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Growing income inequality threatens American education

Rising economic and social inequality has weakened neighborhoods and families in ways that make effective school reform more difficult.

By Greg J. Duncan and Richard J. Murnane

America has always taken pride in being the land of opportunity, a country in which hard work and sacrifice result in a better life for one's children. Economic growth has made that dream a reality for generations of Americans, including many people who started out poor. The quarter century following World War II was a golden era for the U.S. economy, as high- and low-income families shared the benefits of substantial economic growth. But storm clouds began to gather in the 1970s. In particular, computer-driven technological changes favoring highly educated workers, plus demographic shifts such as the rise of single-parent families, have produced sharply growing income gaps among families.

In the past, America's public schools have responded well to the challenges of a changing world. Indeed, America's world leadership in education has fueled much of its prosperity and made the 20th century the "American Century" (Goldin & Katz, 2008). But technological changes, globalization, and rising income inequality have placed great strains on the decentralized American approach to public education. We are constantly reminded that the math, science, and language skills of our children and young adults lag far behind those of children in other countries. In international rankings, our college graduation rate has fallen from first to 12th.

In this article — the first of two appearing in consecutive months — we describe the origins and nature of growing income inequality and some of its consequences for American children. We document the increased family income inequality that's occurred over the past 40 years. An increase in income disparity has been more than matched by an expanding gap between the money that low- and high-income parents spend on enrichment activities for their children.

Most distressingly, increasing gaps in academic achievement and educational attainments have accompanied the growth in income inequality. Differences in the reading and math achievement levels of low- and high-income children are much larger than several decades ago, as are differences in college graduation rates.

What accounts for these widening gaps? Drawing from the first part of our recent book, *Restoring Opportunity: The Crisis of Inequality and the Challenge for American Education* (Harvard Education Press and the Russell Sage Foundation, 2014), we explain that the evidence supports pathways operating through both families and schools. In addition to growing differences in the resources spent by poor and rich families on their children, declining real incomes for low-income families have affected maternal stress, mental health, and parenting.

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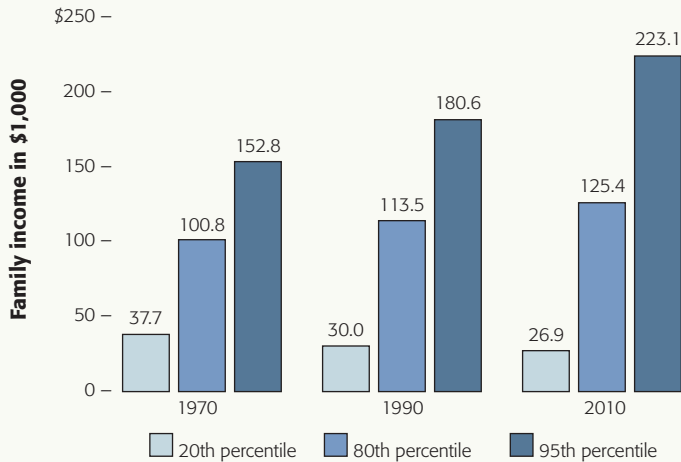
Rising residential segregation by income has led to increasing concentrations of low- and high-income children attending separate schools. Peer problems, geographic mobility, and challenges in attracting and retaining good teachers have made it difficult to provide consistently high-quality learn-

ing experiences in schools serving a large proportion of low-income students.

Next month's article draws from the second part of *Restoring Opportunity* to describe ideas based on proven policy approaches that will enable the country to make progress on the enormous task of re-

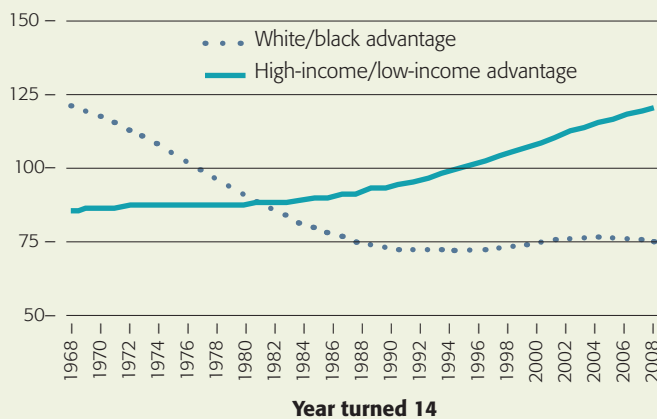


FIG. 1.
Children's family income over time



Note: Chart shows 20th, 80th, and 95th percentiles of the distribution of family incomes for all children ages 5-17. They are based on data from the U.S. Census Bureau and are adjusted for inflation. Amounts are in 2012 dollars. Reprinted with permission from *Whither Opportunity?* © 2011 Russell Sage Foundation.

