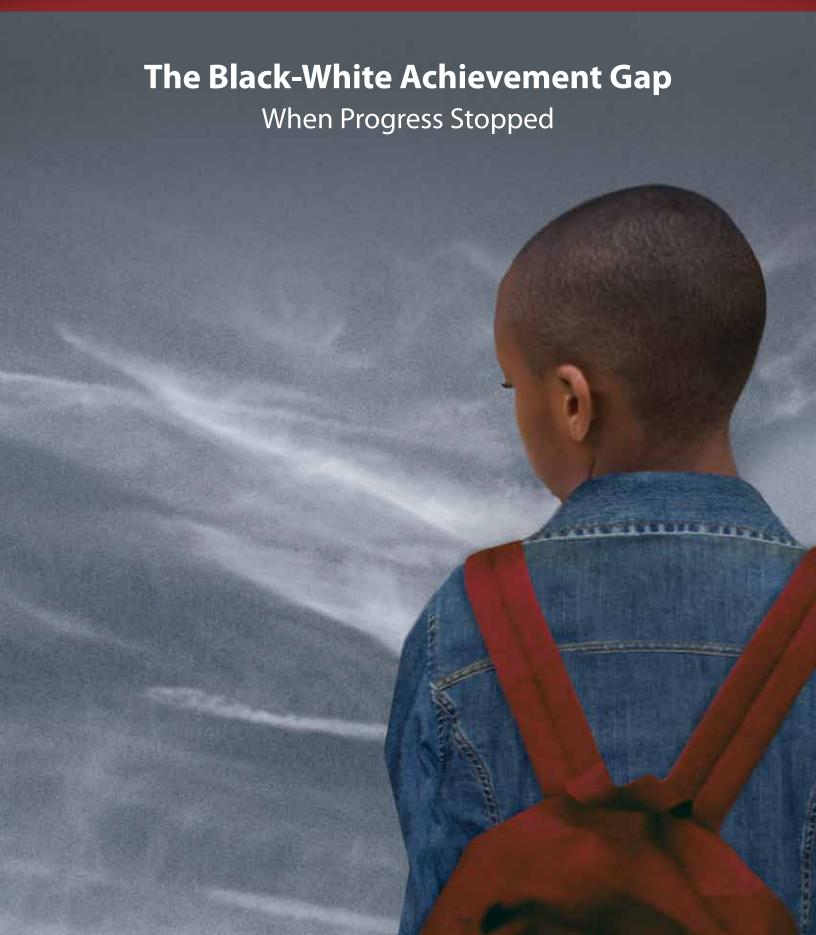


# POLICY INFORMATION REPORT



### This report was written by:

# Paul E. Barton and Richard J. Coley

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There is widespread awareness that there is a very substantial gap between the educational achievement of the White and the Black population in our nation, and that the gap is as old as the nation itself.

This report is about changes in the size of that gap, beginning with the first signs of a narrowing that occurred at the start of the last century, and continuing on to the end of the first decade of the present century. In tracking the gap in test scores, the report begins with the 1970s and 1980s, when the new National Assessment of Educational Progress began to give us our first national data on student achievement. That period is important because it witnessed a substantial narrowing of the gap in the subjects of reading and mathematics. This period of progress in closing the achievement gap received much attention from some of the nation's top researchers, driven by the idea that perhaps we could learn some lessons that could be repeated.

Next, there are the decades since the late 1980s, in which there has been no clear trend in the gap, or sustained period of change in the gap, one way or another. While there has been considerable investigation of the gap that remained, little advance in knowledge has occurred as attention was directed to alternating small declines and small gains, interspersed with periods of no change.

Paul Barton and Richard Coley drop back in time to the beginning of the 20th century when the gap

in educational attainment started to narrow, and bring us to the startling and ironic conclusion that progress generally halted for those born around the mid-1960s, a time when landmark legislative victories heralded an end to racial discrimination. Had those things that were helping to close the gap stopped, or had they been overshadowed by new adversities that were not remedied by gaining equality before the law? Unfortunately, no comprehensive modeling by researchers is available that might identify and quantify the culprits, nor is it likely that there will ever be. The authors draw on the knowledge base that is available, from whatever schools of scholarship that have made relevant investigations, whether they be historians, or sociologists, or economists, or practitioners. Barton and Coley explore topics that remain sensitive in public discussion in their search for answers.

A lot of suspects are rounded up, and their pictures are posted for public view. Ultimately, readers will have to turn to their own good judgment. The report informs the judgments that have to be made, for there is no escaping the fact that failure to re-start progress is an unacceptable and dangerous prospect for the nation.

Michael T. Nettles Senior Vice President Policy Evaluation and Research Center

# **Dedication and Acknowledgments**

Forty-five years ago Daniel Patrick Moynihan completed a controversial report on the deterioration of low-income Black families — *The Negro Family: The Case for National Action*. The authors dedicate this report to Moynihan and his prescient warning.

This report was reviewed by Donnell Butler, ETS; Derek Neal, University of Chicago; Michael Nettles, ETS; James T. Patterson, Brown University; and Hugh Price, Visiting Professor, Woodrow Wilson School, Princeton University and Non-resident Senior Fellow, Brookings Institution. Eileen Kerrigan was the editor; Marita Gray designed the cover and Sally Acquaviva provided desktop publishing. Publication was coordinated by Bill Petzinger. Errors of fact or interpretation are those of the authors.

The nation's attention has been — and remains — riveted on the persistent Black-White gap in the achievement of our elementary and secondary school students. Each year when the National Assessment of Educational Progress (NAEP) releases "the nation's report card," the front-page news focuses on whether scores are rising or falling and whether the achievement gap is changing. Speculation is rife as to whether any change is some indication of either the success or failure of the No Child Left Behind (NCLB) Act and other efforts in our local-state-federal education system.

The nation's efforts to address the achievement gap have a long history. Expectations increased with the *Brown v. Board of Education* desegregation decision in 1954 and with passage of the Elementary and Secondary Education Act (ESEA) in 1965, which focused on the inequality of school resources. The Civil Rights Act of 1964 spiked optimism for progress in education and in society at large. And most recently, NCLB was purposeful in its requirement to "disaggregate" the average achievement scores of state accountability programs to expose the inequality that had to be addressed.

This report is about understanding the periods of progress and the periods of stagnation in changes in the achievement gap that have occurred over the past several decades. We try to understand what might have contributed to the progress as well as probe the reasons that may account for the progress halting, in the hope of finding some clues and possible directions for moving forward in narrowing the achievement gap.

We will focus on three periods of history, but not in chronological order. The first is the decades of the 1970s and 1980s, when NAEP reported large reductions in the gaps in reading and mathematics scores. Second, the report will focus on the period from about 1990 until 2008, when the gap wobbled around a generally straight trend line, although scores of 9- and 13-year-olds generally rose overall. And third, the report will take a more expansive view, beginning early in the 20th century, in an attempt to understand the impact of a variety of factors on changes in the gap. These factors include information on educational attainment, employment and earnings, child well-being, the family, neighborhoods and the effects of

concentrated poverty and deprivation, lack of social capital, and intergenerational mobility.

The research and data available to draw on differ depending on the period we are examining. The first period was important because there was a substantial decline in the gap, and it might be possible to learn something that would help to further close the gap. This period was the focus of several prominent research efforts that found largely similar explanations for a portion of the gap closing. A number of seemingly plausible explanations beyond those identified by this research provide a list of potential topics that might have had a role. One example is the minimum competency testing movement of the 1970s and 1980s when the gap was narrowing. Another was the reduction in average class sizes that was occurring during this period. There were several others. However, nothing was established that was definitive one way or the other.

For the period when progress stalled, we report on a variety of available evidence. It is, of course, difficult to frame an inquiry into why change was not occurring, as compared with the two prior decades when there was a reduction in the gap. We report about a major book on the achievement gap by a dozen or so distinguished scholars that was started when the gap began to narrow again, only to find that it had stopped narrowing by the time the book was published.

The most extensive discussion in the report was triggered by an examination of a much longer time frame (and before test data were available). This examination begins around 1910, when the gap in educational attainment began to close, and documents how this progress came to a *halt* for those born after 1965. The report examines what history and social science have to offer in understanding this alarming fact. There have been no systematic research studies directed at this period, as there were for the period of progress during the 1970s and 80s.

Anyone looking for a smoking gun as to why progress halted, establishing dead certainty, will not find it in this report. Having posed the question of why progress halted, we hope to urge the research and policy communities to put this question high on the list of priorities, and encourage funders to make the resources available. We have presented a substantial body of data, descriptions of important developments, and scholarly viewpoints that we think have considerable relevance to the question. We hope that, as a result, readers will be much more informed about the possible range of answers.

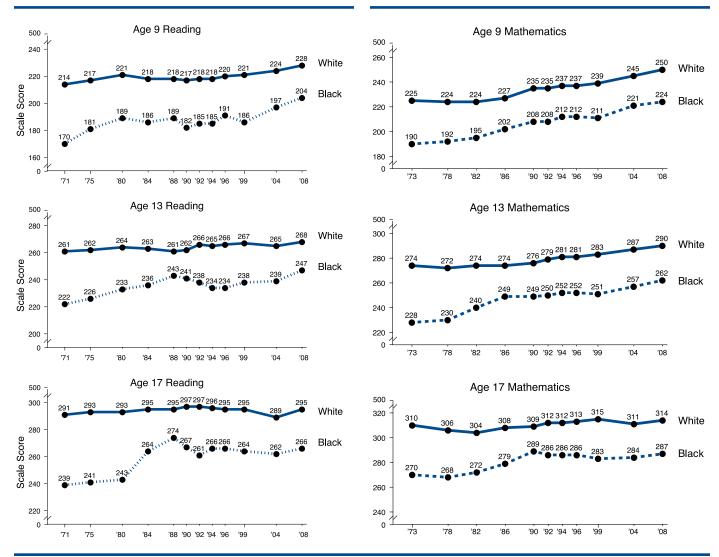
Given the magnitude of the question, and its many dimensions, we would not presume that we could develop a comprehensive research framework or program that would provide definitive answers, although we hope that scholars and think tanks might take this on. Our modest objective is to help an interested and thoughtful reader to come to some judgments of their own; the research community does not have a monopoly on insight, and the policy machinery will continue to run.

For a reader with limited time, or wanting to know enough to decide whether to invest time in reading the whole report, there is what amounts to a "report in brief" in the last section, titled "Adding It Up." Although achievement gaps have stubbornly persisted, their magnitude has changed — sometimes a little and sometimes a lot — over the period since NAEP began its assessments in the early 1970s. The NAEP data have provided a window on the gap and is the major source of nationally representative achievement data.

NAEP data reveal that there were four relatively distinct periods in reading and mathematics achievement. Figures 1 and 2 show trends in average reading and mathematics scores for White and Black students at ages 9, 13, and 17 since NAEP was first administered.

Figure 1
Trend in NAEP White — Black Average
Reading Scores

Figure 2
Trend in NAEP White — Black Average
Mathematics Scores



Source: B.D. Rampey, G.S. Dion, and P.L. Donahue, NAEP 2008 Trends in Academic Progress (NCES 2009-479), National Center for Education Statistics, Institute of Educational Sciences, U.S. Department of Education, Washington, D.C.

Figures 3 and 4 provide a summary view of the gap by tracing the trends in the actual gap between the average score of White and Black students at each age level. In reading, we can track the trend from 1971 through 2008; in mathematics, the trend line runs from 1973 through 2008.

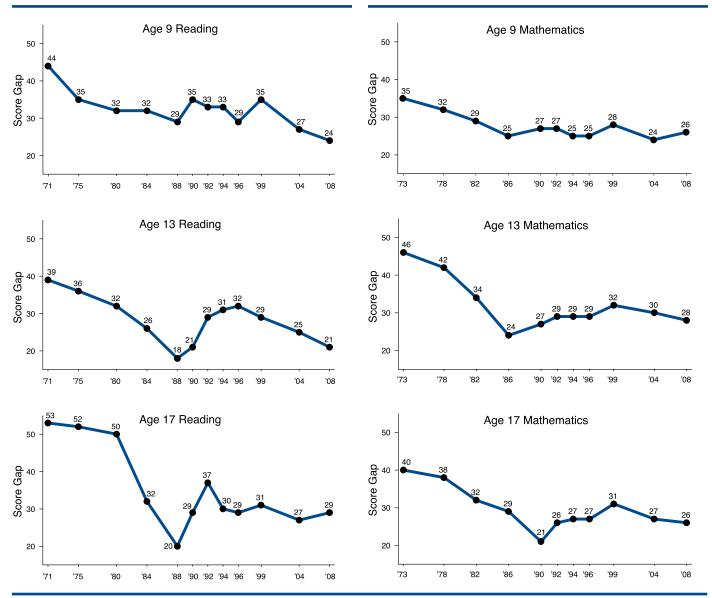
The four periods can be characterized as follows:

1) From the early 1970s until the late 1980s, a very

Figure 3
Trend in the White — Black NAEP Reading
Score Gap

large narrowing of the gap occurred in both reading and mathematics, with the size of the reduction depending on the subject and age group examined. For some cohorts, the gaps were cut by as much as half or more. In reading, for example, a 39-point gap for 13-year-olds in 1971 was reduced to an 18-point gap in 1988. For 17-year-olds, the gap declined from 53 points to 20 points. In mathematics, the gaps also were narrowed significantly, especially for 13- and 17-year-olds.

Figure 4
Trend in the White — Black Mathematics
Score Gap



Source: B.D. Rampey, G.S. Dion, and P.L. Donahue, NAEP 2008 Trends in Academic Progress (NCES 2009-479), National Center for Education Statistics, Institute of Educational Sciences, U.S. Department of Education, Washington, D.C.

- 2) During the 1990s, the gap narrowing generally halted, and actually began to increase in some cases. In reading, for example, for 13-year-olds, the gap increased from a low of 18 points in 1988 to about 30 points at the end of the 1990s. In mathematics, the gap rose steadily during the decade of the 1990s, particularly for 13- and 17-year-olds.
- 3) From 1999 to 2004, the gap begins to narrow again, with the largest reductions occurring in reading.
- 4) Between the 2004 and 2008 assessments, there is little change in the gap in mathematics; in reading, the gap narrows somewhat for 9- and 13-year-olds.

