

The Many Dimensions of Racial Inequality

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Summary

Black-white inequality is consistent across the many institutions of American society, reflecting racial differences in education, health, economic security, and civic and cultural life.

This report estimates black-white differences in a variety of domains, using several data sets that are informative about these differences. To compare disparate measures, we adopt some very approximate statistical assumptions that permit us to describe the experiences of the average African-American and the average non-Hispanic white in each domain as their percentile rankings in a national distribution.

We conclude:

* Academic achievement: The average black student is at the 27th percentile in a national distribution of academic achievement, while the average white student is at the 61st percentile. This estimate is based on an average of all reliable subject matter and grade level tests available for elementary and secondary school students.

* Pregnancy, Childbirth, Neonatology, and Infancy: The average black mother and newborn child are at the 37th percentile in a national distribution of characteristics at the beginning of life that promote successful outcomes, while the average white mother and newborn child are at the 54th percentile.

* Children's access to health care: The average black child is at the 43rd percentile in a national distribution of being able to receive, and actually receiving appropriate medical, dental, and optometric treatment, while the average white child is at the 56th percentile.

* Health of preschool children: The average black child is at the 41st percentile in a national distribution of children's health outcomes up to the age of 5, while the average white child is at the 52nd percentile.

* School readiness: The average black child is at the 40th percentile in a national distribution of entering schoolchildren's experiences and characteristics that indicate successful preparation for learning, while the average white child is at the 57th percentile.

* The non-school hours: The average black schoolchild is at the 46th percentile in a national distribution of children's out-of-classroom activities that are likely to predispose children for success, while the average white schoolchild is at the 54th percentile.

* Health of school-aged children: The average black schoolchild is at the 48th percentile in a national distribution of schoolchildren's health outcomes, while the average white schoolchild is at the 55th percentile.

* Educational attainment: The average black adult is at the 38th percentile in a national distribution of attainment, including years of school completed and degrees earned, while the average white adult is at the 51st percentile.

* Economic security. The typical black adult has employment, earnings and income that are at the 41st percentile in a national distribution of these measures, while the typical white adult is at the 54th percentile.

* Adult characteristics: The average black adult is at the 41st percentile in a national distribution of participation in productive and fulfilling non-economic activities, including civic participation and cultural life, while the average white adult is at the 55th percentile.

Table 1 summarizes these estimates.

Table 1. Percentile Rankings of Blacks and Whites in a National Distribution Across 10 Domains of Life			
	Blacks	Whites	Gap
Academic Achievement	27	61	33
Pregnancy Through Infancy	37	54	17
Children's Access to Healthcare	43	56	14
Health of Preschool Children	41	52	11
School Readiness	40	57	16
The Non-School Hours	46	54	8
Health of School-Aged Children	48	55	7
Educational Attainment	38	51	13
Economic Security	41	54	13
Adult Characteristics	41	55	14
Average Gap			15
Average Non-Academic Gap			13

Because we assigned no weights to the many indicators included in these averages, and because many of the data sets on which we report are not truly comparable, none of these percentile rankings for individual indicators or for groupings of indicators should be taken as precisely estimated. But the patterns they reflect reveal an underlying inequality that persists across many domains of American society.

We draw no specific inferences regarding causality in describing these various domains. It is possible that if policy were directed to reducing inequality in some key domains, for example, health or school readiness, that inequality in other domains would diminish as a consequence. However, we consider it probable that causality runs in many directions: Children with better academic achievement may earn more in less stressful jobs and be in better health as adults. Children with better health may have better school

attendance and thus have higher achievement. Parents who earn more may accumulate savings which can be used to send children to college and inspire them to do so. Because causal relationships between these various domains are often multi-directional, it is likely that black-white inequality can be substantially reduced only by sustained policy attention to many, if not all of these domains simultaneously.

1.

Introduction

The symposium for which this report is a foundation is devoted to describing the *consequences* of educational inadequacy. This report attempts to paint the background for these consequences, by describing the many inequalities between blacks and whites in academic achievement and educational attainment; early childhood and after-school experience; health, cultural, and family life; citizenship; and economic security. These inequalities are well known, and none of the specific indicators of inequality that we describe will be surprising to most readers. We suspect, however, that many will be struck, as we were when we researched this report, by the remarkable consistency in black-white inequality across these many indicators in such different areas of life.

There are other inequalities that also have serious consequences for American society. Inequalities between Hispanics and non-Hispanic whites, between native Americans and those of European ancestry, between families who have low income and those who have middle income or higher, all deserve attention. We begin this investigation with a focus on black-white inequality because American society's roots in slavery make this gap of overwhelming moral importance; because more complete data are available on black-white than on other inequalities; and because it would be impractical and confusing to attempt to seek clarity on multiple aspects of inequality in a single exposition.*

* The Teachers College Campaign for Educational Equity plans to develop better data than now exist on the inequality of characteristics of youth from Hispanic and socioeconomically disadvantaged families, and of the rest of the nation. We hope this effort will be successful, permitting a subsequent description of these other inequalities that is similar to the one presented here for blacks and whites. We also note that many

A more complex and informative picture would also emerge if we disaggregated data on racial inequality by gender. In several of the domains we describe, for example, differences between black and white males and black and white females may be as significant, from a policy perspective, as differences between blacks and whites. Analyses of the data we present here by race and gender is an important priority for future work.

There is an important caution to keep in mind. When we report on inequalities, we generally report the average outcomes or other characteristics of African-Americans, and the average outcomes or other characteristics of whites.* For any measure we report there are some African-Americans who have better outcomes or other characteristics than most whites. For each indicator, there is almost certainly more variation in outcomes among individuals of the same race than between the average individuals of different races. This, however, does not mean that, for example, because some black students outperform most white students, any black student can easily do so. The average percentile rankings for each race reflect real social, economic, political and educational forces that only exceptional individuals can overcome.

Data we describe in the following pages are descriptive and do not imply causality. We summarize data in ten broadly defined domains: academic achievement; pregnancy, childbirth, neonatal and infancy; access to health care; young children's actual health; early childhood preparation and school readiness; non-classroom hours in the school years; health of school-aged children; educational attainment; economic

important data on blacks and whites are also not presently collected, and the Campaign for Educational Equity hopes to contribute to remedying this shortcoming as well.

* However, in Section 10 (on economic security) we report some median, not average outcomes.

security; and adult non-economic lifetime characteristics. We describe a consistent pattern of inequality, across and within these domains. We do not, however, draw conclusions regarding whether inequality in any of these domains causes inequality in the others.

Some observers conclude that inequality in academic achievement is now the primary cause of inequality in all other domains. If this causality were established, inequality in academic achievement might justifiably be our primary focus of policy concern. We do not believe, however, that such causality has been established; there are many ways in which inequality in other indicators itself contributes to academic inequality – for example, to the extent that black children suffer more from asthma than white children, and to the extent that such suffering causes black children to be absent from and perform worse in school, health inequalities lead to inequalities in academic achievement. To the extent black parents suffer greater economic stress – more frequent unemployment, lower incomes, more crowded housing, and so on – their children may exhibit behavioral problems that interfere with learning. But it is also the case that if children had higher quality educations, they would be economically more secure as adults and better able to provide for their own children. If children had higher quality educations, they would also, as adults, be better able to keep their own children in good health, for example, by attempting to minimize exposure to allergens or by getting prompt treatment for symptoms of asthma.

Other observers conclude that inequalities in early childhood preparation are the most important cause of all other inequalities, and if disadvantaged children could be more adequately prepared for school entry, academic achievement gaps and all other

consequent inequalities would diminish. Yet, surely, inequalities in adult economic security themselves cause differences in the quality of child care which parents can provide for their children. Inequalities in neonatal and infant health, and in parental educational background, also cause differences in young children's ability to benefit from high quality early childhood care.

Because these causalities run in multiple directions, and because, in the absence of controlled experimentation, it would be impossible to establish the extent to which inequality in any indicator causes inequalities in others, we think it useful to make this presentation of consistent inequalities across all domains, without attempting to draw conclusions about their relative importances.

While we emphasize the consistency of inequalities across domains, the patterns are not identical. In Chapter 2 describing inequalities in academic achievement, black-white differences are greater than in other domains. In academic achievement, we estimate that blacks are at the 27th percentile of a national distribution, while whites are at the 61st, a gap of 33 percentile points. In no other domain do we estimate a gap greater than 17 percentile points. Indeed, averaging all the other domains, we estimate an overall gap of only 13 percentile points.

Partly, the greater gap in academic achievement may be an artifact of our method, if it is the case that academic achievement is more normally distributed than outcomes in other domains. If this were the case, our assumption of a normal distribution in other domains could understate the extent of black-white inequality in those domains.*

* For a discussion of this assumption, see the section on “Description of Method” that follows.

However, a plausible inference from the greater inequality in academic achievement might be that our schools themselves produce greater inequality than other social and economic institutions, and that therefore schools should be our primary object of reform.

Though plausible, we are cautious about drawing this inference, for it implicitly assumes that the causal relationships between domains are neither additive nor compounded. Consider this example. We estimate that, compared to the black-white academic achievement gap of 34 percentile points, the black-white gap in the health of school-aged children is only 7 percentile points. If black students' poorer health led them to be absent from school 10 percent more often than white students, it would not be reasonable to assume that these health differences explain only a 10 percent deficit in black students' achievement. Students who are absent from school may suffer not only from missing the learning that could have taken place were they present but, because knowledge is cumulative, they also may fall farther behind and be less able to benefit from teaching that takes place in the days after they return to school. Here, a 10 percent increase in health-related absenteeism is responsible for much more than a 10 percent decrease in learning opportunities. So while it may initially seem plausible that the greater inequality in academic achievement than in school-age health suggests a greater failure of educational than health institutions, no such suggestion can be confirmed by these data alone.

Further, if risk of academic underachievement is additive (or even compounded), then we should not be surprised if it turns out that gaps in academic performance may be greater than any gap, considered separately, in the social, economic, or other family

characteristics that contribute to academic success. Children whose health, on average, is 7 percentile points worse than that of other children, and whose school readiness, on average, is 17 percentile points inferior to those of other children, and whose out of school experiences that contribute to school success are, on average, 8 percentile points worse than those of other children, etc. could well have a cumulative deficit in academic achievement that exceeds the separate deficits in any of these contributing domains. The gap in academic achievement could be greater than the gap in any of the contributing institutional domains, even if disadvantaged children received academic educations in school that were equivalent to those of middle class children – and, of course, they do not receive educations of adequate or even equal quality.

It is also apparent that the relationships between other domains we consider are also non-linear. For example, as noted above, inequalities in economic security and inequalities in health and in parents' educational backgrounds have a compound impact on children's early childhood experiences which then, in turn affect academic achievement, educational attainment, and economic security in the next generation.

Therefore, we return to our conclusion that efforts to eliminate black-white inequality in American society should be mounted across all domains, including schools, but not in schools alone. There is no single policy focus likely, by itself, to make the nation equitable.

Description of Method

Many indicators of inequality are not truly comparable, and so to compare them in the chapters that follow, we present figures that illustrate each indicator as black and white percentile rankings in a national distribution. In other words, we describe the experience of a typical (mean, but where more appropriate – in the case of family income - median) African-American as being at a certain percentile rank of a national distribution, compared to the typical white experience which is at a different (and almost always higher) percentile rank of that national distribution.

In each case, the national distribution includes data on the experiences of all individuals (including Hispanics, Asians, Native Americans, and others), not only blacks and whites.

In each figure that follows where black and white rankings are compared, the left bar represents the average percentile ranking of blacks, and the right bar represents the average percentile ranking of whites. Where available, we have used data for non-Hispanic blacks and whites. However, for some indicators, only data that include Hispanics are available. In these cases, the notes indicate that Hispanics are included in the black and white totals.

To make the consistency of inequalities easier to understand, each figure is presented as the percentile rank of blacks and whites who have some positive characteristic, even where the data reported in the text describe a negative outcome. This allows the presentation of each indicator to show a higher percentile ranking when a more favorable condition or outcome exists. For example, we report in the text that 13 percent of black live births have low weight, placing children at risk, while 7 percent of white

births have low weight. Figure 3.5, however, displays percentile rankings of blacks and whites in a distribution of healthy birthweights (with blacks at the 38th percentile and whites at the 53rd percentile), based on 87 percent of black births having healthy weights and 93 percent of white births having healthy weights. The black-white gap in percentile rankings is unaffected by such a presentation: If we focused on low rather than on healthy birthweight, we would report that the average black was at the 53rd percentile and the average white at the 38th percentile, with the 15 percentile point gap unchanged.

In all cases, we present data for each indicator of inequality for the most recent year available. However, data on many indicators are collected irregularly, and so some may describe a now-outdated reality. Although we have tried to stay current, in some cases new data may have been recently released that supercede the data we report here.

Our effort to transform each indicator of inequality into relative percentile rankings requires an assumption that the national experience in each of the domains we measure is normally distributed, an assumption which may not be as faithful to reality as we would prefer. In other words, our method forces us to assume that if we were to plot all experiences in any domain, a bell-shaped curve for that domain would result, where the approximately 17 percent of individuals with the most positive experiences would be more than one standard deviation above the individual with average experiences, etc.

With this method, we describe relative outcomes, many of which are initially calculated in standard deviation units, as relative percentile ranks. By definition, in such a normal distribution, the mean rank in the population is the 50th percentile. When, as is almost always the case, the distribution of white outcomes exceeds that of blacks, the

white mean percentile is above 50 and the black mean below 50.* In the most commonly reported academic subject areas, for example, we describe average white student outcomes as being generally close to, and sometimes even slightly above the 60th percentile. Those of black students are at about the 30th percentile, reflecting roughly a 30 percentile gap in academic achievement. Another way of describing this is to say that in academic areas, about 4/5 of all white students have higher test scores than the typical black student.

For some indicators, this assumption of a normal distribution is more valid than for others. Norm-referenced academic achievement tests, like the National Assessment of Educational Progress (NAEP), produce a close-to-normal distribution of results, and so it is meaningful to say, for example, that if black students have average fourth grade reading scores that are about half of a standard deviation below the national average, while white students have average scores that are nearly a third of a standard deviation above the national average, then black fourth graders are at the 30th percentile of a

* There are some exceptions to this, where both whites and blacks are both above or below the 50th percentile, or where the black percentile rank is higher than the white. In a few cases, black experiences are better than whites. For example, fewer black teenagers than white teenagers take up smoking. In some cases (for example, in the case of "pro-social" scores), the data we use were initially calculated (by the sources from which we drew) with demographic controls, but we report the average black and white uncontrolled outcomes, both of which are above the 50th percentile of the controlled distribution. Finally, in principle, both blacks and whites could truly be below the 50th percentile if other groups (Asians, Hispanics, Native Americans) had superior outcomes. No cases of this sort appear in this paper, however.

In two cases (with respect to family wealth and family financial wealth), the national distribution is so skewed that our forced assumption that the distribution is normal would result in absurd conclusions that both blacks and whites were far below the 50th percentile. As we explain in Chapter 10, below, in these cases we simply report the ratio of median black wealth and financial wealth to median white wealth and financial wealth, without attempting to include these data in the average percentile rankings of economic security.

In the case of family income, where there is also a skewed distribution, we do report median black and white family incomes as percentile rankings, but note that the result (where white families are barely above the 50th percentile) understates the extent of inequality between typical black and white families. Nonetheless, we use such a measure because we judge that the advantages of being able to discuss test scores, other measures, and family income in a common language outweighs the disadvantage of some loss of accuracy.

national distribution in reading and white students are at the 62nd percentile. Even here, however, the matter is not straightforward. Testing experts vigorously dispute whether academic achievement truly is normally distributed, or whether tests (like the NAEP) assume, without evidence, that ability is unidimensional, and are constructed to include only questions that confirm this assumption and whose distribution of responses conform to a preconceived normal distribution.

In other cases, the data themselves cannot be distributed normally because they are dichotomous measures. For example, Figure 5.4, below, shows that black preschoolers are at the 42nd percentile in a national distribution of freedom from bacterial infections in children, while whites are at the 52nd percentile. But our data only tell us whether children do or do not have bacterial infections. What we assume here is that there is an underlying normally distributed risk of having a bacterial infection, where many children classified as having an infection are only incrementally at greater risk of this infection than many children who are not so classified, where a few healthy children are almost entirely free of risk, and a few children became ill after being at very high risk of contracting the disease.* This assumption may or may not be physiologically accurate,

* We use a statistical model called probit to infer the differences between the black and white underlying distributions that are implied by the differences in their observed dichotomous outcomes.

For data that are continuous, we generally use reported data on average black and white experiences, not data we ourselves have calculated, and we then assign the average black and average white experiences to a normal distribution to infer a percentile ranking (except in the case of family income where we assign median, not mean, black and white experiences to a distribution in which we assume that the median is the mean). It would be preferable, however, to average the percentile rankings of each individual black and each individual white experience to generate the racial rankings. It would be possible to ask the authors who report these data for the underlying data sets from which we can do this. We may attempt this for future revisions of this report. Although more accurate, we do not believe that independently averaging individuals' percentile rankings would affect the broad patterns we are describing.

In cases where we infer percentile rankings from dichotomous data, using a probit model, we are implicitly utilizing the black and white averages to infer a racial percentile ranking, not utilizing an average of individuals' percentile rankings for each race.

but there would be no way to know if it were true from data we presently have of children who either are or are not infected.*

In some cases, this assumption is obviously unreal. In Figure 8.5, below, for example, we consider teen pregnancy and report that 9 percent of black teenagers and 2 percent of white teenagers become pregnant or get someone pregnant. Applying our assumption that these outcomes reflect underlying normal distributions of “risk of pregnancy” - in this case, one might think of the risk as the degree of “risky behavior” - we infer that the average black teenager is at the 35th percentile in the national distribution of avoiding teen pregnancy, while the average white teenager is at the 61st percentile. We are aware of the reality that a teenager can’t be only a little bit pregnant. But this need not mean that all teens who become pregnant faced identical probabilities of becoming so, based on their sexual practices, nor that those who do not become pregnant have not risked becoming so. This way of thinking about teen pregnancy, not as the dichotomous outcome (being pregnant or not) reported in the literature, but rather as the culmination, on average, of a set of risks of pregnancy, has the advantage of enabling us to compare the percentile rankings of blacks and whites in teen pregnancy with their rankings in test scores, wealth, illness, and other measures.

When we summarize indicators in each of the ten broad domains, we arbitrarily weight each indicator equally. Reasonable arguments can be made that some indicators should have more weight than others - for example, eighth grade test scores incorporate

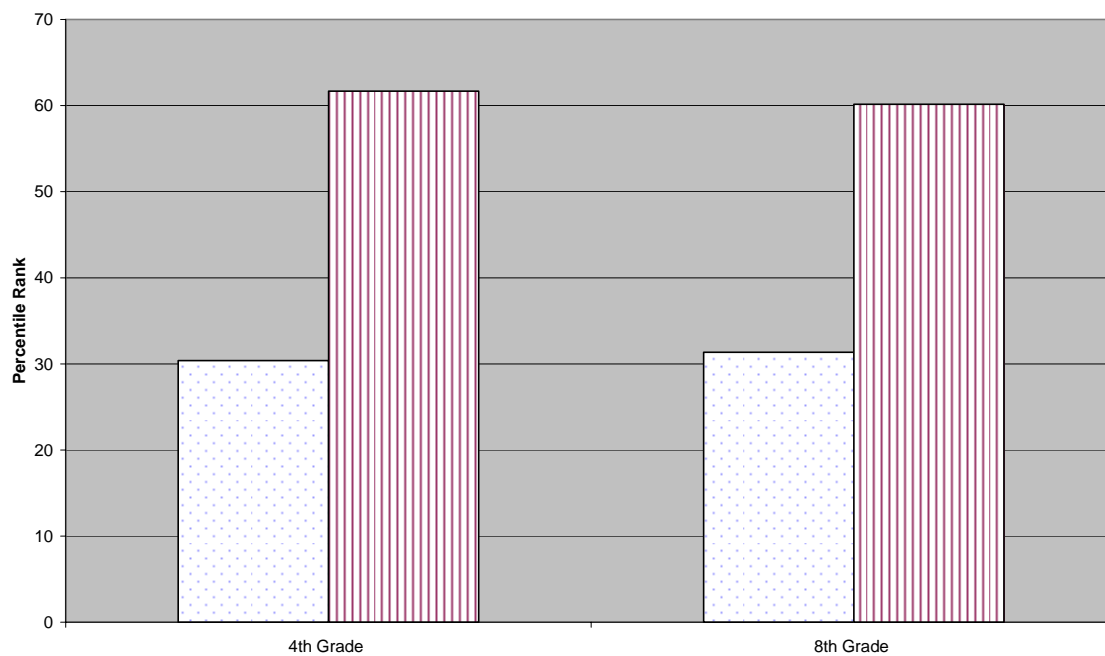
* In some cases, however, survey data may exist that describe distributions, but the data are not easily accessible. For example, we describe below differences in the percentages of black and white children who are born with low birthweight. These appear to be dichotomous data: babies are born either with healthy or with low birthweight. Presumably, however, there are underlying data with the actual birthweight of each infant surveyed, from which the dichotomous data have been calculated, and from which, in principle, average black and white birthweights, and the average and standard deviation of all birthweights, could be calculated.

not only eighth grade learning but fourth grade learning as well, because eighth grade scores are affected by how well prepared eighth graders were by their fourth grade teachers. Thus, it might be reasonable to weight eighth grade test scores more heavily in an academic achievement summary than fourth grade test scores. Or, for example, it may seem that in assessing differences in civic participation, whether a young adult votes should be weighted more heavily than whether he or she engages in volunteer activity. Yet because at this point we have no basis for a consistently appropriate weighting scheme, we utilize an equal-weight-within-domain approach that we acknowledge is arbitrary. However, because inequalities are so consistent within domains, this arbitrariness makes less difference than it might at first appear. If African-Americans are at the 40th percentile in the distribution of a minor characteristic and in the distribution of a characteristic that is ten times as important, the average percentile rank of African-Americans for these two characteristics will be identical whether the characteristics are weighted equally, or weighted 1:10.

2. Academic Achievement

We begin with conventional measures of academic achievement. For 4th grade reading, average black student scores are at the 30th percentile in a distribution of all students. White 4th graders, on average, are at the 62nd percentile. In the 8th grade, the reading gap is roughly the same, with black students at the 31st percentile and whites at the 60th.^{1*} These data are from the National Assessment of Educational Progress, or NAEP.

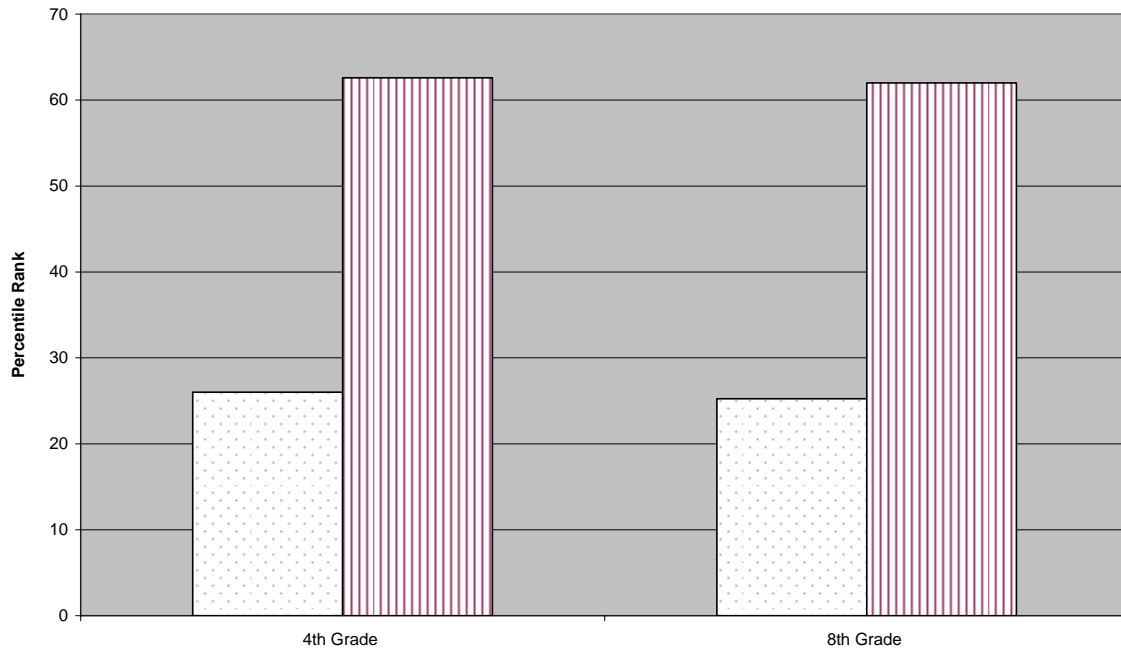
Figure 2.1 - Reading, Fourth and Eighth Grades



* Here and subsequently in this report, the endnote citations describe the source for the underlying data, in this case NAEP average scale scores by race, and NAEP standard deviations. The percentile rankings result from our own calculations, assuming a normal distribution.