FIG. 2.
Race and income-based gaps in reading achievement in SAT-type units



Reardon, S.F. (2011). Reprinted with permission from *Whither Opportunity?* © 2011 Russell Sage Foundation.

storing the educational opportunities that children from low-income families need if they are to lead productive and fulfilling lives.

Widening gaps

Based on U.S. Census Bureau data, the left-hand bar in each set of bars in Figure 1 shows the average income in a particular year (in 2012 dollars) for children at the 20th percentile of the nation's family income distribution. This means that, in a given year, 20% of children lived in families with incomes below that level, while 80% had incomes above it. In 1970, the dividing line was drawn at \$37,664.

The middle bar in each set shows the average family income in a given year at the 80th percentile of the distribution, which was about \$100,000 (in 2012 dollars) in 1970. The right-hand bar in each set shows the average income for very high-income families — those with incomes exceeding those of 95% of U.S. families (a little more than about \$150,000 in 1970).

In contrast to the two decades before 1970, when the incomes of these three groups grew at virtually identical rates, economic growth over the next four decades failed to lift all boats. In 2010, family income at the 20th percentile was more than 25% lower than the inflation-adjusted corresponding family income in 1970. In contrast, the real incomes of families at the 80th percentile grew by 23% to \$125,000 over these four decades, while the incomes of the richest 5% of families rose even more. Census Bureau data also show that the decline of the incomes of families at the lower end of the spectrum is reflected in the nation's child poverty rate: Over 16 million U.S. children — more than 20% — were living in poor families in 2012, up sharply from the 15% child poverty rate in 1970.

During this same time period, the gap between the average reading and mathematics skills of students from low- and high-income families increased substantially. As illustrated in Figure 2, among children who were adolescents in the late 1960s, test scores of low-income children lagged behind those of their better-off peers by four-fifths of a standard deviation — which represents about 80 points on the scale used to measure SAT scores. Forty years later, this gap was 50% larger, amounting to nearly 125 SAT-type points (Reardon, 2011). We were surprised to discover how much the income-based gap grew during this period in view of the decline in the racial gap in test scores in the decades following the 1954 U.S. Supreme Court decision in *Brown vs. Board of Education*.

Given the importance of academic preparation in determining educational success, it should come as no surprise that growth in the income gap in children's reading and mathematics achievement has contributed to growth in the corresponding gap in the rate

of college completion (Figure 3, which is based on Bailey & Dynarski, 2011). Among children growing up in relatively affluent families, the four-year college graduation rate of those who were teenagers in the mid-1990s was 18 percentage points higher than the rate for those who were teenagers in the late 1970s. In contrast, among children from low-income families, the graduation rate was only 4 percentage points higher for the later cohort than for the earlier one. Analysts differ in their assessments of the relative importance of college costs and academic preparation in explaining the increasing gulf between the college graduation rates of affluent and low-income children in our country. However, both cost burdens and academic performance are rooted, at least in part, in the growth in family income inequality.

The rising economic and social inequality produced by technology and globalization has weakened neighborhoods and families in ways that make effective school reform all the more difficult.

Inequality affects skills attainment

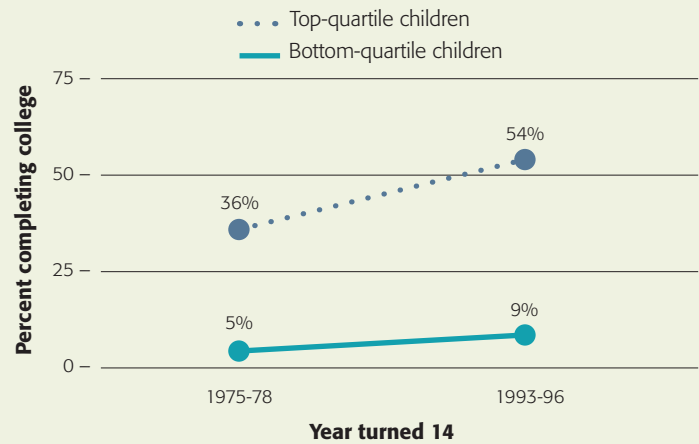
American society relies on its families to nurture its children and its schools to level the playing field for children born into different circumstances. More than any other institution, schools are charged with making equality of opportunity a reality. During a period of rising inequality, can schools play this critical role effectively? Or has growing income inequality affected families, neighborhoods, and schools in a manner that undercuts the effectiveness of schools serving disadvantaged populations?