In summary, most of the progress in closing the achievement gap in reading and mathematics occurred during the 1970s and 1980s. Since then, overall progress in closing the gaps has slowed. With the exception of the 2008 gap in reading for 9-year-olds, the size of the gaps seen in the late 1980s has never been smaller.

This report focuses on these periods and on what research does and does not tell us. It seems particularly important to understand what was happening during the period when the gap narrowed in the 1970s and 1980s to see if we can discover useful information to help guide future efforts.

Drawing on the existing body of research and adding some data ourselves, we summarize what that information reveals, with a reasonable degree of certainty, about some explanations for the large gap closing in the 1970s and 1980s. Overall, much of what has happened over the past four decades, in terms of explanation, remains a mystery when probed with statistical tools such as multivariate analysis — although what we have learned is important. What we have is somewhat of a whodunit detective story without a clear whodunit ending, although we have identified some "persons of interest."

In an effort to gain some understanding of trends in NAEP scores and gaps, the report provides a larger picture of relative educational attainment and school achievement since the Reconstruction Era, drawing on decennial census data for the years of school completed, and for high school and college graduation rates.

A search for answers pushes us beyond what hard quantitative multiple regression analyses can establish. The report draws on new data available from longitudinal surveys on early childhood development that can be used in future work. It expands the nature of the inquiry by looking at the function of whole neighborhoods — the "villages" that nurture children and contribute to their development and learning. It also draws on historical and sociological perspectives on supposedly race-neutral policies that had unintended consequences, as well as policies that have delivered as intended. It traces the impact of large forces on families and the well-being of children — for example, recessions, urban renewal, the location of highways that split neighborhoods apart, and public housing policies that shape the environments in which children develop.

Further, we examine the effects of concentrated poverty and deprivation on generations facing these challenges and see a stalling of the progress in intergenerational mobility in the Black community. We also examine the role that families and family structures have on children's achievement and well-being, and describe the steep upward trend in fatherless families that is an obstacle to closing the achievement gap. We then discuss the plight of Black males — not an unrelated matter.

The first period of large gap reductions, in the 1970s and 1980s, has been the subject of considerable scientific inquiry, involving some of the nation's most noted education researchers using databases and methodologies that permit making strong statements about how much the gap closing was due to some specific factors — but still account for only about one-third of it. Findings among the several major studies were generally similar.

However, comparably solid research for the later period when there were small and irregular changes in the gap is not available. We do have, however, substantial information about developments that are related to academic achievement from a variety of academic disciplines and perspectives. Together, we believe this increases our understanding of reasons for the halt in progress, although there can be no scientific parsing as was done in research in the earlier period. Our intent is to provide information to those who want to think about this important matter, and to suggest areas for further data collection and analysis.

In some cases, the research presented below on why the gap narrowed during the 1970s and 1980s is extensive and conclusions are reached. In other cases, the factors identified as having an influence seem plausible, but a close examination either rejects them completely or finds them still plausible but with weaker or inconclusive supporting evidence.

### **Family and Demographic Changes**

Researchers have agreed, at least since James Coleman and colleagues issued the famous mid-1960s report *Equality of Educational Opportunity*, that conditions in families have very much to do with student achievement. Over the years, questions have arisen about how much these family factors, and other before-school and out-of-school factors, affect student achievement as compared with school quality.

The first major effort to understand the sharp narrowing of the achievement gap was carried out by a team of researchers at the Rand Corporation led by David Grissmer. The researchers used a complex set of methodologies to draw on two of the major longitudinal surveys that provided in-depth data about families and student achievement. Readers with an in-depth interest can go to the study itself,¹ but we will skip to the findings.

On examining the large gap narrowing from 1970 to 1990, Grissmer and his colleagues measured the impact of the following factors: the education of the mother and father, family income, whether the mother was working, the mother's age at birth of the child, the number of siblings, whether the mother was single or married, and whether the parent(s) were Hispanic, Black, or White. In mathematics, these changing family characteristics accounted for about a third of the gap narrowing between Black and White students.\* In verbal/reading score gaps, these factors accounted for somewhat less of the narrowing.

However, the analysis left about two-thirds of the gap narrowing unexplained.

Several comprehensive studies, using various methodologies and data sources, have been conducted since then, including additional work by Grissmer.<sup>2</sup> Although the amount of change varied somewhat, the basic findings of the 1994 studies were confirmed, and the analysis was extended to other factors that might be involved.3 Although the additional studies identified some factors that seemed likely, they were unable to conduct original empirical analyses and were not able to add to the explanations for gap reductions. These studies all reached the same conclusion that improvements in the circumstances of minority families relative to White families made a sizeable contribution to reducing the gap. However, as with the earlier study, about two-thirds of the gap narrowing remained unexplained.

There were, of course, limits on the data available for these early studies. There was an absence of school-level data in some cases, and in the statistical technology that came into use more recently to examine school-level data in concert with out-of-school characteristics.

# What Explains the Rest?

Of necessity, researchers looking for explanations of the gap closing relied mostly on standardized test scores as an indicator of school quality. When trends in school quality improvement are examined to explain the rise in minority student achievement that exceeded the rise in majority student achievement, it is important to remember that the available test score changes were the basis for conclusions about changes in student achievement — as a proxy for the results of efforts of both schools and students. Daniel Koretz has addressed this limitation in a recent book.<sup>4</sup>

<sup>&</sup>lt;sup>1</sup> David Grissmer, Sheila Nataraj Kirby, Mark Berends, and Stephanie Williamson, *Student Achievement and the Changing American Family*, Santa Monica, CA: Rand, 1994.

<sup>\*</sup> Put differently, the set of factors explained a third of the gain for Black students and none of it for White students.

<sup>&</sup>lt;sup>2</sup> Christopher Jencks and Meredith Phillips (Eds.), *The Black-White Test Score Gap*, Washington, DC: The Brookings Institution, 1998. See Chapter 6: "Why Did the Black-White Score Gap Narrow in the 1970s and 1980s?"

<sup>&</sup>lt;sup>3</sup> For a summary of all of the studies since the 1994 study by Grissmer and his colleagues, see Mark Berends and Roberto V. Penaloza, "Changes in Families, Schools, and the Test Score Gap," in Katherine Magnason and Jane Waldfogel (Eds.), *Steady Gains and Stalled Progress: Inequality and the Black-White Test Score Gap*, New York: Russell Sage Foundation, 2008.

<sup>&</sup>lt;sup>4</sup> Daniel Koretz, Measuring Up: What Educational Testing Really Tells Us, Cambridge, MA: Harvard University Press, 2008.

Grissmer and his colleagues addressed the hurdles that must be cleared in explaining the large proportion of the narrowing gap that is not accounted for by demographic and family variables. The hurdles are high, particularly in isolating changes specific to a particular period. Here is the challenge they pose:

First, the hypothesized cause must be either empirically linked to test scores or at least plausibly linked to having an influence on test scores. Second, the factor must have significantly changed for youth who were 14-18 in 1970/1975 versus those who were 14-18 in 1990. Third, it must have affected Black and Hispanic scores significantly but had essentially no impact on non-Hispanic White scores. Fourth, it must be a factor that would not be reflected through changing family characteristics.<sup>5</sup>

To search further, one must take a step back, form reasonable hypotheses, and put them to the test — but trend data must be available so that time periods can be isolated. It is a tall order. Rand researchers point out other challenges, as well. For example, child health and nutrition programs might have differentially affected minorities, but some of that effect may already have been picked up by other family variables used in the prior analysis. Such is the challenge of the research required.

Fortunately, David Grissmer, Ann Flanagan, and Stephanie Williamson searched for explanations and the results were published in the book previously referenced. In further exploring the answer to why the achievement gap narrowed, we draw on this chapter, in addition to still later work by Grissmer and colleagues, a report by the National Research Council, the work of Ronald Ferguson, a recent Russell Sage Foundation book, and some analyses of our own.

*Investment in Early Education and Nutrition?* At the top of the list of factors that may have contributed

to progress in closing the gap are the federal government's investments in Head Start and Title I of the 1965 Elementary and Secondary Education Act (ESEA). Evaluations of Head Start, over its long history, have reported positive results. Title I, an even larger program, involves some 5 million children in 14,000 school districts. The positive effects of Title I were established in a congressionally-mandated evaluation carried out in 1975. However, these positive results were tied to the early grades, with effects being "virtually nil by the sixth grade." Fade-out effects also were found in Head Start.

In identifying possible factors influencing the gap narrowing that occurred at ages 13 and 17, it is useful to examine the level of financial investment over the relevant period as compared with investment in the period after the narrowing stopped. By 1970, the combined Head Start and Title I budgets were 1.7 billion (in 2002 dollars), and rose to 3.9 billion by 1980, and to 5.3 billion by 1985. However, the total investment continued to rise to 5.9 billion in 1990, to 10.3 billion in 1995, and to 13.8 billion in 2000. These funds went to feed infants and children who might have gone hungry, and research is clear that such deprivation has an impact on learning and cognitive development. The Department of Agriculture investments in nutrition programs also are of interest. That investment was 3 billion in 1965, and accelerated continuously to 11 billion by 1990 and 23.4 billion by 2000.9 Since federal expenditures on disadvantaged students have steadily increased during both the gapnarrowing and gap-widening periods, this does not, in the aggregate, appear to be a factor (see Figure 5). Of course, we do not know whether these funds did or did not reach Black children in a way that would have produced a differential effect. The fact that we cannot attribute the large achievement gap declines to these programs does not mean that students did not benefit from them.

<sup>&</sup>lt;sup>5</sup> Grissmer et al., 1994.

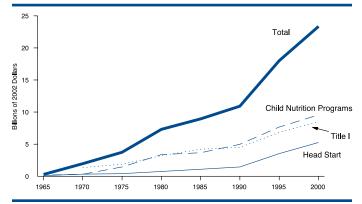
<sup>&</sup>lt;sup>6</sup> Jencks and Phillips, 1998.

<sup>&</sup>lt;sup>7</sup> Launor F. Carter, "The Sustaining Effects of Compensatory and Elementary Education," *Educational Researcher*, 13, 7, August – September 1984

<sup>8</sup> Drawn from a review of the evidence contained in Jerald David Jaynes and Robin M. Williams Jr., A Common Destiny: Blacks and American Society, National Research Council, Washington, DC: National Academy Press, 1989, p. 346 – 347.

<sup>9</sup> National Center for Education Statistics, Digest of Education Statistics 1995 and 2002, Tables 63, 64, and 264, respectively.

Figure 5
Federal Expenditures for Child Nutrition
Programs, Grants for Title I, Head Start,
and Total, in 2002 Dollars



Source: National Center for Education Statistics, *Digest of Education Statistics* 2002, Table 365.

These programs targeted the most disadvantaged of the young student population who, even if their achievement increased some, were still likely to remain in the lower half of the achievement distribution. However, an analysis of trends in the Black-White gap in reading and mathematics at the 90th, 75th, 25th, and 10th percentiles did not find any substantial and consistent differences in different parts of the score distribution — the gap closed throughout the score distribution. Interested readers can find these data in the appendix.

Course Taking and Tracking? Student achievement might be expected to increase if more students took a more rigorous curriculum, where the gap between majority and minority students has been long-standing. Since the Nation at Risk report, large increases have occurred in the proportion of students taking more rigorous courses — gains much greater than reflected in test scores.

Mark Berends and his colleagues have used longitudinal survey data to track trends in self-reported course taking in high school from 1972 to 2004. Half of White students reported being in the

academic track for both 1972 and 1992, the period of the gap narrowing. However, the percentage for Black students increased from 28 percent in 1972 to 41 percent in 1992. The gap was basically closed by 2004. In analyses of relationships of score changes to family and school factors, the researchers did find that the perceived increase in school opportunities, as represented by the increase reported in placement in the academic track, was consistent with the trend in reductions in the score gaps. Pointing to other research showing continued lack of preparation for college, they said "further understanding is warranted." <sup>10</sup>

There has been consternation that ongoing large increases in the proportion of high school students taking more advanced courses has not led to higher NAEP scores. This is confirmed by solid information from high school transcript studies conducted by NAEP over a long period of time. Data are available on the percentage of high school graduates completing a "mid-level" curriculum from 1990 to 2005. It shows a steady narrowing of the Black-White gap in course taking, with convergence in 2005. This is the period, however, after the large achievement gap reductions had ceased. Many have wondered if increases in rigor of the courses really occurred or whether it was mostly just the course titles that changed, or whether courses were taught by teachers lacking in preparation to teach the more advanced courses.<sup>11</sup> With the information available, a link between more rigorous course taking and changes in the gap cannot be confirmed.

Ronald Ferguson has taken a close look at the effect of the way students are grouped in classrooms. Grissmer summarizes Ferguson's results this way:

Grouping elementary students by skill level in mixed classrooms can raise their scores by 0.2 to 0.3 standard deviations, at least in the short run ... But there is no systematic national evidence about how much elementary school grouping patterns have changed. 12

Mark Berends, Samuel Lucas, and Roberto Penaloza, "How Changes in Families and Schools Are Related to Trends in Black-White Test Scores," *Sociology of Education*, 2008, p. 325 and p. 330. This very substantial work is an effort to go beyond the work of Grissmer and others on the contribution of family factors to finding measures that would lead to establishing the role of school experiences in explaining changes in the Black-White gap.

<sup>&</sup>lt;sup>11</sup> See Paul E. Barton and Richard J. Coley, *Parsing the Achievement Gap II*, Policy Information Report, Princeton, NJ: Policy Information Center, Educational Testing Service, April 2009, pp. 9 – 10.

<sup>12</sup> Grissmer et al., 1994, p. 204.

Student grouping practices do not seem to be a promising avenue for understanding changes in the gap, because the data are unavailable to examine how practices may have changed over time. However, future investigations employing controlled experiments may yield useful results.