In mathematics, black 4th graders are, on average, at the 26th percentile (compared to whites at the 63rd percentile), and at 8th grade again are roughly similar, at the 25th percentile (compared to whites at the 62nd percentile).

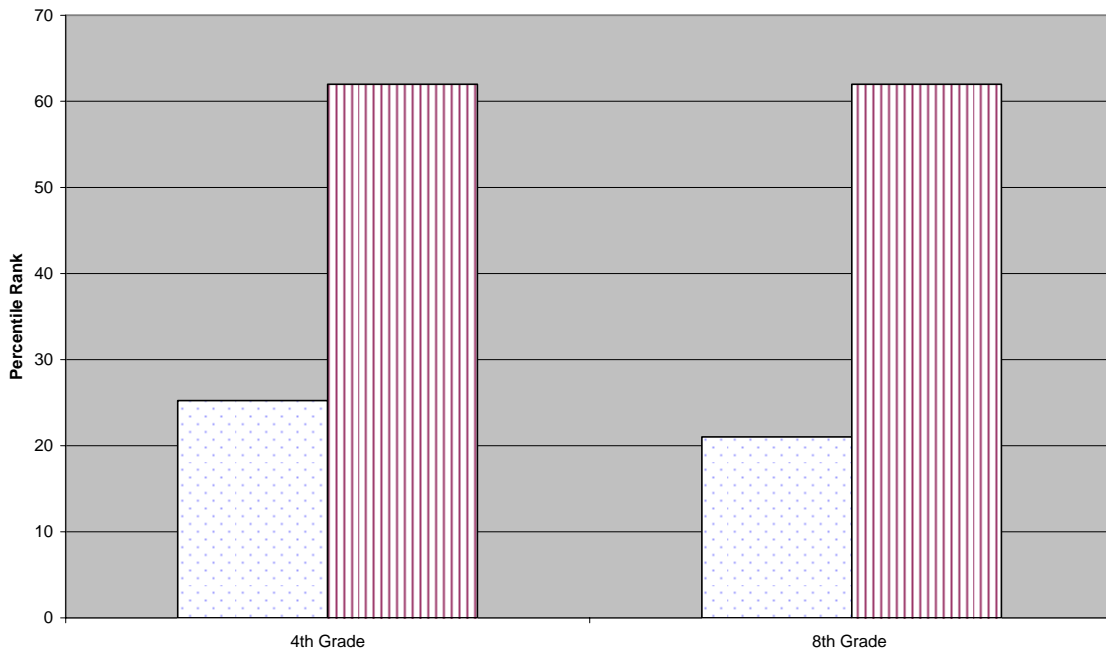
Figure 2.2 - Mathematics, Fourth and Eighth Grades



These 4th and 8th grade math results are from the NAEP administration of 2003. If we wanted more accurately to understand how much progress schools are making in narrowing inequalities in our society, we would instead look at results for the same cohort of students, i.e., we would compare the percentile rankings of students who were tested in the 4th grade in 1999, and then again in the 8th grade in 2003. Unfortunately, NAEP has not been administered regularly enough to permit systematic reporting of how inequality narrows or widens as a single cohort of students progresses through school. However, in the few cases where we do have same-cohort results, they are similar, though not identical to the inter-cohort results we report here.

In science, black 4th graders perform at the 25th percentile, and at 8th grade have fallen further, to the 21st percentile. In each case, whites are at the 62nd percentile. These data are from the most recent science assessment, in 2000, and an inter-cohort comparison with 4th graders tested in 1996 confirms this relative performance decline from 4th to 8th grades.

Figure 2.3 - Science, Fourth and Eighth Grades

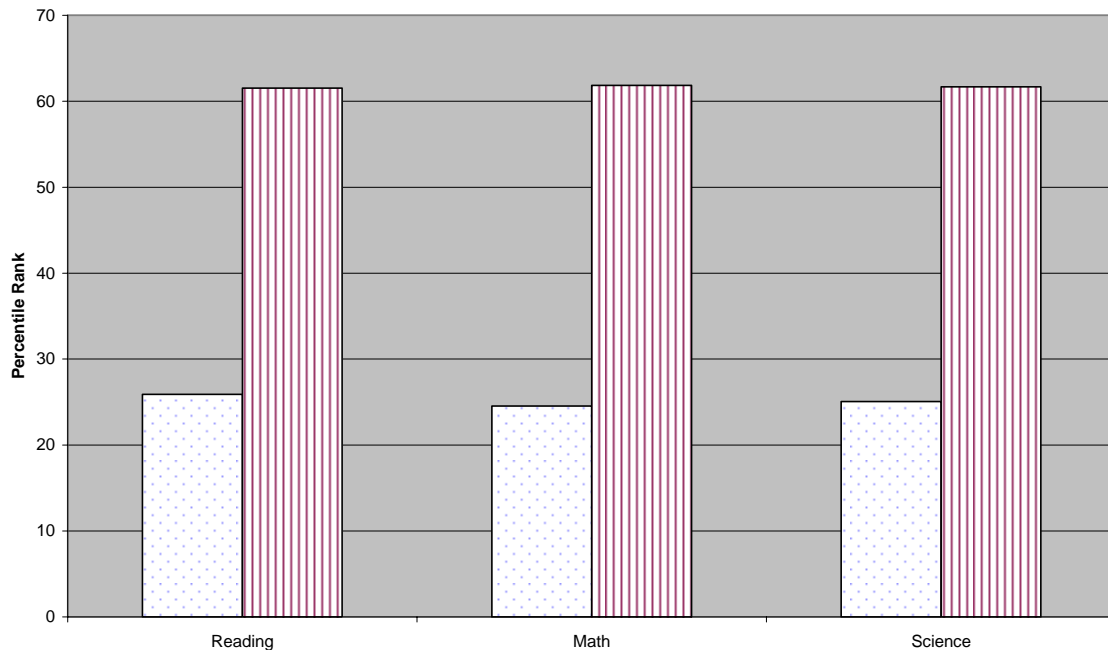


NAEP also reports 12th grade scores, but we do not discuss them here because they are less reliable; little is known about how the low stakes of a NAEP exam affect the motivation of 17 and 18 year olds to do well. In addition, NAEP has no way of adjusting for differences between blacks and whites in dropout rates after the 8th grade.

There is a similar motivational problem for other low-stakes tests of adolescents but as school attendance in the United States is mostly required until age 16, a test of 15 year olds is probably the best we can do to measure the black-white gap in high school,

before differences in dropout rates distort the results. An international test of 15 year olds shows that, in the United States, black high school sophomores are at the 26th percentile in reading, the 25th in math, and the 25th in science. Whites are at the 62nd percentile in each of these subject areas.²

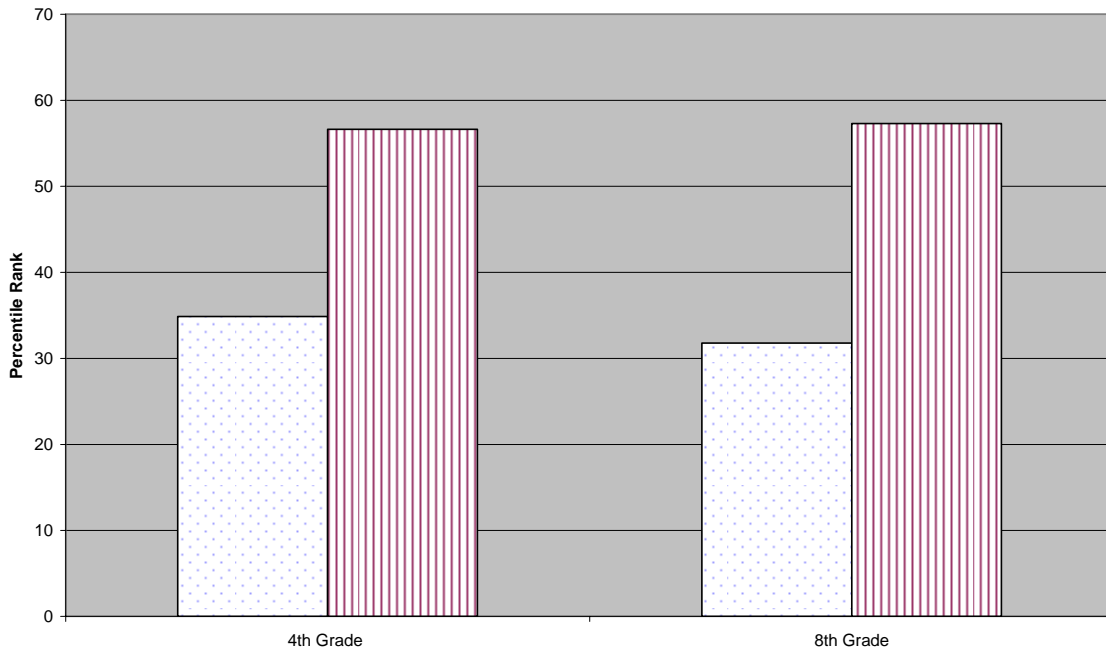
Figure 2.4 - Reading, Math, and Science for 15 Year-Olds



In writing, black 4th graders perform at the 35th percentile, and at 8th grade seem to have fallen to the 32nd percentile. Whites are at the 57th percentile in both grades. These data are from 2002, the most recent year in which the NAEP writing assessment was administered. This is a case, however, where a same-cohort comparison suggests that the racial gap narrows during elementary school; when these 2002 8th graders had been

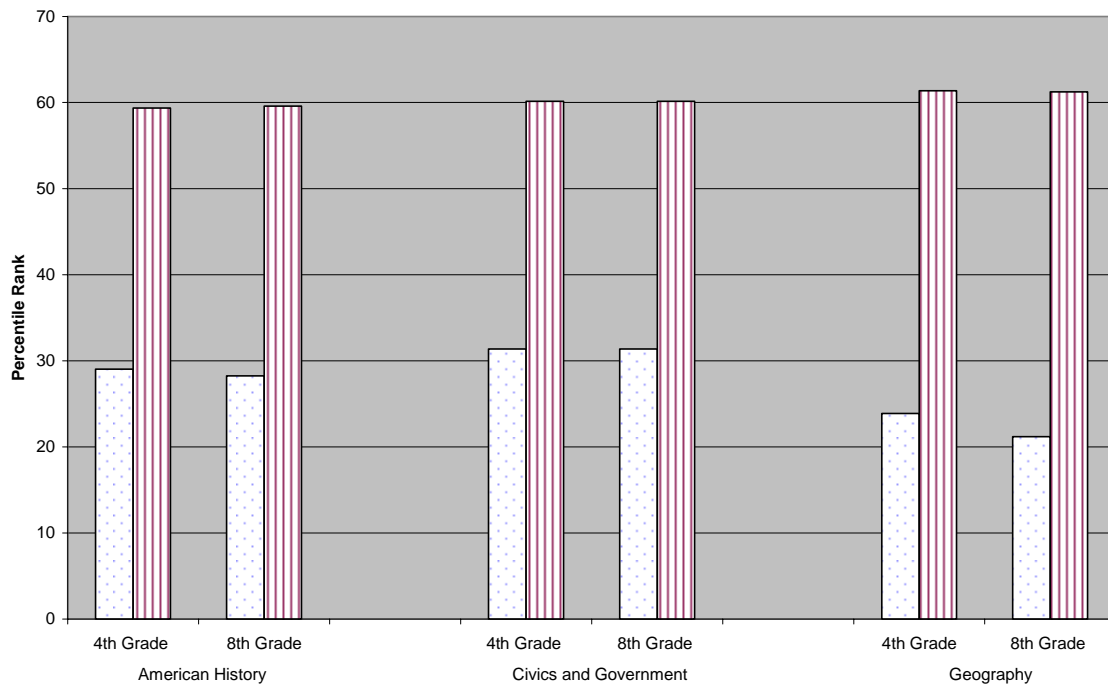
assessed in the 4th grade, in 1998, black students were only at the 30th percentile in writing performance, with whites at the 59th.

Figure 2.5 - Writing, Fourth and Eighth Grades



We now turn to the gap in social studies. In American history, black students perform at the 29th percentile in the 4th grade and at the 28th percentile in the 8th grade. In knowledge of civics and government, black students perform at the 31st percentile in both the 4th and 8th grades. And in geography, black 4th graders perform at the 24th percentile, and at 8th grade at the 21st percentile. In each of these subject areas and grades, whites are at, just below, or just above, the 60th percentile.

Figure 2.6 - Social Studies, Fourth and Eighth Grades



In the arts, NAEP has only tested 8th graders, and only once, nearly a decade ago. On a test in which students listen to music and then demonstrate their skill in identifying, analyzing, and describing important aspects of the work, black students performed at about the 28th percentile, on average, with whites at the 59th percentile. On a similar test

of the visual arts in which students were asked to identify, analyze and describe works of art, black students performed at about the 23rd percentile, with whites at the 60th.³

Figure 2.7 - The Arts, Eighth Grade

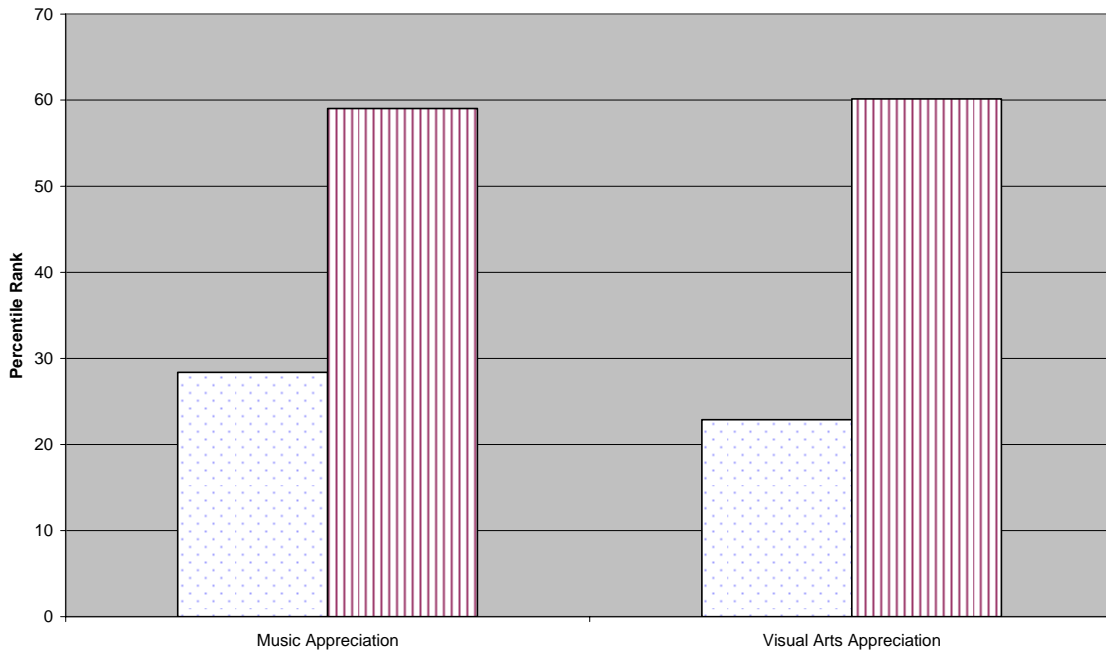
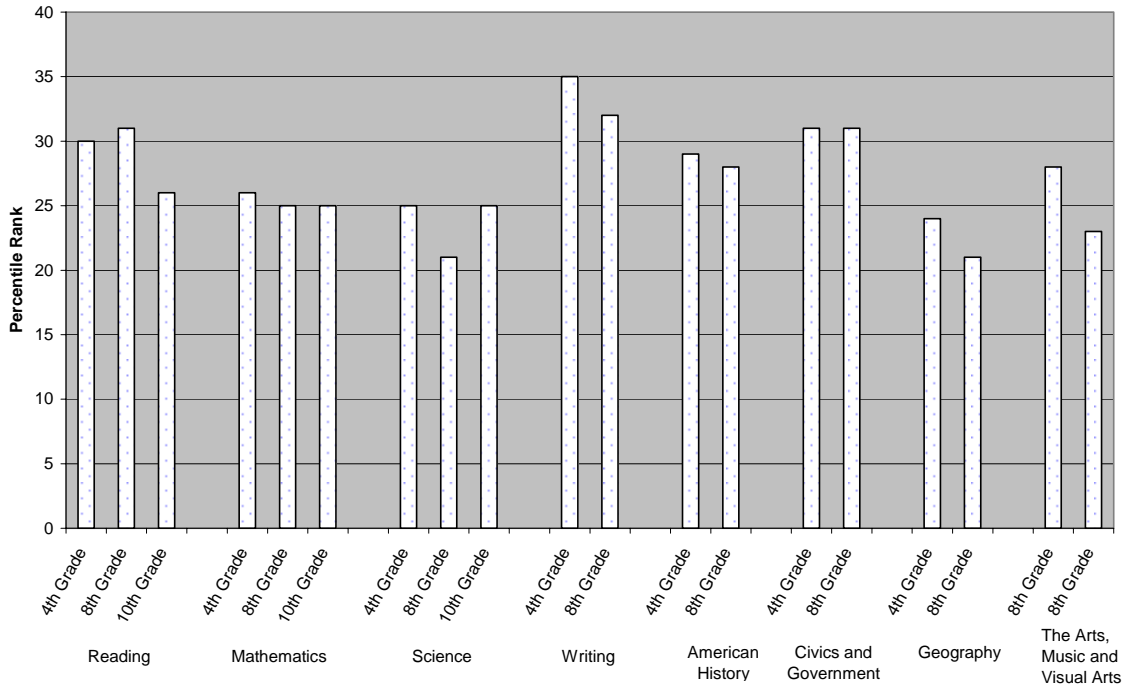


Figure 2.8 consolidates the black percentile rankings on the various academic achievement measures described.

Figure 2.8 - Review of Black Academic Achievement

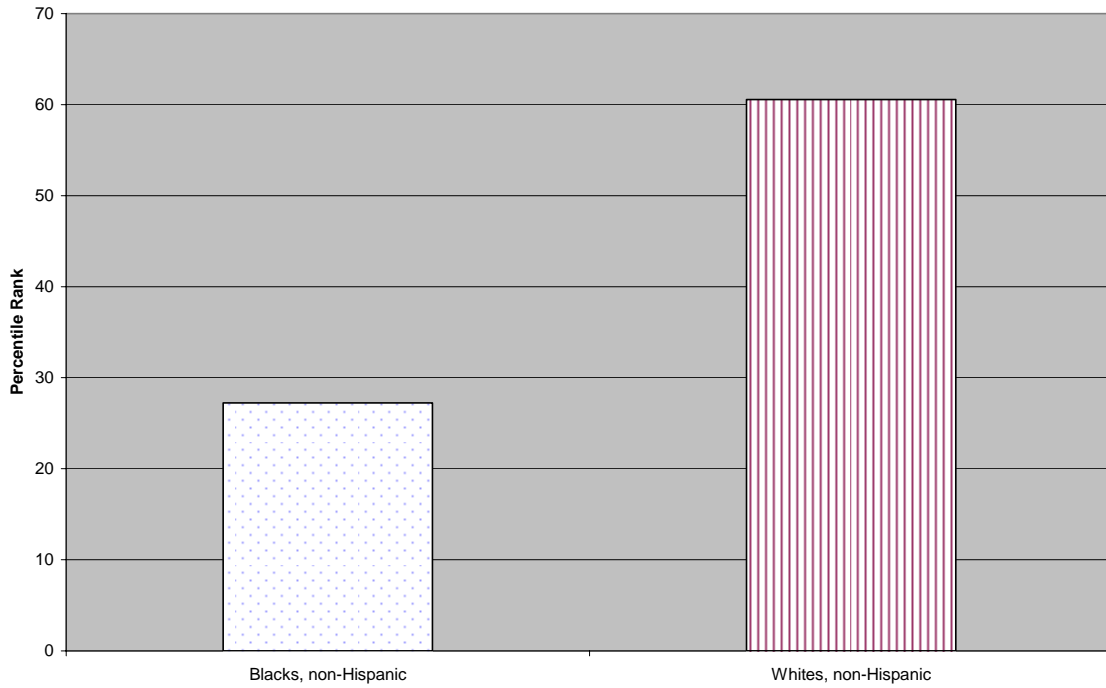


Summary: Is it possible to render a judgment about the overall gap in academic achievement between black and white students? To do so, we would need data on other subject areas and grade levels. And, as noted previously, we would also require a theory about the relative importance of these different measures.

Notwithstanding the danger of misleading you from a failure to evaluate relative importances, we here summarize the academic achievement gap simply by averaging the various indicators of academic achievement just described. This summary shows that

black students are at about the 27th percentile of achievement using such an unweighted average of indicators, while white students are at the 61st percentile.

Figure 2.9 - Summary: Black and White Academic Achievement



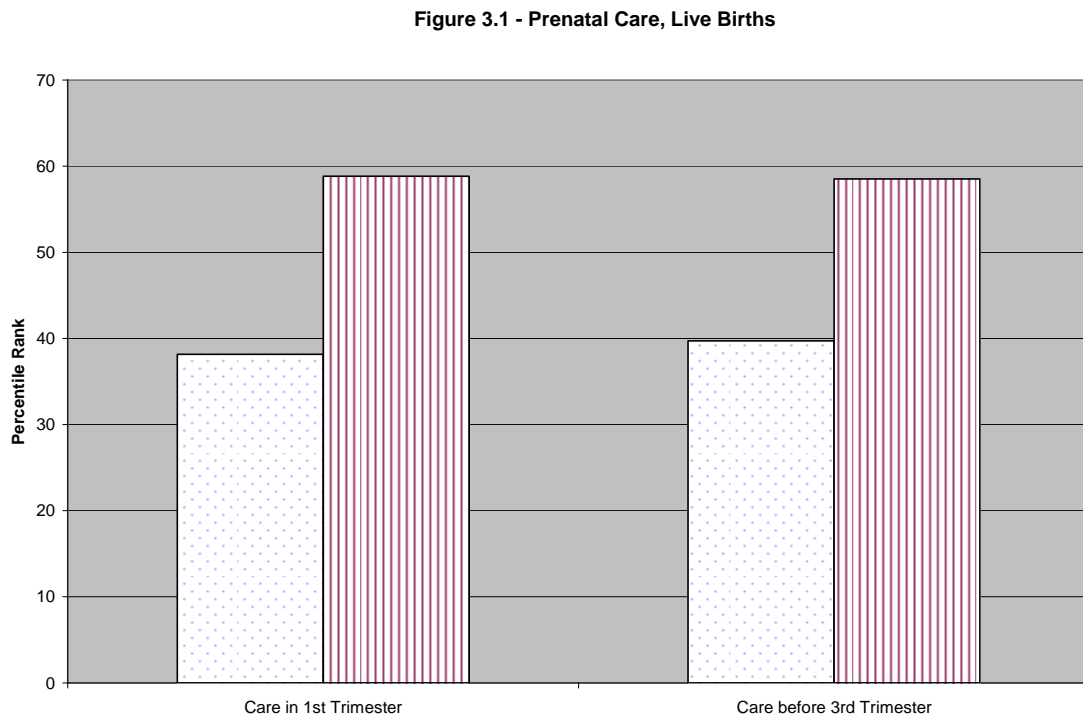
3. Pregnancy, Childbirth, Neonatality, and Infancy

Inequality is not restricted to academic achievement. American society suffers from persistent class and caste differences, including inequalities in health, economic security and employment, as well as in academics. In this broad system, academic inequalities may not be the most important. Many policy makers today contend that eliminating academic inequalities will go a long way towards the elimination of economic, employment and other social inequalities. This is undoubtedly true. But it may also be true that eliminating social and economic inequalities will go a long way towards the elimination of academic inequalities, at least for the next generation. It is not our purpose here to identify which of the racial inequalities in American society provides the most leverage, in either the short or the long run, for the elimination of others. Rather, we describe the system of inequalities that we must resolve to narrow, and imply, but not prove, that some progress on all of them is necessary for substantial progress to be achieved on any of them.

