Policing and Educational Outcomes: Examining the Consequences of Heavy Neighborhood Policing for Students’ Test Scores and Graduation Rates in New York City

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Housed at NYU Steinhardt, the Research Alliance for New York City Schools is an independent, nonpartisan research center that conducts rigorous studies on topics that matter to the City’s public schools. We strive to advance excellence and equity in education by providing evidence about the policies and practices that promote students’ development and academic success.
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Educators and researchers have long sought to understand—and illuminate—factors outside of school that shape students’ educational outcomes. In 2019, the Research Alliance published a policy brief that highlighted a startling connection between NYC students’ academic performance and their exposure to policing in their home neighborhoods. In short, we found that living in a neighborhood that was undergoing a “police surge” had a considerable negative effect on educational outcomes for middle-school-aged Black boys. We looked at students’ standardized test scores before, during, and after a police surge, and found no change in trajectory for girls or Latino students. But for Black boys, beginning at age 12, police surges in their neighborhood had an increasingly negative influence on their math and English Language Arts (ELA) test scores. By the time students were 15, the negative effect was substantial.

Our latest study builds on this prior work to examine how long-term exposure to heavy neighborhood policing influences students’ high school graduation rates. This new study follows five cohorts of NYC public school students from middle through high school (a total of 231,177 students). The findings reveal starkly different experiences with neighborhood policing across racial/ethnic groups—and show that these inequalities contribute to well documented gaps in high school graduation rates. This brief provides a summary of both the earlier findings and the new work, and outlines important implications for policy and practice.

Background

The United States has a long history of institutional racism in law enforcement. This includes over-policing in Black and Brown communities, racial discrimination in police practices and the criminal justice system, and violence committed by police officers against people of color.

In recent decades, police departments across the country have adopted “proactive” or “broken windows” strategies focused on strict law enforcement for low-level criminal activity and extensive pedestrian stops, with the goal of preventing more serious future crimes. These initiatives have

Policing and Educational Outcomes: Key Takeaways

When Black and Latino students are exposed to heavy policing—not necessarily because they have direct contact with law enforcement, but simply by virtue of living in a particular neighborhood—they experience worse educational outcomes than their peers in less heavily policed neighborhoods.

For policymakers, this highlights the need to:

- Consider the full costs of aggressive policing in communities;
- Think carefully about the role of police officers in schools; and
- Recognize that achieving equity in education will require reforms in the other systems and institutions that shape young people’s lives.

For schools, these findings underscore the importance of:

- Building supportive, trusting relationships with students;
- Engaging in culturally responsive and sustaining educational practices that help students reflect critically on their experiences and advocate for themselves and others;
- Understanding and elevating students’ voices; and
- Promoting students’ overall health and wellbeing, including tools to manage stress.
occurred disproportionately in poor communities of color. As a result, large numbers of Black and Latinx students—particularly young men and boys—have come into contact with the criminal justice system. In New York City, between 2004 and 2012, the police conducted more than 4 million pedestrian stops; over 85 percent of those stopped were Black or Latinx, and most were under age 25.

While New York City’s approach to policing has changed since 2012—including the end of “Stop, Question, and Frisk” practices deemed racially discriminatory by the courts—many young people of color continue to live in communities with a heavy police presence. Recent increases in gun violence have led to concerns about public safety and calls for more intensive law enforcement, even as activists seek to promote alternative strategies for combatting crime. Understanding how students’ educational trajectories are affected by policing—not necessarily because they have interactions with law enforcement, but the sheer fact of living in a heavily policed neighborhood—is crucial for making informed policy decisions. The evidence outlined below begins to address this need.

**Neighborhood Police Stops and Student Test Scores: Findings from the First Study**

Our first study focused on the period from 2004 through 2012, when Stop, Question & Frisk was in widespread use in New York City. The number of police stops peaked in the City in 2011, at more than 650,000. Our analyses highlighted that, during this period, Black boys as young as 13 were dramatically overrepresented among those stopped by the NYPD. We were able to assess the effects of police surges on crime and educational outcomes using the staggered implementation of a program called Operation Impact, which greatly increased policing activity in specific neighborhoods (see the methods textbox on page 9 for more information).

**How did police surges affect crime in the targeted neighborhoods?**

The data show declines in violent crime following the introduction of Operation Impact in targeted neighborhoods. During a police surge, violent crime decreased to about 5 percent below the level in comparable areas without a surge. Property crime levels remained the same.

