

Poverty, neighborhood, and school setting

Three panelists addressed various aspects of how neighborhoods and schools affect poverty and inequality. First, Lincoln Quillian gave an overview of the relationship between neighborhood and poverty. Based on current evidence, he concludes that neighborhood matters more for low-income families than for higher-income ones, and more for children than for adults. These findings may indicate an opportunity to reduce poverty by changing housing assistance policy. Second, David Deming discussed the implications of school segregation for school outcomes and inequality. He concludes that while academic achievement gaps can be closed by improving school practice, schools can promote social norms such as tolerance and civic participation only through integrative student assignment policies. Finally, Stephen Raudenbush considered the question of whether schooling increases or decreases social inequality. He argues that the expansion of schooling promotes equality both by equalizing access and because disadvantaged children gain more from access, and that this equalizing effect is larger for younger children than for older children.

Neighborhood and the intergenerational transmission of poverty

Lincoln Quillian

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Research shows that poor neighborhoods are an important source of disadvantage for their residents. For children, growing up in a poor neighborhood is associated with reduced educational attainment and lowered adult earnings. For adults, residence in a poor neighborhood is associated with worse health and reduced happiness. Because poor neighborhoods are disproportionately populated by African Americans, Latinos, and low-income individuals, the effects of poor neighborhood environments tend to compound existing forms of individual disadvantage. Further, evidence suggests the effects of residence in a poor neighborhood are greater for children from low-income backgrounds. Neighborhood poverty is an especially important factor contributing to racial inequality and intergenerational poverty.

Who experiences neighborhood poverty?

Table 1 shows the average census tract poverty rate by annual household income and by individuals' race and ethnicity. Unsurprisingly, low-income individuals and families are more likely to experience neighborhood poverty than are those with higher income levels (although nationally, most poor people do not live in poor neighborhoods). But what is surprising is that Black and Hispanic families are far more likely than whites to live in poor neighborhoods, even after accounting for household income. The magnitude of the racial gap is striking: blacks and Hispanics with an annual household income exceeding \$75,000 are more likely to live in poor neighborhoods than are whites with an annual

household income under \$40,000. Why is there such a large racial and ethnic gap in poverty contact? The gap results from the combination of a substantial racial gap in poverty rates combined with high levels of racial residential segregation. That is, because black and Hispanic poverty rates are two to three times white rates, racial segregation results in black and Hispanic households experiencing neighborhood poverty rates that are two to three times as high as those of white households. Income segregation within racial and ethnic groups, and income effects on living in neighborhoods with more whites, are not large enough to undercut this pattern.¹

The high neighborhood poverty rates experienced by black, Hispanic, and low-income households directly reduce their life chances relative to whites in several ways: by contributing to racial disparities in exposure to crime and violence; by setting the stage for high poverty rates in schools attended by black and Hispanic students; and by subjecting black and Hispanic children to long-term "neighborhood effects" of growing up in poor environments.

Table 1
Average Census Tract Poverty Rate, 2005–2009

Annual Household Income	White	Black	Hispanic
Under \$40,000	12.9	21.3	19.9
\$40,000–\$75,000	10.9	17.8	16.2
Above \$75,000	8.9	13.9	13.3

Source: J. R. Logan. 2014. "Separate and Unequal: The Neighborhood Gap for Blacks, Hispanics and Asians in Metropolitan America." Report prepared for US2010 Project, July 2011. <https://s4.ad.brown.edu/Projects/Diversity/Data/Report/report0727.pdf>

What are the effects of living in a poor neighborhood?

In the 1987 book *The Truly Disadvantaged*, William Julius Wilson, suggested that there were “concentration effects” of neighborhood poverty, which produced a culture and a set of institutions and conditions that made it more difficult for residents of particular neighborhoods to escape poverty. Since the publication of this book, many researchers have worked to understand the effects of neighborhoods and how those effects might contribute to keeping one poor.

For the purposes of this summary, I focus on three excellent recent studies from the large “neighborhood effects” literature. In the first study, Geoffrey Wodtke, Felix Elwert, and David Harding looked at how exposure to disadvantaged neighborhoods during childhood compared to during adolescence affects high school graduation, and whether these effects vary across families of different socioeconomic status.² Using observational data from the Panel Study of Income Dynamics, they find that living in a disadvantaged neighborhood, particularly during adolescence, has a strong negative effect on the likelihood of high school graduation, and that this effect is larger for black children and for those from poor families.

