent students vary in the values they place on school characteristics, decentralized school choice has the potential to increase stratification by race, academic ability, and socio-economic status. (p. 224)

That last observation may offer an initial explanation of the very strong relationship we found between college readiness and racial composition across the city’s neighborhoods.

**Reducing the Choice/Demography Link**

What policies might reduce the strong correlation between neighborhood characteristics and college readiness? Because our research represents only an initial step in exploring the relationships among these variables, our recommendations are necessarily preliminary and limited. But one obvious way to begin is to investigate the middle school effects on choice that Corcoran and Levin observed. It may well be, for example, that the relatively small numbers of the system’s middle schools that serve more-advantaged students have lower student/guidance counselor ratios and more experienced and effective counselors. If there are such in-school counseling advantages, they may well produce more appropriate choice of and placement in high schools.

Moreover, such in-school advantages are often buttressed by the social capital that more-advantaged families and neighborhoods can wield. Families and neighborhoods that have accumulated years of knowledge about how to identify the most appropriate high schools, combined with the accumulated experience of how to effectively negotiate the choice process, can provide significant advantages to students’ choice.

Evening out these imbalances will not only require a **more equitable distribution of in-school guidance and counseling resources**. It will also require mobilizing neighborhood-based guidance and support efforts provided by community service and advocacy organizations⁷ – and perhaps by middle and high school students through forms of peer counseling⁸ – to help students and families in low-income Black and Latino neighborhood successfully navigate the choice process.

Corcoran and Levin’s finding that the number of placements available in education option schools and programs has been significantly reduced suggests another appropriate policy intervention. To increase the possibility that Black and Latino students with low levels of achievement have appropriate placements available to them through the choice process, **educational options seats should not only be restored to their pre-2002 levels, but significantly increased.** The goal should be to ensure that students from all neighborhoods have a fair shot at seats in the high schools that are most likely to prepare them for college.⁹

Providing effective guidance and counseling support for students negotiating the high school choice process – and increasing the number

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⁶ The New York City Coalition for Educational Justice has also promoted a series of improvement measures, including expanded learning time and social/emotional supports such as improved guidance services, particularly focused on the high school choice process, which might improve the appropriateness and effectiveness of student selection of high schools.

⁷ Forms of community-based guidance and counseling have been developed during the past decades to help students and their families negotiate the college admissions process. But to our knowledge, very few of these local forms of support have been mobilized to help negotiate the high school choice process.

⁸ One example of such programs is the effort to adapt the Urban Youth Collaborative’s Student Success Center model to the middle school level, now being explored at I.S. 302 in Cypress Hills.

⁹ These recommendations are similar to those made by Hemphill and Nauer (2009).
of ed-op placements – would undoubtedly improve the quality and equity of student choices (and ultimately, their college readiness scores). But such support will not be sufficient to provide the new high school placements necessary to correct the equity imbalances across the choice system. Corcoran and Levin’s finding that students choose more-advantaged and less-segregated schools than those in which they are ultimately placed suggests a much larger problem: there are not enough good schools available within the matching process.

The finding that students choose more-advantaged and less-segregated schools than those in which they are ultimately placed suggests a much larger problem: there are not enough good schools available within the matching process. Indeed, the three economists who developed the choice process’s matching algorithms concluded, in a paper written after the new process was implemented, that “New York City needs more good schools” (Abdulkadiroglu, Pathak & Roth 2005, p. 367).

Over the past decade, the Bloomberg administration has explicitly prioritized narrowing the racial achievement gap and has invested heavily in school choice (and school creation) as policies to achieve these goals. However, our analysis suggests that the restructured system of choice they created is far from sufficient to meet the citywide equity challenge.

After a decade of expanding high school choice and creating five hundred new small schools and one hundred new charter schools, college readiness rates are still largely predicted by the demographics of a student’s home neighborhood. If demography is no longer to determine destiny for the city’s students, the administration must not only restructure the school choice system in the ways suggested above, but must also invest heavily in school improvement strategies to increase the capacity of all schools to effectively prepare students for college. Without such comprehensive efforts, the vast disparity in opportunity that separates the city’s neighborhoods will persist.

References


