FURMAN CENTER
FOR REAL ESTATE & URBAN POLICY
NEW YORK UNIVERSITY
SCHOOL OF LAW • WAGNER SCHOOL OF PUBLIC SERVICE

INSTITUTE FOR
Education and Social Policy

NOVEMBER 2008

WWW.FURMANCENTER.NYU.EDU • WWW.STEINHARDT.NYU.EDU/IESP

POLICY BRIEF

Public Housing and Public Schools: How Do Students Living in NYC Public Housing Fare in School?

Over the past few decades, a broad consensus has emerged that much of the public housing built over the last half-century was based upon a flawed model, and creates unhealthy environments for its tenants. As a result, policy debates and research over the past two decades have focused on alternative housing programs, such as subsidies for privately-owned rental housing, tenant-based vouchers, and efforts to encourage homeownership. Indeed, the most prominent housing policy research in recent years comes from the Moving to Opportunity program, which relocated families out of public housing to mixed-income neighborhoods.

While research and policy debates now center on residents moving out of public housing, many families still live in public housing around the country, and it is important to consider how to improve their well-being. Approximately 1.2 million units of public housing are still in service around the country, housing about 3 million tenants. In New York City, there are 180,000 units of public housing—more than any other city in the United States. These developments house an estimated 130,000 children, or about one out of every nine students in City's public schools.

Despite these large numbers, there has been little examination of the life chances of the families and children living in the City's many public housing complexes. Indeed, there has been virtually no work done in any city to analyze the academic performance of children and teens living in public housing. To fill this gap, NYU's Furman Center for Real Estate and Urban Policy and its Institute for Education and Social Policy came together to examine the school performance of children living in housing managed by the New York City Housing Authority (NYCHA) and compare their educational outcomes with the outcomes of other comparable students who do not live in public housing.

While this policy brief points to an achievement gap between students who live in NYCHA housing and those who do not, our data do not allow us to isolate the reason for the disparity. In our conclusion, we discuss some possible factors that might contribute to the disparities in school outcomes reported in this policy brief: underlying differences in family characteristics, resources or behaviors, lower quality schools or NYCHA residency itself. But it is important to note here that we do not claim that living in NYCHA housing causes students to perform differently from students living in other housing.

What do we know about how public housing residents fare in school?

While public housing has been widely criticized as a residential model, there are several reasons to suspect that school-aged children may actually benefit from living in public housing. Research suggests that residential instability and high rent burdens negatively affect educational performance. Public housing, which keeps rents low and minimizes residential instability, accordingly might help residents achieve better educational success. Moreover, overcrowding may be linked to negative education outcomes, and to the extent that public housing developments offer residents less crowded residential environments than they could afford in the private market, public housing residents again might achieve better educational outcomes. Lastly, families living in public housing pay lower rents, and therefore parents may have more disposable income and time to devote to their children.

On the other hand, there are a number of reasons to suspect that children living in public housing might fare worse in school compared to other poor children. Most notably, the acute concentration of poverty in public housing developments may leave children without role models for strong educational performance, and expose them to higher rates of crime and other social deviance. Moreover, the poor families living in public housing may be significantly more disadvantaged than other poor families, perhaps because they come from families that have been poor for generations or because the long waiting list to get into public housing means that the families who eventually move in have been living in poverty for some time (and likely have been in unstable housing arrangements).

Our research questions

To test these various hypotheses and better understand how children living in NYCHA housing are performing in school, we asked the following questions:

1. **Are NYCHA students concentrated in a few schools? If so, do the characteristics of the schools that children living in public housing attend differ from those of other schools?**

2. **Do public housing students perform at the same level as students of similar background who do not live in NYCHA housing?**

3. **Does the performance of NYCHA students vary depending on the neighborhood where the public housing is located?**

To address these questions, we brought together two large data sets. The first, from the Department of Education, compiles data on the City's public school students and their schools, including information on student demographics, test scores and attendance rates, as well as the teacher characteristics, the pupil-teacher ratio and the characteristics of other students at their schools during the 2002-2003 school year. The second, from the New York City Housing Authority, describes the location of all 343 public housing developments in the City.