Substantial research has shown that violent crime in a student’s residential environment can have a negative impact on cognitive development, school performance, and mental health. Thus, one might expect that the reduced level of violent crime in a neighborhood improved students’ academic performance. As we describe below, this was not the case.

**How did police surges affect students’ 4th through 8th grade test scores?**

We found that ELA test scores for Latinx students and Black girls were unaffected by a higher police presence in their neighborhood. This was also true for Black boys aged 9 and 10. However, for older Black boys, police surges had an increasingly negative influence on test scores. At age 12, the effect was statistically significant, but modest in size. For 13- to 15-year-old students, the effect was larger, accounting for about a fifth of the Black-White test score gap. When we looked at the impact on math test scores, we saw a similar pattern; however, the effect size was somewhat smaller than it was for ELA. It is important to note that our analysis did not consider whether individual students actually had
encounters with the police, but rather how living in a neighborhood with a larger police presence influenced their academic achievement.

**Neighborhood Policing and High School Graduation: Findings from the New Study**

The second study followed five cohorts of middle school students for eight years each, from 2005 (when the first cohort started middle school) through 2018 (a year after the last cohort’s scheduled high school graduation). During this period, the use of Stop, Question and Frisk peaked in NYC, then declined rapidly. Beginning in 2012, the NYPD dramatically reduced the number of Stop and Frisk operations, with only 45,000 stops reported in 2014. Our study design allows us to examine students’ long-term exposure to policing throughout adolescence and the extent to which this exposure affected their graduation rates.

**How did long-term exposure to neighborhood policing vary?**

As a result of the decline in police stops, early cohorts in our sample grew up in neighborhoods with significantly more police activity, compared to later cohorts (see Figure 1 below). For example, the average Black student in the 2005 cohort lived in a census tract with 1,861 stops over a five-year period. This declined to an average of 986 stops for the 2009 cohort. For Latinx students, the average number of stops in their neighborhood was similarly high and dropped from 1,689 (for the 2005 cohort) to 866 (for the 2009 cohort). White students, however, experienced a substantially smaller number of police stops. In the 2005 cohort, they were exposed to just 568 stops on average over a five-year period. This fell to 299 police stops for the 2009 cohort.

**Figure 1: Cumulative Exposure to Policing Over Five Years, by Race/Ethnicity and Middle School Cohort**

Source: Author calculations based on data obtained from the NYC Department of Education and the New York Police Department.

Notes: See our article for more information about data sources and methods.
Thus, while the overall level of policing markedly declined over time, *racial disparities in cumulative exposure remained consistent*. Year after year, Black students lived in neighborhoods with about three times the average number of police stops, compared to White students.

**How did long-term exposure to policing affect students’ high school graduation rates?**

Our findings show that Black and Latinx students who experienced heavy Stop, Question, and Frisk activity in their home neighborhood were substantially less likely to graduate from high school. As described in the Methods textbox on page 9, these analyses control for a range of other differences, including crime rates in students’ residential census tract, prior achievement, and poverty. As shown in Figure 2 on the next page, Black students who had very low exposure to neighborhood policing during middle and high school had an adjusted graduation rate of 84 percent, compared with 76 percent for students with very high levels of policing in their home neighborhood. This amounts to an 8 percentage point difference in graduation rates between students with very high and very low levels of neighborhood policing.10

Graduation rates for Latinx students also declined as exposure to police stops increased, although at a slower pace. For instance, graduation rates were about 5 percentage points lower for students with very high exposure, compared to Latinx students with very low exposure.

The sample size for the White students in our study was insufficient to draw clear conclusions.11 While our estimates indicate that White students experienced a negative effect of cumulative exposure to policing that is similar in size to Latinx students, there is great deal of uncertainty in the analysis, and the estimates are not statistically significant—in part because so few White students lived in neighborhoods with high or very high levels of policing.

**How might gaps in high school graduation rates change if exposure to neighborhood policing were equalized, or solely based on neighborhood crime?**

*Work by the Research Alliance* and others has highlighted large gaps between the high school graduation rates of Black and Latinx students, on the one hand, and White and Asian students on the other. Could a different approach to policing help promote more equitable high school outcomes? Findings from the new study suggest that if Black and Latinx students experienced the same level of neighborhood policing as White students, that would close the Black-White gap in high school graduation by 28 percent and the Latinx-White gap almost 17 percent. Alternatively, we explored an approach in which the level of police stops overall is lower (as seen in the later years of our study) and tied to community’s violent crime rate. This would close the gap by as much as 10 percent.
Figure 2: Probability of Graduating from High School for Students with Very High and Very Low Exposure to Neighborhood Policing

Source: Author calculations based on data obtained from the NYC Department of Education and the New York Police Department.