Desegregation? Studies of the effects of desegregation on achievement have concluded that it had a positive effect on Black students and no effect on White students. Grissmer and colleagues examined the regional patterns of desegregation over the period when the gap narrowed. Although the gap narrowing was spread over all regions, the differences in the rate of desegregation by region were very large, so it is hard to see desegregation as an explanatory factor. However, the authors point out that the gains in both desegregation and achievement in the South, where the gains were the largest among the regions,

could have signaled to Black parents and students nationwide, and also their teachers, that Black children's education was a national priority that would be backed by money and legal authority. This could have led to a nationwide shift in beliefs, attitudes, and motivation of Black parents and students and their teachers that could help explain the subsequent nationwide improvement.<sup>14</sup>

There remains, however, the question of why no further gains in closing the gap were made as school desegregation continued. In fact, a later look at the issue by Jacob Vigdor and Jens Ludwig asks the question of whether residential segregation can explain the stalled progress in closing the test score gap since 1990. They believe there are a number of reasons to think that such segregation has influence, noting that there was a downward trend in residential segregation in the 1990s. However, this "was not matched by a commensurate downward trend in school segregation."<sup>15</sup>

Class Size? A long debate has raged over whether reducing class sizes contributes to increases in achievement and, if so, how much. A large experimental program, Project Star, used randomly selected control groups to examine the issue. A 2002 book, The Class Size Debate, reported on a debate carried on principally between Eric A. Hanushek and Alan B. Kreuger. 16 The book editors found substantial agreement on some key points, with one saying that class size could benefit students in "specific circumstances" and the other noting that Project Star, and much of the literature, showed that the achievement effects are greater for minority and disadvantaged students than for other students.

Ronald Ferguson revisited the findings of Project Star with particular emphasis on results pointing to lower class size having a greater effect for Black than for White students. Ferguson says: "If, as the evidence indicates, Black children are more sensitive than Whites to teachers' perceptions, and Black children's work habits and behavioral problems present greater challenges to teachers, smaller classes that are easier for teachers to manage may have more impact on improving Black students' scores than Whites." <sup>177</sup>

A statistical series is available on class size, but not differentiated by race and ethnicity. While the School and Staffing Survey (SAS) conducted by NCES now fills this role, this survey does not extend back far enough to reach the period when the gap narrowed. Data from SAS does indicate, however, that in recent years, classes have been larger for minority students than for White students.<sup>18</sup>

In public schools, from kindergarten through grade 12, the overall teacher–pupil ratio was 24.7 in 1965, dropping steadily to 17.9 by 1985 and to 17.2 by 1990, for a decline of 30 percent. The ratio leveled off, with only slight declines in the late 1990s, ending the century at 16.0 in 2000<sup>19</sup> (see Figure 6). This meets the criteria of something that happened in the period when the gap narrowed but lost momentum in the period after the narrowing stopped.

<sup>&</sup>lt;sup>13</sup> Jaynes and Williams, 1989, p. 374.

<sup>&</sup>lt;sup>14</sup> Grissmer et al., 1994, p. 211.

<sup>&</sup>lt;sup>15</sup> Jacob L. Vigdor and Jens Ludwig, "Segregation and the Test Score Gap," in Katherine Magnuson and Jane Waldfogel (Eds.), Steady Gains and Stalled Progress: Inequality and the Black-White Achievement Gap, New York: Russell Sage Foundation, 2008, p. 204.

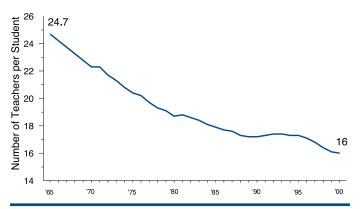
<sup>&</sup>lt;sup>16</sup> Lawrence Mishel and Richard Rothstein (Eds.), *The Class Size Debate*, Washington, DC: The Economic Policy Institute, 2002.

<sup>&</sup>lt;sup>17</sup> Grissmer et al., 1994, pp. 359 – 368.

<sup>&</sup>lt;sup>18</sup> Barton and Coley, 2009, p. 15.

<sup>&</sup>lt;sup>19</sup> National Center for Education Statistics, *Digest of Education Statistics*, 2002, Table 65.

Figure 6
Trend in the Public Elementary and Secondary
Pupil-Teacher Ratio



Source: National Center for Education Statistics, *Digest of Education Statistics*, 2002, Table 65.

If the pupil-teacher ratio was declining more for Black than for White students, that decline would be a strong contender for being a factor in explaining some of the narrowing of the gap. If that is not the case, then it is still a candidate for some role if Black students were more responsive to smaller classes than were White students. Helen Ladd sums up the evidence this way: "The Star study ... provides compelling evidence not only that smaller class size generates higher achievement in the early grades but also that the effects are larger for minority students."20 Of course, we still need to know what the change in class size was over the gap-narrowing period by race and ethnicity, so class size needs to be put on the list in any comprehensive exploration. It is plausible that it played a role, but it is hard to pin down.

Minimum Competency Testing? Minimum competency testing was in its heyday during the period when the achievement gap narrowed. By 1986, about 40 states had minimum competency testing programs.<sup>21</sup> The purpose of these programs was to find out whether students had acquired "basic skills" and push schools to improve those skills. Schools used the test results to identify where to allocate resources and

to monitor improvement. When the question of the unexplained gap narrowing is raised, this era of testing is frequently mentioned as a contributor. However, it seems to be absent in the research literature.

The possibility that the era of minimum competency testing programs was involved in the narrowing of the achievement gap has two limitations. One is that these efforts were directed at both Black and White low-achieving students, but the scores of White students did not improve as much as the scores of Black students during the period of the narrowing. Second, the gap decreased at the 90th, 75th, 25th, and 10th percentiles in all three age groups in math and reading. There was some variation in where it decreased the most. For example, in math at age 9, the gap decreased at the top percentiles, with little increase in the lower percentiles, and at age 17 there was more decrease for top scorers. In reading, the gap decreased more for lower scorers at ages 13 and 17, but more for top scorers at age 9 (see Appendix).

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The factors discussed above are some additional possibilities to consider that might help to explain or understand the substantial narrowing of the achievement gap. Our review did not eliminate class size as a factor, and it is plausible that class size reductions played some role. Desegregation also may be a contributing factor to some extent, particularly in the South. Although it is true that the gap narrowed in all regions of the country, desegregation was part of a larger whole of many events taking place, as Grissmer and colleagues pointed out, and may have had effects outside the South.

In 1990, Marshall Smith and Jennifer O'Day provided a more comprehensive analysis of student achievement and the gap narrowing than previously had been available. After recounting the large gap closing discussed above, they wrote, "If the progress ... continues at the same pace over the next 15 to 20 years, the gap in reading achievement between Blacks and Whites will have entirely closed."<sup>22</sup>

<sup>&</sup>lt;sup>20</sup> Helen Ladd, "School Policies and the Test Score Gap," in Magnuson and Waldfogel (Eds.), 2008, p. 299.

<sup>&</sup>lt;sup>21</sup> Jaynes and Williams, 1989, p. 362.

<sup>&</sup>lt;sup>22</sup> Marshall Smith and Jennifer O'Day, "Educational Equality: 1966 and Now," in *Spheres of Justice in Education*, 1990 American Education Association Yearbook, 1990, p. 80.

Of course, we now know that this was not to be. After describing the encouraging developments and what might have given rise to them, and the beginning of trends they saw on the horizon, they said "... we are not sanguine with respect to a continued closing of the achievement gap between Blacks and Whites ..." and gave several reasons, such as decline in college enrollment among young Blacks (who are future parents), the potentially damaging effects of an increased density of poverty, and the increased numbers of students born with toxic dependence or other health problems. They also

had concerns about the effect of directions of the school reform movement at that time. The achievement gap, they thought, may increase again "unless we as a society take some necessary steps to prevent such a reversal."

Smith and O'Day certainly were prescient, as readers will recognize in the unfolding of developments over the years that followed their report. Their prescriptions for avoiding such a reversal are well worth reading today.

After the gap narrowed during the 1970s and 1980s, the gap remained generally stable for a decade or so in both reading and math, but not for all age groups. Then, from 1999 to 2004, the gap started to narrow again (see Figures 1, 2, 3, and 4). Between 2004 and 2008, there were no statistically significant changes in the gap.

Just after this short period of narrowing, the Russell Sage Foundation published one of the first books to look at the relationship between economic factors and the achievement gap.<sup>23</sup> Chapters written by interdisciplinary experts explored factors, both inside and outside of school, that affect the test score gap. It was written during the period after 1999 when gap narrowing had resumed.

The difficulty of the subject became apparent during the writing of the book, which was started during the "stalling" phase and after the earlier large gap narrowing. The editors point out:

Some have argued that progress was permanently stalled and that no further gains in closing the Black-White gap would be seen. Yet by the time we were halfway through the book, evidence was emerging that the Black-White test score gaps are closing again. As a result, we are optimistic about the prospects for further improvement and all the more motivated to ask what factors account for the remaining gaps and what policies might address them. (p. 3)

One basis for optimism might well have been the 2001 No Child Left Behind (NCLB) Act, which required the disaggregation of test scores by racial/ethnic group, and that all subgroups reach "proficiency" by 2014. In fact, some gap narrowing early in the life of NCLB was cited by some people to show early effects.

The difficulty of explaining the movement of gaps was made clear when the results of the 2008 NAEP assessment became available in the spring of 2009. The gaps in reading and mathematics scores between Black and White students and between Hispanic and White students at all three age levels did not change significantly from 2004 to 2008. The *New York Times* headlined it, "No Progress in Gap Closing," while the *Washington Post* heralded the rise in achievement scores for all three groups. The *Post* also made the point in its op-ed piece by former Secretary of Education Margaret Spellings, architect of the NCLB, who said the results were evidence of the success of the law.

The considerable research efforts of very capable social scientists who have worked to explain the large gap narrowing, and then why it stopped, have yielded benefits. However, there is no body of knowledge yet assembled about what happened in the turnarounds of more recent years, or the latest news of stalled progress between 2004 and 2008.

The question is open as to whether the scientific community can mount a sustained effort to understand and explain the major forces determining the width of the achievement gaps and the changes occurring. However, considerable research does provide information about the *correlates* of achievement for all students and for subgroups of students.<sup>24</sup> Research can help lead the way, even if it falls short of explaining the *differential* progress among the subgroups that results in the changing size of the gaps.

<sup>&</sup>lt;sup>23</sup> Magnuson and Waldfogel (Eds.), 2008.

<sup>&</sup>lt;sup>24</sup> Barton and Coley, 2009.

The previous sections of this report examined changes in the achievement gap using nationally representative test score data from NAEP that stretches back to the early 1970s. Although there were no such data before NAEP, there were data on the educational attainment of the population — number of years of school completed, high school graduation rates, and college graduation rates. These data can serve as useful proxies for educational achievement. A major work by economist Derek Neal looked backward and tracked gaps in educational attainment before the 1970s to show when the gap closing started, when it stopped, and how projections look for the future.<sup>25</sup>

This section of the report provides some important highlights from Neal's comprehensive analysis. Readers interested in more complete information on this topic are encouraged to read Neal's work. Although he found "little evidence" of Black student gains relative to White students during the period from the Reconstruction Era through the first decade of the 20th century, he found considerable evidence of relative gain for birth cohorts after that, and summarized a considerable body of research.

There is an important substory of the period in which there was gap closing, told by Daniel Aaronson and Bhashkar Mazumder in *The Impact of Rosenwald* Schools on Black Achievement. This is the story of the building of 5,000 schools from 1914 to 1931 to serve 36 percent of the Black rural school-age population in the South. The money was provided by Julius Rosenwald, who supplied matching grants at the urging of Booker T. Washington; the schools employed more than 14,000 teachers and provided classrooms for over a third of the rural South's Black school-age population — a quarter of all southern Black schoolage children. The researchers say that "Rosenwald can explain about 30 percent of the Black-White education convergence for southern men born between 1910 and 1924, and even larger portions of other education outcomes." They also trace results to increased relative wages and increased migration to the North where there were better opportunities. These conclusions were based on some very sophisticated analyses, drawing on data from the Rosenwald Fund's archives, Census (IPUMS) data, and World War I data and the tests that were given to inductees. The history of this remarkable and large-scale effort to establish schools where none existed has gone unnoticed in recent times. Research has established that this effort greatly narrowed educational attainment gaps across a wide geographic area.

In a more recent period, drawing on analyses of decennial census files, along with the work of other researchers, Neal presents data for the period of 1960 to 2000 for 26- to 30-year-old men and women. According to Neal:

"Each decade from 1940 through 1990 brought a decline in the Black-White attainment gap for both men and women of all ages, and in 1990, the overall Black-White gap in years of attainment among young adults aged 26-30 represented less than 5 percent of the average schooling level among whites."<sup>27</sup>

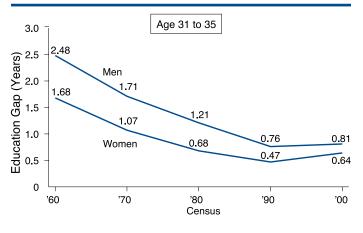
Figure 7 tracks the differences in total years of education for White and Black men and women, for two age groups. The graph shows steady progress until 1990 when the educational attainment gap began to widen. For example, among the 31 to 35 age group, the 2.5-year difference in education seen in 1960 between White and Black men dropped to less than 1 year of difference by 2000. The bad news, however, is that the gap was slightly larger in 2000 than in 1990, with similar results for the population between the ages of 26 and 30. Neal also sees the gap in educational attainment stopping, and widening, when tracking birth cohorts. He finds the gaps for those born after 1965 to be "almost always slightly greater than the attainment gaps associated with birth cohorts from the early 60s."

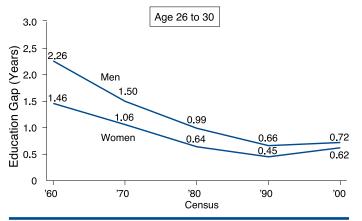
<sup>&</sup>lt;sup>25</sup> Derek Neal, Why Has Black-White Skill Convergence Stopped?, University of Chicago and National Bureau of Economic Research, April 2005.