Are the characteristics of the typical school attended by children living in NYCHA housing different from the typical school attended by students not living in NYCHA housing?

Before considering student performance, it is important to examine the distribution of public housing students across the City's elementary schools and identify whether children living in NYCHA housing attend a different set of schools than other children. We find that students living in public housing are highly concentrated in a small number of the City's elementary schools.

About a quarter of all NYCHA elementary school students attend just 4% of the City's elementary schools, or 33 schools. Half of the elementary school-aged students in public housing attend just 10% of the City's elementary schools, or 83 schools. This pattern of concentration holds at the high school level as well.

In order to better understand how the average school attended by a NYCHA student differs from the average school attended by a non-NYCHA student, we average the characteristics of all the schools NYCHA students attend, but weight the contribution each of the schools makes to the average according to the share of all NYCHA students who attend that school. We find that the typical school attended by public housing students looks quite different from the typical school attended by non-NYCHA students. As shown in Table A, it has fewer white students and more poor students than most schools throughout the City.[1]

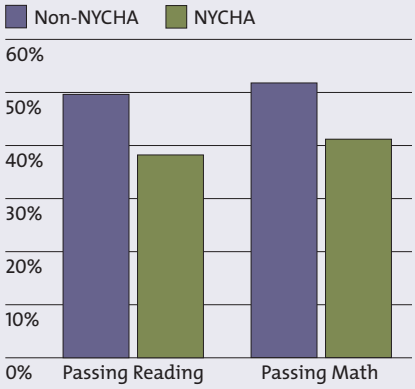
Teachers in the average school attended by NYCHA students have slightly less education and experience than their peers in the average school attended by non-NYCHA students. The average schools attended by NYCHA students have a more favorable student-to-teacher ratio than the average school attended by non-NYCHA students (13:1 compared to 14:1), but have lower average attendance rates (91% in the average schools attended by public housing students, compared to 93% in other citywide elementary schools).

Perhaps most significantly, the schools attended by NYCHA students are relatively low-performing, as measured by the average test scores of their students. The percentage of students passing standardized math and reading exams at the average school attended by NYCHA students is notably lower than those at the average school attended by non-NYCHA students. As seen in Figure A, only 38% of students in the average school attended by NYCHA students passed their reading exams, and just 41% passed their math exams. In the average school attended by non-NYCHA students, almost 50% passed their reading exams, while nearly 52% passed their math exams. This is significant given the research that suggests that a student's academic performance is shaped in part by the performance of his or her peers.

Table A: Demographics of the Typical Public Elementary School Attended by NYCHA and non-NYCHA Students (2002-03)

	Non-NYCHA	NYCHA
White	16%	6%
Black	31%	45%
Hispanic	39%	43%
Asian	14%	6%
Eligible for Free Lunch	72%	85%

Figure A: Percentage of Students Passing Reading and Math Exams in the Typical Elementary School attended by NYCHA and non-NYCHA Students (2002-03)