We propose to offer this description in life cycle sequence. We begin before a child's birth.

Inequality begins shortly after conception. One indicator of a child's healthy birth, making other lifetime outcomes more likely to be successful, is whether mothers get early medical attention during pregnancy. Twenty-five (25) percent of black mothers get no prenatal care during the first trimester, while 11 percent of white mothers get none. For black mothers, 6 percent get no prenatal care at all (or get it only during the last trimester, when it is almost too late) but only 2 percent of white mothers, one third the number of

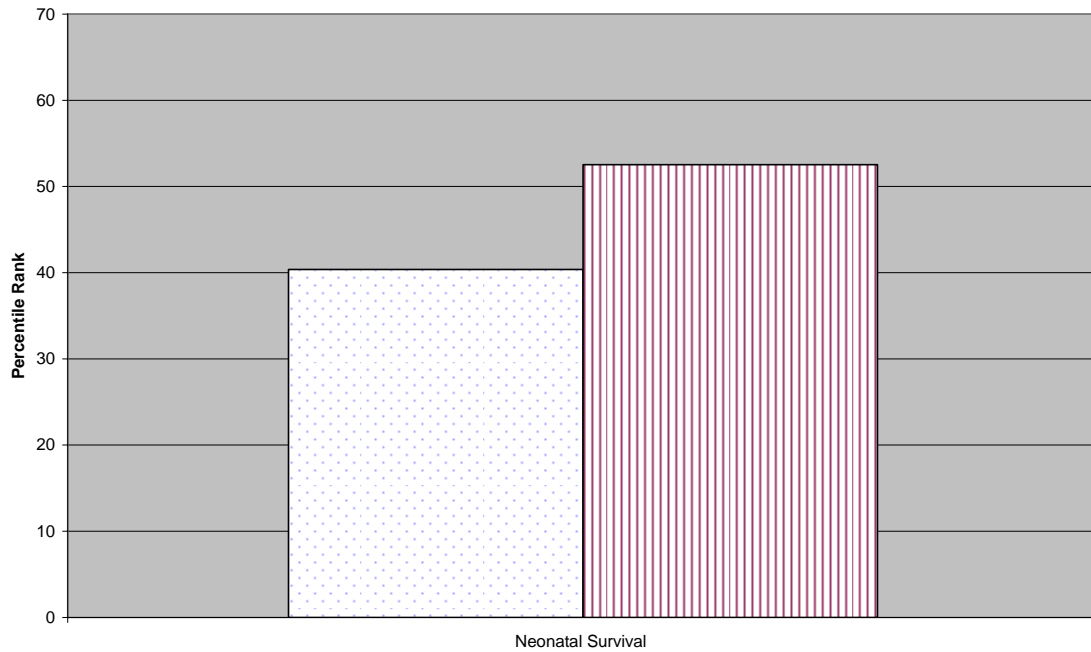
blacks, get no or too-late care.⁴ Figure 3.1 displays these data after conversion to relative percentile rankings of blacks and whites. (Throughout this report, subsequent figures display a similar transformation to relative percentile rankings.)



The data displayed in Figure 3.1, describing only care during pregnancies that end with live births, probably understate the disparity. We have no good data on unsuccessful pregnancies, but it is probable that black women also miscarry more frequently than

whites. Data on neonatal deaths strengthen this conclusion. For black newborns, there are 9 deaths within the first month for every 1,000 live births. For whites, there are only 4 such deaths.⁵

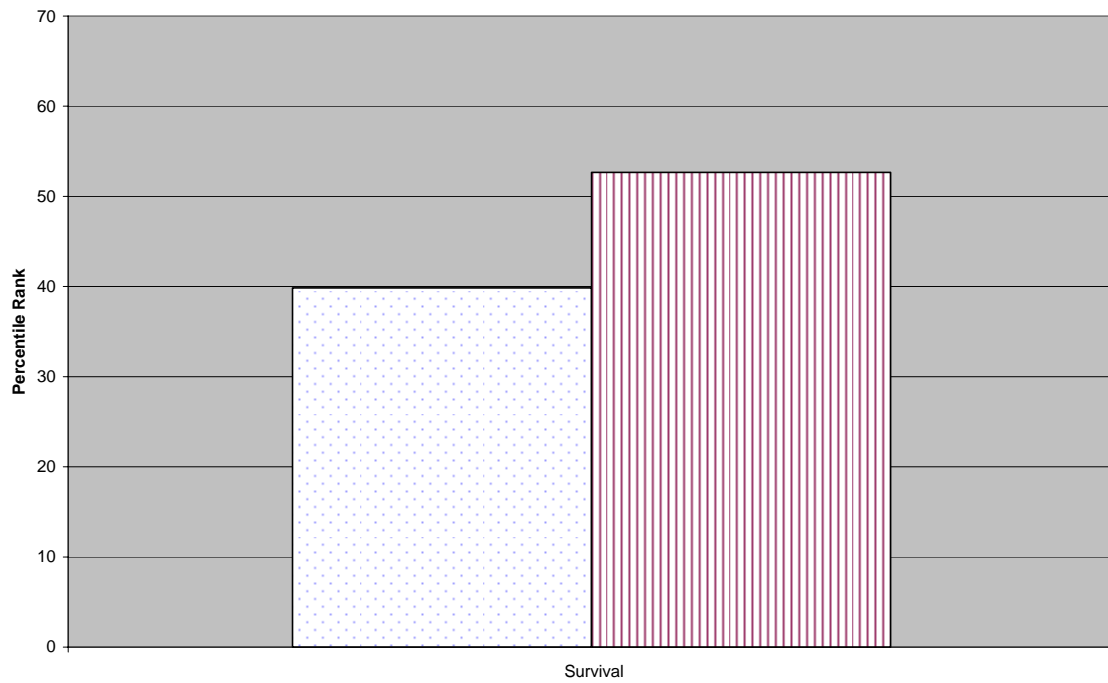
Figure 3.2 - Survival to One Month After Birth



Considering infant mortality during the first year of life, there are 14 deaths for blacks and 6 for whites per 1,000 live births.⁶ Adequate prenatal care probably could have prevented some of these deaths.

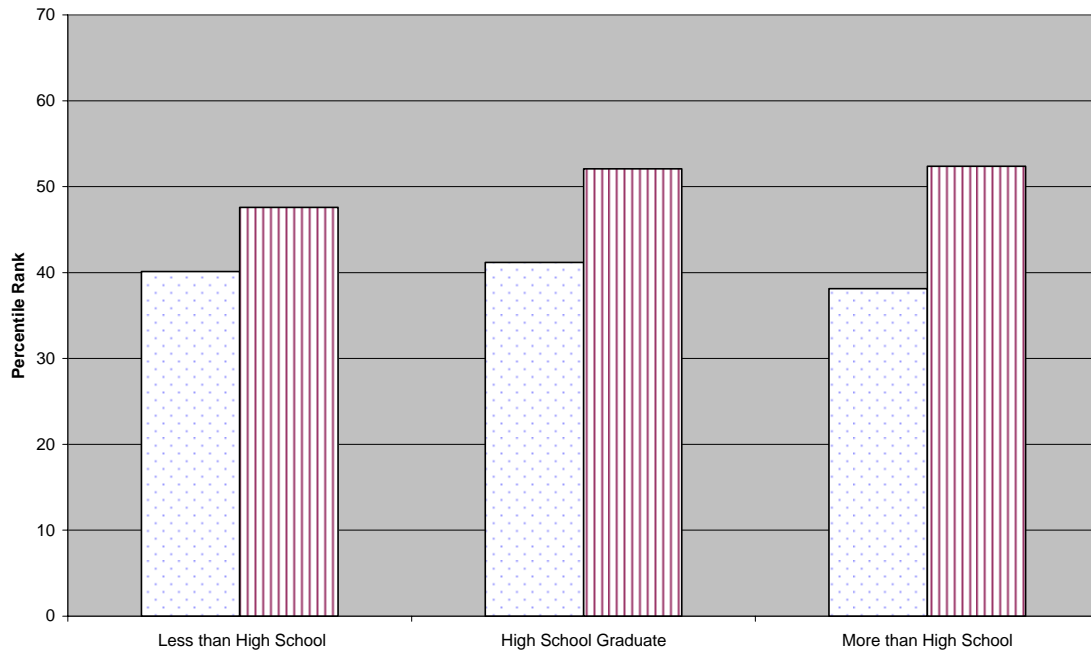
Infant mortality and morbidity are continuous, so the higher rate of black infant mortality suggests the likelihood of a similarly higher rate of black infants who survive with unhealthy conditions that make school and lifetime success more difficult.

Figure 3.3 - Survival to One Year After Birth



These differences in pregnancy and childbirth are reflections of *racial* inequality itself and are not eliminated by controlling for maternal education. For black mothers who are high school dropouts, 15 of every 1,000 live births die within the first year; for white dropouts, 9 do so. For mothers who graduated from high school but got no further education, infant deaths are 13 for blacks and 6 for whites. And for mothers with at least one year of college, infant deaths are 12 for blacks and 4 for whites.⁷

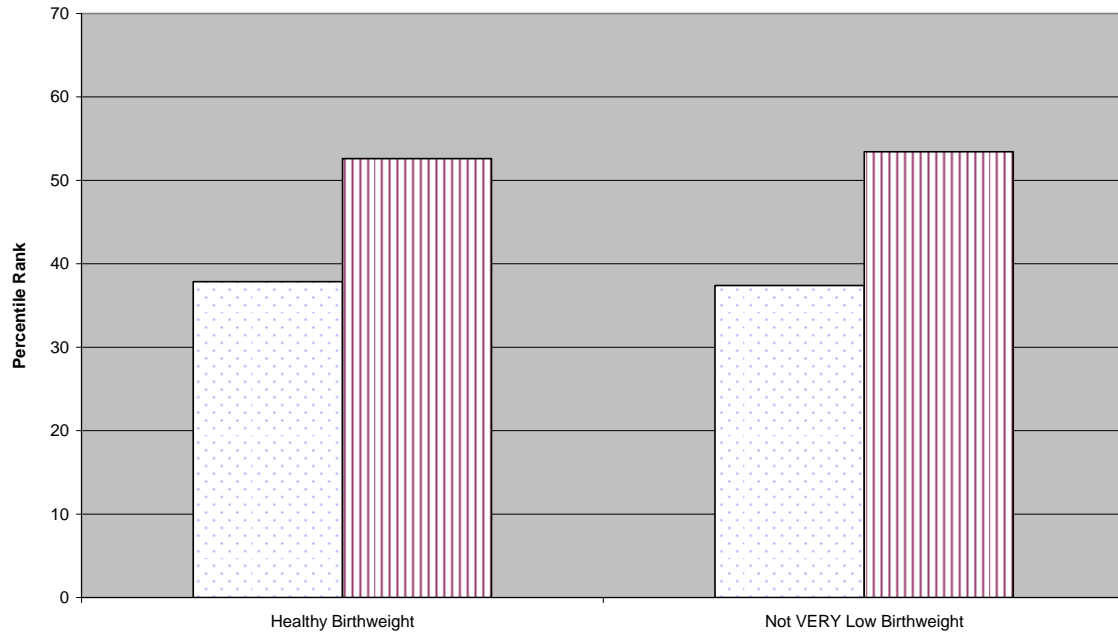
Figure 3.4 - Survival to One Year After Birth, by Mother's Education



Racial differences in pregnancies and live births are paralleled by differences in birthweight. Low birthweight predicts special education placement, lower academic achievement, emotional maladjustment, and likelihood of criminal behavior. For blacks, 3 percent of newborns have *very* low birthweight, less than 1,500 grams, the condition most likely to lead to adverse educational and lifetime outcomes. For whites, the rate is

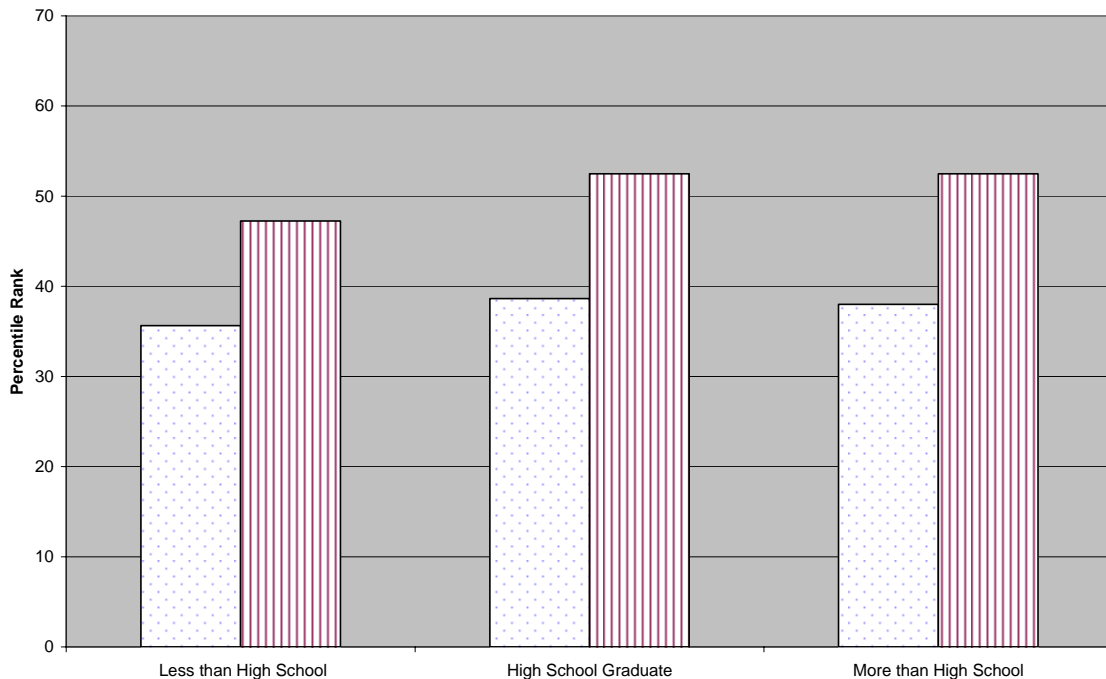
only 1/3 as great. For low birthweight (less than 2,500 grams), a condition still putting children at risk, 13 percent of black babies have low birthweight, vs. 7 percent of whites.⁸

Figure 3.5 - Healthy Birthweight



Again, these disparities narrow only slightly after controlling for education. For black mothers who are high school dropouts, 15 percent of live births are low weight; for white dropouts, it is 9 percent. For mothers who graduated from high school but got no further education, 14 percent of live births are low weight for blacks and 7 percent for whites. And for mothers with at least one year of college, the rates are 12 percent for blacks and 6 percent for whites.⁹

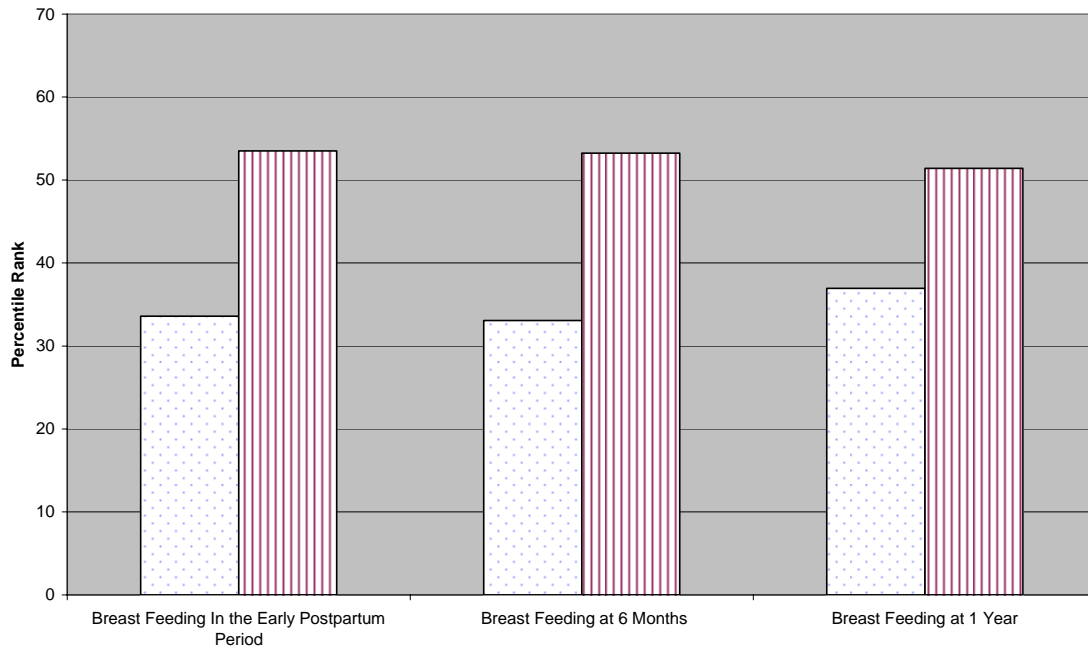
Figure 3.6 - Healthy Birthweight, by Mother's Education



Black mothers are less likely than whites to follow practices recommended for the best infant outcomes. One of the few measures for which we have data is breast feeding. Fifty-four (54) percent of black mothers breastfeed their infants in the early postpartum period, compared to 73 percent of white mothers. When infants are six months of age, the

relative disparity is even greater – 19 percent of black mothers breastfeeding, compared to 36 percent of white mothers. At one year of age, the rates are 12 percent and 21 percent, respectively.¹⁰

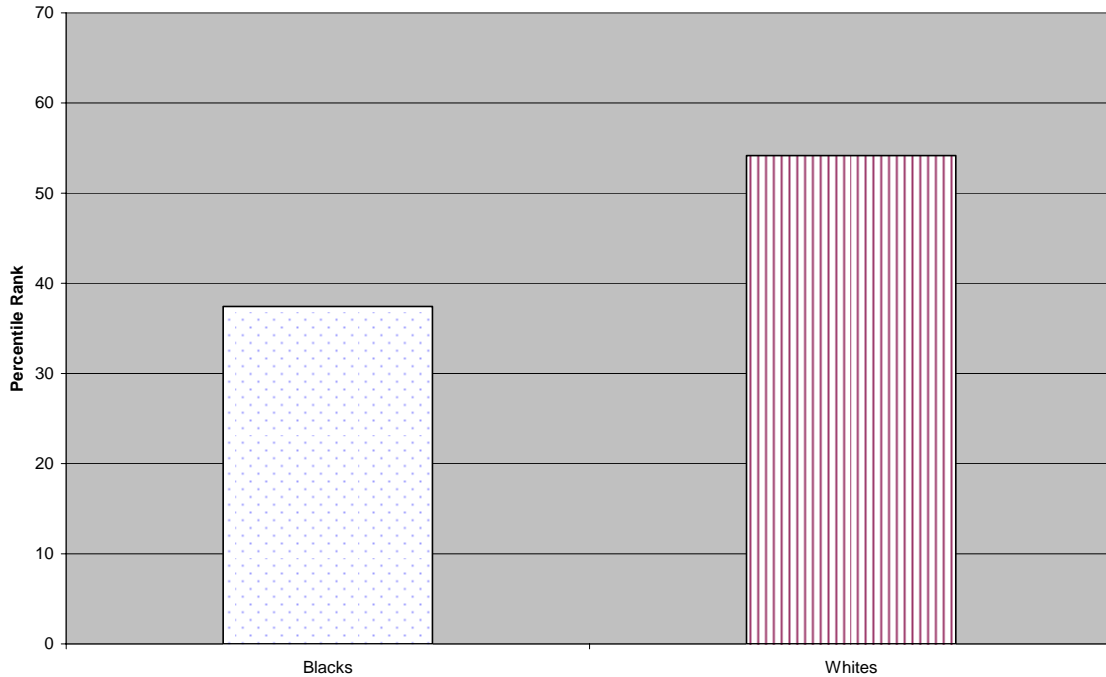
Figure 3.7 - Healthy Infant Care Practices



Summary: As with academic achievement, some of these indicators of relative gaps in pregnancy, childbirth, neonatal and infancy are more important than others. For example, if we closed the gap in prenatal care, the low and very low birthweight gaps might, at least partly, solve themselves. Nonetheless, with all the cautions we mentioned earlier, we can summarize the overall black-white gap, concluding that the average black experience with healthy and successful pregnancy, childbirth, neonatal and infancy is

at the 37th percentile of the experience of all U.S. mothers and babies, while the average white experience is at the 54th percentile.*

Figure 3.8 - Summary: Healthy Pregnancy and Infancy

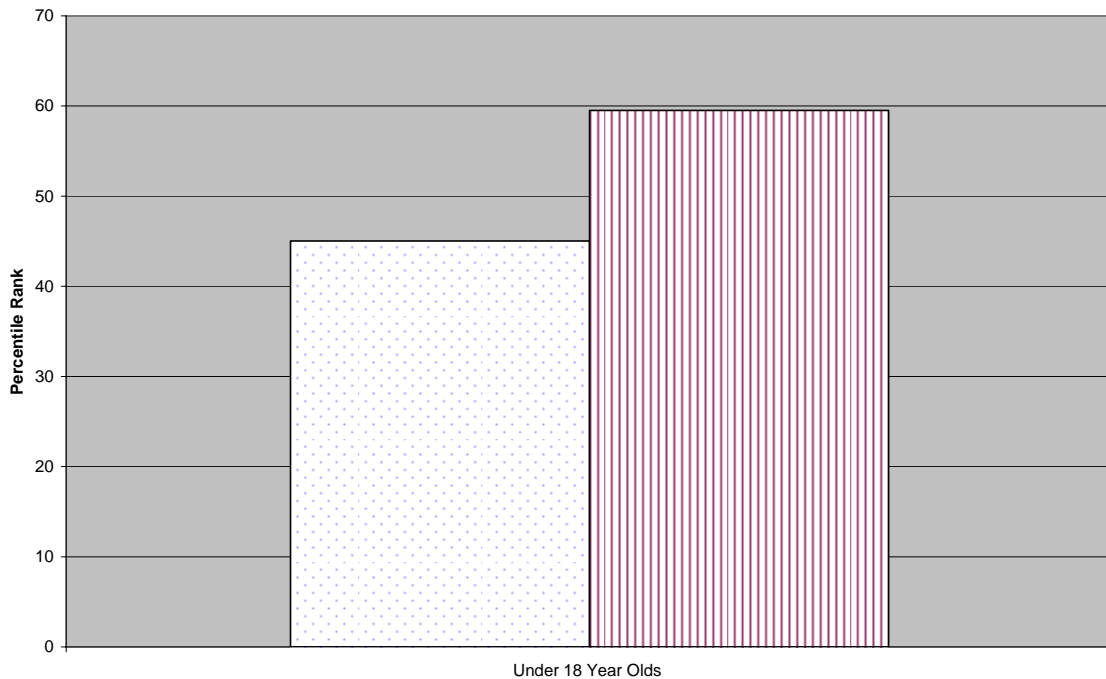


* In this chapter, where we have in some cases shown a figure that displays overall black-white inequality, and shown another figure that displays black-white inequality by maternal education, we have not included the latter in these summary calculations, to avoid the appearance of double-counting. However, because the summary figure reflects an unweighted simple average of all included indicators, there is no reason to believe that if we had double counted a particular indicator, this would make the summary less accurate than a properly weighted summary.