<sup>&</sup>lt;sup>26</sup> Daniel Aaronson and Bhashkar Mazumder, The Impact of Rosenwald Schools on Black Achievement, Federal Reserve Bank of Chicago, WP 2009 – 26, October 2009.

<sup>&</sup>lt;sup>27</sup> Neal, 2005, p. 3.

Figure 7
White-Black Difference in Years of
Educational Attainment

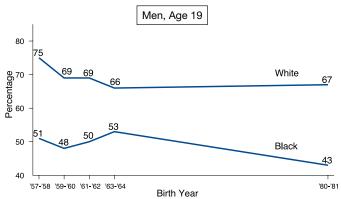


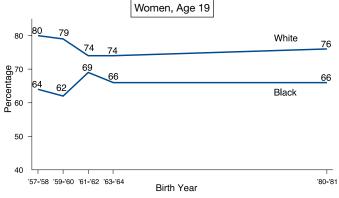


Source: Neal, 2005 (Table 1; see table for notes on how data were derived).

Using data from the National Longitudinal Survey of Youth and comparing 1979 and 1997 surveys, Neal examines high school graduation rates, including regular diplomas and excluding GEDs. These rates are shown in Figure 8 and are presented separately for men and women by race. For men, the racial gap in the high school graduation rate narrowed somewhat for the earlier cohorts, although part of that narrowing is due to a decline in the White rate. However, those born after 1963 – 64 did worse than any previous cohort. Neal summarizes the trend for males this way:

Figure 8
High School Graduation Rates by Gender
and Race





Source: Neal, 2005. Data are from the 1997 and 1979 National Longitudinal Study of Youth (NLSY). Rates are actual graduation rates and do not include GEDs. See Table 2a.

The overall comparison indicates that, among men, there may have been no net closing of the Black-White gap in high school graduation rates over roughly two decades of cohorts between 1960 and 1980, although Black-White differences in graduation rates do diminish over the cohorts born in the late 1950s and early 1960s, in large part because white graduation rates declined over this period.

These findings are consistent with those presented above on total years of education attainment, and the results are similar for women, although the gap is much narrower.

When we examine college graduation rates in Figure 9, we see a similar picture. Among men ages 26 to 35, the data reported by the 1960 census indicated that the college graduation rate of Whites was four times higher than the rate for Blacks (4 percent compared with 16 percent). By 1990 the gap had narrowed, with the White rate about double the Black rate. Then the gap increased slightly in 2000. While graduation rates for White women were low in 1960, "graduation rates did not increase as rapidly among young Black women as among young White women."

In sum, says Neal, "Data on attainment gaps as well as trends in high school and college graduation rates suggest that, among both men and women, the dramatic Black-White convergence in attainment that began with cohorts born around 1910 came to a halt just over 50 years later." Neal continues: "It is ironic that the cohort of Black youth born immediately after the passage of the Civil Rights Act of 1964 did not add to previous decades of progress toward racial equality in educational attainment."

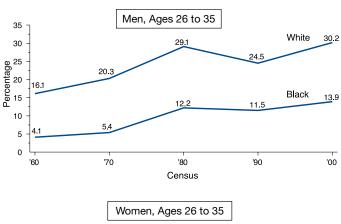
Neal goes on to review the trends in test scores, a story told in the previous section. Reflecting on all this, he says, "It is possible that a shock common to many black communities occurred during this period that restrained both educational development of math and reading skills" and halted progress in narrowing gaps. He then reviews developments such as changes in family income and family structure that might have had adverse consequences.

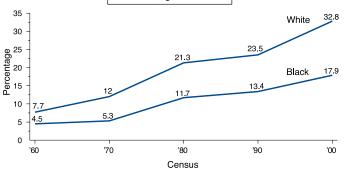
Neal also takes on the task of projecting out trends, using all the data in attainment, graduation rates, test scores, and skill development needed in the marketplace. His conclusion is not at all encouraging:

Results based on convergence rates that represent best case scenarios for Black youth suggest that even approximate Black-White skill parity is not possible before 2050, and equally plausible scenarios imply that the Black-White skill gap will remain quite significant throughout the 21st century.

The kind of "shock" the Black community might have suffered is discussed in the next section of this report.

Figure 9
College Graduation Rates by Gender and Race





Source: Neal, 2005. Data are from the decennial census IPUMS.

Although family and demographic factors account for part of the gap narrowing in the 1970s and 1980s, we saw in the first section of this report that about two-thirds remained unexplained. Class size was identified as a reasonably strong contender in explaining why the gap closed (although the data are not available to pin it down), and school desegregation also was identified as a possibility. Perhaps a more promising lead comes from new understandings of the importance of early experiences in cognitive — and noncognitive — development that have emerged in recent years.

Another potential avenue for increasing our understanding of the achievement gap lies in the analysis of the health of whole communities and neighborhoods, and the environment they create for nurturing the well-being of families and children. In addition, a historical perspective on both intended and unintended consequences of public policies can be instructive in searching for probable explanations. The following section takes a more expansive view of the possibilities.

# **Delving Deeper Into the Early Childhood Period**

New understandings of the importance of early experiences in cognitive — and noncognitive — development have emerged in recent years. More data have become available to allow researchers to develop more inclusive models to examine the relative contributions of early experiences and experiences later in life to achievement.

A major new source of data is the Early Childhood Longitudinal Survey of Kindergartners (ECLS-K). These data have permitted expanded theories to be tested and applied for explaining student achievement. Recent work by David Grissmer and Elizabeth Eiseman go beyond a focus on academic skills like reading and mathematics and examine noncognitive skills and child behavior. Their work, which incorporates the work of other researchers, brings a new level of understanding of sources of achievement before regular schooling begins.<sup>28</sup>

In addition to traditional measures of socioeconomic status, Grissmer and Eiseman added new measures with information from ECLS-K. The measures included moving frequently; health; having a non-depressed mother; books in the home; birth weight; whether the child had been in Head Start, day care, preschool or prekindergarten; and five noncognitive characteristics that measure the child's approach to learning. Information on the child's gross and fine motor skills and on disabilities in learning, speech, and hearing also were included. The authors also took advantage of information on twins included in the sample.

While it is not possible in this short account to describe all that the authors learned, their work strengthens the proposition that much of the achievement gap opens before children enter the first grade, and the expanded information now available about early life shows that even more is attributable to that early period than prior work had found. Grissmer and Eiseman also explore the relationship between the development of noncognitive skills — social skills, for example — and cognitive skills, as have some other researchers recently. Increasingly, there is reason to believe that in this period of early life, development of noncognitive skills helps in the development of cognitive skills, and are important in their own right in later success. As James A. Heckman concludes: "For many social outcomes, both cognitive and noncognitive skills are equally predictive in the sense that a one percent increase in either type of ability has roughly equal effects or outcomes across a full distribution of abilities."29

If these kinds of data were available for earlier periods of time, our understanding about the relative contributions of school and non-school factors would be greatly enhanced. Any reexamination of the period when the achievement gap narrowed would need to recognize the advances in knowledge since that time. In the past, a limited set of variables about families and demographics was used to isolate the effects of early life experiences and get on with the task of

<sup>&</sup>lt;sup>28</sup> David Grissmer and Elizabeth Eiseman, "Can Gaps in the Quality of Early Environments and Noncognitive Skills Help Explain Persisting Black-White Achievement Gaps?" in Magnuson and Waldfogel (Eds.), 2008.

<sup>&</sup>lt;sup>29</sup> James J. Heckman, Schools, Skills, and Synapses, Discussion Paper Series (Institute for the Study of Labor), IZA DP No. 3515, May 2008, p. 11.

explaining the effects of schooling. We now know that the issue is clearly more complex.

Factors traditionally composing the measures of family characteristics and socioeconomic status may be, to some extent, surrogates for the operative early child experiences. However,

... evidence from this chapter suggests that roughly one-third to one-half of the variances accounted for by the major surrogate variables might be accounted for by more proximal variables such as birth weight, health status of child and mother, preschool attendance, home environments, household migration, and the incidence of certain activities between parent and child. Gaps may persist until we identify the behaviors and processes and determine the extent to which differences are present between racial-ethnic groups and whether such differences are linked to SES differences or are perhaps more culturally determined.<sup>30\*</sup>

Beyond the above, the authors point to the importance of focusing on noncognitive skills as well as on cognitive skills as measured by achievement tests "as the key to improving later educational and labor force achievement." And again, they suggest that noncognitive skills play a role in shaping early cognitive outcomes.

Grissmer and Eiseman open a window on research paths to a greatly enlarged understanding of the early experiences that shape development and achievement, and take us far beyond the traditional measure of socioeconomic status as a key element. The new data and understandings can be applied in expanding our examination of the context for changes in achievement gaps. Of course, they were not available for early periods, and that past cannot be recaptured.

### Villages, Neighborhoods, and Social Capital

While expanded analysis of these newer data sources may help explain changes in the achievement gap in the future, we also need to look at the larger set of circumstances and environments that children face in their neighborhoods and communities. The oft-repeated phrase "It takes a village to raise a child" captures this idea. For many children, however, there are no villages. The sociologist William Julius Wilson was getting at this when he said, "The individual level analysis of social inequality focuses on the different attributes of individuals or their social situations ... Collective outcomes are then derived from individual effects." This individual framework, he says, does not capture "the impact of relational, organizational, and collective processes that embody the social structure of inequality." 31

Wilson's concerns bring to mind many questions and issues that are related to the achievement gap. Are strong neighborhood churches still available to the community or has their prevalence and impact waned? Are there safe and well-maintained community playgrounds where children and parents can gather? Do neighbors interact and support one another, and do they look out for neighborhood children? Does fear of crime in the neighborhood keep children indoors? Are libraries safely accessible and do they have programs for children? In short, is there a neighborhood and community? While these are not easy questions to answer, understanding what was going on in neighborhoods and communities during the period when the gap was closing and during the period when it began to widen would be instructive. Given the case that Wilson presents of the increasing concentration of poverty in the inner city, it is reasonable to expect that conditions have deteriorated.

The quality of the "village" also depends upon the community's economic and social capital. A view of such capital was informed by an in-depth study of a wide range of mostly Black neighborhoods conducted by a cadre of social scientists.<sup>32</sup> Many of the 42 neighborhoods in the 15 cities that were examined were doing well and many were not; there was a continuum. The neighborhoods were

<sup>&</sup>lt;sup>30</sup> Grissmer and Eiseman, 2008, p. 159.

<sup>\*</sup> Many social scientists who analyze the Black-White achievement gap have been loath to recognize the possibility of cultural influences, particularly early in the post-Moynihan report period. However, within sociology, culture has become an important aspect in examination of the achievement gap.

<sup>&</sup>lt;sup>31</sup> William Julius Wilson, "The Role of Environment in the Black-White Test Score Gap," in Jencks and Phillips, 1998, p. 508.

<sup>&</sup>lt;sup>32</sup> Richard P. Nathan and David J. Wright, *The Flip Side of the Underclass: Unexpected Images of Social Capital in Majority-African American Neighborhoods*, The Nelson A. Rockefeller Institute of Government, State University of New York, 1996.

intensively examined along many dimensions, and their trajectories were charted alongside indices of decline, stability, and improvement. The neighborhoods spanned a range of low, moderate, and high socioeconomic conditions. Even low socioeconomic neighborhoods ranged from declining to stable, to improved, to significantly improved. As for family stability and composition, the study reported that the level of one-parent families was highest in declining neighborhoods, and dropped progressively in neighborhoods that were stable, improved, or significantly improved.

Was the narrowing of the achievement gap associated with a period of particularly strong neighborhoods? Deterioration in the social and economic fabric is not easy to trace over time, nor is it easy to line it up with changes in the achievement gap. The Nathan research needs to be repeated and neighborhoods need to be tracked over time. And the school and student achievement dimensions need to be included as well.

Various perspectives on the quality of life in neighborhoods and how they might relate to student achievement and the quality of schools are provided by measures of income and poverty; measures of socioeconomic status that include income, education. and occupation; and measures of family structure. Another concept and measure that has been developed in a growing branch of sociology is "social capital," first introduced by James Coleman. According to Coleman, while physical capital is tangible, social capital exists in relationships among persons. There have been many studies establishing the many positive consequences resulting from social capital, and it is a field that has been highly conceptualized. A major example of applying the theory is the intensive examination of the school improvement efforts in Chicago, ongoing over a couple of decades. This is presented in a recently published book examining what happened in Chicago and how differences in social capital in the school's neighborhoods related to the success or failure of school improvement efforts.

The researchers explain that social capital focuses on the density of supportive social ties within a

neighborhood, ties that "afford group solidarity that makes achieving collective goals much more likely ... Social networks can ameliorate a range of social needs."33 And social capital can help with things such as creating bridges to resources for efforts such as helping job seekers, finding mentors for struggling students, or helping schools meet improvement goals. The Chicago research team created measures of social capital at the neighborhood and community level. The survey they used included measures of "collective efficacy" (children skipping school, hanging out on street corners, painting graffiti, disrespect for adults, fights in front of houses, funding for the fire station, willingness to help neighbors, close-knit communities, trust in the neighborhood, whether people "get along," and whether there are shared values). Religious participation was probed, with questions about talking to local religious leaders to get help, belonging to a religious organization in the neighborhood, and how many people attend regularly. The extent of connections outside the neighborhood was probed to see how many links there were, finding out how isolated people in the neighborhood are.

The measures they used were applied in looking at levels of such capital in the school communities and relating them to the success of school improvement efforts. The research clearly showed "community links to a school's capacity to improve student outcomes, and that variations across school communities in this regard offer an account for some of the observed differences in rates of improvement and virtually all of the differences in stagnation rates."<sup>34</sup>

There are, of course, large overlaps among these measures of social capital and other measures used to differentiate neighborhoods and communities in terms of their viability — measures such as poverty and income, socioeconomic level, and family factors. It is clear, however, that we have to look at the well-being of whole neighborhoods to understand school and student success and what has gone wrong in reducing achievement gaps, as well as what is happening in the schools. We have tried to sum up what we know about neighborhoods from different perspectives in the sections that follow.