The second study, the Moving to Opportunity (MTO) experiment, was a large random assignment experiment that looked at the effect of giving poor families housing vouchers that could be used only to move out of their very high-poverty neighborhoods to low-poverty neighborhoods. Although over a 10- to 15-year follow-up period, the experiment was found to have had no significant effect on economic self-sufficiency, researchers did find improvement in adult reports of well-being.³ The change in the degree of happiness reported by adults who had the opportunity to move to a better neighborhood was very large—equivalent to the change in happiness associated with a \$13,000 increase in individual income for this very low-income population.

In the third study, Raj Chetty, Nathaniel Hendren, and Lawrence Katz extended the Moving to Opportunity analysis using matched administrative data on adult economic outcomes and college attendance for MTO participants who were children at the time of the original experiment. Their analysis found that children whose family moved to a better neighborhood when they were young were more likely to attend college, and had higher earnings as adults, compared to those whose family stayed in poorer neighborhoods. Children whose family moved to a lower poverty neighborhood before age 13 (in the experimental group) had earnings in their mid-20s that were on average 30 percent higher than those who did not move.⁴ The younger children were when the move took place, the larger the effect. By tracking MTO participants from childhood into adulthood, they found substantial effects where early MTO studies found none, but only for individuals who moved to less poor neighborhoods at early ages. Their results

suggest substantial long-term effects of growing up in a poor neighborhood on later outcomes, with the strongest effects of neighborhood environment occurring at young ages.

Why do neighborhoods matter more for the disadvantaged?

Evidence suggests that neighborhoods matter more for low-income families than for higher-income families, and more for blacks than for whites. Higher-income people have more opportunity to “shop” for their residential environment, meaning they are better able to avoid or move away from neighborhoods that may have deleterious consequences for them. And when higher-income families live in or near poorer neighborhoods, they can spend private resources to make up for many of the problems of poor neighborhoods, for instance by putting their children into private schools. Low-income families are trapped in poorer neighborhoods first by financial constraints, but also by other factors including lack of knowledge of alternatives and a desire to reside near other family members.

Intergenerational transmission of neighborhood

As adults, people tend to live in neighborhoods with similar income levels to the neighborhood they grew up in. The intergenerational elasticity of average neighborhood (census tract) income is estimated to be about 0.64, meaning a 1 percent increase in parent’s neighborhood income is associated with a 0.64 percent increase in the child’s neighborhood income as an adult. This is a higher degree of intergenerational continuity than for individual income.⁵ In many instances, successive generations of families from poor neighborhoods experience the disadvantage of a poor neighborhood environment.

The intergenerational transmission of neighborhood income level is much higher among persons who stay in the same general area they grew up in. This means that intergenerational persistence of low neighborhood income is especially common in metropolitan areas with high neighborhood poverty rates—places like Detroit, Cleveland, or Brownsville, Texas, for example.

What can be done to reduce neighborhood poverty?

Some of the more effective policies to reduce neighborhood poverty are not neighborhood policies, but rather antipoverty policies, because policies that reduce poverty will also reduce neighborhood poverty. Promising neighborhood-centered approaches to reduce disadvantage resulting from poor neighborhoods involve reducing neighborhood income and racial segregation. Policies to enable households with housing assistance vouchers to afford higher-income

neighborhoods and efforts to combat forms of exclusionary zoning that prevent creating affordable housing in affluent communities would reduce the prevalence of high-poverty neighborhoods. These policies have the potential to significantly improve the quality of life and life chances of many disadvantaged families.■

¹L. Quillian, "Segregation as a Source of Contextual Advantage: A Formal Theory with Application to American Cities," *RSF: The Russell Sage Foundation Journal of the Social Sciences*, 3, No. 2 (2017): 152–169; and L. Quillian, "Segregation and Poverty Concentration: The Role of Three Segregations," *American Sociological Review* 77, No. 3 (2012): 354–379.

²G. T. Wodtke, F. Elwert, and D. J. Harding, "Neighborhood Effect Heterogeneity by Family Income and Developmental Period," *American Journal of Sociology* 121, No. 4 (2016): 1168–1222.