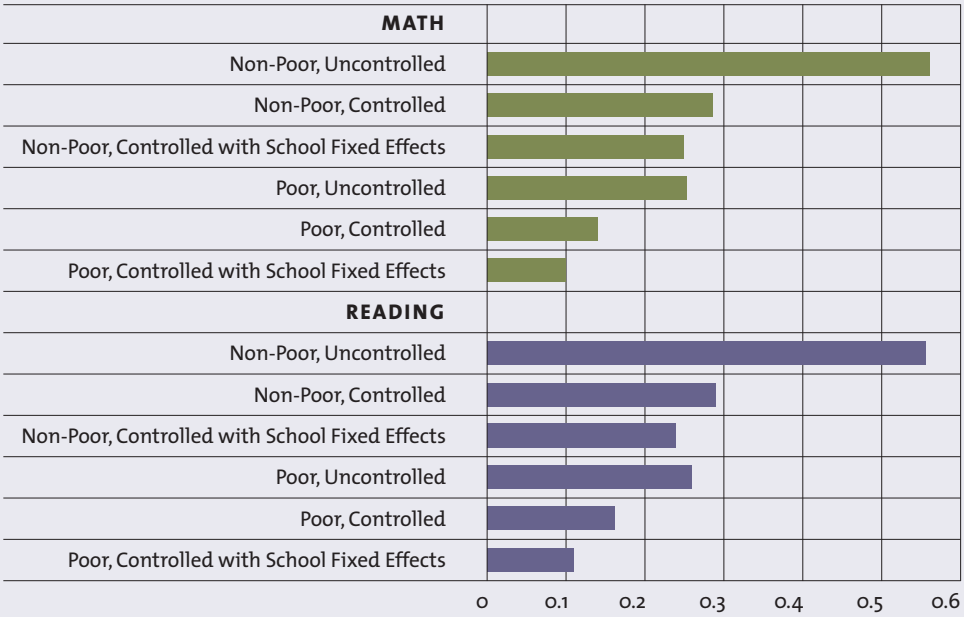
[1] In this analysis, we use eligibility for free lunch as a proxy for poverty, and define poor students as free-lunch eligible students.

Are NYCHA students performing as well on tests, and graduating from high school at the same rates, as other students?

In considering academic performance, we look at students' scores on standardized reading and math exams. Specifically, we examine how 5th graders living in public housing fared compared to their counterparts who were not living in public housing during the 2002-2003 academic year.[2] Figure B illustrates our findings. Each bar in Figure B shows the gap between the average score of a 5th grader living in NYCHA housing and the average score of a 5th grader not living in NYCHA housing. For both math and reading scores, we look at how this performance gap changes when we control for various individual and school characteristics, and we look at how the gap is different among poor and non-poor students.[3] As you can see, non-poor NYCHA students performed significantly worse on standardized math and reading tests than other non-poor students, and these disparities persist even when we control for student characteristics such as race, gender, and nativity status. When we control for the characteristics of the school a student attends, we still find significant differences. When we compare poor NYCHA students and poor students not living in NYCHA housing, we see smaller but still significant differences in test scores

What does this mean? These findings indicate that even after we take into account a student's race, gender, nativity status, whether or not the student is poor, and the

Figure B: The Gap in 5th Grade Standardized Reading and Math Scores for NYCHA Students After Controlling for Gender, Race, Nativity Status and School Characteristics (2002-2003)



In Figure B, each bar represents the difference in standardized test scores between non-NYCHA and NYCHA 5th graders. In both the math and reading sections, the bars labeled "uncontrolled" show the differences in scores with no controls for other factors that might affect performance. The bars labelled "controlled" show the difference in academic performance when we control for the gender, race and nativity status of students, and the bars labeled "controlled with school fixed effects" control for differences in both individual and school characteristics. This analysis is completed for the sub-sample of poor and non-poor students.

[2] We use regression analysis to compare the performance of students living in public housing with the performance of those who do not. In order to come up with a measure of performance that is comparable across years and tests, education researchers commonly use z-scores, which reveal how close a student's score is to the mean for that test. The differences are measured by "standard deviations." We use this approach here too. So for example, we find that on standardized reading tests, the average 5th grade student living in public housing scored 0.33 standard deviations below the citywide mean score, while the average 5th grade student living elsewhere scored 0.06 standard deviations above the citywide mean. The average 5th grade student living in public housing, in other words, scored 0.41 standard deviations below the average 5th grade student who did not live in public housing.

[3] Some households living in NYCHA housing are "non-poor" because the maximum allowable income for public housing eligibility is above the poverty line. A family of three is currently eligible to apply for NYCHA housing if they earn less than $55,300, which is well above the poverty line.

school he or she attends, we see persistent disparities between the academic performance of students that live in NYCHA housing and other students. A 5th grader living in NYCHA housing performs significantly worse on math and reading tests than a demographically similar student who does not live in NYCHA housing but who attends the very same school.