4.
Access to Health Care

Partly, these inequalities in the probability of lifetime success attributable to characteristics of pregnancy, childbirth, neonatality and infancy stem, in turn, from inequalities in health insurance coverage. For children under 18, 14 percent of blacks lack health insurance, including Medicaid or CHIP (federally subsidized children's insurance), whereas for whites, 7 percent lack coverage.¹¹

Figure: 4.1 - Health Insurance Coverage for Children

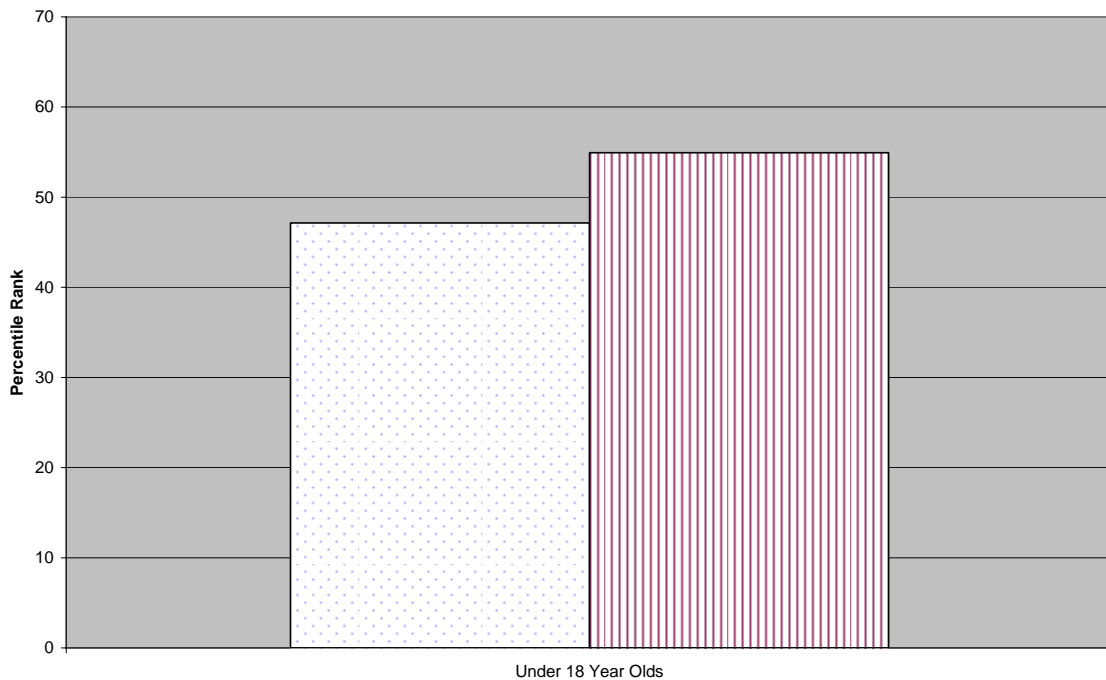


These numbers understate inequality – less health insurance for black families is compounded by inaccessibility of primary care physicians, even when families have insurance. In many low-income minority communities, insurance cards practically confer only the right to wait in lines at clinics or emergency rooms, because few obstetricians, pediatricians, or other primary care physicians practice in these communities. We have no

national data on this, but a California analysis found that urban neighborhoods with high poverty and concentrations of black and Hispanic residents had one primary care physician for every 4,000 residents. Neighborhoods that were neither high poverty nor high minority had one per 1,200.¹²

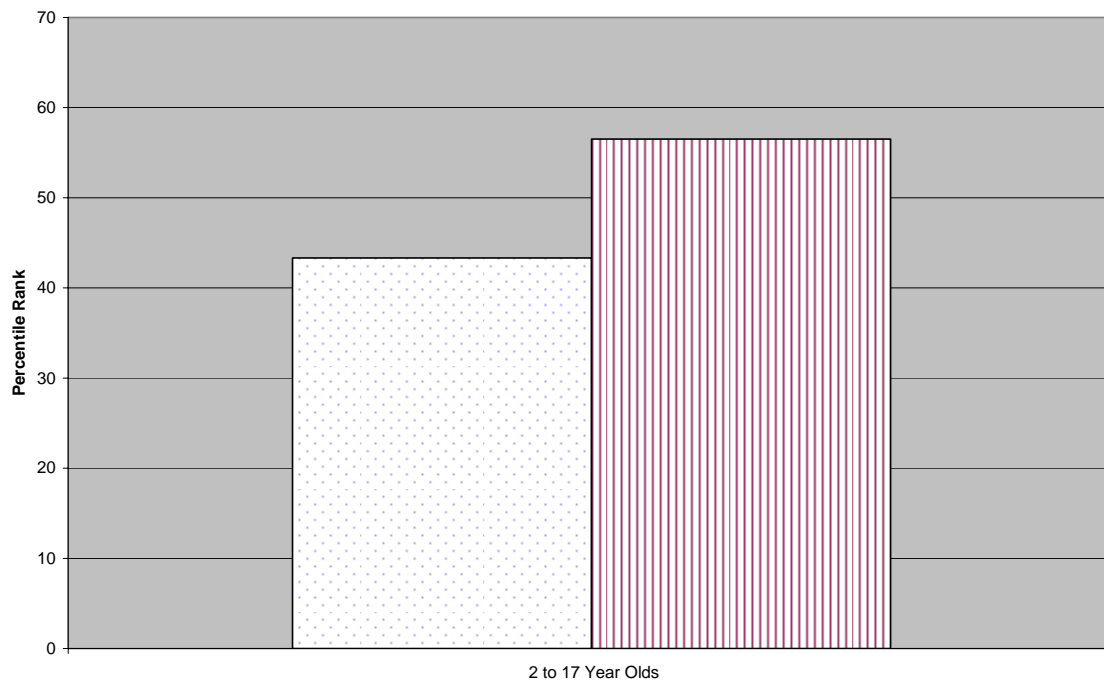
Black children are thus less likely to get primary and preventive medical care than whites. Although 87 percent of black children (under 18) have seen a doctor in the previous year, compared to 90 percent of whites,¹³ this relatively small disparity does not reflect the much larger disparities in the average number of doctor visits, or in the type of medical facility visited. This inequality also has both a racial and socioeconomic aspect. Relatively more poor black children lack medical care than poor whites, and relatively more non-poor black children lack medical care than non-poor whites.

Figure 4.2 - Regular Medical Care



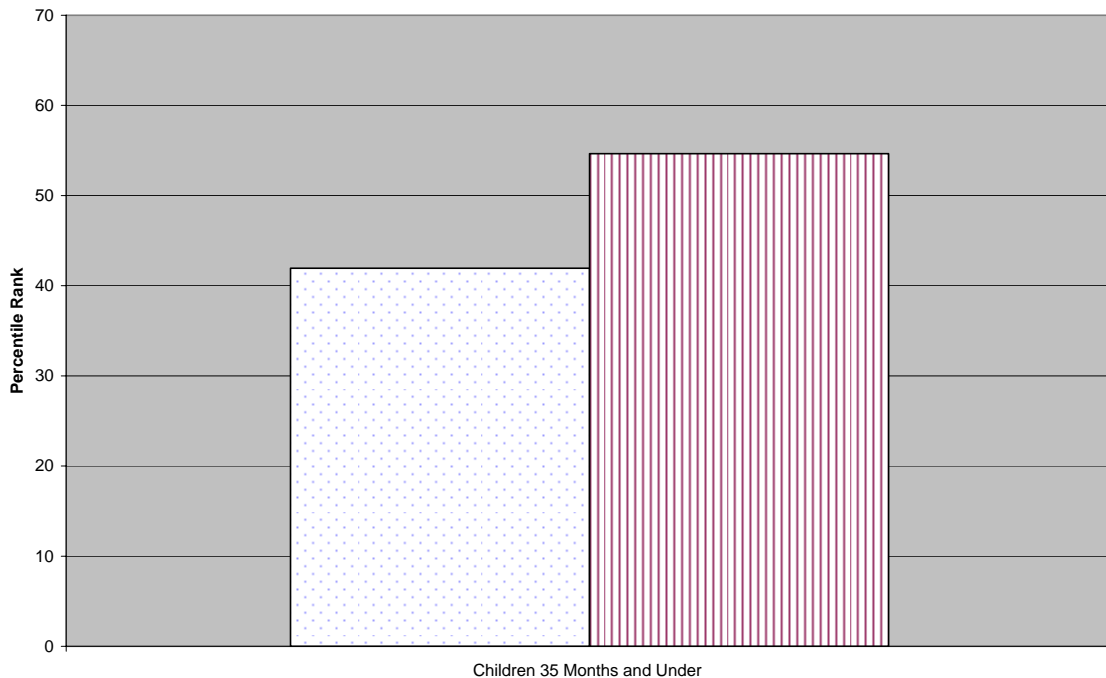
Similar inequalities characterize oral health; 69 percent of black children, ages 2-17, have seen a dentist in the previous year, compared to 79 percent of white children.¹⁴

Figure 4.3 - Regular Dental Care



These inequalities in access to health care compound the inequalities of birth outcomes to contribute to differences in health between black and white children that, in turn, contribute to differences in educational and lifelong outcomes. By the age of 35 months, 25 percent of black children have not received standard vaccinations for diphtheria, tetanus, pertussis, polio, measles and influenza. For whites, the non-vaccinated share is 16 percent¹⁵ – still unacceptably high, but not as high as for black children.

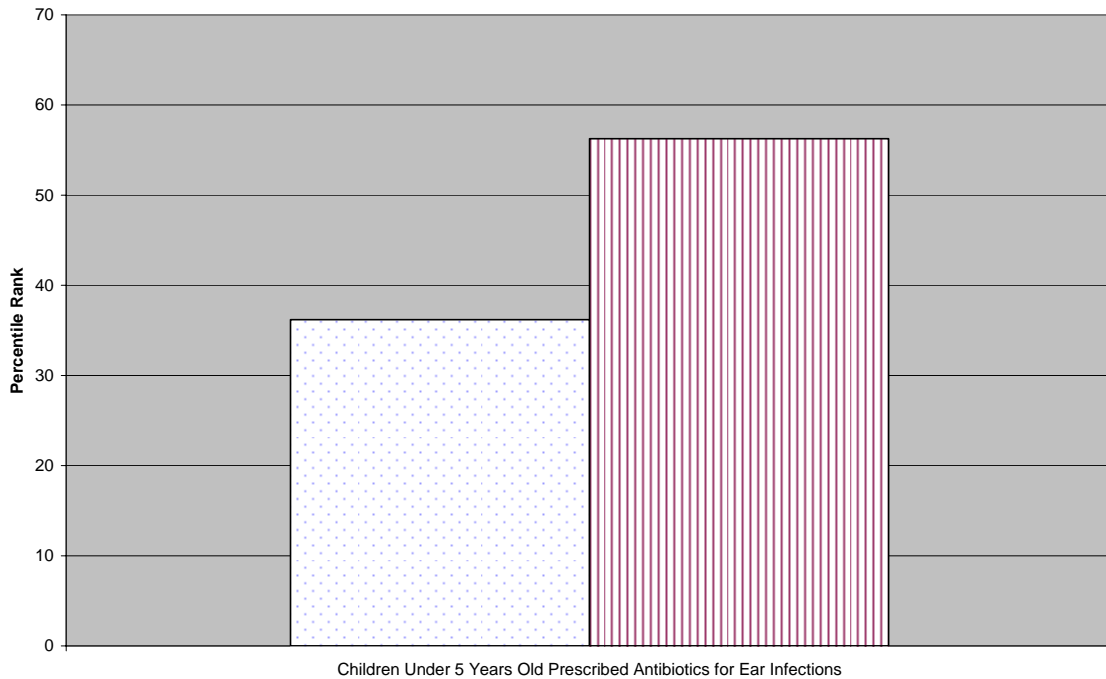
Figure 4.4 - Standard Vaccinations



Ear infections afflict all children, but disadvantaged children are less likely to get prompt treatment. Parents rarely take children to emergency rooms for common ear infections; if primary pediatric care is unavailable, parents are more likely to let the infection take its own course and it will, most probably, cure itself. But before then, children with earaches are more likely to miss school, or be inattentive or irritable from

pain. Forty-five (45) percent of black children have received antibiotics for ear infections by age five, compared to 65 percent of whites.^{16*}

Figure 4.5 - Treatment for Childhood Illness

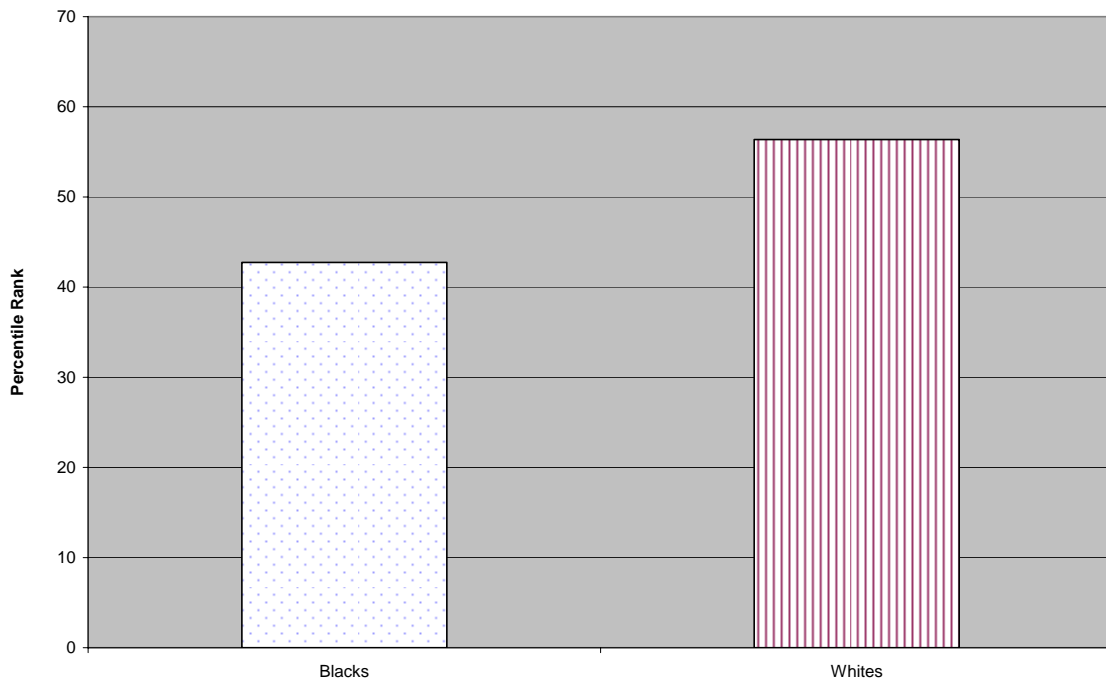


* There is some controversy among pediatricians regarding whether administering antibiotics for childhood ear infections is desirable, or whether it is desirable in most cases. However, even if we agree that such treatment should not be the norm, the differences in black and white access to this treatment are likely to be representative of the differences in black and white access to prompt pediatric care for other childhood illnesses. Because data are not available on the relative proportions of blacks and whites who get specific treatments for other common childhood illnesses, it is useful to use the administration of antibiotics for ear infections as representative of overall disparities in access to health care for children of this age.

We do have data on the annual percentages of blacks and whites of all ages who get antibiotic treatment for the common cold – 1.6 percent of blacks, 2 percent of whites.

Summary: Again, assuming that each of these indicators of health care access reflects normally distributed characteristics and each has equal weight, black children, on average, are at the 43rd percentile in the distribution of children's access to good health care, while white children, on average, are at the 56th. Figure 4.6 summarizes these indicators of children's access to good health care.

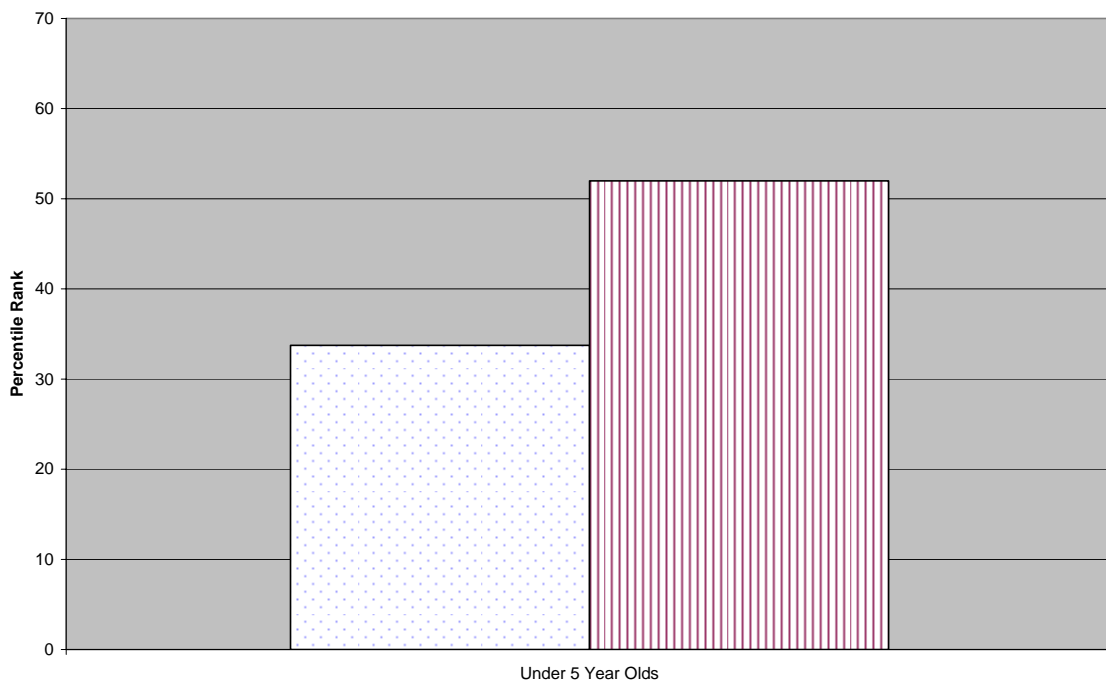
Figure 4.6 - Summary: Access to Health Care for Young Children



5.
Health of Young Children

Black children get less adequate nutrition – lacking not calories, but some essential nutrients. For example, iron deficiency anemia, which adversely affects cognitive ability and predicts special education placement and school failure, is more prevalent among black children. Iron deficiency anemia also predisposes lead absorption, further depressing cognitive ability. In federal programs for low-income children, 19 percent of blacks under the age of five are anemic, vs. 10 percent of whites.^{17*}

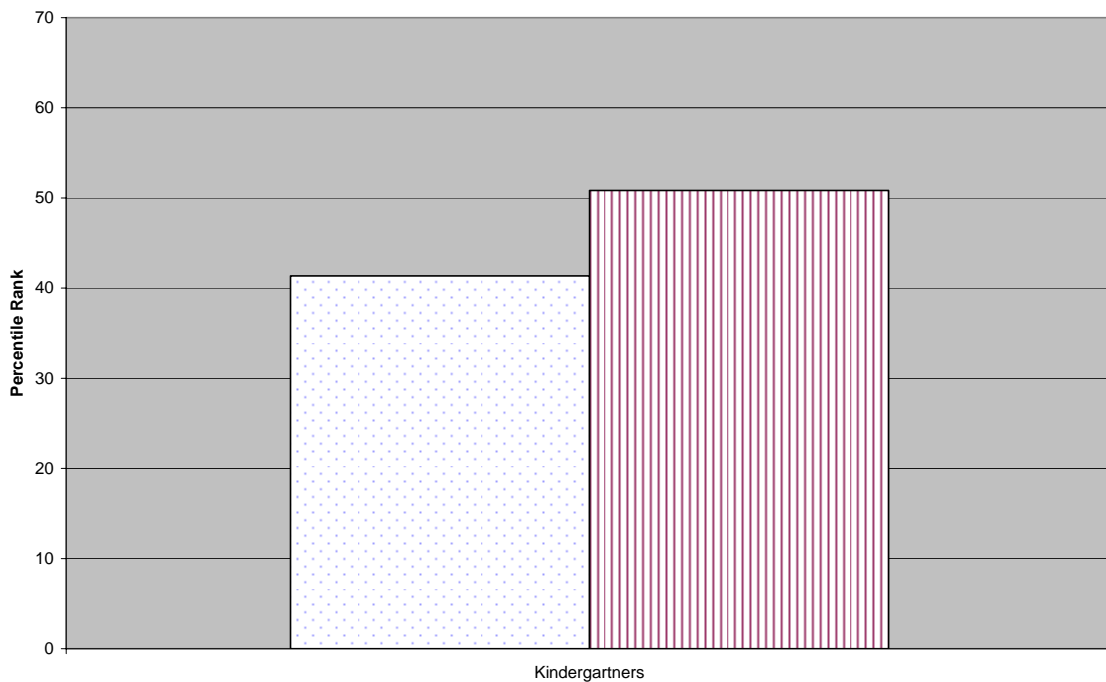
Figure 5.1 - Young Children with Healthy Blood Levels of Iron



* Although our data are only for anemia among black and white children who are enrolled in federal programs for low-income children, Figure 5.1 presents an estimate of black-white differences among all children. We developed this estimate by assuming that, for anemia, the ratio of non-poor children's health to poor children's health was similar to that for other indicators for which data were available by race, age, and poverty status. (Indicators that met these criteria were health care visits and untreated tooth decay.)