³J. Ludwig, G. J. Duncan, L. A. Gennetian, L. F. Katz, R. C. Kessler, J. R. Kling, and L. Sanbonmatsu, "Long-Term Neighborhood Effects on Low-Income Families: Evidence from Moving to Opportunity," *American Economic Review: Papers and Proceedings* 103, No. 3 (2013): 226–231.

⁴R. Chetty, N. Hendren, and L. F. Katz, "The Effects of Exposure to Better Neighborhoods on Children: New Evidence from the Moving to Opportunity Experiment," *American Economic Review* 106, No. 4 (April 2016): 855–902.

⁵P. Sharkey, "The Intergenerational Transmission of Context," *American Journal of Sociology* 113, No. 4 (2008): 931–969.

School context, segregation, and inequality

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Residential segregation by income is increasing in U.S. cities, with African American and Hispanic families in particular living in increasingly income-segregated communities.¹ At the same time, inequality in student achievement by income has decreased, and there has been a narrowing of racial achievement gaps. In this article, I explore the reasons for these trends, examine the implications of school segregation for school outcomes and inequality, and identify possible policy approaches to increasing the ability of schools to both improve academic outcomes and be more effective at teaching students to be contributing members of society.

Income segregation and the end of race-based busing

One reason for the increasing degree to which black and Hispanic families in the United States have seen their neighborhoods shift from mixed income to poor is the end of court-ordered desegregation. This shift in neighborhoods has had an effect on schooling outcomes. For example, the Charlotte-Mecklenburg School District in North Carolina used race-based busing to desegregate schools for over 30 years, as a result of *Swann v. CMS Board of Education* in 1971. However, after another lawsuit in 2002, busing was ended, and half of all students received a new school assignment. The school board then offered school choice as an option, to permit reassigned students to return to their original school, though few did. The population covered by the school district is about 55 percent black, but racial distribution among neighborhoods is very unequal. This area has also been found to have very low upward mobility, with children of families in the bottom income quintile having only a 4 percent probability of rising to the top income quintile.

This set of circumstances provided a unique opportunity to use quasi-experimental methods to study the long-run effects of school and segregation. In a study conducted by myself, Stephen Billings, and Jonah Rockoff, we found that attending a school with a larger share of minority or poor students resulted in lower test scores.² For white students, such a change in school population also reduced graduation rates, but we did not find such a reduction for black students. These effects were larger for earlier study cohorts. The school district targeted financial resources to high poverty schools beginning in 2005, about halfway through our study

period, and we find evidence that this compensatory resource allocation may have closed gaps in academic outcomes.

While the effects of segregation on academic outcomes may have been somewhat ameliorated by increasing funding, we also found effects on crime, including large increases in arrest rates for those moved to schools with higher rates of minority students, that did not diminish over time. We also found suggestive evidence that increased exposure to crime-prone peers during school-age years leads to more crime in adulthood.³ These findings have been supported by other studies including one I conducted with Stephen Billings and Stephen Ross, which found that concentrations of similar peers, especially nonwhite males, increases total crime.⁴

Separate but better?

While residential segregation has increased, inequality in student achievement has decreased and racial achievement gaps have narrowed. For example, as shown in Figure 1, reading achievement gaps for 9-year-olds between whites and blacks, and between whites and Hispanics, have narrowed significantly over the past four decades.

Though the fact that the increase in residential segregation has been accompanied by a decrease in racial achievement gaps may seem counterintuitive, it is of note that “no excuses” charter schools, which have had a demonstrably large effect on student achievement and postsecondary attainment, tend to have very high proportions of students of color. Studies of no excuses charter schools have found yearly gains large enough to close the black-white achievement gap.⁵ In 2008, 70 percent of black students in charter schools attended a school with over 90 percent students of color; this compares to only 36 percent of black students in public schools.⁶ This raises the question of whether it is acceptable for schools to be segregated if it actually results in students of color doing better.

What can we learn from these findings?