Families

Very young children tend to be completely dependent on their families to provide what they need for healthy development (Duncan & Magnuson, 2011). Children growing up in families with greater financial resources score higher on many dimensions of school readiness upon entering kindergarten. An obvious advantage of a higher family income is that it provides more resources to buy books, computers, high-quality childcare, summer camps, private schooling, and other enrichments. In the early 1970s, high-income families spent just under \$3,000 more per year (in 2012 dollars) on child enrichment than low-income families (Figure 4; Duncan & Murnane, 2011). By 2006, this gap had nearly tripled, to \$8,000.



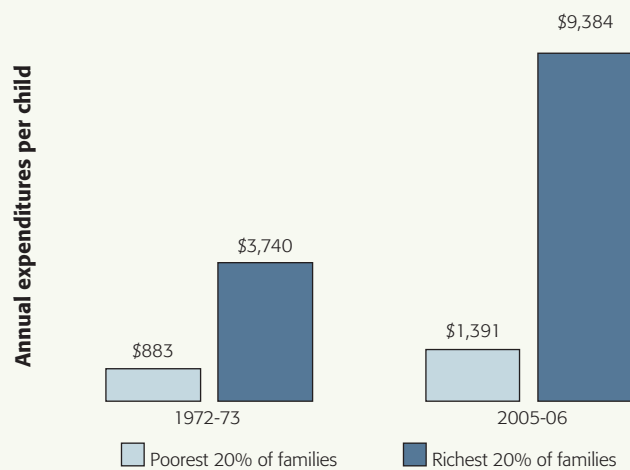
FIG. 3. College graduation rates for high- and low-income children



Bailey, M.J. & Dynarski, S.M. (2011). Reprinted with permission from *Whither Opportunity?* © 2011 Russell Sage Foundation.



FIG. 4. Family enrichment expenditures on children



Author's calculations are based on data from the Consumer Expenditure Surveys. Expenditure patterns vary across families and include child care. Books, fees for sports activities and equipment, and summer camp enrollment fees are examples of common "child enrichment" expenditures. Amounts are in 2012 dollars. Reprinted with permission from *Whither Opportunity?* © 2011 Russell Sage Foundation.



Spending differences are largest for enrichment activities such as music lessons, travel, and summer camps (Kaushal et al., 2011). Differential access to such activities may explain the gaps in background knowledge between children from high-income families and those from low-income families that are so predictive of reading skills in the middle and high school years (Snow, 2002).

Parents also spend different amounts and quality of time interacting with their children. High-income parents spend more time than low-income parents in literacy activities with their children. Most disparate is time spent in “novel” places — other than at home, school, or in the care of another parent or a childcare provider. Between birth and age six, children from high-income families spend an average of 1,300 more hours in novel contexts than children from low-income families (Phillips, 2011). These experiences, financed by the higher incomes of more affluent families, also contribute to the background knowledge that is so critical for comprehending science and social studies texts in middle school.

Technological changes, globalization, and rising income inequality have placed great strains on the decentralized American approach to public education.

It is difficult to untangle the precise effects of a multitude of family-related factors — income and expenditures, family structure, time, and language use — on the disparities in children’s school readiness and success that have emerged over the past several decades. But the evidence linking income to children’s school achievement suggests that the sharp increase in the income gap between high- and low-income families since the 1970s and the concomitant increase in the income-based gap in children’s school success are hardly coincidental.

In particular, two experimental studies in the 1970s examined the overall effects on children of income supplements that boosted family income by as much as 50% (Maynard, 1977; Maynard & Murnane, 1979). At two of the three sites, researchers found that children in families randomly assigned to receive an income supplement did significantly better with respect to early academic achievement and school attendance than children in families that received no income supplement.

Still more evidence on policy-relevant effects of income increases comes from a study that takes advantage of the increasing generosity of the U.S.

Earned Income Tax Credit (EITC) between 1993 and 1997 to compare children’s test scores before and after the credit was expanded (Dahl & Lochner, 2012). The authors found increases in low-income children’s achievement in middle childhood that coincided with the EITC expansion.

The strongest research evidence appears to indicate that money matters in a variety of ways for children’s long-term success in school. While some children always have enjoyed greater benefits and advantages than others, the income gap has widened dramatically over the past four decades and, as these research studies suggest, this has been a significant factor in widening the gap in children’s school success as well.

Schools

Researchers have long known that children attending schools with mostly low-income classmates have lower academic achievement and graduation rates than those attending schools with more affluent student populations. Less well understood are the ways in which student body composition shapes school functioning and children’s developmental trajectories and long-run outcomes.

In recent decades, it has been largely through an increase in income-based segregation of neighborhoods and schools that growing inequality of family income has affected the educational attainments of the nation’s children. Residential segregation by income has increased substantially in recent decades, as high-income families buy homes in neighborhoods where less-affluent families cannot afford to live, and poor families are increasingly surrounded by neighbors who are poor as well (Reardon & Bischoff, 2011). This reduces interactions between rich and poor in settings ranging from schools and child care centers to libraries and grocery stores. Without the financial and human resources and political clout of the wealthy, institutions in poorer neighborhoods, including schools, may decline in quality.