Educational inadequacy also results from disparities in vision - not only in near- or farsightedness, but also in poor eye-muscle development leading to less facility in skills needed for reading, like tracking print, converging, and focusing. Optometrists who have tested children in low-income black communities report that as many as 50 percent of children may come to elementary school with vision difficulties that impair reading ability, compared to 25 percent of children in non-poor communities.¹⁸ These difficulties do not always require correction with eyeglasses; eye exercise therapy may suffice. With the caution that these data are even less reliable, based only on anecdotal accounts of a few optometrists, than others we are presenting, Figure 5.2 transforms these data into percentilerankings.*

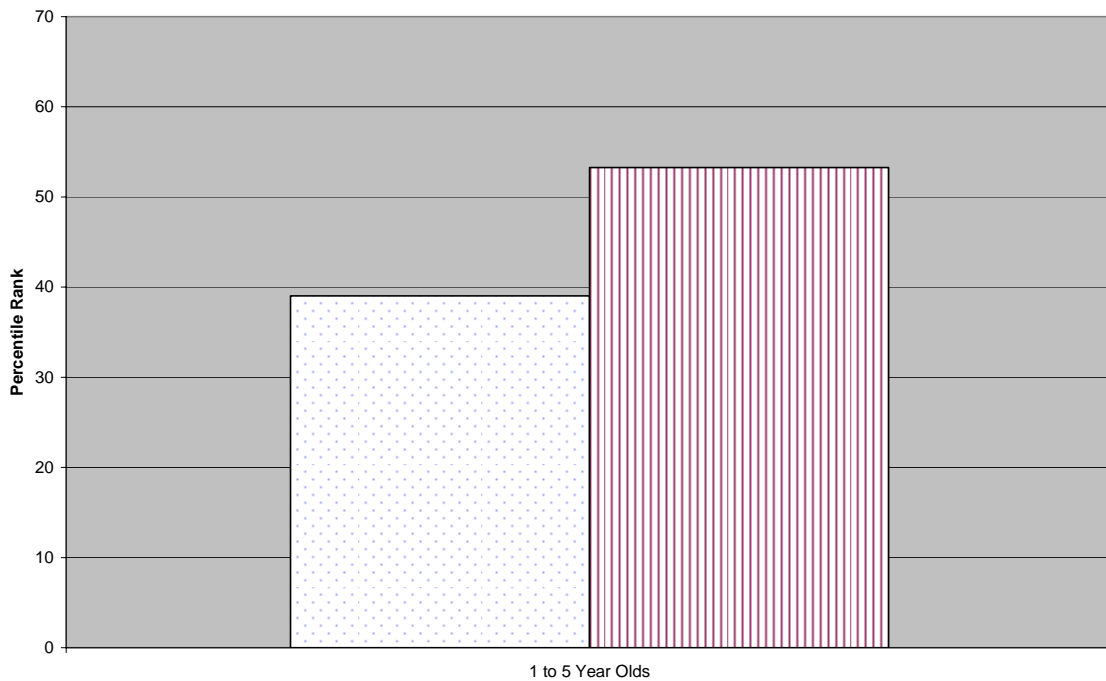
Figure 5.2 - Young Children with Adequate Eyesight for Reading



* Although our anecdotal data are only for vision difficulties among poor black children compared to all children, Figure 5.2 presents an estimate of black-white differences among all children. The estimate was created utilizing a methodology similar to that described in the previous note (concerning Figure 5.1) - assuming that the ratio of poor black children with vision difficulties to poor white children with vision

Disparate rates of lead poisoning also exacerbate the academic achievement gap. Children who live in older buildings have more lead dust exposure that harms cognitive functioning and behavior. High lead levels also contribute to hearing loss.¹⁹ Three (3) percent of black children but only 1 percent of whites, ages one to five, have blood lead levels that are dangerously high.²⁰

Figure 5.3 - Young Children's Avoidance of Lead Poisoning



We have made great progress in eliminating lead from children's blood; 15 years ago, 11 percent of very young black children had dangerously high lead levels, compared to 2 percent of whites.²¹ The reduction to today's lower levels is mostly attributable to the elimination of leaded automobile fuel, and to a 1978 prohibition on lead-based paint in residential construction. Yet low-income and minority children still today are more likely

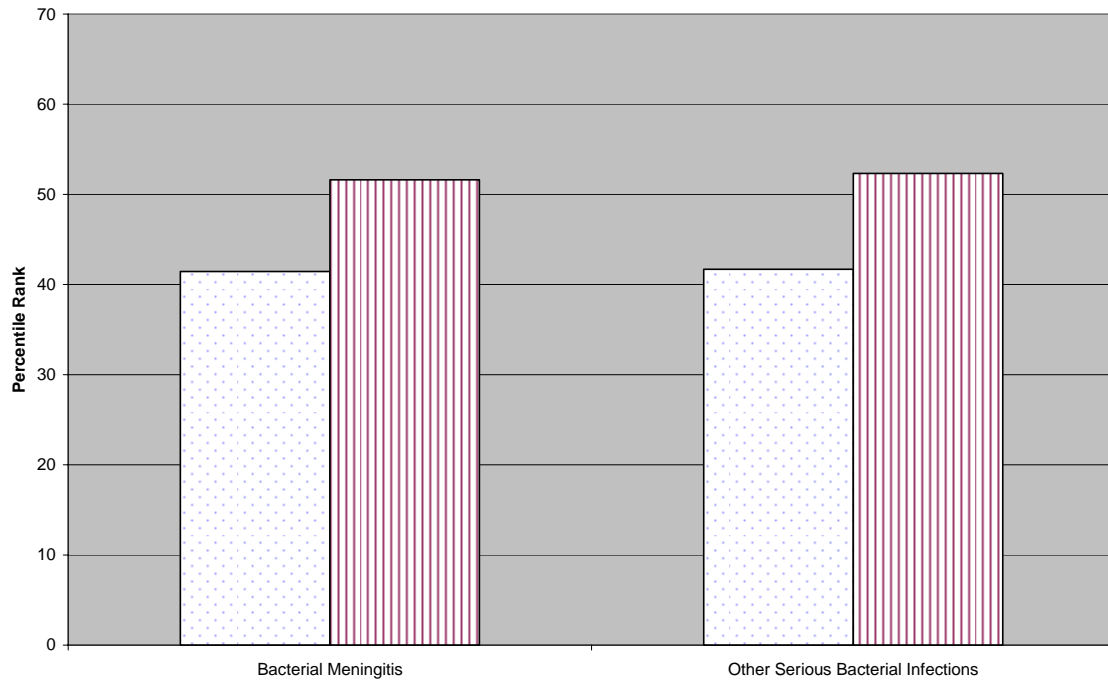
difficulties and to non-poor black and white children with vision difficulties was similar to these ratios for other health indicators for which suitable data were available. Population estimates were utilized to create weights for the four demographic groups (poor and non-poor, black and white).

to live in poorly maintained, pre-1978 buildings with peeling older layers of paint. And the higher lead poisoning levels of only a decade ago still affect the academic potential of children who are now in the upper grades. Urban children are also more likely to attend older schools, built when water pipes contained lead. New York City, Baltimore, and Washington, D.C. have recently found it necessary to shut off school drinking fountains because lead exceeded dangerous levels.²²

Other serious diseases are also more common for young black children. Twenty-six (26) out of every 100,000 black children under the age of two contract bacterial meningitis; for whites, the ratio is less than half as great, 11 out of 100,000.²³ Bacterial meningitis is curable, but requires prompt diagnosis and treatment. Although few children, black or white, get the disease, for those who do it can lead to death or, for survivors, hearing loss, mental retardation, paralysis, and seizures.²⁴ So it, too, makes a contribution to the achievement gap.

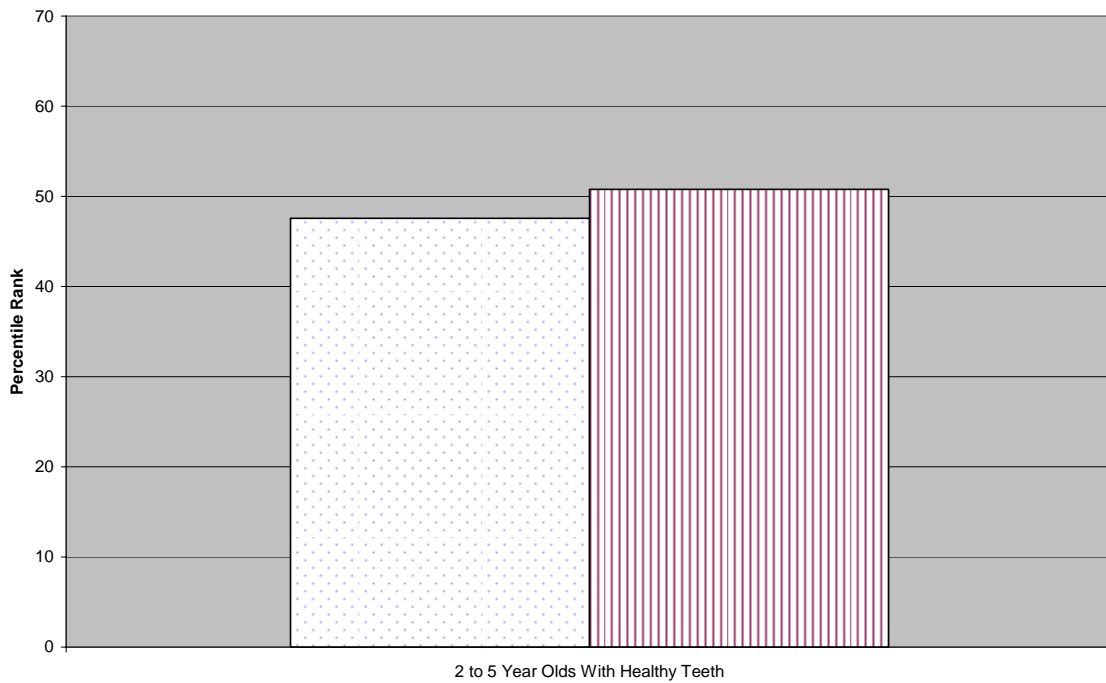
Similar inequalities characterize children under five for other bacterial diseases, such as pneumonia and ear, blood stream, and sinus infections. For black children under the age of five, 155 of every 100,000 get such infections each year; for whites, only 63 do.²⁵

Figure 5.4 - Young Children's Avoidance of Bacterial Infection



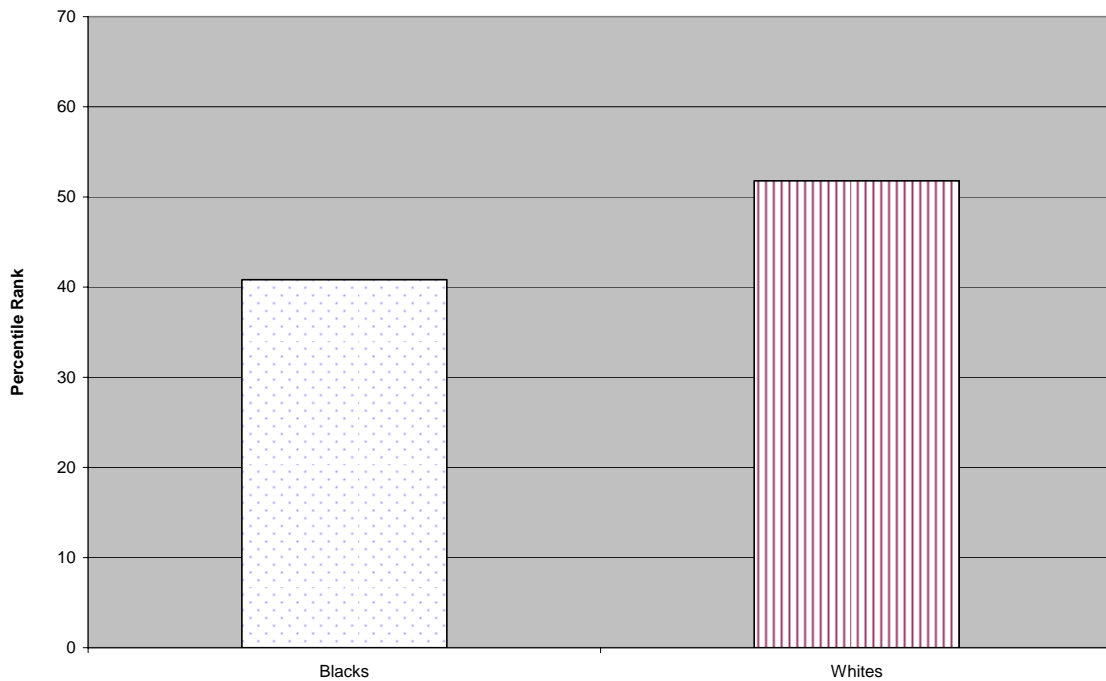
At this early age, racial differences in oral health are relatively small. Twenty-five (25) percent of black children between the ages of two and five have untreated dental cavities; for whites, it is 23 percent.²⁶ As we will see below, however, these small disparities grow large as children mature.

Figure 5.5 - Oral Health of Young Children



Summary: Again, assuming that each of these indicators of young children's health reflects normally distributed characteristics, and that each of these indicators has equal weight, we conclude that young black children, on average, are at the 41st percentile for good health characteristics, while young white children, on average, are at the 52nd percentile.

Figure 5.6 - Summary: The Health of Young Children

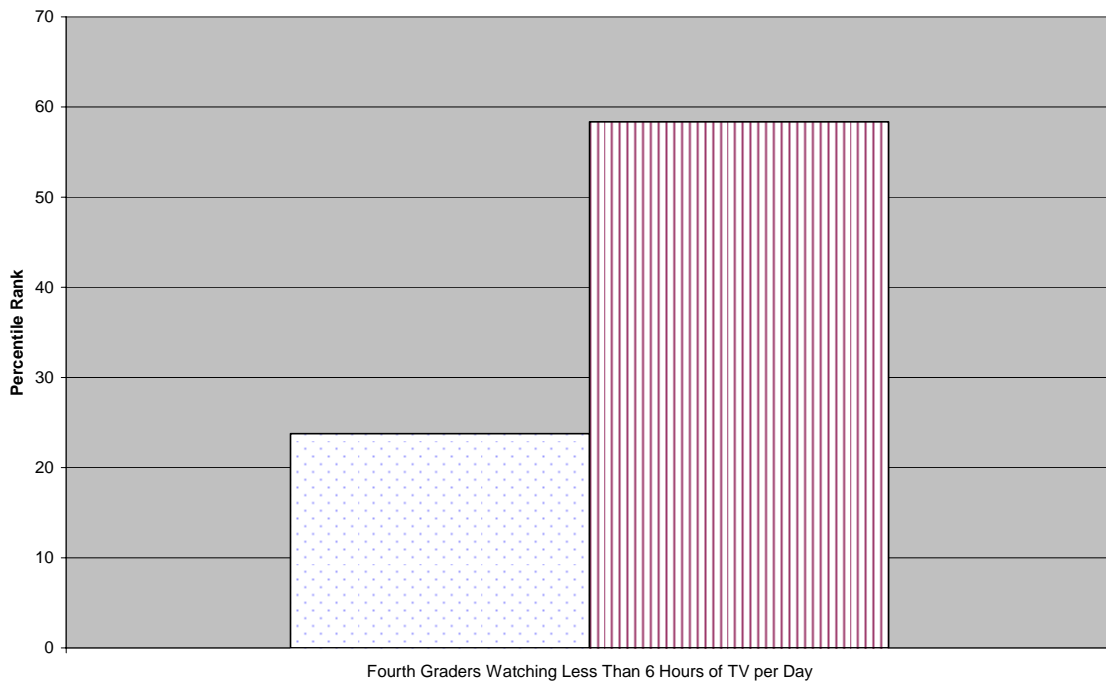


6.

Early Childhood Preparation and School Readiness

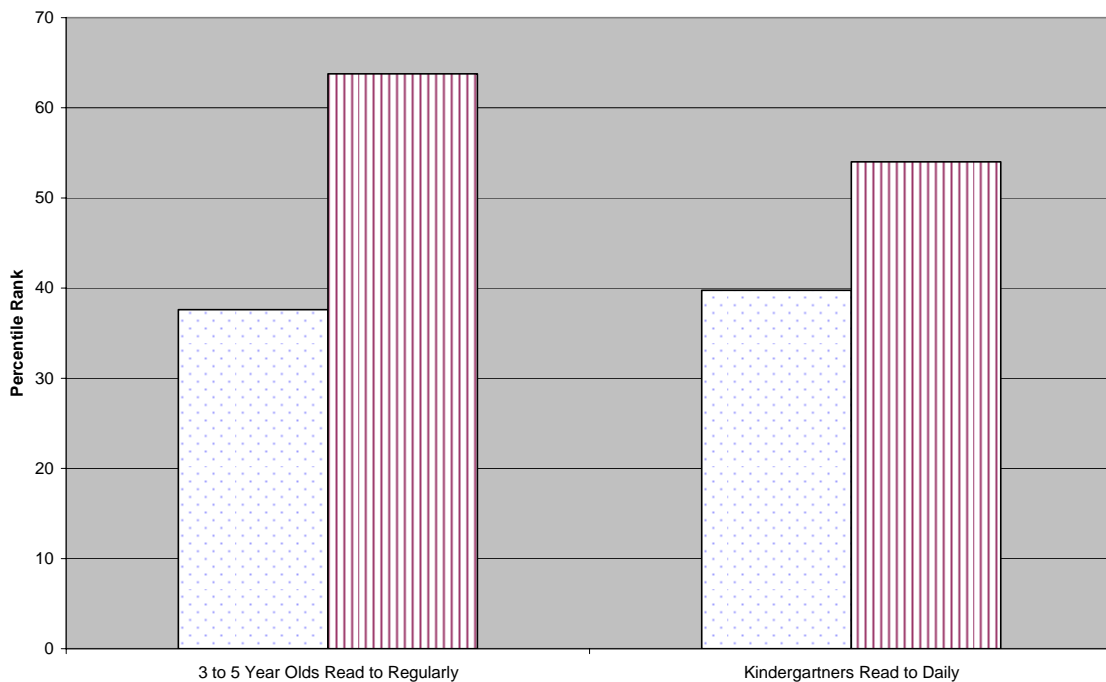
We observed above that disadvantaged black children are more likely to have vision difficulties that impede reading than middle class white children. One reason for this inequality is that disadvantaged children are less likely to engage, as infants and toddlers, in the kind of supervised play that develops hand-eye coordination. Instead, disadvantaged children are more likely to watch television. This substitute of television for higher quality supervised child care continues on into the school years. We have data for fourth graders, collected as part of NAEP: 42 percent of black children watch six hours or more of television a day, compared to 13 percent of white children.²⁷ We include these data here because, with actual data on preschool children unavailable, we assume that these disparities are similar for preschool children.

Figure 6.1 - Appropriate Television Watching by Young Children



Young children who watch a lot of television are less likely to be read to by parents or other family members. Young children who are read to not only become familiar with books and words, but they also learn about the broader experiences described in books and to which they can later relate their instruction in school. In the preschool years, 87 percent of black children, ages 3-5, get read to regularly by a family member, less than the 96 percent of white children who are read to regularly; in other words, 13 percent of black children come to school without having benefited from being read to by a family member at least once a week. When they get to kindergarten, only 35 percent of black children benefit from *daily* reading by a parent or other family member; 49 percent of white children do so.²⁸

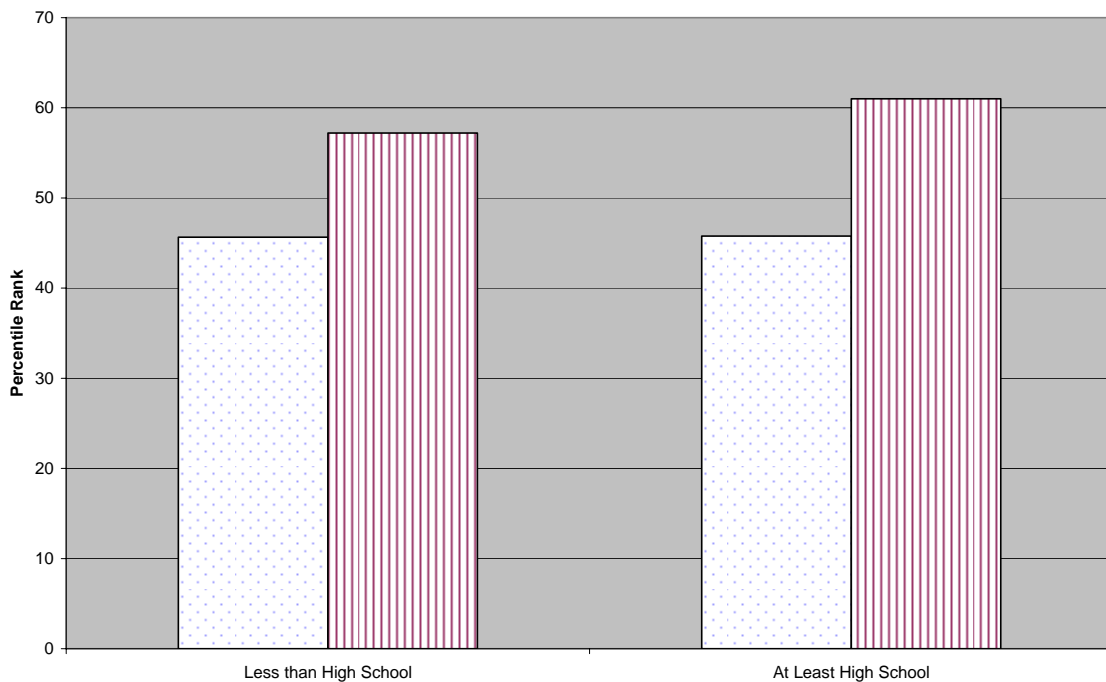
Figure 6.2 - Reading to Young Children



In part, these apparent racial differences result from the fact that black parents are likely to have less education themselves than white parents; this not only means that they

are less comfortable with leisure reading themselves, but also that their similarly-educated peers are also less likely to model such behavior by reading to their own children. Thirty-nine (39) percent of families where the mother has only a high school education read daily to their kindergarten children, compared to 59 percent of families where the mother has a college degree. But there remains a racial difference, even after controlling for these gross measures of parental education: where mothers have at least a high school education, 35 percent of black kindergartners benefit from daily reading by a family member, compared to 50 percent of white kindergartners. Where mothers have less than a high school education, 32 percent of black kindergartners benefit from daily reading by a family member, compared to 43 percent of white kindergartners.²⁹

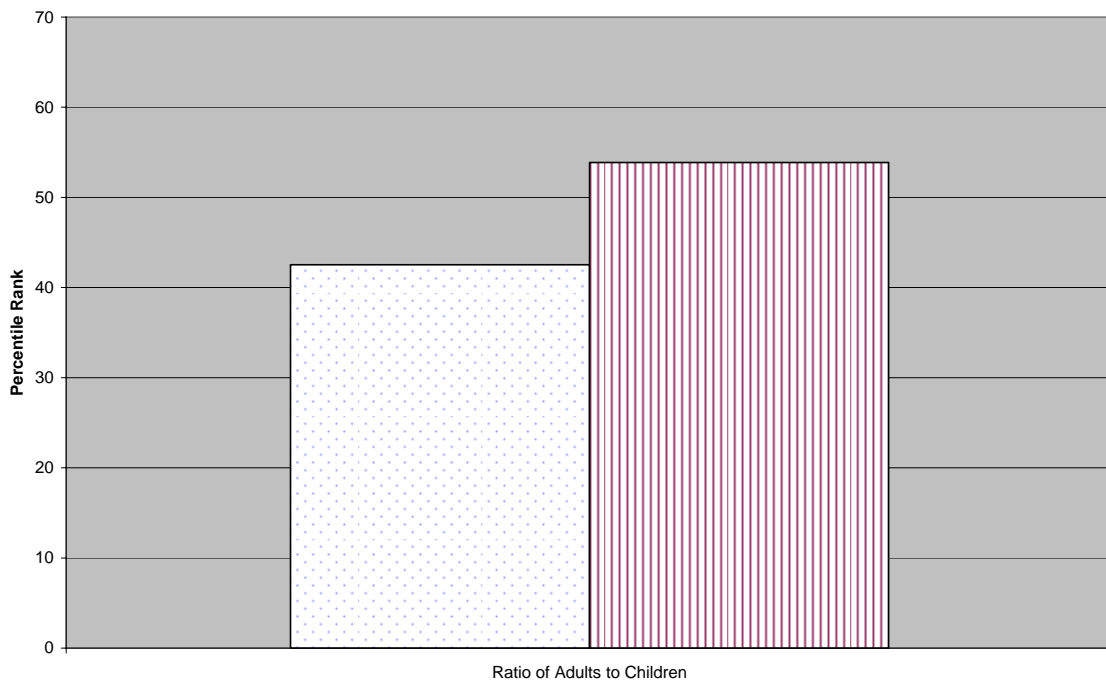
Figure 6.3 - Daily Reading to Young Children, by Mother's Education



Partly, this may result from the fact that at any given attainment level, the educations received by average white parents were of higher quality than that received by average black parents. But also in part, this disparity in reading to young children may

result from the fact that black children can get less adult attention than white children, all other things being equal, simply because in black households there are more children per adult. This, in turn, is partly because there is a higher rate of single motherhood in black families,^{*} and partly because black women have a higher fertility rate than white women.[†] Probably because of less adult attention per child in larger households, children of all races with more siblings tend to have lower test scores than children with fewer siblings.³⁰ In black households, when adults are reading or otherwise attending to children, a black child benefits, on average, from the attention of 1.2 adults, while a white child benefits, on average, from the attention of 1.4 adults.³¹

Figure 6.4 - Availability of Adult Attention for Children

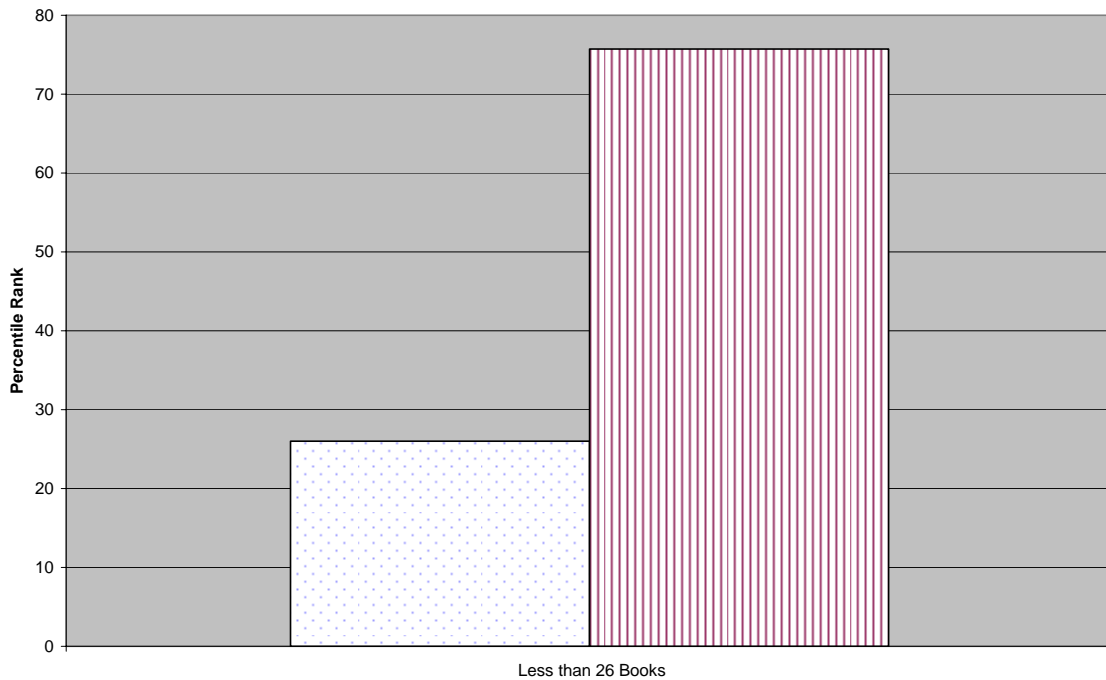


^{*} In 2003 the rate of single motherhood among black families was 44.8 percent. White single mothers headed 13.1 percent of white family households in 2003 (Fields, 2003, Table 1).