Improvements in school quality, including no excuses charter schools, can close achievement gaps for academic outcomes. However, outcomes that are more determined by peer interactions are harder to solve with policy changes. We need to decide what we are trying to accomplish with schools. If the primary job of schools is academics, that it may be acceptable to focus on improving academic outcomes and closing achievement gaps, to the exclusion of improving other outcomes. However, if schools are framed as social institutions that build civic participation, tolerance, diversity, and teach students how to be contributing members

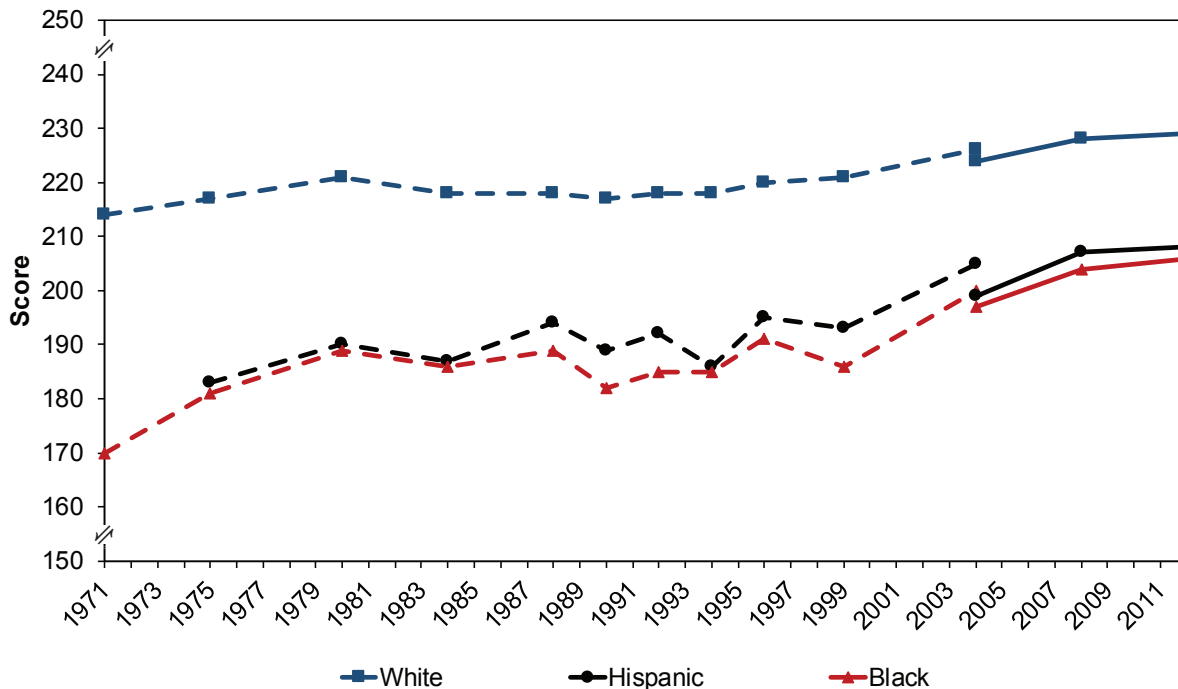


Figure 1. Narrowing of racial achievement gaps in reading.

Source: NAEP long-term trend data.

Notes: Dashed line shows original assessment format, solid line shows revised assessment format. White and black race categories exclude Hispanic origin.

of society as adults, then it is necessary to think more broadly about the implications of segregation.

One piece of evidence in this area comes from a study of Air Force Academy cadets, which found that white male students who were randomly assigned to more diverse squadrons in their first year were more likely to subsequently choose a black roommate, and reported a greater degree of racial tolerance.⁷ Another study looking at the effects of socioeconomic school integration in Delhi, India, found that having poor classmates makes wealthy students more generous towards the poor and more likely to volunteer for charity.⁸ These studies illustrate the idea that integration increases tolerance and diversity.

Implications for policy

School practice, those elements of school quality that are under a school’s control, include the quality of teachers and principals, school organization, and curriculum. By improving school practice through increased funding, better management, or other interventions, racial and socioeconomic academic achievement gaps can be narrowed or even eliminated. However, there are other elements of school quality having to do with school context, such as neighborhood and peer groups, that are not under a school’s control. If we think that schools should be increasing tolerance, diversity, and civic participation and decreasing crime, and we believe that those outcomes are driven by peer effects, then the only available policy levers to achieve

the desired outcomes are deliberately integrative student assignment policies. ■

⁷K. Bischoff and S. F. Reardon, “Residential Segregation by Income, 1970–2009,” in *Diversity and Disparities: American Enters a New Century*, ed. J. Logan (New York: The Russell Sage Foundation, 2014).