Finally, we also consider differences in performance among high school students, by examining students' outcomes on the Regents exams[4] and their graduation rates. Consistent with the disparities discussed above, we find that public housing students are slightly less likely to take the Math Regents exams than other students and, among those who take the tests, they are less likely to pass. Only 53% of NYCHA students taking the Math Regents pass the exam, compared to 60% of other students. Similarly, about 70% of NYCHA students taking the English Regents pass, while slightly over 75% of other students pass. Students living in public housing are also more likely to drop out of high school and less likely to graduate in four years than their peers not living in public housing. Only 55% of NYCHA students graduate from high school in four years, compared with 61% of their non-NYCHA peers.

Does the neighborhood matter?

A growing body of research suggests that neighborhoods are an important determinant of how students perform in school. In neighborhoods with concentrated poverty, high unemployment and few neighborhood institutions, students are likely to perform worse than their peers in neighborhoods with more advantages.

Because the City's public housing stock is located in many different kinds of neighborhoods, we were able to assess whether public housing students living in neighborhoods with high concentrations of poverty perform worse than public housing students living in neighborhoods with less concentrated poverty. We find that there is a performance gap among NYCHA students living in high versus lower poverty neighborhoods. Specifically, the average 5th grade student living in a public housing development in a high-poverty neighborhood scored 0.34 standard deviations below the citywide mean math score, while the average 5th grade student living in a public housing development in a lower poverty neighborhood had a smaller achievement gap, scoring 0.28 standard deviations below the citywide mean.

What might explain these differences in the experience and performance of NYCHA students?

Our research provides important new information about how the school experience and performance of children living in NYCHA housing differ from that of other children attending New York City public schools. The disparities, particularly in performance on standardized tests, are discouraging. The finding that kids in public housing are consistently doing worse in school than their peers should make all of us think hard about how to narrow the gap. Our research does not, however, provide an answer as to why these disparities exist.

As in much of the rest of the United States, the local zoning of New York City's elementary schools partially explains why public housing students are concentrated in a handful of elementary schools. Schools are located in unique zones, which largely draw their student population from the families living in those zones. The dense, high-rise structure of most public housing developments, and the fact that zones generally

[4] In New York State, in order to receive a regular high school diploma, students must pass a series of Regents exams in various subject areas.

do not bisect developments, therefore concentrate public housing students in a relatively small number of schools.

As noted earlier, teachers in the schools attended by public housing students have, on average, somewhat less education and lower levels of experience than teachers in other schools. It may be that experienced teachers are choosing to work in schools with lower concentrations of public housing students. The differences in teacher qualifications and related school characteristics are relatively small. It is unlikely that these minor differences are driving the larger differences in student performance.

What, then, can explain the public housing students' lower pass rates on standardized exams relative to their peers? There are a few possible explanations. First, schools attended by public housing students may be disadvantaged in ways our statistics are unable to measure—such as higher rates of in-school violence and poorer facilities. Such "unobservable" school characteristics could be responsible for the differences between the academic performance of NYCHA students and their peers.

An alternative explanation relates to something unique to the public housing experience. Perhaps the concentration of poverty in public housing makes it hard for students to find adults in their community who can help them with their homework and who can serve as a role models for the importance of education. Other aspects of living in public housing, such as peer pressure from students who are not performing well in school, may make it more difficult to concentrate on schoolwork.

A third explanation suggests that it is neither the schools nor the housing that drives the difference in how students living in public housing perform in school, compared to those living elsewhere in the City. Instead, perhaps the residents of public housing are different in ways that we have not been able to measure. Poor students living in public housing might come from families that are systematically different from the families of poor students living elsewhere in the City. There may be differences in wealth, or parents' employment, or family support between families living in public housing and those living elsewhere.