<sup>33</sup> Anthony S. Bryk, et al., Organizing Schools for Improvement: Lessons from Chicago, University of Chicago Press, 2010, p. 171.

<sup>&</sup>lt;sup>34</sup> Bryk et al., 2010.

### **Disappearing Fathers**

Throughout human history, the nuclear family has been the basic institution for raising children, providing for their needs, protecting them, shaping their values, passing on the culture, and providing the models for shaping their understanding of what it is to become an adult. The nuclear family has been historically defined as a mother, a father, and their children. Clearly, there has been a trend toward deterioration of the makeup of the family unit, a trend most striking in the Black community in the United States — but one also apparent in other developed nations of the western world.<sup>35</sup>

Is there a relationship between changes in family structure and changes in the achievement gap? What has been happening most noticeably since the mid-1960s is the disappearance of adult Black males from the family. While data on this issue is provided below, some context is important.

The issue of the changing Black family structure has been an explosive one. Black sociologist Franklin Frazier did an extensive analysis of this issue in 1939. His book, *The Negro Family in the United States*, was uncontroversial at the time. However, The Negro Family: The Case for National Action, a report written in 1965 entirely as a type of internal government "white paper," created a huge controversy. This report, issued by the Labor Department's Office of Policy Planning and Research, was leaked to the press and became identified with its author, Daniel Patrick Moynihan, an Assistant Secretary of Labor at the time. The report also became the basis for President Lyndon Johnson's historic speech, "To Fulfill These Rights," delivered at Howard University on June 4, 1965, and well received in the civil rights community.

The circumstances of the leak and subsequent official release of the report led to considerable misinformation and distortion. Because of its historical significance, the report, which became

popularly known as "the Moynihan Report," can be found on the Department of Labor website.<sup>36</sup>

The report identified structural causes of a "breakdown of the Negro family": prejudice, discrimination, the structure of the welfare system, and decades of Depression-level unemployment suffered by Black men. This was causing more and more Black children to live only with their mothers, with a growing number of the children born out of wedlock. The effects on children were documented on the basis of research available at the time. Further, based on analysis of trends, the report predicted that the single-parent rate would continue to rise unless the nation did something positive. This was the basis for its call for "national action."

The report was widely assailed, particularly by liberals, and most — but not all — civil rights leaders. A notable exception was Dr. Martin Luther King Jr., who not only did not quarrel with Moynihan's analysis, but gave one of the most cogent summaries of the struggles to form and maintain the Black family that the authors have seen. He was optimistic, however, saying at the end of one speech:

The Negro family lived in Africa and subdued the hostile environment. In the United States, it has lived in a manmade social and psychological jungle which it could not subdue. Many have been destroyed by it. Yet, others have survived and developed an appalling capacity for hardship. It is on this strength that society can build.<sup>37</sup>

Because the subject became toxic, social scientists largely shunned it for a couple of decades, fearing that they too would experience the censure heaped upon the report.<sup>38</sup> Amid the furor, the one-parent family rate and the out-of-wedlock birth rate continued to climb. In the mid-1980s, the sociologist William Julius Wilson began publishing books about Black poverty and presented the first objective analysis of the Moynihan

<sup>35</sup> A summary of these overall trends can be found in Paul E. Barton and Richard J. Coley, *The Family: America's Smallest School*, Policy Information Report, Policy Information Center, Educational Testing Service, September 2007.

<sup>&</sup>lt;sup>36</sup> For a history of this report see James T. Patterson, Freedom is Not Enough: The Moynihan Report and America's Struggle Over Black Family Life – from LBJ to Obama, New York: Basic Books, May 2010.

<sup>&</sup>lt;sup>37</sup> The speech was delivered in New York on October 29, 1965. It can be found in Lee Rainwater and William Yancey, *The Moynihan Report and the Politics of Controversy*, The MIT Press, 1967, p. 409. (See *The Future of the Family*, Russell Sage Foundation, 2004).

<sup>&</sup>lt;sup>38</sup> In the interest of full disclosure, in the last writing Moynihan did on the subject, which was published after he died, Moynihan said that Paul Barton did the research for him and Moynihan did the writing.

Report, agreeing that Moynihan was basically right and offering some explanations. Wilson was a key figure in both rehabilitating the report and in providing penetrating analyses of the forces at work.

At that time, Wilson did not agree with Moynihan's diagnosis that the oppressive conditions he described produced some kind of cultural change, that "the situation had begun to feed on itself," as Moynihan had put it, that adaptations made in reaction to the structural forces at work now were being embedded in the expectations of young people coming into adulthood. Instead, Wilson saw the continuing situation as due to the oppressive forces still at work — generally referred to as structural, in contrast to cultural, forces. His conclusion was that the whole situation was not only the result of those forces, but that their continuation was the cause of the rising rate of one-parent families. And this is the way that the social scientists who wrote about them thought also.

However, in Wilson's recent book, *More Than Just Race*, he changed his position considerably.<sup>39</sup> While continuing to maintain — as did Moynihan — that structural forces were the primary culprit, the adaptations made to these forces added a "cultural" dimension.<sup>40</sup> Said Wilson,

In the previous chapter, I argued, on the basis of available evidence, that structural explanations of concentrated poverty in inner cities have far greater significance than cultural arguments, even though neither should be considered in isolation if we are to seek a comprehensive understanding of racial inequality, because structural and cultural forces often interact in affecting the experience and chances in life of particular racial group members. (p. 93)

However much of the continuing rise in one-parent families was to be attributed to structural causes and how much is passed on from cultural adaptations, Wilson saw the situation — and its perpetuation — clearly in his earlier writings. In his 1996 book *When Work Disappears*, he said:

In addition to the strong links between single parenthood and poverty and welfare receipt, the available research indicates that children from mother-only households are more likely to be school dropouts, to receive lower earnings in young adulthood, and to be recipients of welfare. Moreover, the daughters who grew up in Black single-parent households are more likely to establish single-parent households themselves than those who were raised in married couple households. Furthermore, single-parent households tend to exert less control over the behavior of adolescents.<sup>41</sup>

Some other Black scholars have come to the view that the dynamics now are due both to structural forces and cultural adaptations to the oppressive conditions Black people have faced. Harvard's Henry Louis Gates sums it up this way:

We do, however, know that the causes of poverty within the Black community are both structural and behavioral. Scholars as diverse as philosopher Cornel West and sociologist William Julius Wilson have pointed this out, and we are foolish to deny it. A household composed of a sixteen-year-old mother, a thirty-two-year-old grandmother, and a forty-eight year-old great grandmother cannot possibly be a site for hope and optimism. Our task, it seems to me, is to lobby for those social programs that have been demonstrated to make a difference for those motivated to seize these expanded opportunities.<sup>42</sup>

In the fall of 2007, a group of prominent social scientists held a conference at Harvard on the Moynihan Report. The papers and proceedings were

<sup>&</sup>lt;sup>39</sup> William Julius Wilson, More Than Just Race: Being Black and Poor in the Inner City, New York: W.W. Norton and Company, 2009.

Cultures and subcultures are a very large subject that cannot be elaborated on in this report. The shortest description we can offer is from Lee Rainwater's 1970 book, *Behind Ghetto Walls: Black Family Life in a Federal Slum*: "... subculture can be regarded as the historical creation of persons who are disinherited by their society but who retain limited functional autonomy for their group ... Such a subculture is the repository of a set of techniques for survival in the world of the disinherited, and in time, these techniques take on the character of substitute games with their own rules guiding behavior. But these rules cannot provide a lasting challenge to the validity of the larger society's norms governing interpersonal relations and the basic social statuses involved in heterosexual relations, marriage, and parent-child relations." (p. 397).

<sup>&</sup>lt;sup>41</sup> William Julius Wilson, When Work Disappears: The World of the New Urban Poor, New York: Alfred A. Knopf, 1996, p. 92.

<sup>&</sup>lt;sup>42</sup> Henry Louis Gates Jr., The African American Predicament, Christopher H. Foreman Jr. (Ed.), Washington, DC: Brookings Institution, 1999, p. 15.

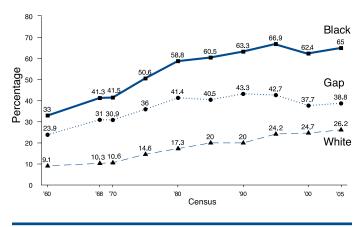
published in January 2009.<sup>43</sup> The general verdict was that Moynihan had it right. Indeed, his predictions had come to pass. On Father's Day 2008, President Barack Obama made a speech in which he said, "... We need families to raise children. We need fathers to realize that responsibility does not end at conception." The subject is delicate but no longer taboo.

This is a long preamble to the following data on the past and present status of the Black family, but it is necessary context when broaching a still-sensitive subject in an effort to be constructive and to reach an understanding that can help in the search for clues to reduce achievement gaps.

In Figure 10, we see the history of Black and White family structure going back 45 years to 1960. It tells us the percentage of children under age 18 living with only one parent or with no parents. The middle line shows the gap between the Black and White rates.

The percentage of White children living with one parent or no parent increased from 9 percent in 1960 to 26 percent in 2005. The rate for Black children rose from 33 percent in 1960 to 65 percent in 2005, more than doubling at its peak rate in 1995. The climb in the Black rate was continuous and steep for the 35-year

Figure 10
Percentage of Children Under Age 18 Living with
One or No Parent, 1960 to 2005



Source: U.S. Bureau of the Census, Tables CH2, CH3, CH4. Internet release date, July 2008 (authors' calculation of percentages).

period from 1960 to 1995. At a much lower level, the White rate rose, also, nearly tripling. Both rates appear to have mostly stabilized from 1995 to 2005. The gap between the Black rate and the White rate rose until 1990, and has declined somewhat since. The peak in the gap was about 43 percentage points in 1990 and 1995.

During this long period, one sees no apparent effect of recessions and fluctuations in unemployment rates on these rates. Before about 1962, as Moynihan pointed out, such rates were more closely tied to changes in the economy and economic opportunity. This relationship was broken for several years after that, and his seeing this change led to his concern that the single-parent rate was no longer going down when the unemployment rate went down.

A related issue is out-of-wedlock births, a large factor in the increase in the number of children raised without fathers. According to recent data, the percentage of out-of-wedlock births to Black women under the age of 30 was 77 percent, compared to 46 percent for White women and 16 percent for Asian women.<sup>44</sup>

What is particularly disturbing beyond these rates is that the babies were born disproportionately to young women with the least education and with the lowest prospects for achieving a family wage. Figure 11 shows how the largest percentage of births are to women with less than a high school education.

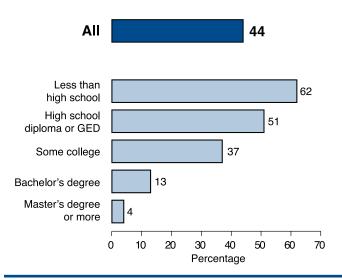
Young Black women with limited educations are not likely to have the earning power to provide well for their children. The rates of poverty will be high and the prospects for their children, on average, will be low.

When we look at the trend lines in Figure 10, spanning the period from 1960 to 2005, we cannot associate the percentages for specific years of children with an educational or income status at any particular period. The data available are for all children up to age 17, and span the whole period they are in the educational system. A comparison over a five-year period includes a majority of the same children. Thus, it is hard to match these trends directly to others that

<sup>&</sup>lt;sup>43</sup> See *The Moynihan Report Revisited: Lessons and Reflections After Four Decades*, The Annals of the American Academy of Political and Social Sciences, 2009.

<sup>&</sup>lt;sup>44</sup> Kirsch, Braun, Yamamoto, and Sum, 2007.

Figure 11
Percentage of Births to Women Under Age 30 That
Were Out of Wedlock, by Educational Attainment
of the Mother, 2003 – 2004



Source: Data from 2004 American Community Surveys reported in Irwin Kirsch, Henry Braun, Kentaro Yamamoto, and Andrew Sum, America's Perfect Storm: Three Forces Changing Our Nation's Future, Policy Information Report, Policy Information Center, Educational Testing Service, January 2007.

show a stalling of progress in closing the achievement gap in the period, or shortly before 1990.

However, if we are looking for a "shock" that roughly coincides with the end of the long-term relative economic and educational gain for Black children described earlier in the report, this steep rise in children being raised without fathers, and mostly without benefit of their earnings, coincides with the overall scenario of curtailed progress in narrowing the achievement gap. The stabilization by about 1995 is encouraging, but it hardly constitutes forward progress. The analysis of the large gap closing in the 1970s and 80s found that relative gains for Black adults, in income and education, were large enough to cancel out the negative effects of family structure. However, these relative gains did not continue.

The impact of family structure on children's wellbeing and development is well documented. The most obvious effect of rising birth rates outside marriage, and rising rates of father absence, is the income effect. The income available to the family is limited and the poverty rates are high. Research identifies about half of the adverse effect of fatherlessness as coming from the lower family incomes that result. The other half of the adverse effects are from not having both parents raising the children. A large body of research now exists and has been summarized in the ETS Policy Information Center publication titled *The Family: America's Smallest School*. The adverse effects are:

- Less academic success
- Behavioral and psychological problems
- Substance abuse and contact with the police
- Sexual relationships at earlier ages
- · Less economic well-being as adults
- Less physical and psychological well-being as adults<sup>45</sup>

Regardless of how one explains the reasons for the rapid rise of fatherless families, there is hardly any way to interpret the rise as a positive force in reducing the Black-White gaps in educational achievement and attainment. And if one believes the results of voluminous research on the effects of one-parent families and fatherlessness, there is good reason to believe it has been a negative force.

Sorting out *why* it is happening does not, in itself, tell us *how* to reverse the trend, particularly to the extent that cultural forces resulting from adaptations to an exceedingly harsh history are involved. Situations do not necessarily ravel back up the way they unravel. To deny that any problem exists is to deny an important avenue to finding an understanding of it.