Perhaps most important, increasing residential segregation by income has led to increasing school segregation by income. From 1972 to 1988, schools became more economically segregated, and teenagers from affluent families were less and less likely to have classmates from low-income families (Altonji & Mansfield, 2011). As a result, a child from a poor family is two to four times as likely as a child from an affluent family to have classmates in either elementary or high school with behavioral problems and low skills. This sorting matters because the weak cognitive skills and behavioral issues of many low-income children have a negative effect on their classmates’ learning.

Student mobility resulting from these residential changes poses another threat to achievement. Urban

families living in poverty move frequently, and, as a result of school sorting by socioeconomic status, children from poor families are especially likely to attend schools with relatively high numbers of new students arriving during the school year. Recent research has shown that children attending elementary schools with considerable student mobility make less progress in mathematics than do children in schools with less student turnover. Moreover, these negative effects apply to students who themselves are residentially stable as well as to those who are not and are likely to stem from disruption of instruction caused by the entry of new students into a class (Raudenbush, Jean, & Art, 2011).

Poor teacher quality, too, contributes to the weak performance of students in high-poverty schools. A substantial body of research has shown that schools serving high concentrations of poor, nonwhite, and low-achieving students find it difficult to attract and retain skilled teachers. In addition to preferring schools with relatively low proportions of low-achieving students, teachers favor schools in neighborhoods with higher-income residents and less violent crime (Boyd et al., 2011). In high-poverty schools, teacher commitment, parental involvement, and student achievement all tend to be lower.

Yet another challenge facing many of the nation's schools concerns the school placements of new immigrants, many of whom speak little English. Today's immigrants are more likely than their predecessors in the early 1970s to come from high-poverty countries. Black and Hispanic immigrants to New York City are much more likely to be poor than are white immigrants from Eastern Europe, and they are more likely to attend elementary and middle schools with native-born black and Hispanic students who are poor (Schwartz & Stiefel, 2011). Thus, while immigrants are not segregated from the native-born in New York City schools, their residential patterns contribute to segregation of schools by socioeconomic status and race.

Helping low-income children

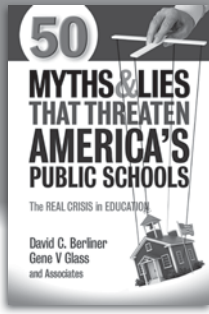
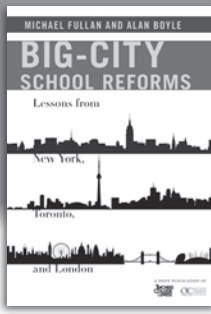
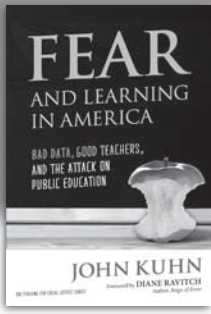

By widening the gap in educational opportunities between children from low- and higher-income families, increasing income inequality jeopardizes the upward socioeconomic mobility that has long held our pluralistic democracy together. Improving educational outcomes for children growing up in low-income families is therefore critical to the

nation's future and requires a combination of policies that support low-income families and measures to improve the quality of schools that low-income children attend.

Has growing income inequality affected families, neighborhoods, and schools in a manner that undercuts the effectiveness of schools serving disadvantaged populations?

The United States has implemented a range of policies to raise the buying power of low-income families, including the Child Tax Credit, the Earned Income Tax Credit, cash assistance programs, and the Supplemental Nutrition Assistance Program (formerly Food Stamps). Recent studies show that the increases in family incomes produced by these programs result in improved educational outcomes for young children and health in adulthood (Hoynes, Schanzenbach, & Almond, 2013). Unfortunately, these programs are under attack as Congress seeks ways to reduce the federal budget deficit.

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Improving the quality of schools attended by low-income children poses even more important and difficult challenges. As a nation, we have failed to appreciate the extent to which technological innovations have brought changes in the skills needed to succeed in today's economy. Moreover, the rising economic and social inequality produced by technology and globalization has weakened neighborhoods and families in ways that make effective school reform all the more difficult. For a variety of historical reasons, our nation has not learned how to provide the consistent supports that schools — especially those serving large numbers of low-income children — must have to succeed.

Discussions of school reforms often center on simplistic silver bullets: more money, more accountability, more choice, new organizational structures. None of these reforms has turned the tide because none focuses directly on improving what matters most in education: the quality and consistency of the instruction and experiences offered to students. In our companion article, which will appear next month, we detail the building blocks that we consider essential for an “American solution” to the serious problems facing our nation's schools. **K**

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