Key Findings

- Public school students living in NYCHA housing are concentrated in a handful of schools: 25% of all NYCHA students attend just 4% of the City's public elementary schools.
- NYCHA students attend schools in which their peers are more likely to be poor and more likely to be racial and ethnic minorities. The students in the average schools NYCHA students attend perform worse on standardized tests.
- Even controlling for differences in race, gender, nativity status, and school characteristics, we find that 5th grade students living in public housing perform worse on standardized tests than those living elsewhere.
- At the high school level, the gap persists but is a little less pronounced: 53% of NYCHA students taking the Math Regents pass the exam, compared to 60% of other students. Similarly, about 70% of NYCHA students taking the English Regents pass, while slightly over 75% of other students pass.
- Neighborhoods matter: NYCHA students living in high-poverty neighborhoods score lower on standardized tests than NYCHA students living in lower poverty neighborhoods.

Finally, our research reveals that the neighborhood context matters even within the NYCHA population; NYCHA students living in neighborhoods with concentrated poverty tend to do worse in school than those living in lower-poverty neighborhoods. This may be because high-poverty neighborhoods have fewer institutional resources, or because the social networks in high-poverty neighborhood may be less useful for enhancing academic performance than those in lower-poverty neighborhoods. Whatever the reasons, our findings suggest that mixed-income communities may benefit NYCHA youth, and point to the need for continued research on the impact that neighborhoods have on child development.

What does this mean for policymakers?

Ultimately, the lower academic performance of NYCHA students may result from some combination of all of the above factors—unobserved family characteristics, resources, or behaviors, features of the public housing environment, and unobserved differences in schools.

Whatever the cause, these disparities require action. Our findings suggest that the City, State and Federal governments should reconsider budget cuts and funding policies that threaten to reduce or eliminate NYCHA's after-school and other enrichment programs for youth. NYCHA and the City should take a closer look at how they can learn from and coordinate with non-profit programs such as I Have a Dream, which provide critical support for disadvantaged youth in public schools. More research to identify which NYCHA youth succeed, and what factors contributed to their success, would help inform future program development.

The Department of Education also should consider whether there are ways to target its assistance or enrichment programs to NYCHA youth, or to schools that have a high concentration of NYCHA youth. This may include identifying NYCHA students and tracking their performance as part of the school accountability system. It also may mean that increased resources should be provided at the individual or family level to help close the achievement gap, including improving kids' access to networks outside of their public housing development. Interventions such as charter schools, while controversial, should also be explored to find new ways to address the critical needs of NYCHA students.

Our findings should sound an alarm about the critical need to better address the educational needs of children living in public housing. The challenge for policymakers is to undertake research that will allow them to better understand, then to address, the factors that contribute to the troubling gap between the academic performance of NYCHA students and that of their peers.

THE FURMAN CENTER FOR REAL ESTATE AND URBAN POLICY

is a joint research center of the New York University School of Law and the Robert F. Wagner Graduate School of Public Service. Since its founding in 1995, the Furman Center has become the leading academic research center in New York City dedicated to providing objective academic and empirical research on the legal and public policy issues involving land use, real estate, housing and urban affairs in the United States, with a particular focus on New York City. More information about the Furman Center can be found at www.furmancenter.nyu.edu.

THE INSTITUTE FOR EDUCATION AND SOCIAL POLICY (IESP)

conducts non-partisan scientific research about U.S. education and related social policy issues to help inform educational institutions and policymakers about the effectiveness of instructional programs, the impact of school reform initiatives and the relationships between academic achievement, school finance and socio-economic and demographic factors such as poverty, ethnicity and immigration status. Faculty, research staff and doctoral students at IESP share an interest and commitment to educational improvement. Current research topics include school finance, education of poor, non-white and immigrant students, small schools, after school programs, school accountability, teacher labor markets, school reform, and relationships among schools, neighborhoods and the health, housing and work patterns of communities. A part of the Steinhardt School of Culture, Education, and Human Development, IESP was founded in 1995 as a partnership between Steinhardt, the Robert F. Wagner Graduate School of Public Service, and the Faculty of Arts and Sciences. More information about the Institute for Education and Social Policy can be found at www.steinhardt.nyu.edu/iesp.