### The Plight of Black Males

A key factor in understanding the dynamics of father absence is steady employment and the earnings that result that can support families. Employment data,

<sup>&</sup>lt;sup>45</sup> Original source is Wendy Sigle-Rushton and Sara McLanahan, "Father Absence and Child Well-Being," in Daniel Patrick Moynihan, Timothy M. Smeeding, and Lee Rainwater (Eds.), *The Future of the Family*, Russell Sage Foundation, 2004.

however, paint a bleak picture. When we examine trends in the employment of Black males, we see the same pattern of stalled progress that we see when we examine the achievement gap. In particular, we see a substantial deterioration in the employment rate for recent birth cohorts, with an alarming deterioration for men with only 9 to 11 years of schooling — and this group constitutes a high percentage of all Black men. The deterioration in the employment rate for high school and college graduates is less severe, but still substantial. These employment rates are shown in Figure 12.

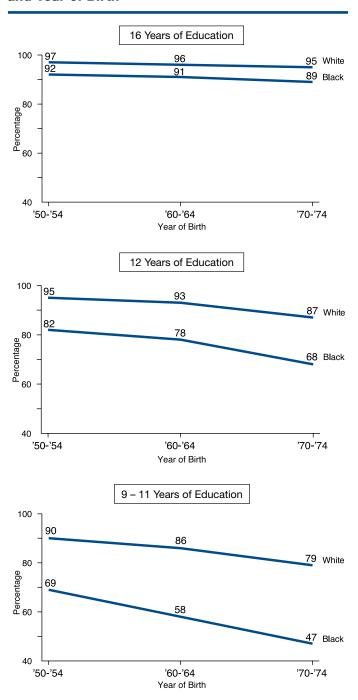
For 26- to 30-year-old Black males with 9 to 11 years of school, the percentage working has dropped from 69 percent for those born from 1950 to 1954, down to 58 percent for those born from 1960 to 1964, to 47 percent for those born from 1970 to 1974. The employment rate declined for White males at this educational level also, but not as steeply as the Black rate. Thus, the gap for the more recent cohort has widened.

The gaps are not as wide as educational level rises, but they still are substantial. In the most recent cohort, the employment rate for Black males with 12 years of school is 68 percent, compared to a rate of 87 percent for White males. For males with the highest levels of education, the gap is much narrower. For the most recent cohort, the employment rate for Black males with 16 years of education is 89 percent; the rate for White males is 95 percent.

The pool of potential fathers able to support children has been dropping most severely among those with the least education. This pool also has been shrinking steadily because many young Black males are incarcerated. There is considerable consternation about this, and charges from some that Black men are going to prison for longer periods than justified — particularly in cases where long sentences for crack cocaine violations are involved.

Whatever the dynamics involved, the facts are clear that a large segment of young men are unable to fulfill the role of fatherhood. Two aspects are involved: one is that they are just not available to become parents, and the other is that many already are parents but lack the means to support their children. The last estimate

Figure 12
Percentage of 26- to 30-Year-Old White and Black
Males Working, by Number of Years of Education
and Year of Birth



Source: Neal, 2005. Data are derived from Table 6 from the decennial census IPUMS 1960 - 2000. The percent working is for the year prior to the census reference week.

available is for 2000, when about 1.5 million children had parents who were incarcerated in state or federal prisons.<sup>46</sup> More current data will be available in the 2010 census.

Here again, we see the apparent importance of education. High school dropouts are the most likely to be incarcerated. Among 26- to 30-year-old Black males with 9 to 11 years of education, 9 percent of those born between 1950 and 1954 were incarcerated, as were 19 percent of those born in 1960 – 1964, and 26 percent of those born in 1970 – 1974. The comparable White percentages are 2, 4, and 5 (see Figure 13).

The rates are much lower for men with 12 years of school, but still substantial at 11 percent for Black males compared with 3 percent for White males in the most recent cohort.

These young men are in institutions that have traditionally provided education and training programs, although rarely at levels adequate for the level of need. There is, for example, a Correctional Education Association. Each state, of course, has its own policies. A fairly recent review of the state of education and training in the nation's prisons found that we are losing ground in the prison education enterprise. Investments in correctional education programs are not keeping pace with the growing population of prisoners.<sup>47</sup>

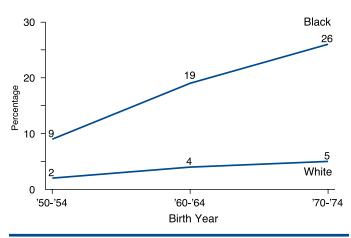
In addition to not getting an education while in prison, those who are released are "locked out" of jobs when they return to their communities. A prison record is hard to overcome in the employment world, particularly for those with a limited education. We are missing an important opportunity to reach many high school dropouts who are incarcerated, nearly all of whom will be returning to society at some point. They need help, in prison and out, in order to become successful in their roles as husbands and fathers.

# **Cultural Adaptations and the Children**

While all that precedes about cultural adaptation to an unfriendly environment has its impacts on the

# Figure 13

Percentage of 26- to 30-Year-Old White and Black Males with 9 to 11 Years of Education Who Were Institutionalized, by Year of Birth



Source: Neal, 2005. Data derived from Table 6 from decennial census IPUMS 1960 - 2000.

children, there is an aspect emerging particularly in this period of no progress in gap closing that needs recognition. There has been considerable speculation about whether many Black students have come to have resistance to schools and education; discussion and speculation has increased over the years, and a significant amount of research has been done, and those with on-the-ground experience have strong opinions on the topic. A very brief summary of what we are learning will be attempted here. There is a strand coming from ethnographic studies, some information from surveys of youth attitudes, and from some very close observations of hip hop culture.

First are the observations made by a person of long experience, including the presidency of the National Urban League from 1994 to 2003 and his interactions with young people over the years, based on what the Urban League struggled with during his tenure. A major culture shock he sees is "hip hop — the music, the imagery, lyrics, values, and the impact on Black youngsters in their communities ..."<sup>48</sup> He says that hip hop became ubiquitous after emerging in the 1970s, thanks to the media, and permeated deep

<sup>46</sup> Marian Wright Edelman's Child Watch weblog, August 22, 2003, www.childrensdefense.org/childwatch/030822.aspx.

<sup>&</sup>lt;sup>47</sup> Richard J. Coley and Paul E. Barton, Locked Up and Locked Out: An Educational Perspective on the U.S. Prison Population, Policy Information Report, Policy Information Center, Educational Testing Service, February 2006.

<sup>&</sup>lt;sup>48</sup> Personal correspondence with Hugh Price, February 4, 2010.

into African American youth culture. Much of its message, he says "was counter-cultural, oppositional, anti-establishment, anti-achievement, anti-education, confrontational, anti-deferential and, if you will, anti-adult."

In 2008, the Achievement Gap Initiative at Harvard University held a panel discussion titled "Raps on the Gap." What was known from research was summed up at the opening of the panel discussion:

- Concerning education, the majority of hip hop content is skeptical of traditional school achievement, distrustful of the traditional educative process, and resistant to a schoolachievement-oriented masculine identity.
- For Black youth at every GPA level, being into hip hop is associated with higher self-esteem, but it is also associated with more self-reported problem behaviors in school.
- In experimental research, watching hip hop videos has been associated with increased acceptance of violence and decreased optimism about education as a route to success.<sup>49</sup>

Another strand of research is ethnographic, particularly that conducted by the late anthropologist John Ogbu over a long period, but by others as well. One such effort by Signithia Fordham and Ogbu was summed up in a book published by the National Research Council. The research "suggests that Black student peer culture undermines the goal of striving for academic success. Among 11th graders at a predominantly Black high school in Washington, D.C., many behaviors associated with high academic achievement — speaking standard English, studying long hours, striving to get good grades — were regarded as 'acting White.' Students known to engage in such behaviors were labeled 'brainiacs,' ridiculed, and ostracized as people who had abandoned the group. Interviews with a number of the high-achieving students — who showed a conscious awareness of the choices they were making — indicated that some had chosen to put 'brakes' on their academic effort ..."50

It should also be said that there are efforts by educators to take advantage of the prevalence and importance of hip hop to try to introduce positive messages, and to "turn it around" to be more supportive of learning and learning objectives, a matter also explored by educators at the panel discussion at the Achievement Gap Initiative referred to above.

With regard to "explaining" the halt in gap closing, one can say that this was one factor that was certainly co-incident with that period. As described at the outset, establishing a degree of certainty has some high hurdles to get over. And as one can see from all the forgoing, there were a lot of forces at work over this several-decade period.

# **Identifying the Correlates of Achievement**

In 2009, the authors wrote *Parsing the Achievement* Gap II, a report published by the ETS Policy Information Center that followed up a report published in 2003. The approach was to identify from the research the life and school conditions and experiences correlated with cognitive development and school achievement — those about which the research community was in reasonable agreement. Sixteen factors were distilled out of the existing research knowledge base: parent participation, student mobility, birth weight, lead poisoning, hunger and nutrition, reading to young children, television watching, parent availability, summer gain or loss, the rigor of the school curriculum, teacher preparation, teacher experience, teacher turnover, class size, technologyassisted instruction, and school safety. We found that gaps in these life conditions and experiences mirrored gaps in achievement.

This list of 16 factors is another possible resource in understanding why the achievement gaps continue; gaps in these life conditions and experiences need to be closed if progress is to resume. The 2009 report looked at whether progress in reducing these critical gaps had been made over the last five or six years. A few gains and a few losses had occurred, *but the overall picture remained about the same*. <sup>51</sup> Any use of these

<sup>&</sup>lt;sup>49</sup> The Achievement Gap Initiative at Harvard University, Raps on the Gap panel discussion, February 20, 2008.

<sup>&</sup>lt;sup>50</sup> A Common Destiny: Blacks and American Society, National Research Council, 1989, p. 372.

<sup>&</sup>lt;sup>51</sup> Barton and Coley, 2009.

factors in retroactive investigation is challenging, for the necessary data covering the period from 1970 on would be very unevenly — if at all — available. When we have identified a correlate, we also need to have the trend statistics by race/ethnicity to describe the gaps in the particular life experience and condition. It will be important to continue to track these gaps and focus attention on what needs to change to make progress. As research identifies more linkages to achievement, the list of factors needs to be extended. This should remain a "work in progress."

### **A Broader Perspective**

As we try to bring the picture into focus, we need to keep in mind another important difference, on average, between the White and Black communities. Too often, the relative status of the well-being of these two communities has been viewed only by comparing current income or educational achievement. While these data are important, they provide an incomplete picture of the depth of inequality.

The accumulation of social and economic capital does not happen just within a generation, or the lifespan of an individual. Each child has a history that reaches back thorough the family tree that yields a cultural — and perhaps a religious — inheritance. Different cultures often value education and knowledge differently.

A Jewish immigrant family, even though barely surviving in New York City a century or more ago, expected somehow to eke out enough money to ensure that their children received an education and perhaps even became doctors or lawyers.

The English who settled New England embraced a culture of hard work. Working hard was related to the Puritan ethic, and to be seen as working hard was as much a part of a religious heritage as it was an economic necessity.

The inheritance from ancestors in terms of values, expectations, and life goals is important, and may even include negative examples that a family member may point out to a youngster. The inheritance of

wealth also is important; current income is far from a complete measure of family capital.

After American slaves gained their freedom, laws finally were passed giving Black people equal legal status with others, and removing legal barriers to education and employment. But none of this restored an ancestry that, before the slaves were captured, reached back in an unbroken line for ages; African ancestry was simply severed from the lives of the enslaved people.

An understanding of the past and the yearning to know one's ancestry is a common human need. Africans were snatched from different locations and from different tribes having different languages and traditions. Usually alone and without relatives, they were dropped as slaves onto plantations in the New World, where there was no place to re-establish ancestry or even start a family. When they formed new families, which they did against great odds, they started with a near-complete absence of ancestral inheritance.

No concrete measures exist, of course, for family capital and ancestry; that is, there is no measure for the age, height, and breadth of family trees and how this differs among subgroups of the population. While we are reading back far in history, we really don't know at what point in history inheritance had the largest influence on a particular generation. For example, children today are being raised by parents of the "hip hop" generation.

In recent history, there are two concrete measures that document such lack of ancestral inheritance. Table 1 shows that while wide disparities are seen in family income, much wider disparities are seen in net worth (defined as the difference between families' gross assets and their liabilities). Net worth is typically built over generations. The disparity between the White and non-White or Hispanic populations in net worth are huge and dwarf the disparity in family income. While the minority income is 60 percent that of the majority, the minority net worth is just 18 percent of the majority net worth.

**Table 1**Racial/Ethnic Differences in Family Income and Net Worth (2004 Dollars)

	Median Family Income 2004	Median Family Net Worth 2004
White non-Hispanic	\$49,400	\$140,700
Non-White or Hispanic	\$29,800	\$24,800

Source: Brian K. Bucks, Arthur B. Kennickell, and Kevin B. Moore, Recent Changes in U.S. Family Finances: Evidence from the 2001 and 2004 Survey of Consumer Finances, Federal Reserve Board Bulletin, 2006, pp. A5 and A8.

In part, family wealth accrues from a family's savings from current income, and Black families have a lower income from which to save than do White families, on average. When money and property were passed down through generations, were Black people building at least some wealth, on a relative basis, over many decades? And has progress stopped in wealth building, as it stopped on the employment and education fronts?

In 1995, Melvin Oliver and Thomas Shapiro conducted a comprehensive and revealing analysis of White and Black income and wealth. Their conclusion:

"This analysis of wealth leaves no doubt regarding the serious misrepresentation of economic disparity that occurs when one relies exclusively on income data. Blacks and Whites with equal incomes possess very unequal shares of wealth. More so than income, wealth holding remains very sensitive to the historically sedimenting effects of race ..."

The same study, using interviews, found that parents with assets planned to draw on them to create a better world for their children. Parents without assets had a "wish list" of how they would like to help their children.<sup>52</sup>

Another gauge of the launching pads that initiate children into adulthood is generational mobility — whether the child will ascend the income ladder, compared with parents, or will stay about the same or slip down. This is discussed in detail in the later section on neighborhoods with concentrated deprivation. Here we look at it for the nation as a whole and see a significant contrast between the Black and White communities in terms of relative generational advances.