⁸D. J. Deming, S. B. Billings, and J. Rockoff, “School Resegregation, Educational Attainment and Crime: Evidence from the End of Busing in Charlotte-Mecklenburg,” *Quarterly Journal of Economics* 129, No. 1 (2014): 435–476.

³D. J. Deming, “Better Schools, Less Crime?” *Quarterly Journal of Economics* 126, No. 4 (2011): 2063–2115.

⁴S. B. Billings, D. J. Deming, and S. L. Ross, “Partners in Crime: Schools, Neighborhoods and the Formation of Criminal Networks,” NBER Working Paper No. 21962, National Bureau of Economic Research, February 2016.

⁵See, for example, J. D. Angrist, S. R. Cohodes, S. M. Dynarski, P. A. Pathak, and C. R. Walters, “Stand and Deliver: Effects of Boston’s Charter High Schools on College Preparation, Entry and Choice,” *Journal of Labor Economics* 34, No. 2 (2016): 275–318.

⁶E. Frankenberg, G. Siegel-Hawley, and J. Wang, *Choice Without Equity: Charter School Segregation and the Need for Civil Rights Standards*, The Civil Rights Project/Proyecto Derechos Civiles at UCLA, Los Angeles, CA, 2010.

⁷S. E. Carrell, M. Hoekstra, and J. E. West, “The Impact of Intergroup Contact on Racial Attitudes and Revealed Preferences,” NBER Working Paper No. 20940, National Bureau of Economic Research, February 2015.

⁸G. Rao, “Familiarity Does Not Breed Contempt: Diversity, Discrimination and Generosity in Delhi Schools,” Working Paper, Harvard University, 2014. Available at <https://scholar.harvard.edu/rao/publications/familiarity-does-not-breed-contempt-diversity-discrimination-and-generosity-delhi>.

Does schooling increase or decrease social inequality?

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At the present moment it is certain that the school, while being a “training and educational” institution, is at the same time a piece of social machinery, which tests the abilities of the individuals, which sifts them, selects them, and decides their prospective social position.

—Pitirim Sorokin, 1959

Considering the enduring question in educational sociology of whether experience in school increases or decreases social inequality can bring a new perspective to the analysis of school policy. This article adds to the debate by proposing a causal framework that I developed with Robert Eschman for explicitly stating and evaluating claims about the contribution of schooling to social inequality. We use a counterfactual model to synthesize findings from four different types of interventions studied over the past century: universal pre-kindergarten, extending the school day, extending the school year, and increasing required years of schooling.¹

What is social equality in education?

A widely held belief is that the purpose of schooling is to produce knowledge, dispositions, and capacities—skills—that are useful in the labor market and in life. An efficient school, like a firm that produces high profits, generates skills equated with high test scores. The function of the public schooling system is to promote a common skill set for all students, though some schools are better than others at promoting skills and students vary in their capacity to obtain these skills.

After passage of the Elementary and Secondary Education Act in 1965, the key objective of U.S. education policy has been to reduce social inequality in educational opportunity. Reauthorization of this Act in 2002 mandated sanctions against schools whose low-income and minority children had low test scores.

However, despite the attempts over the past half-century to reduce inequality, it has persisted. Theories offered to explain this persistence include that schools are a weak force, particularly compared to parents or homes, or that schools actually perpetuate inequality.² Some argue against school investment as a path to reducing inequality, stating that the home environment is more important than the school

environment, and that increased investment alone has not been effective in raising student achievement.³ However, these arguments are not grounded in a causal model for schooling.

A causal model

Robert Eschman and I contend that past models of schooling outcomes are missing a counterfactual—what would occur if a child did not attend school. We propose that the effect on a particular outcome that can be attributed to school depends on the quality of instruction the child will experience at school, compared to that they would experience if they did not attend school. This child-specific model leads us to hypothesize that expanding universal publicly funded schooling will reduce inequality both through providing access to more students, but also because disadvantaged children will gain more from that access than will their more advantaged peers. We also predict that this equalizing effect will be larger for younger children than for older children.