Notes: N= 85,490 for Black students, 109,291 for Latinx students, and 36,396 for White students. The figure presents predicted probability of graduating from high school for students with very high and very low levels of exposure to neighborhood policing, based on the statistical models that appear in Table 3 of our article. Differences are statistically significant for Black and Latinx students, but not White students (largely because there were few White students with very low exposure). Exposure to neighborhood policing is based on the number of police stops in each student's residential census tract during a five-year period. Please see methods text box on page 9 for more information.

Discussion

Our original study found a modest decrease in violent crime as a result of the police surges that took place between 2004 and 2012. This might have been expected to improve the educational performance of students living in those areas. Instead, we found the opposite, at least for older Black boys, whose ELA and math test scores declined following police surges in their home neighborhood. The new study shows that this dynamic persisted into high school, even as NYC’s use of Stop, Question and Frisk changed over time and the overall number of police stops fell. Long-term exposure to neighborhood policing was linked to significantly lower graduation rates for Black students and—to a somewhat lesser degree—Latinx students.

Past research posits two broad explanations for the effect of intensive neighborhood policing on educational outcomes: The first focuses on eroded trust in state institutions and “system avoidance.” Negative encounters with the police may impact perceptions of police legitimacy, reduce trust in government, and lead to withdrawal from state institutions, including schools. This, in turn, has consequences for educational engagement and performance. The second explanation focuses on the negative health effects of police contact, such as stress, fear, trauma, and anxiety, which can impact educational performance. A growing body of literature documents these health effects, and their connection to educational outcomes.
Taken together with other research, our findings provide insight into one of many mechanisms that help reproduce educational inequality in New York City. Addressing these dynamics will require change on a number of different fronts. Below we highlight some notable implications for policy, practice, and future research. We also urge relevant stakeholders—including City, school district, and police department officials, as well as educators, students, and parents—to reflect on, and share with us, their own interpretation of these results. What do you make of the relationship between neighborhood policing and student outcomes? What should be done in response? What additional evidence would be useful to inform policy and practice decisions?

Implications for Policy

• **Consider the full costs of heavy policing in communities.** Our findings highlight the need to consider a range of potential costs associated with aggressive policing in communities. The studies’ focus on neighborhood-level exposure is particularly important. It shows that the consequences of the criminal justice system are not confined to those who are incarcerated, arrested, or even stopped by the police, but extend to entire communities—with racial disparities in the criminal justice system helping to perpetuate racial inequalities in education. Policymakers will need to consider these and other potential ripple effects when evaluating law enforcement policies and approaches. More evidence is needed about alternative models of policing that aim to promote trust between law enforcement and members of the community, particularly students. It is possible that different approaches to policing would produce different neighborhood-level effects than those seen in our study. 14

• **Think carefully about the role of police officers in schools.** The findings from our study underscore the need for clarity about the role that police officers play in schools, as well as sensitivity to the impact that their presence might have on students. If heavy policing in communities harms the educational performance of some students, it is not unreasonable to theorize that it could also have a detrimental effect on the learning environment inside a school. Research could provide useful information about how interactions with police in NYC schools have influenced safety and students’ perceptions of school climate (and particularly whether changes made a few years ago to the memorandum of understanding governing the presence of NYPD officers in schools produced any differences in outcomes).

• **Recognize that reforms in other systems are necessary to achieve equity in education.** The impact of racism and poverty on students’ schooling is well documented. The effect of heavy policing in students’ neighborhoods is just one example of the way that larger structures and systems foster inequality in education. Policymakers should link school reform to reforms in other systems—and assess how policies and practices, in all areas of government, are either undermining or supporting young people’s development and academic success. Extensive evidence suggests that it will take nothing less than addressing the entire ecosystem that shapes students’ educational experiences if we hope to produce substantially more equitable results.15
Implications for School Practice