A study by Tom Hertz at American University presents a discouraging picture of the prospects. There is a 40 percent gap between the adult incomes of Black people and White people who grew up in families with identical long-run average incomes. We don't know, of course, how much these families differed in the "ancestor gap" or the wealth gap discussed above. When years of schooling are included along with income, there is no effect on the gap, "implying that group differences in parental human capital (at least insofar as this is captured by years of schooling) cannot explain the disparity in mobility outcomes by race." <sup>53</sup>

Additionally, Hertz provides other data that show a low rate of upward mobility for Black people: "While only 17 percent of whites born in the bottom decile [10 percent] of family income remained there as adults, for blacks the figure was 42 percent. Similarly, 'rags to riches' were less than half as likely for Black as for White families."

Although these data present a dire picture of upward mobility, which is the key to relative generational progress, the data do not provide a historical picture of how mobility has changed over the years. So the dimensions of ancestral inheritance and generational mobility are added to the list of what is necessary to get a complete picture of closing the achievement gap.

<sup>&</sup>lt;sup>52</sup> Melvin L. Oliver and Thomas M. Shapiro, "Race, Wealth and Inequality in America," *Poverty and Race*, Poverty and Race Research Action Council, November/December 1995.

<sup>&</sup>lt;sup>53</sup> Tom Hertz, Economic Mobility of Black and White Families, p. 1, April 2003.

William Julius Wilson's recent book, cited earlier, provides some understanding of the broad forces and policies that have created the growing number of communities where poverty is concentrated — sometimes the result of the unintended consequences of public policy decisions.

First, Wilson draws on research that documents the adverse effects of growing up in neighborhoods where poverty is concentrated. One study he cites, conducted by Robert Sampson, Patrick Sharkey, and Steven Raudenbush, examined a representative sample of 750 African American children, ages 6 to 12, growing up in an area of concentrated poverty in Chicago in 1995. Researchers followed the children for seven years, testing them three times in reading and vocabulary. The research found that residing in neighborhoods of concentrated poverty "impedes the development of academic and verbal development in children," and that the strongest effects appear several years after they leave. The experiences and mechanisms that result in damages to the children are traced by these researchers' examination of life in these neighborhoods.

According to Wilson, hundreds of studies on the effects of being raised in neighborhoods of concentrated poverty and deprivation have been conducted since the 1980s and that "they suggest that concentrated poverty increases the likelihood of social isolation (from mainstream institutions), joblessness, dropping out of school, lower educational achievement, involvement in crime, unsuccessful behavioral development and delinquency among adolescents, non-marital childbirth, and unsuccessful family management. In general, the research reveals that concentrated poverty adversely affects one's chances in life, beginning in early childhood and adolescence." 54

However, some scholars disagree over how much long-lasting or permanent damage is done to individuals even if they escape these bad neighborhoods. This issue lead to a major study — the "Moving to Opportunity" (MTO) demonstration program that lasted from 1994 to 1997. The program

used a complex system of random assignment in awarding housing vouchers for people to move, and followed them up to see whether the effects lasted after they escaped the high-poverty areas. As is common with most complex studies, scholars disagreed on what was and was not proven, and these disagreements have not been resolved. While recognizing areas of agreement and disagreement, Wilson makes his case that the MTO project did not disprove the lingering adverse effects. However, the jury of scholars is still out on some important questions.

In any event, continuing to live in such areas, and lack of mobility out for successive generations, has known ill effects for those who remain there. Wilson gives considerable attention to the forces at work that spawned such neighborhoods. Below are some factors culled from his book:

- In the 1960s, new building and maintenance were impeded in central cities because of a practice termed "redlining," in which the Federal Housing Authority excluded certain neighborhoods from mortgage capital based on racial composition, denying mortgages to individuals regardless of financial qualification.
- At the same time, policies facilitated the movement of the White middle class out of the central cities while Black people were, in one way or another, denied housing in the new suburbs.
- When the Black middle class got access to the suburbs, they moved out of the inner cities, making those neighborhoods more homogeneously low income and giving rise to concentrated poverty.
- These developments helped give rise to the "blight" that led to urban renewal and the leveling of neighborhoods combined with the addition of public housing that increasingly concentrated the poverty by making the new housing available only to low-income people.
- Following waves of migration of Black people from the South to the northern cities, spurred by the location of economic activity there, businesses

<sup>&</sup>lt;sup>54</sup> Wilson, p. 46.

and manufacturing began to leave the city for the suburbs, and middle-class workers began to relocate from the cities to the suburbs. Mass transportation systems were designed to bring commuters into the city, not to take city residents — now lower skilled and less educated — to the suburbs to the relocated economic opportunity. Jobs that paid a wage that could support a family were increasingly scarce.

- Even the building of the interstate highways acted to split communities and build barriers between sections of cities. An example of routing the highway through impoverished communities was Chicago, with the 14-lane Dan Ryan Expressway, and Birmingham, Alabama, where highways followed a path based on the boundaries set in zoning laws, increasing isolation from community and opportunity.
- Segregation and concentrated poverty were reinforced when suburbs were allowed to segregate their financial resources and budgets from the cities — the result of explicit racial policies in the suburbs.

The evidence supports the assertion that growing up in an area of concentrated poverty is a danger to the normal development of children. There is no village to raise the children because there is no "community" and there are few positive role models for children. Few adult males in these communities have regular jobs and relatively few children live with a father, often living only with a struggling teenage mother who lacks a high school diploma and who likely was raised in similar circumstances, or with a grandmother. All of this culminates in a barren environment with generation after generation growing up in circumstances that impede closing the achievement gap.

While the number of individuals living in such places has been reduced, particularly in booming economic times, ground has been lost in periods of recession, such as those in 2001 and 2008. The degree of generational exposure to such toxic environments must be viewed as having a potential educational impact and playing a role in the changing size of the achievement gap. These are strong candidates for playing a role in the shock that Derek Neal was looking for to explain the disruption of the progress in narrowing the achievement gap.

Such work as Wilson's book fills a void, by taking historical knowledge, sociological insight, knowledge of economic transitions, and broad examination of public policies and their impacts — both intended and unintended — into consideration.

The term "concentrated poverty" is a shorthand description for the cluster of neighborhood conditions in which children grow up. It is not merely income deprivation in the family. A comprehensive "index" that allows us to identify the health of our neighborhoods does not exist in our statistical arsenal. In the section that follows, however, we will consider a more inclusive set of indices of neighborhoods that become toxic as places to rear children. Also, we can deconstruct "poverty" into the conditions and life experiences that are directly related to cognitive development and school achievement, as described earlier. For Black people and low-income families, on average, these conditions are much more prevalent.

The preceding section begins to zero in on the "shock" that Derek Neal speculates happened in the Black community and the role that the neighborhood plays in youth development. A recent analysis by Patrick Sharkey pins down with hard data the damage inflicted at the neighborhood level. The analysis shows the contrasts between the proportions of Black and White children growing up in "toxic" neighborhoods, the failure over three decades to get any significant improvement in the proportion of Black children living in such neighborhoods, insight into how this has affected intergenerational mobility, and evidence of the positive impacts that reductions in these proportions could help make.<sup>55</sup>

Sharkey has drawn on the Panel Study of Income Dynamics (PSID), a database that provides information down to the U.S. census tract level that allows comparisons between Black people and White people born in 1955 – 1970 and those born in 1985 – 2000. Census tracts are chosen based on neighborhood boundaries. The first analysis is based on the prevalence of poverty in the neighborhoods, and the second expands that to a broader set of measures that identify what the author calls "Neighborhood Disadvantage." Such neighborhoods could be described as being deprived of social and economic capital.

A major conclusion of Sharkey's analysis is that "Only a very small percentage of White children live in high-poverty neighborhoods throughout childhood, while a majority of Black children do, a pattern that has not changed in 30 years." Sixty-two percent of Black children born in 1955 – 1970 were raised in neighborhoods with at least a 20 percent poverty rate, compared with just 6 percent of White children. For children born in 1985 – 2000, the comparable percentages were 62 and 4. The data in Sharkey's report match other measures of well-being and educational achievement discussed previously in this report.

To make progress in closing gaps in income and achievement, upward mobility is needed from one generation to the next. However, Sharkey's study finds that, "Four out of five Black children who started in the top three quintiles [of income] experienced downward mobility, compared with just two in five White children. Three in five White children who started in the bottom two quintiles [of income] experienced upward mobility, versus just one in four Black children."

Further, Sharkey finds, "If Black and White children had grown up in neighborhoods with similar poverty rates (i.e., if Whites had grown up where Blacks did or Blacks had grown up where Whites did), the gap in downward mobility would be smaller by one-fourth to one-third." Sharkey pins it down further: Neighborhood poverty alone accounts for more of the mobility gap than do the effects of parental education, occupation, labor force participation, and a range of other family characteristics combined.

Sharkey's analysis also found that Black children who lived in neighborhoods experiencing a decline in poverty of 10 percentage points in the 1980s made annual incomes as adults almost \$7,000 more than those growing up where the poverty rate was stable.

Although the poverty rate in a neighborhood is a relatively good proxy for a set of factors that limit children's futures, it is an incomplete measure. The census data allowed Sharkey to look beyond income. He created a composite measure that includes — in addition to poverty — unemployment rates, welfare rates, families headed by a single mother, levels of racial segregation, and the age distribution in the neighborhood. Sharkey's analysis using the composite measure reveals two things. One is that the poverty measure alone does pick up many other neighborhood factors. The other is that this composite measure indicates even larger differences in the outcomes.

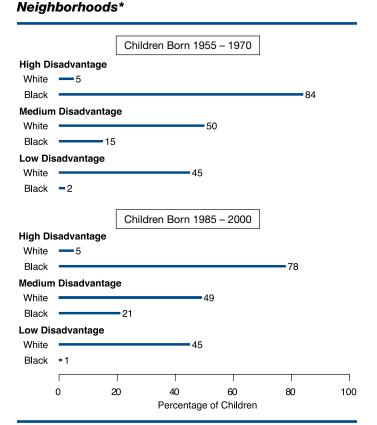
<sup>&</sup>lt;sup>55</sup> Patrick Sharkey, *Neighborhoods and the Black-White Mobility Gap*, Pew Memorial Trusts, July 2009.

These differences are shown in Figure 14. Starkey calls the composite a measure of "neighborhood disadvantage."

In Figure 14, we see that although only 5 percent of White children born in 1955 – 1970 came from "high" disadvantage neighborhoods, 84 percent of Black children did so. There was very little change for children born in 1985 – 2000, but there was a shift of a few points for Black children from "high" to "medium" disadvantage neighborhoods.

If there was a shock to the Black community decades ago that stopped progress in closing achievement gaps, these data point to a smoking gun as much as any data found. Children in these neighborhoods, on average, are impaired in their development, lack family capital, and face hostile neighborhood environments. They are also likely to attend lower-quality schools staffed by lowerquality teachers. In school, they face greater violence, disruption, and fear. Children growing up in these places are hit with a triple whammy in the home, neighborhood, and school. Shortages of social capital in neighborhoods make efforts to improve the performance of schools difficult, as was found in the research in Chicago described above, even when there are serious efforts to improve schools and raise student achievement.

Figure 14
Percentage of White and Black Children Who
Grew Up in High, Medium, and Low Disadvantage



Source: Patrick Sharkey, Neighborhoods and the Black-White Mobility Gap, Pew Charitable Trusts, 2009 (derived from Figure 2).

<sup>\*</sup>Neighborhood disadvantage measure incorporates not only poverty, but unemployment, welfare receipt, families headed by a single mother, racial segregation, and age distribution.

This report discusses trends in the gap between Black and White educational attainment, school achievement, and contextual factors from the beginning of the 20th century to the present time. Based on data beginning in the early 1970s when nationally representative test scores for student subgroups became available, the trend line reveals a positive picture of a narrowing gap until the late 1980s. Since then, there have been small changes in the gap, up and down, along with periods of stability.

# **The Gap-Closing Period**

During those years when the gap was closing, research by David Grissmer and colleagues found that up to a third of the narrowing of the achievement gap could be explained by a set of factors that included parent education and income, characteristics of the parent(s), and race/ethnicity. During this period, the gap narrowed in family resources, such as parental income, education, and occupation. While research provided no solid findings beyond those, some additional factors appear to be important. There may have been some gap closing as a benefit of desegregation, but it would take some strong assumptions to reach this conclusion. There may have been some benefits from decreases in class size during this period, but we do not have separate trends by race. While there is some evidence to support these factors, it is largely suggestive, not conclusive.

### The Period When the Gap Narrowing Stopped

Next, the report reviews the period from 1990 to the present. Basically, the NAEP test score gap wobbled a bit up or down or experienced periods of no change. We have no basis for saying anything of importance about what explained the small changes or the lack of change. A lot was written about this period, however, with some useful information and speculations referenced in this report. However, reasons for gap changes or lack of them were not pinned down with solid evidence.

### The Longer View

As context for helping to understand and interpret the changes in the test score gap that were observed over the past four decades or so, we have the benefit

of a substantial amount of data. These data reveal trends in education and demography that can provide important context for understanding changes in the gap. For example, Derek Neal used census data to document very little gain in terms of the gap in educational attainment between the Reconstruction period through the first decade of the 20th century, but found gains in attainment for birth cohorts after that. Using broader data sets. Neal established that there was a decline in the attainment gap in each decade from 1940 through 1990, both in terms of high school and college graduation. Then the gap closing came to a halt for those born after 1965. "It is ironic," says Neal, "that the cohort of Black youth born immediately after the passage of the Civil Rights Act of 1964 did not add to the previous period of progress toward racial equality and educational attainment." Was there a shock, he asks, to many Black communities that would have affected the progress? The report addresses this question using a variety of data and from different disciplines.

### **Areas to Explore**

From longitudinal studies such as ECLS-K, data are available to increase our understanding of cognitive development and school achievement — data that go beyond measures of socioeconomic status. The list of ECLS-K data is long, and includes such factors as birth weight, health, participation in Head Start, and — very importantly — data on five *noncognitive* characteristics that relate to a child's approach to learning. These new measures add considerably to the explanatory power of the research models used, and have become particularly important in new understandings of the importance of noncognitive skills as predictors of later success, as well as their relationship to cognitive skills. In areas of concentrated poverty, the opportunity to acquire these skills is hugely reduced.