[†] In 2000 the annual fertility rate for black women was 7 per 100 women aged 15 to 44 years. For white women the rate was 6.5 live births per 100 women aged 15 to 44 (NCHS 2005b, Table 1-1).

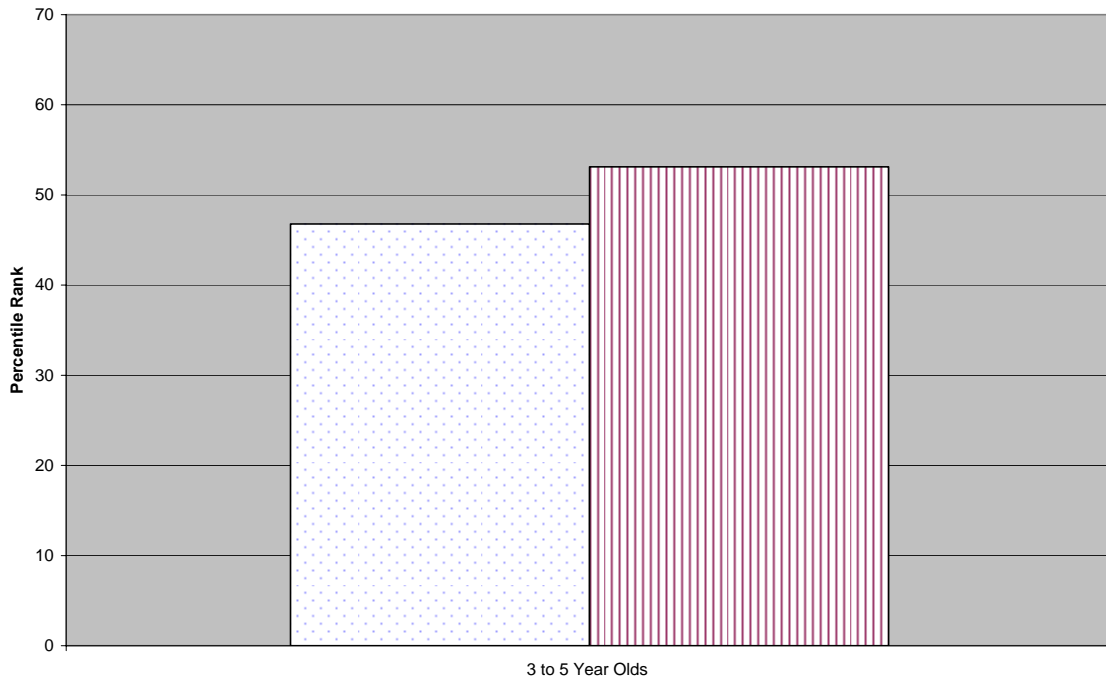
Inequalities in adults reading to children are also reflected in the number of children's books present in the homes of kindergartners. Only half of all black kindergartners have more than 25 children's books in their homes; almost all, 91 percent, of white kindergartners have this many books. The typical black kindergartner has 26 children's books at home. The typical white kindergartner has 67.³²

Figure 6.5 - Children's Books in Kindergartners' Homes



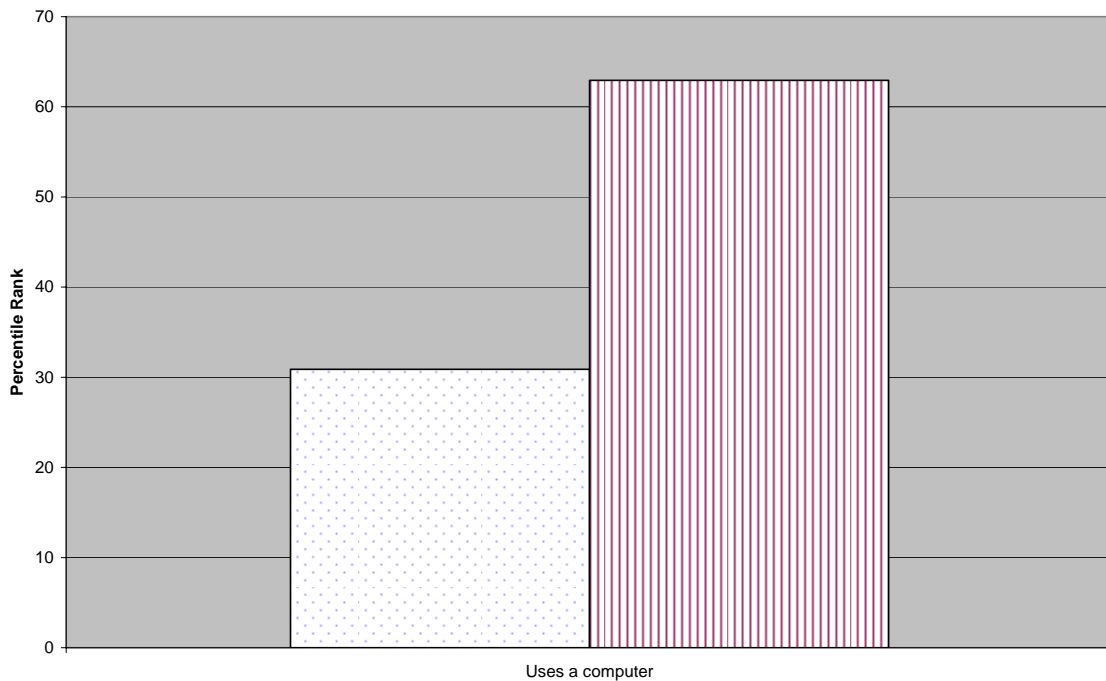
These inequalities are also reflected in the extent to which families make use of public libraries. Only 34 percent of black children between the ages of 3 and 5 visit public libraries regularly with a parent or other family member, compared to 40 percent of white children in this age group who do so.³³

Figure 6.6 - Public Library Visits



There is similar inequality in computer literacy. Only 30 percent of black kindergartners have access to and use a computer at home, compared to 62 percent of white kindergartners.³⁴ Black children therefore come to school not only less familiar with traditional literacy, but less likely to be emergent typists and less comfortable with the acts of writing and composing.

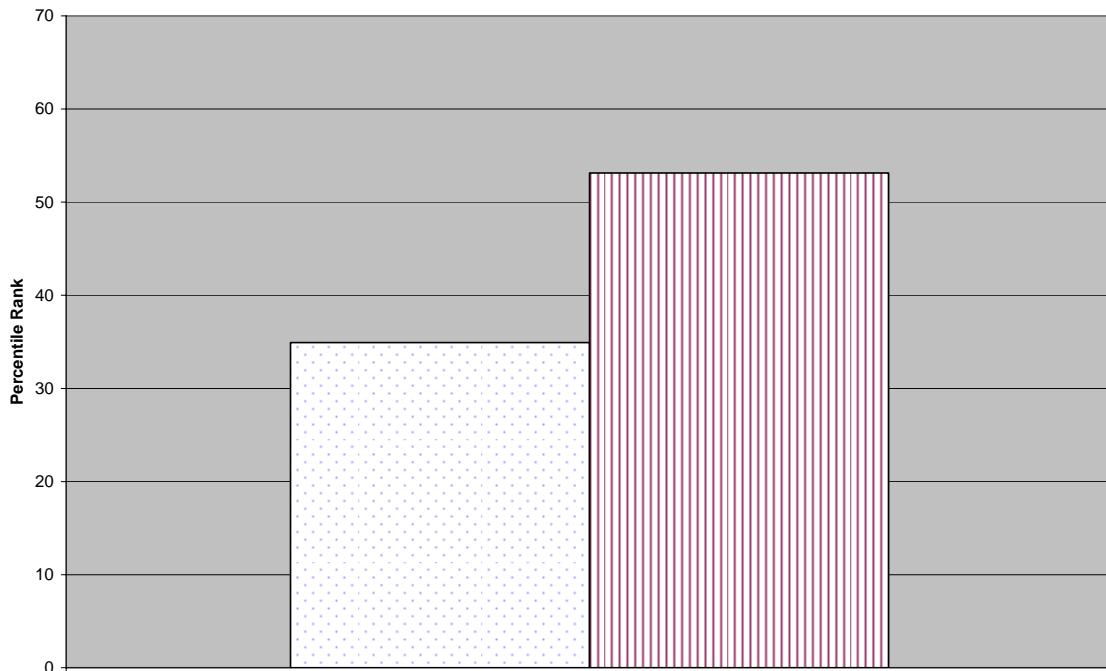
Figure 6.7 - Computers in Kindergartners' Homes



Newly analyzed data from the federal government's Early Childhood Longitudinal Study (ECLS) show that the single most powerful predictor of elementary school reading and math skills is not whether children enter school knowing the alphabet, how to sound out words, or how to count. Rather, it is their level of fine motor skills.³⁵ These ECLS predictive data, by the way, only confirm what kindergarten teachers themselves contend. The ECLS survey of kindergarten teachers finds that they are more likely to consider the

ability to use pencils and paint brushes to be a very important indicator of school readiness than the ability to count or know alphabet letters.³⁶ Fine motor skills are developed not by watching television, no matter how educational, but by playing games of imagination with toy cars, blocks, dolls, and other manipulable objects.* In the distribution of all children who are 5 years of age, fine motor skill development for black children is, on average, at the 35th percentile; for white children, it is at the 53rd percentile.³⁷

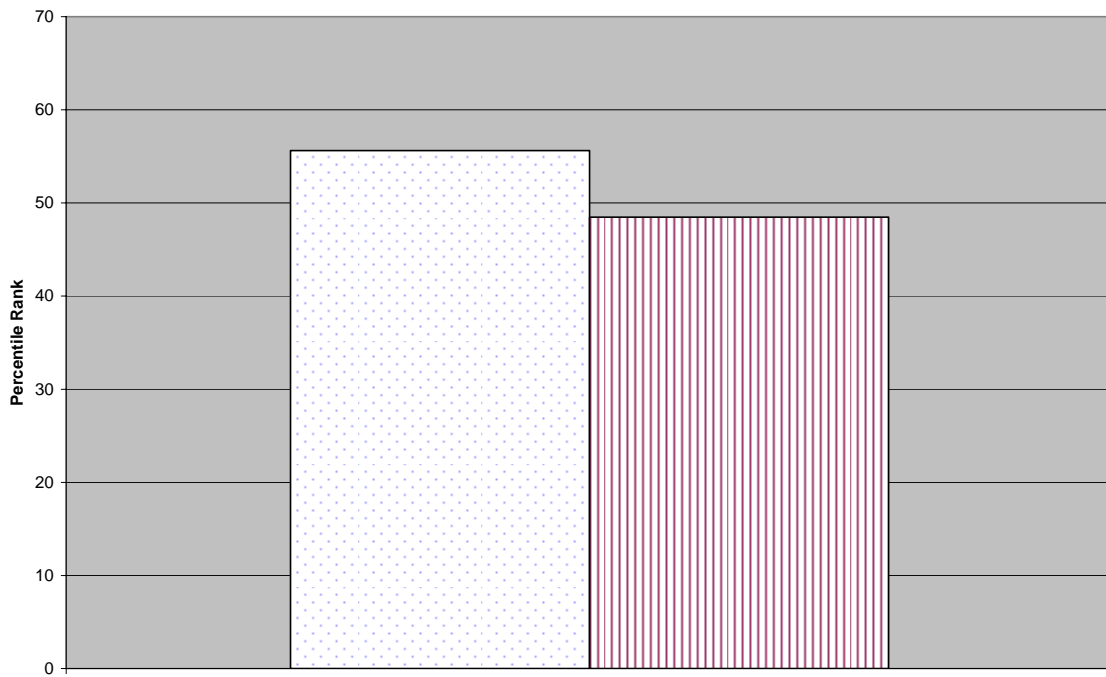
Figure 6.8 - Fine Motor Skills of Entering Kindergartners



* It is unclear whether fine motor skills actually contribute to math and reading achievement, or whether fine motor skills predict math and reading because of some unidentified association of fine motor skills with some other characteristic. If fine motor skills do, in fact, contribute to math and reading achievement, it may be because playing with manipulable toys develops greater eye-hand coordination as children manipulate objects and "see" them in different ways. For example, consider a common preschool toy that requires fitting a triangle shaped block into a pre-set form. The triangle must be turned the right way to fit into a triangle space. This is cognitively demanding. Such a task also requires more perseverance – it takes many attempts to learn to tie a shoe. Such skills may help a student learn to read.

It should be noted, however, that gross motor skills also predict academic achievement, especially in math, but not as strongly as fine motor skills.³⁸ For gross motor skills of entering kindergartners, the black-white gap is reversed: blacks are at the 56th percentile, while whites are at the 48th.³⁹

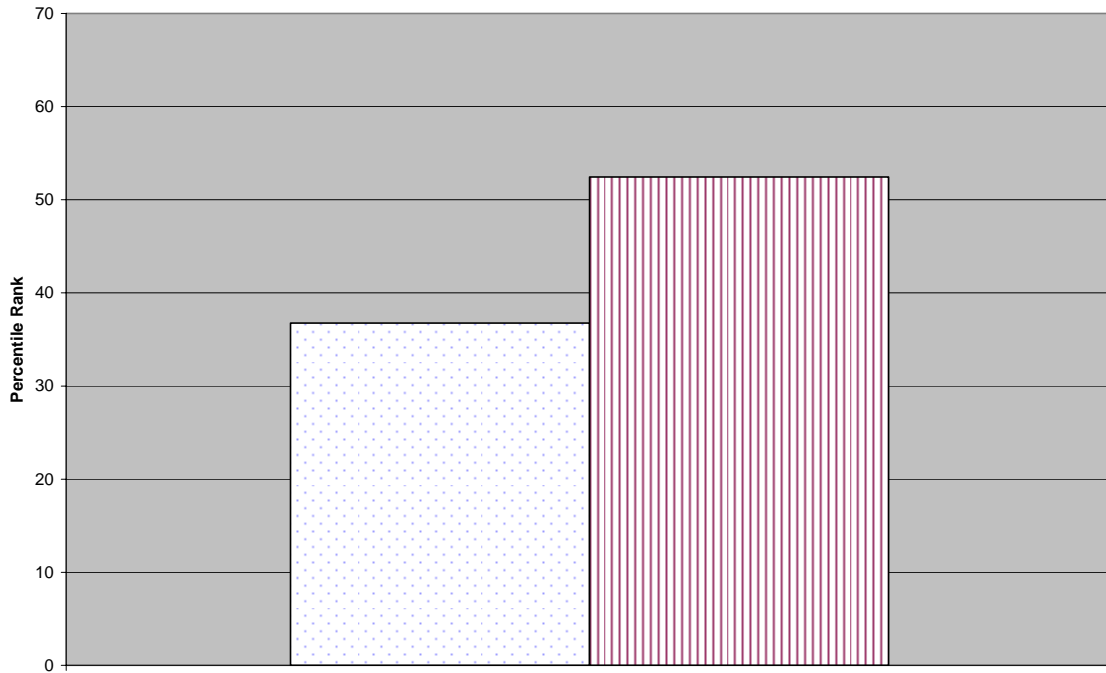
Figure 6.9 - Gross Motor Skills of Entering Kindergartners



A set of behavioral characteristics of kindergartners also predict their reading and mathematics success in school.⁴⁰ These characteristics include measures of attention span, curiosity, self-control, interpersonal skills, and problem behaviors. These data also confirm what kindergarten teachers contend: the abilities to sit still, pay attention and take turns are, in the teachers' judgment, more important indicators of school readiness

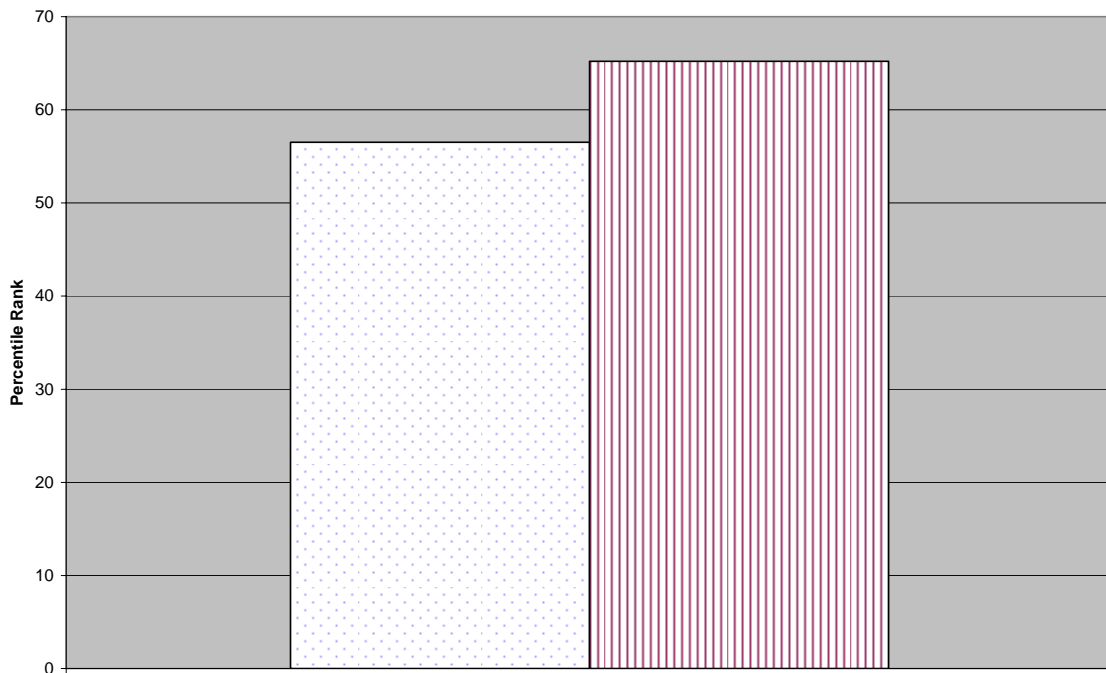
than early academic skills.⁴¹ Black kindergartners are at the 37th percentile on a composite of these behavioral characteristics, compared to whites who are at the 53rd percentile.⁴²

Figure 6.10 - Self-Discipline of Entering Kindergartners



Another set of behavioral characteristics, describing the anti-social behavior of four year olds (reports of their dishonest, cruel, non-cooperative, violent or disobedient behavior) shows black children more likely to exhibit such lack of school readiness than whites: on the reverse scale of pro-social behavior, black four year olds are at the 56th percentile, and whites are at the 65th.^{43*}

Figure 6.11 - "Pro-Social" Behavior of Four-Year Olds

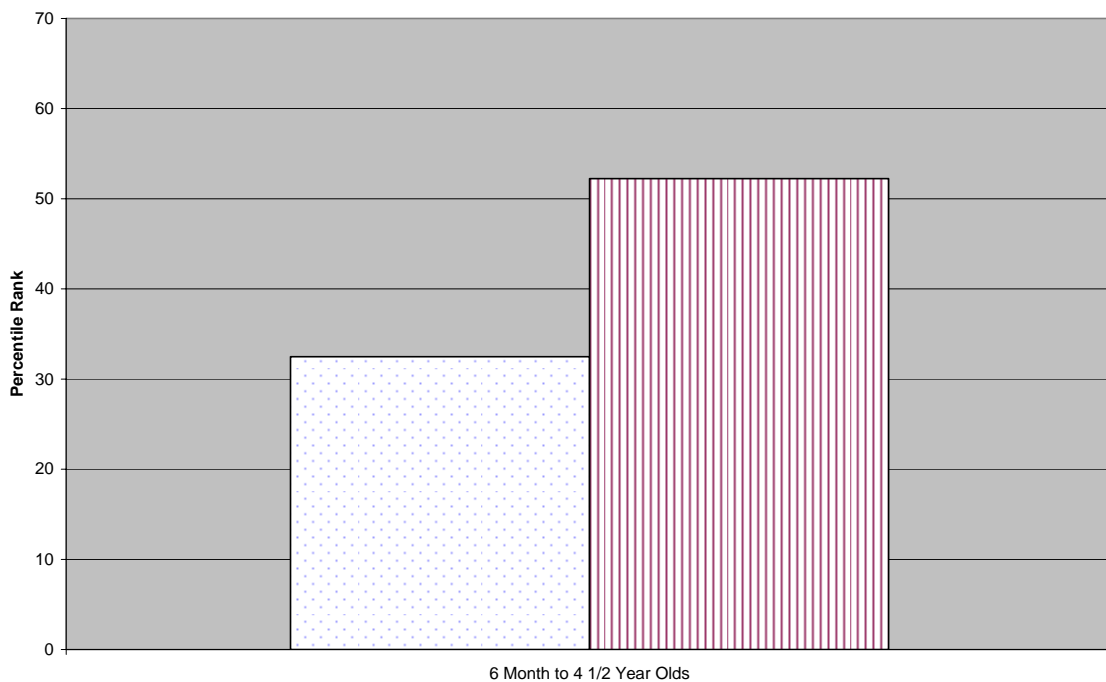


The development of these behavioral characteristics, as well as of fine motor skills reflect, among other environmental characteristics, the quality of child care experienced by preschool children while their parents are at work. We have very inadequate data on the quality of child care received by preschool children, but the

* Blacks and whites both have average pro-social behavior above the 50th percentile because the normal distribution, on which the average characteristics by race have been placed, was created utilizing data with demographic controls, such as mother's education. The black and white rankings displayed in Figure 6.11 are for uncontrolled averages of black and white children's behavior.