- **Create safe spaces for students and foster meaningful, supportive relationships.** Teachers, administrators, and other school staff can acknowledge the ways that experiences outside of the classroom impact students’ engagement in school, and work to create a warm, supportive environment where students feel safe, comfortable, and cared for. The Research Alliance’s study of the **Expanded Success Initiative (ESI)** documented a number of strategies that educators used to do this, including through mentoring programs, student advisories, and other, less formal relationship-building efforts. Some ESI schools also changed their approach to student discipline, embracing programs designed to help students peacefully mediate conflicts and repair harm to relationships or the community when needed. These strategies appeared to pay off, at least in terms of students’ perceptions of the learning environment—Black and Latino young men in ESI schools consistently reported a stronger sense of belonging and fair treatment, compared to similar students in non-ESI schools.16

- **Invest in culturally-responsive and sustaining education.** CR-SE is aimed in part at affirming students’ cultural identities, elevating historically marginalized voices, and empowering students as agents of social change.17 These practices may give students tools to critically reflect on their experiences with police and to advocate for themselves and others in their communities. There is some preliminary evidence linking CR-SE to increased student engagement, attendance, and achievement, but studies to date have been limited in their size and generalizability.18 Additional research is needed to understand the impact of CR-SE and to help guide its continued development and implementation in schools.

- **Understand and elevate students’ voices.** Our findings suggest the value of gathering information about students’ experiences with and perspectives on the police. Recent versions of the annual NYC School Survey had questions about students’ feelings of safety on the way to and from school and about their views of School Safety Agents (i.e., police officers who are assigned to work in their school). Student responses to these questions, including analyses of how they have varied over time and across students and schools, could provide useful insight for educators and district leaders. Additional methods, such as focus groups or more targeted surveys, could yield more nuanced information about students’ exposure to and relationships with police officers.

- **Promote students’ overall health and well-being, including tools to manage stress.** In the wake of Covid-19, many schools and districts across the country are focusing more explicitly on students’ physical and mental health. Our study provides hints about stresses that students of color may experience in their communities and how these stresses can harm their academic performance. Schools have begun experimenting with a range of stress reduction and mindfulness techniques, which would benefit from continued research and development.19 Educators should also work to identify particular students who are struggling with mental health challenges or other issues outside of school, so they can be connected with needed services and support.
Concluding Thoughts

Two central messages emerge from these results. First, our findings provide concrete evidence that systemic racism in policing has far-reaching consequences, echoing many people’s lived experience. For Black and Latino students in NYC, simply living in a neighborhood with a large police presence produces a drag on their educational engagement and performance. Thus, longstanding inequalities in law enforcement seep into the realm of education and undermine young people’s futures in very real and measurable ways.

The second point is related, but broader: The findings provide an example of how profoundly factors outside of school shape students’ educational opportunities and outcomes. Taking these factors into account can help policymakers, educators, community organizations, and parents meet students’ needs more effectively. As we noted in our recent Blueprint for Advancing Equity, schools do not operate in vacuum: The resources that students have access to in their homes and communities, and the challenges they face there, play a powerful role in shaping their educational trajectories. This means that eliminating educational inequality will require reforms not only in schools but in the other systems and institutions that shape young people’s lives.
Methods

Our 2019 study focused on NYPD’s Operation Impact program, which rapidly increased police activity in specific high-crime areas designated as “impact zones.” The study relied on the staggered implementation of the program to assess its effects. During the study period (2004-2012), the NYPD continuously adapted Operation Impact by expanding, moving, removing, or adding impact zones roughly every six months. We examined students’ scores on standardized state tests before, during, and after Operation Impact’s implementation in their home neighborhood. We then compared these trends with those of students living in similar neighborhoods that did not experience a police surge (Difference-in-Difference approach). This allowed us to isolate the effect of an increased police presence, above and beyond other factors that might influence a student’s educational performance, including living in a high-crime neighborhood.