Although there is important knowledge to be gained from these longitudinal data on the children, the focus of concern and investigation should extend to the health of the family — our "smallest school" — as a teaching institution. In addition, we must look beyond the family to the neighborhoods. As William Julius Wilson puts it, the individual framework does not

capture "the impact of relational, organizational, and collective processes that embody the social structure of inequality."

Areas of concentrated poverty where generations of Black children are growing up are bereft of many of the attributes and resources that are necessary to promote youth development. The family is not an island where all the opportunity resides; opportunity also depends on the social and economic capital found in the neighborhood. Are there libraries accessible to the children? Are there venues for positive interactions among children and parents, such as playgrounds that are safe to visit? Is quality child care available, with qualified teachers and staff? Is the quality of the schools (and the teachers in those schools) in these neighborhoods impacted by the low tax base that typically characterizes urban school districts? The list is long and the comparisons stark.

Adding to the problem of a family or a child growing up in such a disadvantaged neighborhood is the fact that *successive generations* are growing up in those neighborhoods. The results become cumulative and corrosive as one generation that is disadvantaged is raising the next generation, and that generation raising the next.

The monumental study by Hart and Risley showed that how parents talk to their babies — the number of words the parents utter to the children through the first three years of life — is directly related to their vocabulary development and other important educational outcomes. <sup>56</sup> However, a very high proportion of children in families in areas of concentrated poverty have only a mother to talk to them — and many of those mothers have the vocabulary of a high school dropout. The babies are apt to acquire no more education than the mother has, because the mobility out of such areas is limited.

As these disadvantaged children start school, they will enter a widespread culture and peer group that have arisen out of oppression, and these children are likely to perceive a lack of opportunity in their community and society. The data, though not definitive, increasingly infer that these children will

be skeptical about the value of schooling as a route to success in life. There is sufficient concern about this issue that the National Research Council has called for more intensive research.

# The Decline of the Nuclear Family

The nuclear family is disappearing in the Black community, and most particularly in areas of concentrated poverty. The proportion of children in one-parent families zoomed upward from the mid-1960s, rising to a peak of 67 percent by 1995 and then leveling off to around 65 percent. While there was a smaller increase among White children, the gap between the two rates grew steadily, reaching a 43 percentage point difference, and then dipping a bit and leveling off. Data on out-of-wedlock births tell us that the rate for Black women under age 30 was 77 percent in 2003 – 2004, compared with 34 percent for White women and 16 percent for Asian American women. The fact that the highest rates are for women with the least amount of education is particularly disturbing.

Although this understandably sensitive (and often avoided) subject has received considerable attention in this report, the plain fact is that in statistical terms, the fatherless family is increasingly the norm in Black communities — particularly in neighborhoods of concentrated deprivation of economic and social capital. This has tremendous implications. Family resources available to support and nurture children are lower, both because there is typically only the mother's income available — especially for children born outside of marriage — and because the research is clear that having two parents is very important for children's achievement. This extensive research is summarized in a recent ETS Policy Information Center report.<sup>57</sup> It is very hard to imagine progress resuming in reducing the education attainment and achievement gap without turning these family trends around — i.e., increasing marriage rates, and getting fathers back into the business of nurturing children, matters that President Obama addressed in his 2008 Father's Day speech. The idea of a substitute for the institution for raising children is almost unthinkable, although stronger support for the family is not.

<sup>&</sup>lt;sup>56</sup> Betty Hart and Todd R. Risley, *Meaningful Differences in the Everyday Experience of Young Children*, Baltimore: Paul H. Brookes Publishing Co., 1995.

<sup>57</sup> Barton and Coley, 2007.

### The Forces at Work

The report summarizes the results of years of research that has focused on the consequences of children growing up in areas of concentrated poverty. While policymakers focus on improving the schools, neighborhoods also have to be changed — particularly since there is so little mobility out of them. Why are so many Black children raised in neighborhoods that are low in social and economic capital? How did these areas become so isolated from the mainstream of the community and remain that way for so long? William Julius Wilson provides a historical summary of how it happened, identifying some consequences of both well-intentioned policies and poorly-intended policies, such as redlining for loans in Black neighborhoods. Jobs, particularly in manufacturing, left the neighborhoods. Policies facilitated the movement of the White middle class out of central cities while Black people had no access to such housing. Then, when the Black middle class gained those opportunities, they also moved to the suburbs, leaving behind the poorer families.

This all led to "blight" in the inner cities, and efforts at urban renewal and public housing made available only to low-income families concentrated the poverty in ever smaller areas. While jobs fled the central cities, the mass transportation systems were designed to bring the suburbanites into the city office buildings, not to transport workers to jobs in the suburbs. Interstate highway systems were either inadvertently or purposefully designed to split communities and sections of cities. Concentration of deprivation was reinforced when suburbs were allowed to segregate their financial resources and budgets from the cities the result of explicit racial policies in the suburbs, says William Julius Wilson. All of these things were going strong in the lives of Black people born after 1965, the beginning of birth cohorts when progress in closing the achievement gap stopped.

### The Mobility Factor

An important dimension in understanding the impact of living in areas of concentrated deprivation is to see whether the generation born there is getting out, or whether generation after generation is stuck in the same neighborhood or the same kind of neighborhood. The question is whether the effects of deprivation and isolation are being passed down to subsequent generations.

The data show that many Black people have been stuck in neighborhoods deprived of social and economic capital for several generations. Although only 5 percent of White children born between 1955 and 1970 grew up in high-disadvantage neighborhoods, 84 percent of Black children did so. There was very little change for children born between 1985 and 2000. Also, four out of five Black children who started in the top three income quintiles experienced downward mobility, compared with two out of five White children. As for *upward* mobility. three out of five White children who started in the bottom two quintiles experienced upward mobility, versus just one out of four Black children.<sup>58</sup> In such circumstances, any generational improvement becomes a huge challenge.

# **Restarting Progress**

We take the investigation a step beyond the individual, the family, and the neighborhood to the larger perspective we call "ancestral heritage," to see what children gain from family and economic capital over many generations. The history is that after slavery — even with freedom and eventual laws that gave equal rights — the Black population in the United States had to start growing the family tree from seed. The data we have reviewed show the effects of this in limited intergenerational mobility and low family net worth compared with the White population — much lower than the disparity that shows up when current income data are examined.

Our objective has been to add to the understanding of changes in the achievement gap. We have explored the available research and data, and described some solid knowledge, some promising possibilities, some clues, and some remaining mysteries — which are considerable.

<sup>58</sup> Sharkey, 2009.

Approaches aimed at restarting progress will have to address the situation on several levels. Much has been learned about the importance of directing help to children at earlier and earlier ages through efforts such as early Head Start and preschool. There are promising approaches that extend to the family, the community and the neighborhood, such as the Harlem Children's Zone.

More difficult, however, is identifying approaches to uplift whole neighborhoods in terms of their economic and social capital, their school quality, and their recreational and health infrastructures. It may be that we don't know how to do this, or we don't have the public resources now to do so, or we lack the political will. The Great Society had its "Model Cities" efforts, or at least, it had the rhetoric. A counterpart would be "Model Neighborhoods," perhaps through combined public, private, and nonprofit efforts. The scale of efforts that would be necessary to make a difference is formidable and the related knowledge base limited.

It is similarly difficult to envision direct policy levers that might increase the marriage rate and get fathers more involved in home and family. While this is a sensitive matter, it is a matter that cannot be ignored. Leadership will have to come from both inside and outside of government, buttressed with the kind of employment opportunities that have not existed.

There is no doubt that the design and scale of such an effort to change whole neighborhoods would be a daunting enterprise. The nation is, however, embarking on large-scale efforts to turn around the "worst" schools in the nation, and we have learned from the two-decade effort in Chicago to do this that building social capital in the neighborhood is critical to the success of school improvement efforts. Economic and social capital, "parent-pupil" ratios, jobs, and the effects of fear and crime get interwoven into living conditions that fail to meet any conventional definition of a "neighborhood."

We know that these "neighborhoods" of concentrated misery do not exist in a vacuum, although they are somewhat immune to changes in national policy. External events do affect what happens in our cities, and we see an ebb and flow that relates to the business cycles, like the recent national recession. In the current economic climate,

school personnel and school support services in these neighborhoods are being stretched, and nonprofits working there are cutting back or folding as sources of revenue dry up. Employment opportunities, already in short supply, are being lost, and children who may be getting free lunches at school are not getting evening meals and are going to school hungry. Interconnections exist on all levels of the economy and at all levels of government — health policies, income support programs such as food stamps, public school resources, public safety in neighborhoods — as does the need for personal responsibility for children brought into the world.

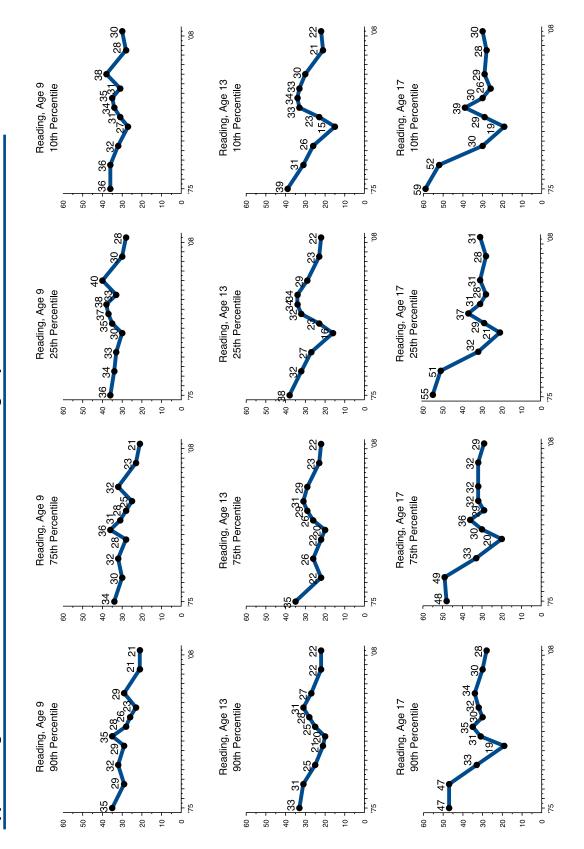
The challenges to jump-start progress in reducing the Black-White achievement gap are indeed formidable. Single or simple solutions are suspect. No one finds it acceptable to maintain the status quo. Derek Neal's projection based on observed trends — that reaching equality will take from 50 to 100 years — is a clear warning of a possible future. Such a future is unacceptable.

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It is often the case that readers of a report like this will ask the authors for recommendations. This report has established that the problem facing the nation and the Black community is formidable. The insight and creativity required to frame effective solutions also is formidable and will require the involvement of government at all levels, reaching from communities and towns to the federal government, the school systems, the nonprofit sector, the private sector, the foundations, and families. Such largescale thinking and action will have to involve a lot of people, a lot of thinking, and a lot of resources. This will not happen unless there is first widespread understanding of the nature and magnitude of the problem, and a considerable degree of consensus about it. Understanding will have to occur in the nation as a whole and in the Black community itself. Solutions will have to be crafted with the involvement of that community, for that community, often by the community ... and not without it. Reversing these trends will occur only when there is culmination of communication, discussion, debate, disagreements, and the development of political and national will. The trends will not be reversed by single or simple solutions.

We have, advertently and inadvertently, spun a wide and sticky web of conditions that are holding back progress in closing the achievement gap. Getting over just one strand of that web will not allow an escape from it. It will be necessary to move forward with all deliberate thought, care, and speed.

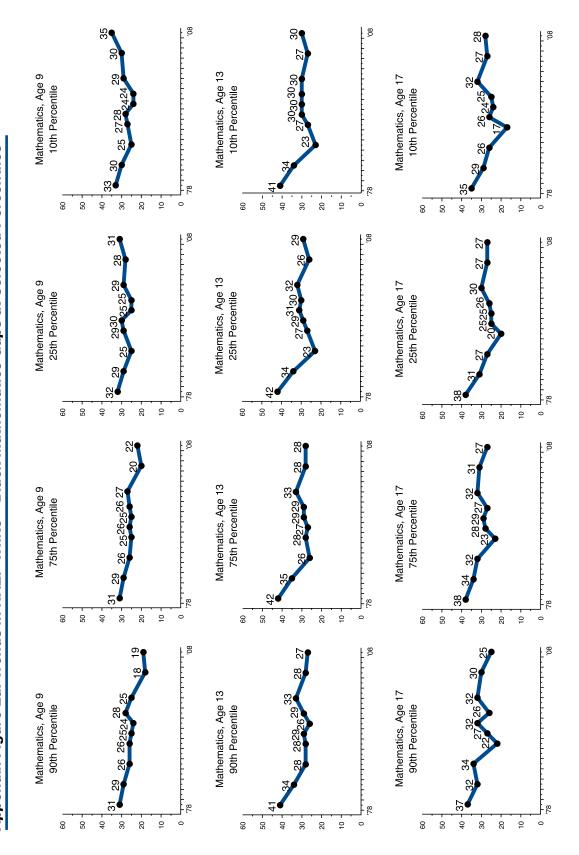
Appendix Figure 1a: Trends in NAEP White - Black Reading Gaps at Selected Percentiles



Data for 1975 through 2004 are based on original assessment framework; data for 2008 are based on revised assessment format.

Source: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 1975, 1980, 1984, 1988, 1990, 1994, 1996, 1999, 2004, and 2008 Long-Term Trend Reading Assessments.

# Appendix Figure 2a: Trends in NAEP White - Black Mathematics Gaps at Selected Percentiles



Data for 1978 through 2004 are based on original assessment framework; data for 2008 are based on revised assessment format.

Source: U.S. Department of Education, institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 1978, 1982, 1986, 1990, 1992, 1994, 1998, 1999, 2004, and 2008 Long-Term Trend Mathematics Assessments.

# **About ETS**

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