Research evidence

These hypotheses are supported by a review of the evidence for four types of interventions: (1) increasing access to early schooling, (2) extending the school year, (3) lengthening the school day, and (4) increasing the number of years of required schooling. First, our review of 15 large-scale studies of early schooling in eight countries indicates that preschool reduces inequality because children of low socioeconomic status gain more than do children of higher socioeconomic status.⁴ Second, evidence suggests that social inequality grows during the summer months, with effects that are large and cumulative, and that extending the school year helps to close this gap.⁵ Third, instructional time can be increased by extending the school day. The evidence is mixed about whether such an expansion is of greater benefit to low-income children, though there is evidence that students from low-income families gain more from full-day kindergarten than do other students.⁶ Finally, the number of years of compulsory schooling could be increased. Increasing secondary schooling does reduce inequality by reducing the gap in access to school. However, as predicted by our model, among these older students, those from low-income families benefit less from a year of secondary schooling than do those from higher-income families.

Policy implications

One might conclude from prior research that it is worth investing in interventions to reduce inequality only when

children are young. However, it is important to note that early investment increases skill levels for low-income children, thus delaying the onset of skill differentiation between low-income and higher-income children, and prolonging the period during which school is operating as an equalizing force in their lives. In this way, early schooling increases the capacity of later schooling to reduce inequality.

The quality of schooling available to low-income students is lower than that available to higher-income students; however, because the counterfactual (the quality of instruction they would receive in the absence of school) is so much worse for children from low-income families, those students gain more than their higher-income peers, even from this lower-quality schooling. Therefore, if the quality of schooling available to low-income students could be increased, this would multiply the effects of the early interventions, raising skill levels even more.

There is good reason to expect that a dynamic instructional model with a relentless commitment to student learning can produce dramatic and lasting results. Such a model would involve smaller class sizes, frequent assessment of students, and individualized instruction that incorporated a variety of tools as needed, such as one-on-one tutoring. Evidence that such an approach can work comes both from research on effective charter schools, and recent work I have done with colleagues Elizabeth McGhee Hassrick and Lisa Rosen.⁷

A dynamic instructional model builds on emerging evidence that more and better early schooling equalizes early skill, and increases the benefit of later instruction for those of low socioeconomic status, while more and better later schooling capitalizes on early skill gains, delays the emergence of skill inequality, and sustains the capacity to learn. It appears that schooling can have a powerful equalizing effect despite, or even because of, the fact that there is such great disparity outside school walls.■

⁷W. Dobbie, R. G. Fryer, Jr., “Getting Beneath the Veil of Effective Schools: Evidence from New York City,” *American Economic Journal: Applied Economics* 5, No. 4 (2013): 28–60.; E. M. Hassrick, S. W. Raudenbush, and L. Rosen, *The Ambitious Elementary School: Its Conception, Design, and Implications for Educational Equality* (Chicago: The University of Chicago Press, 2017).

¹This work is described in greater detail in S. W. Raudenbush and R. D. Eschmann, “Does Schooling Increase or Reduce Social Inequality?” *Annual Review of Sociology* 41 (2015): 443–470.

²See, for example, J. S. Coleman, *Equality of Educational Opportunity*. Ann Arbor, MI: Inter-university Consortium for Political and Social Research, 1966; and S. Bowles and H. Gintis, *Schooling in Capitalist America: Education Reform and the Contradictions of Economic Life* (New York: Basic Books, Inc., 1976).

³E. A. Hanushek, “School Resources,” in *Handbook of the Economics of Education*, Volume 2, eds. E. A. Hanushek and F. Welch (Amsterdam: North Holland, 2006).

⁴Raudenbush and Eschmann, “Does Schooling Increase or Reduce Social Inequality?”

⁵K. L. Alexander, D. R. Entwisle, and L. S. Olson, “Lasting Consequences of the Summer Learning Gap,” *American Sociological Review* 72, No. 2 (April 2007): 167–180.

⁶C. H. Gibbs, *Measuring the Impact of Full-Day Kindergarten: Experimental and Quasi-Experimental Evidence*, Doctoral Dissertation, University of Chicago, Harris School of Public Policy, 2010.