Our new study focuses on five cohorts of students who started 6th grade in a New York City middle school between 2005 (the first cohort) and 2010 (the last cohort). We follow these students for eight years, to capture their long-term exposure to neighborhood policing and to determine whether or not they graduated from high school, including those who graduated on time or within the following year. We used data on pedestrian stops from the NYPD’s Stop, Question and Frisk program to assess cumulative exposure to neighborhood policing. Our measures include “Very low” exposure (between 0 and 201 police stops in the residential census tract over five years), “low” exposure (202 to 393 police stops), “average” exposure (394 to 680 stops), “high” exposure (681 to 1,208 stops), and “very high” exposure (1,209 to 10,866 stops). We then examined the relationship between neighborhood police exposure and high school graduation, using statistical methods to control for a range of factors that could have influenced our results, including the level of crime students experienced in their home neighborhoods. At the student level, we also controlled for cohort, gender, free lunch status, English learner status, and 6th grade standardized test scores. At the neighborhood level, we controlled for various characteristics of students’ residential census tract in 6th grade, such as police precinct, population size, racial composition, residential instability, and concentrated disadvantage. While these methods don’t allow us to say with certainty that higher police exposure causes lower graduation rates, we have been able to effectively rule out many other explanations for the relationship we’ve documented. That, coupled with the consistency of the findings between our two studies (as well as other emerging research in this area20), provides a fairly high level of confidence in our results.

For more details about our samples and methodologies, please see:

Endnotes

1 We use “police surge” in reference to the NYPD’s Operation Impact—a policing program implemented from 2004 to 2014 that quickly increased the number of police officers and substantially expanded policing activity in specific high-crime areas designated as “impact zones.”

2 While the studies described in this brief do not rely on an experimental design, we still use the term “effects” to describe differences associated with heavy neighborhood policing. For more information, please see the methods textbox on page 9, or the full papers linked to from the textbox.

3 The Aspen Institute defines institutional racism as “policies and practices within and across institutions that, intentionally or not, produce outcomes that chronically favor, or put a racial group at a disadvantage.” See their Glossary for Understanding the Dismantling Structural Racism/Promoting Racial Equity Analysis for helpful definitions of this and other related terms.


5 Our analysis found that the frequency of police stops was twice as high for Black boys compared to Latino boys and nearly six times higher compared to White boys during this period. For more information, see our Spotlight post, “Police Exposure Among School-Aged Youth in New York City.”


7 While previous research, including our own, has shown disparities in police exposure across demographic groups and neighborhoods, little was known about how these disparities translate to cumulative exposure over extended periods of time. This longitudinal perspective is important because policing levels may go up or down within neighborhoods, and it is not unusual for families to move from one community to another, where they might experience a different level of policing. Furthermore, as noted in the text, policing in New York City (and many other metropolitan areas) underwent major changes during the last decade. Our study leverages these differences over time and across communities to explore the relationship between neighborhood policing and students’ academic performance.

8 We assessed cumulative exposure to neighborhood policing by examining—and totaling—the number of police stops in each student’s residential census tract during the fall term in each of the five years after they enrolled in 6th grade.

9 Within each race/ethnicity group, there was substantial variation in exposure to police stops. For instance, cumulative exposure for Black students in the 2005-06 cohort ranged from 319 stops for students in low policing neighborhoods (the 5th percentile) to 7,835 stops for students in high policing neighborhoods (the 95th percentile).

10 See full article for additional details. The predicted probability of graduating was 76% for Black students with very high exposure to policing, 78% for those with high exposure, 79% for those with average exposure, 82% for those with low exposure, and 84% for those with very low exposure. For Latinx students, the predicted probability of graduating was 77% for those with very high exposure to policing, 77% for those with high exposure, 78% for those with average exposure, 80% for those with low exposure, and 82% for those with very low exposure. For White students, the predicted probability of graduating was 87% for those with very high exposure to policing, 89% for those with high exposure, 90% for those with average exposure, 90% for those with low exposure, and 91% for those with very low exposure.

11 The current analysis does not include Asian students, who present similar challenges as the White students in our sample (i.e., a smaller number of students relative to Black and Latinx students, and much lower neighborhood policing on average). In future work, we hope to extend our analysis to include Asian students.


In making the case for an “ecological” approach in education policy and research, Lenhoff et al (2022) recently noted, "policies tend to ignore or marginalize the evidence that what goes on in schools represents a fraction of the experiences and context that matter for school and student success (Berliner, 2006, 2013). Youth outcomes that we associate with schools (e.g., achievement, attendance, graduation) are the consequences of systemic structural and environmental factors that interact with the lived experiences of students in their communities and schools (Bishop & Noguera, 2019; Whipple et al., 2010)." See Lenhoff, S.W., Singer, J., & Gottfried, M. (2022) “Thinking Ecologically in Educational Policy and Research,” Peabody Journal of Education, 97:1, 1-5.


For more information, see NYSED’s Culturally Responsive-Sustaining Education Framework.


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