National Institute of Child Health and Human Development recently conducted a survey in which researchers characterized the quality of non-maternal child care settings by such measures as adult-to-child ratios, smaller group sizes, higher levels of caregiver education, and adequate physical space, all factors shown to contribute to improved child development.⁴⁴ Although the sample sizes are a little too small for comfort, the direction of the findings are worth noting: about 35 percent of black children from 6 months to 4½ years of age were in high quality child care settings, compared to 55 percent of white children.⁴⁵

Figure 6.12 - Placement in High-Quality Child Care Settings



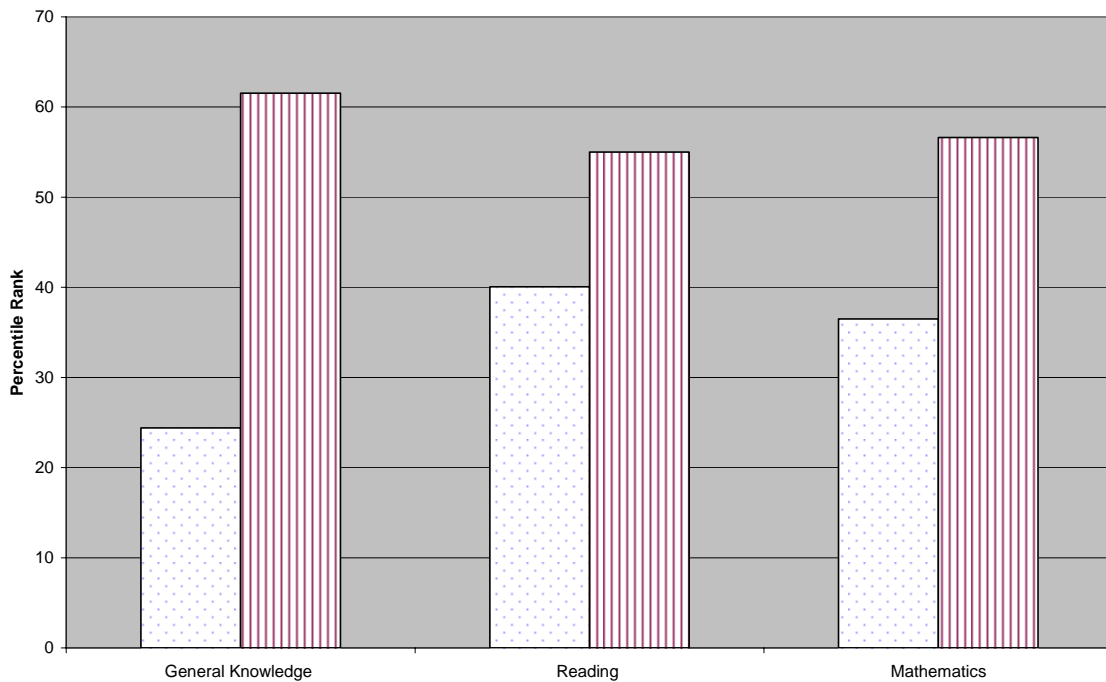
Partly, these differences in quality of care reflect that, for children not cared for at home by their mothers, black preschoolers are more likely than whites to be cared for by relatives or in other homes, and less likely to be in child care centers (38 percent of black children are in center care, vs. 41 percent of whites). In addition, the child care centers in

which black preschoolers are placed are of poorer quality than those which white preschoolers attend.⁴⁶ Indeed, despite the white advantage in the quality of preschool care, more black than white preschool children (73 percent vs. 60 percent) are enrolled in child care centers of any quality.⁴⁷

And more black than white children are enrolled in full-day kindergartens.⁴⁸ This is probably due to the fact that public school districts are more likely to offer full day kindergartens in communities where there is the greatest need. But it suggests that if affordable quality preschool options were offered, black parents would be highly likely to take advantage of them.

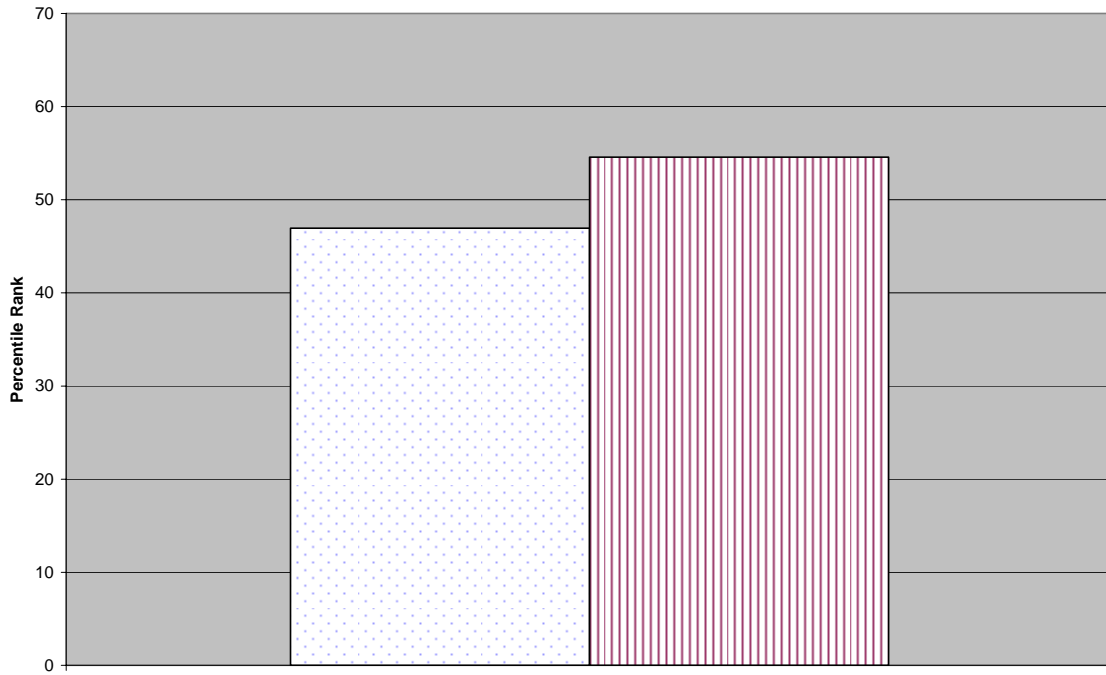
When children first enter school, black kindergartners are at the 24th percentile in a test of general knowledge; at the 40th percentile in a test of reading readiness; and at the 37th percentile in a test of math skills.⁴⁹

Figure 6.13 - Academic Skills of Entering Kindergartners



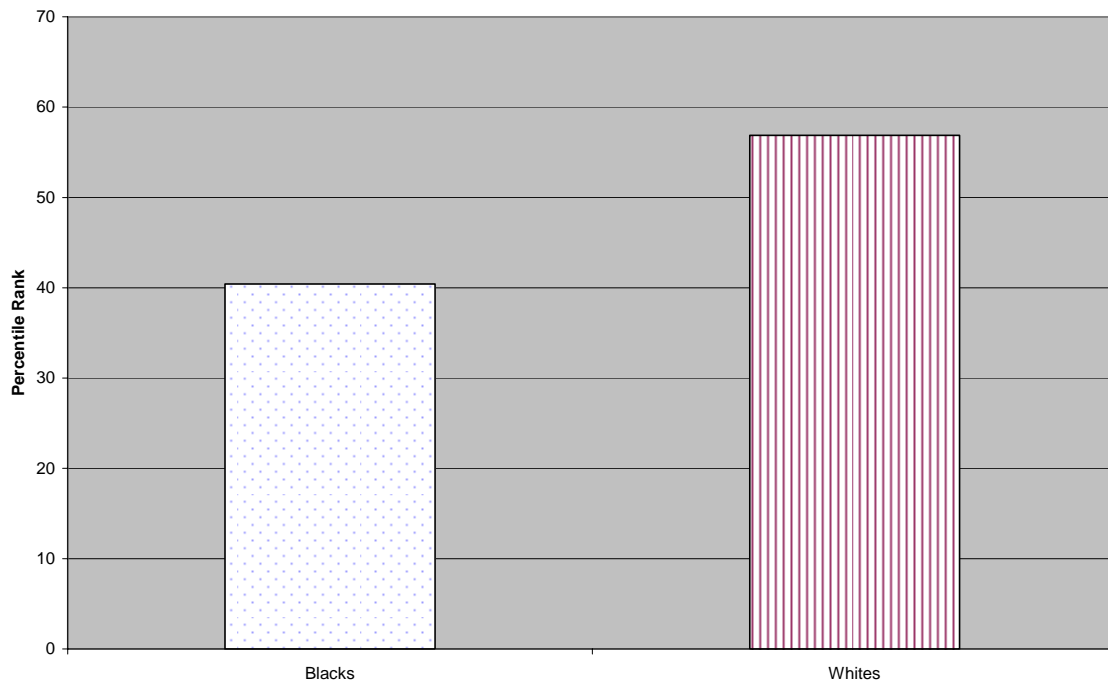
During their preschool and school years, 15 percent of black children are assigned to special education programs, compared to 11 percent of white children.⁵⁰

Figure 6.14 - Assignment to Regular, Not Special Education



Summary: Here we summarize these indicators of early childhood preparation and school readiness. Again, if we assume that each of these indicators reflects normally distributed characteristics, and if we arbitrarily assign each of these indicators equal weight, we conclude that young black children, on average, are at the 40th percentile of early childhood preparation and school readiness, while young white children, on average, are at the 57th percentile.*

Figure 6.15 - Summary: School Readiness



* See note above (for Figure 3.8) on "double counting," which applies here as well.

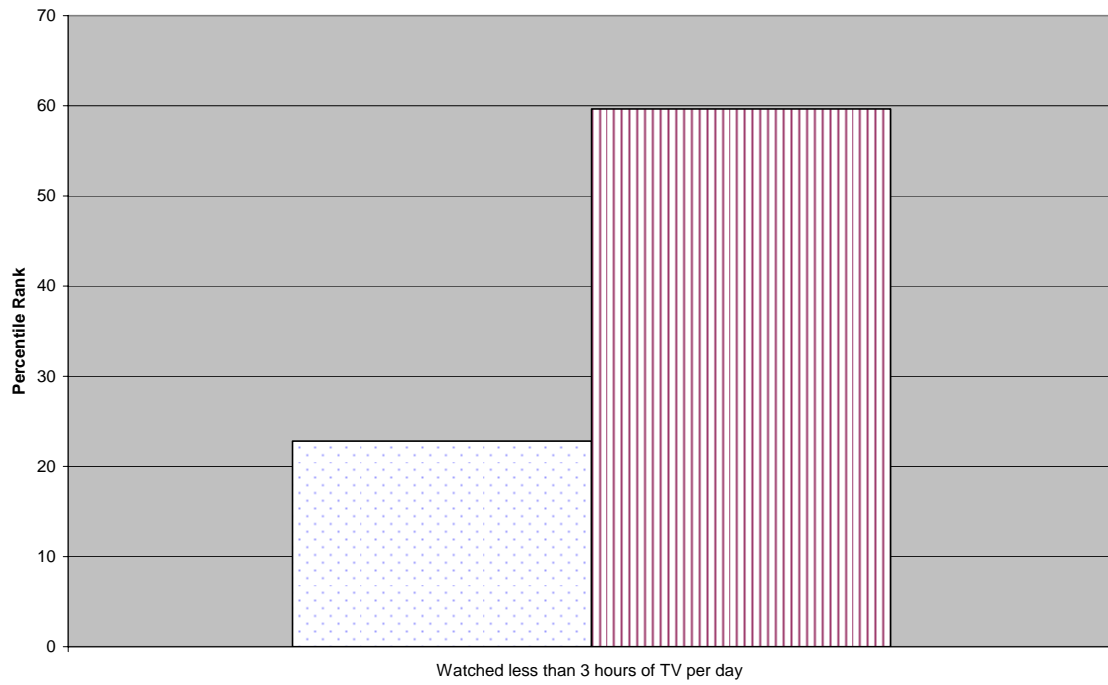
7.

Non-Classroom Hours in the School Years

As described, above, the academic achievement gap (measured by differences in test scores during school) may be partly attributable to inequality in school readiness. During children's school years, inequality is further compounded by differences in out-of-school experiences that contribute to school success.

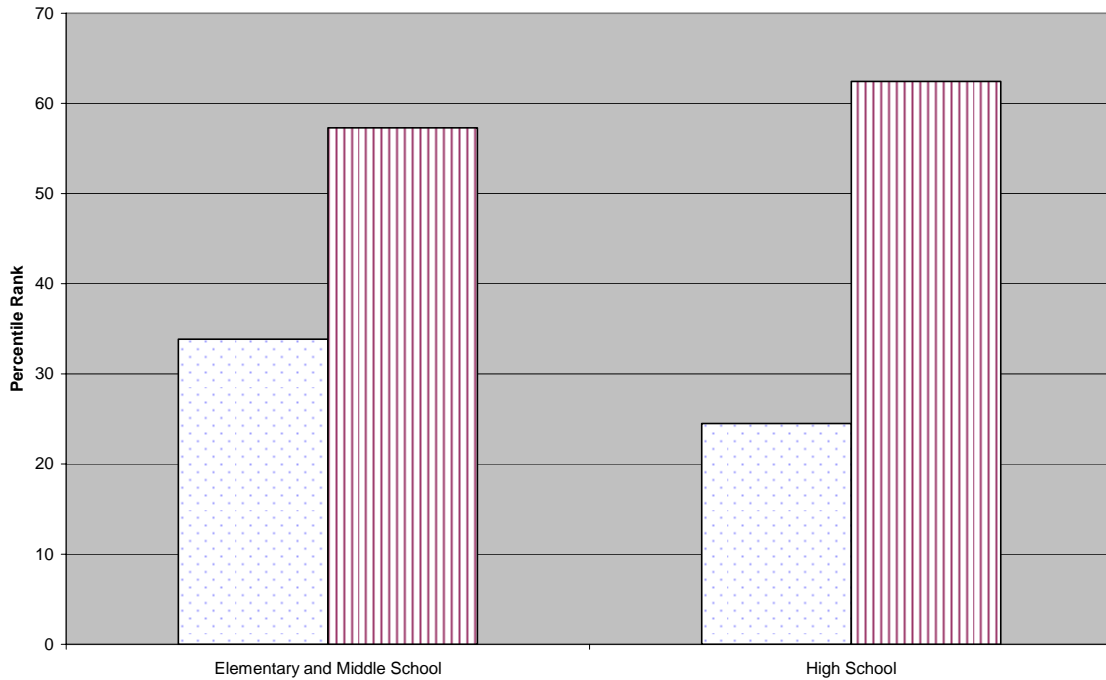
We earlier speculated that differences in the quality of child care may contribute to preschool black children watching more hours of television than preschool white children, and this may interfere with the development of small motor skills that predict later reading ability. We showed that black fourth graders watch more television than white fourth graders. This racial difference in television-watching continues on through adolescence, perhaps reflecting the relative accessibility of organized cultural, athletic, or academic programs in the after-school hours. On an average school day, 67 percent of black high school students watch three or more hours of television; only 29 percent of white high school students watch this much television.⁵¹

Figure 7.1 - Appropriate Television Watching by High School Students



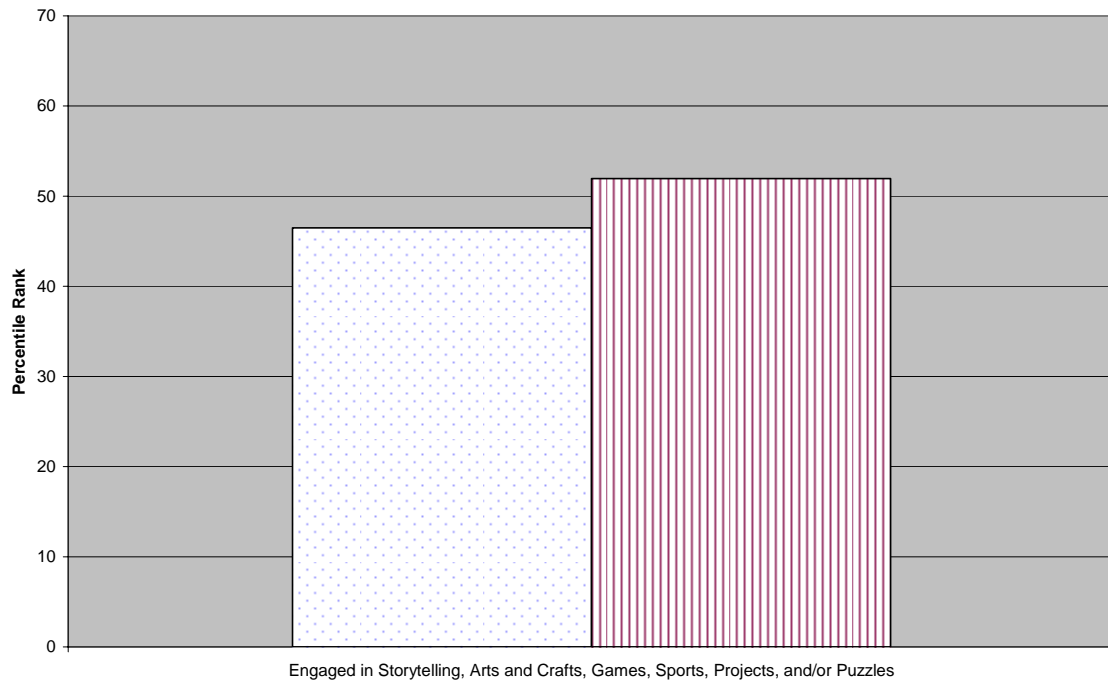
Inequalities in the use of computers that we described for the preschool years continue when children enter and go through school. Only 29 percent of black elementary and middle school students use a computer at home but 51 percent of white students do so. In high school, 38 percent of black students use a computer for homework but 76 percent of white students do so.⁵²

Figure 7.2 - Home Computer Use by Schoolchildren



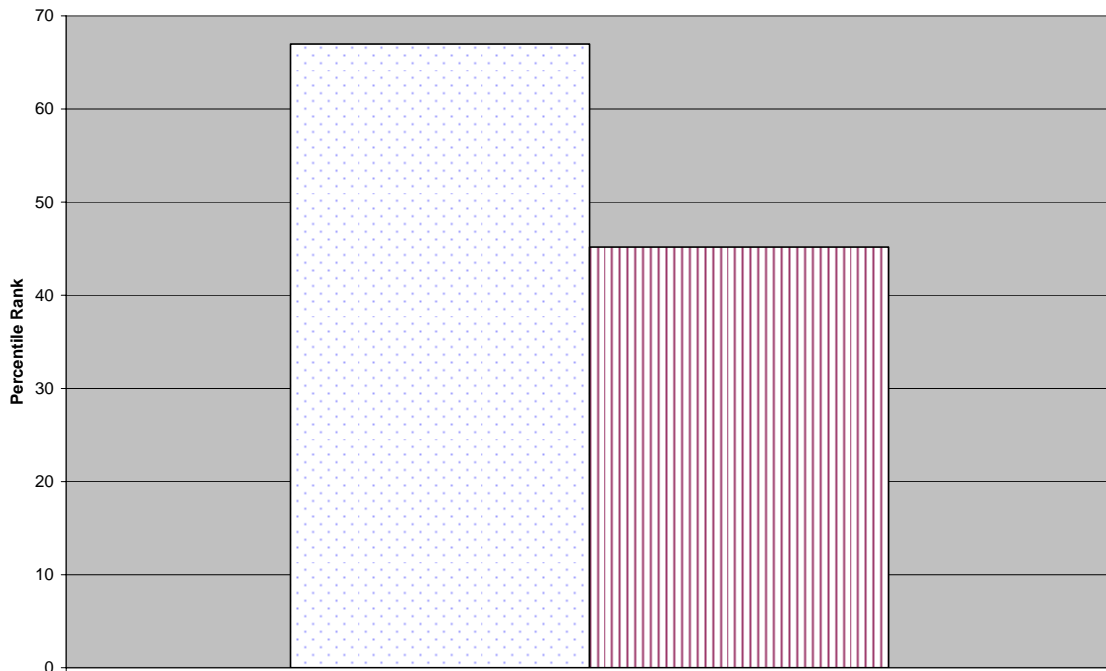
In the elementary school grades, a slightly larger percentage of white than black parents engage in activities with their children that develop their children's intellectual and physical abilities - on a composite we have created of telling children stories, doing arts and crafts or home repair projects with children, playing active games or sports with children, and playing board games or doing puzzles with children, 70 percent of black parents engaged in these activities, compared to 74 percent of white parents.⁵³

Figure 7.3 - Developmentally Helpful Parental Activities



Yet on a few measures of activities that parents conduct with their children, black parents raise children in ways that are more conducive to success than the ways white parents raise their children. For example, black parents are more likely to help their children with homework than white parents: 93 percent vs. 82 percent.⁵⁴ This black advantage persists despite the fact that, because black parental education levels are lower, on average, than those of whites, black parents are less prepared to help their children with homework than white parents.

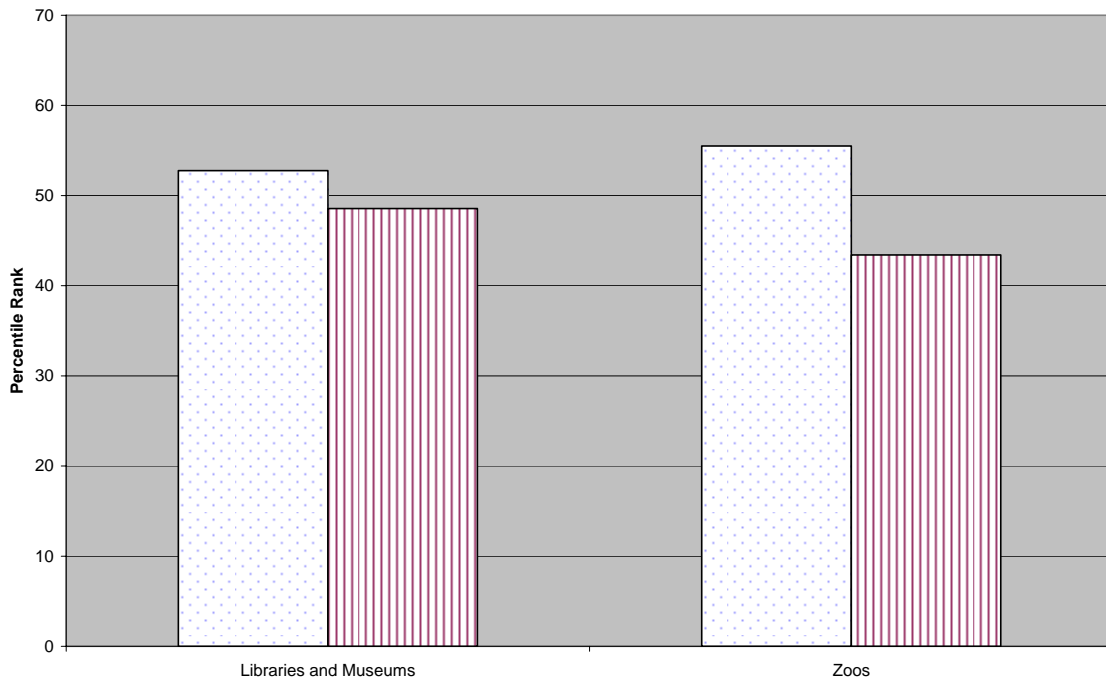
Figure 7.4 - Parental Monitoring of Homework



Further, we noted earlier that black parents are less likely than white parents to take their preschool children to libraries. But once children are in elementary schools, black parents are more likely than white parents to take their children regularly to libraries, 49 percent to 41 percent. (We don't know to what extent these differences in

literacy experiences would persist after parental purchases of children's books were taken into account.) Black school aged children are also more likely than white children to be taken each month by their parents to visit an art gallery, museum, or historical site, 22 percent to 19 percent. They are more likely than white children to be taken each month by their parents to visit a zoo or an aquarium, 15 percent to 9 percent.⁵⁵

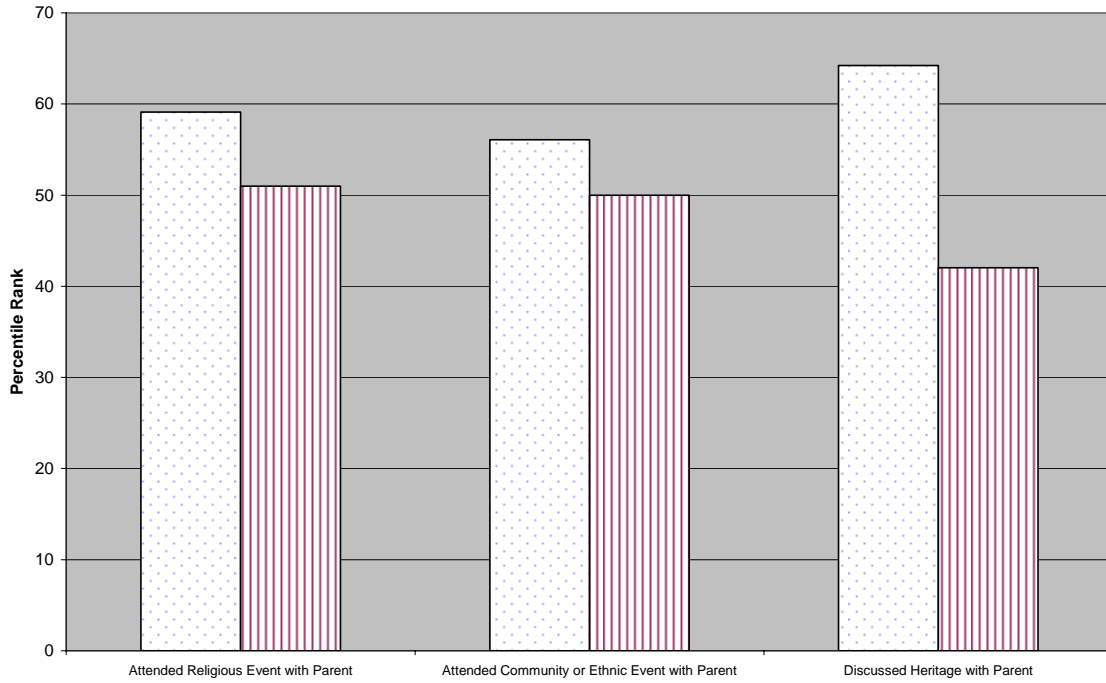
Figure 7.5 - Visits to Libraries, Museums, and Zoos with Parent



Black children are more likely than white children to be taken each month by their parents to a religious event, 62 percent to 54 percent, or to an event sponsored by a community or ethnic organization, 29 to 24 percent. Black parents are more likely than white parents to talk regularly to their elementary school-aged children about their family

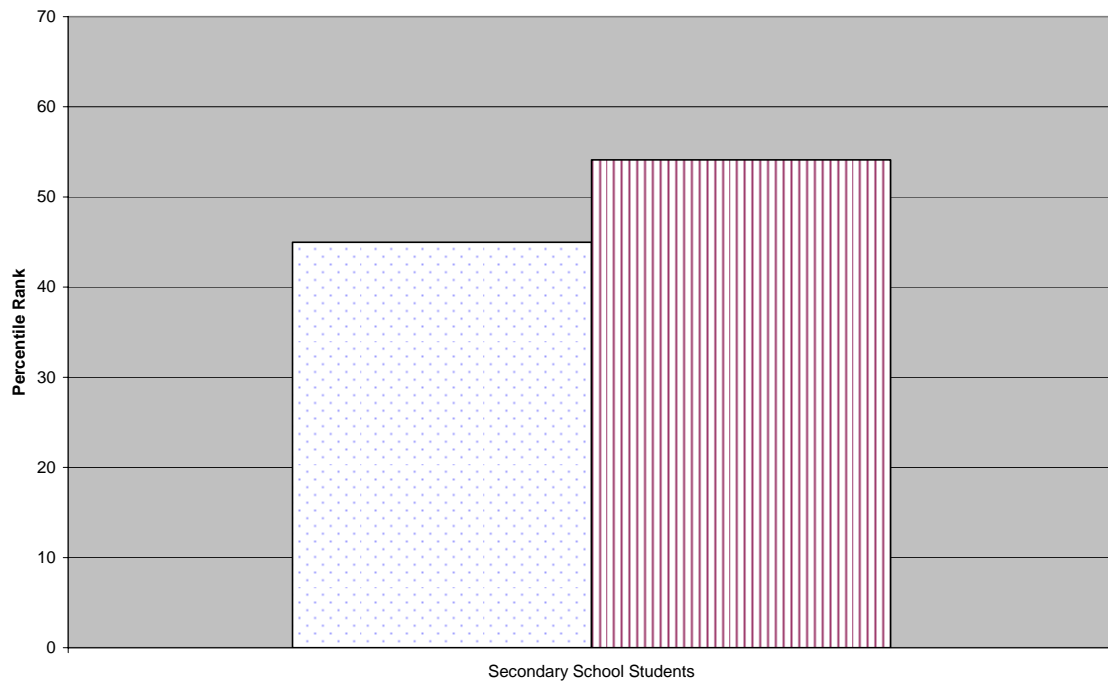
or ethnic heritage - 67 percent of black parents do this each week, compared to 45 percent of white parents.⁵⁶

Figure 7.6 - Attachment to Religious or Ethnic Heritage



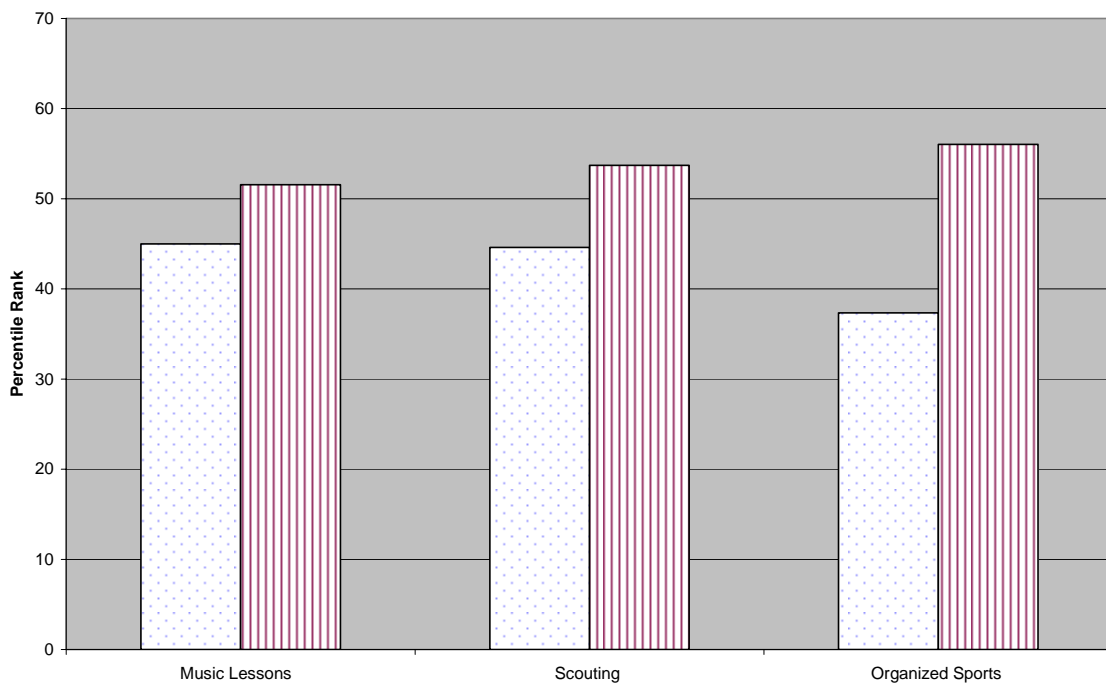
In school, black students are less likely than whites to engage in extra-curricular activities that develop intellectual, organizational and physical ability. Fifty-three (53) percent of black secondary school students take part in such activities, compared to 62 percent of white secondary school students.⁵⁷

Figure 7.7 - Participation in Extra-curricular School Activities



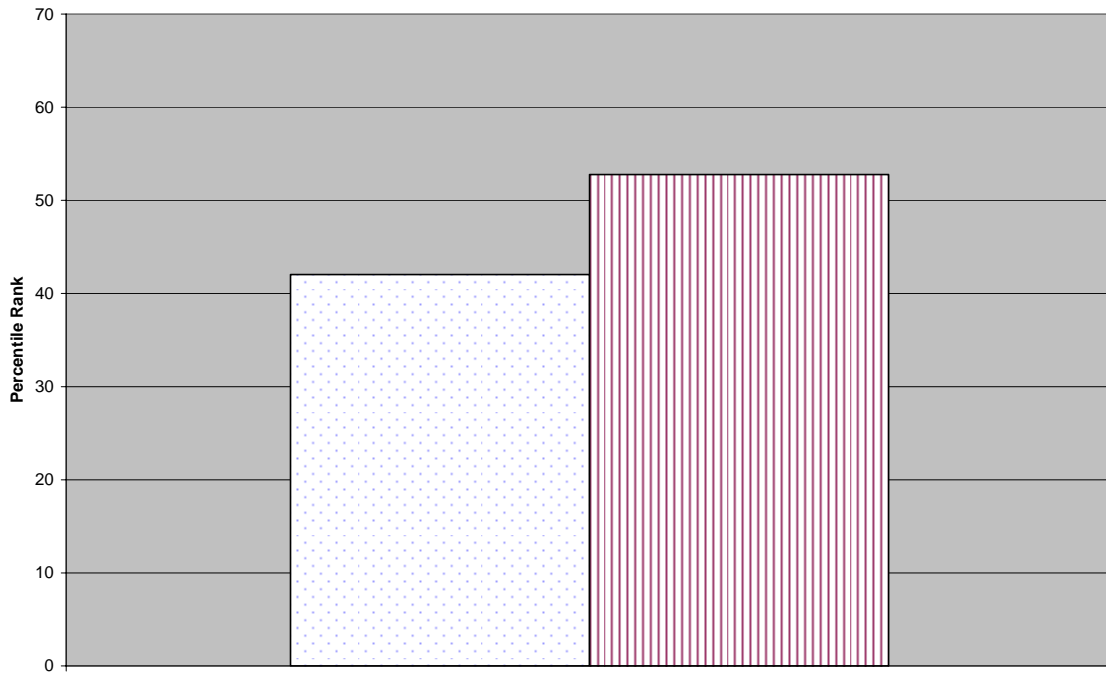
Out of school, 14 percent of black elementary and secondary students take music lessons, compared to 18 percent of white students who do so. Twenty (20) percent of black students take part in scouting programs, compared to 27 percent of white students who do so. Thirty (30) percent of black students take part in organized sports, like soccer or Little League, compared to 48 percent of white students who do so.⁵⁸ Considering combined participation on either in-school and out-of school sports teams, 53 percent of black students participate, compared to 61 percent of white students who do so.⁵⁹

Figure 7.8 - Participation in Music, Scouting, and Sports



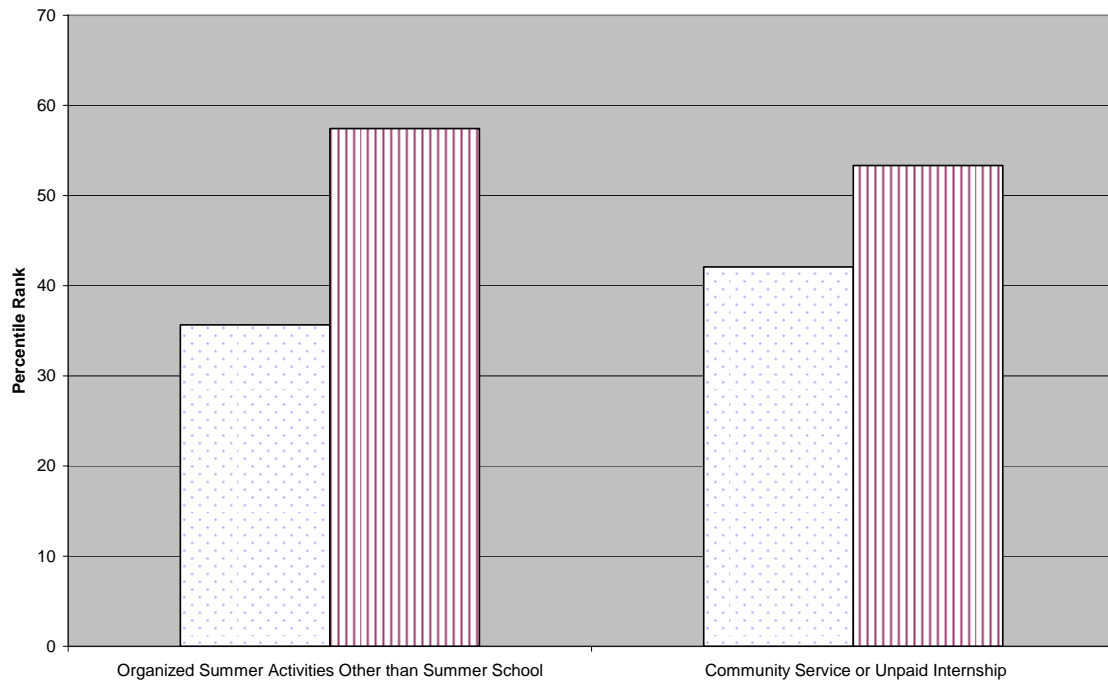
This helps to explain why only 55 percent of black high school students engage, at least three times a week, in the kind of vigorous aerobic activity that is recommended for good health, while 65 percent of white high school students do so.⁶⁰

Figure 7.9 - Adolescents with Adequate Physical Exercise



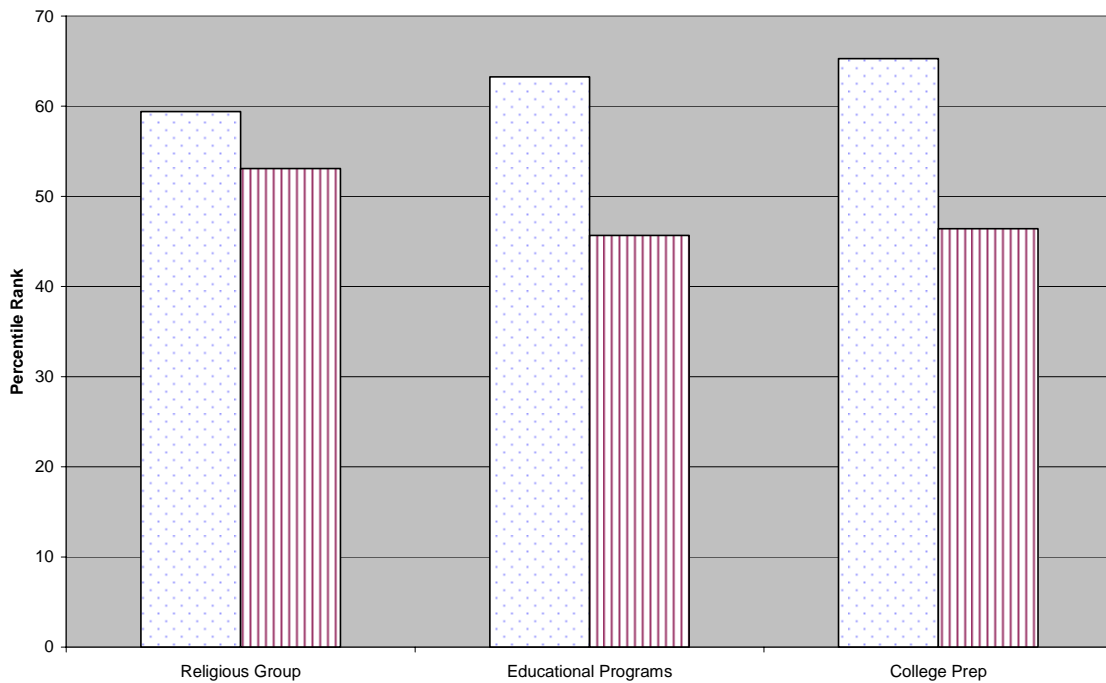
Such inequalities continue in the summer, when white children are more likely to gain additional organizational, athletic, and leadership experiences than black children. Twenty-five (25) percent of black schoolchildren participate in organized summer activities of all kinds, compared to 45 percent of white children.⁶¹ Eight (8) percent of black teenagers either get unpaid internships or do community service activities during their summer breaks from school, compared to 13 percent of white teenagers.⁶²

Figure 7.10 - Summer Organizational, Athletic, and Leadership Activities



Note, however, that although white schoolchildren are more likely to be enrolled by their parents in after-school activities like scouting, music lessons, or sports leagues, black children are more likely to be enrolled in religious activities or educational programs, including college admission test preparatory classes.⁶³

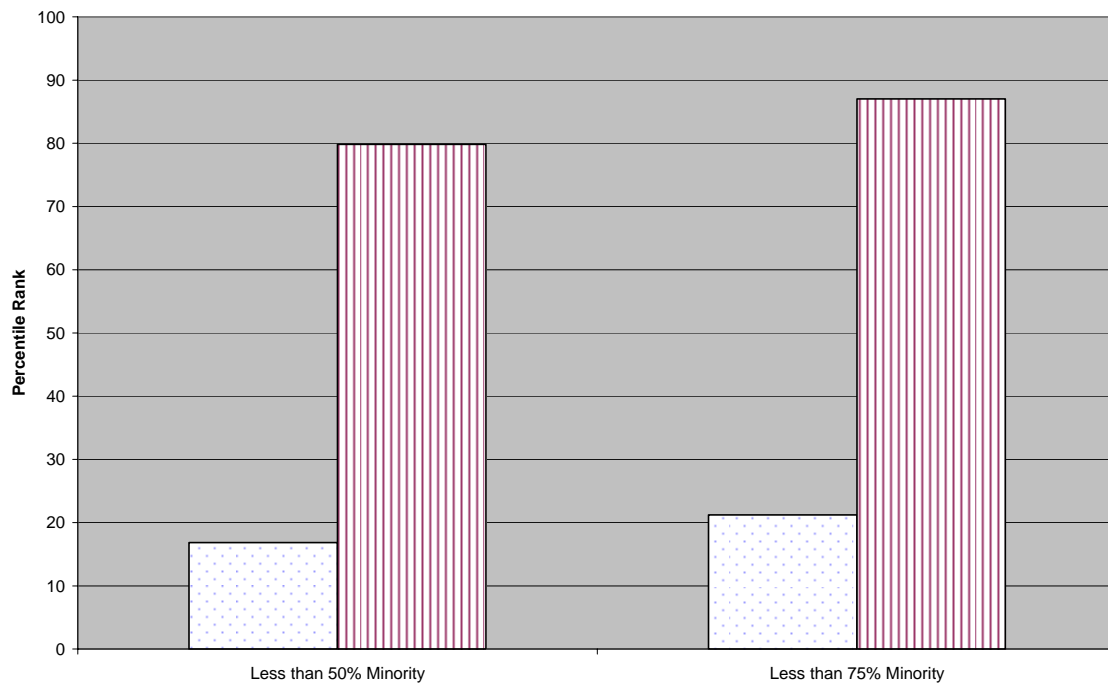
Figure 7.11 - Out of School Religious and Academic Activities



When school-aged children see neighbors, parents of friends, or friends of parents who are well educated, have professional jobs, and are otherwise successful, they have models to which they can aspire. Thus, for disadvantaged students, living in communities with diverse populations can contribute to their success. For all the reasons that social and economic disadvantage contribute to childrens' failure, living amidst concentrated social and economic disadvantage accelerates that contribution. Black children are more likely to live amidst concentrated social and economic disadvantage than whites, whether that disadvantage is described as racial or economic segregation, or both. Seventy-two

(72) percent of black children attend schools where more than half of their fellow students are members of minority groups, compared to 11 percent of white children who do so. Fifty-one (51) percent of black children attend schools where more than $\frac{3}{4}$ of their fellow students are members of minority groups, compared to 3 percent of white children who do so.⁶⁴

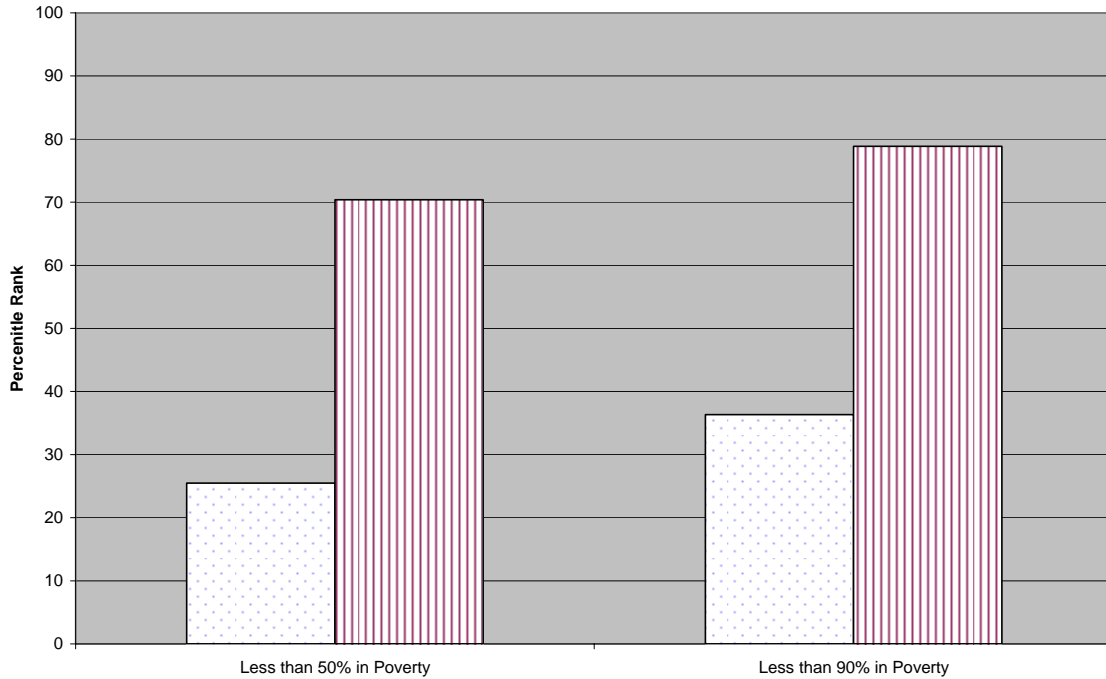
Figure 7.12 - Attending Schools with White Peers



The average black student attends a school where 49 percent of his or her fellow students get subsidized lunches. The average white student attends a school where only 23 percent of his or her fellow students get subsidized lunches. Sixty-one (61) percent of black children attend schools where more than 50 percent of their classmates are from low-income families, eligible for subsidized lunches. Only 18 percent of white children live in such communities. Twelve (12) percent of black children attend schools where more than 90 percent of their classmates are from low-income families, compared to only

1 percent of white children.⁶⁵ In such extremely distressed neighborhoods, peer and community influences towards success are less available.

Figure 7.13 - Attending Schools with Socioeconomically Advantaged Peers

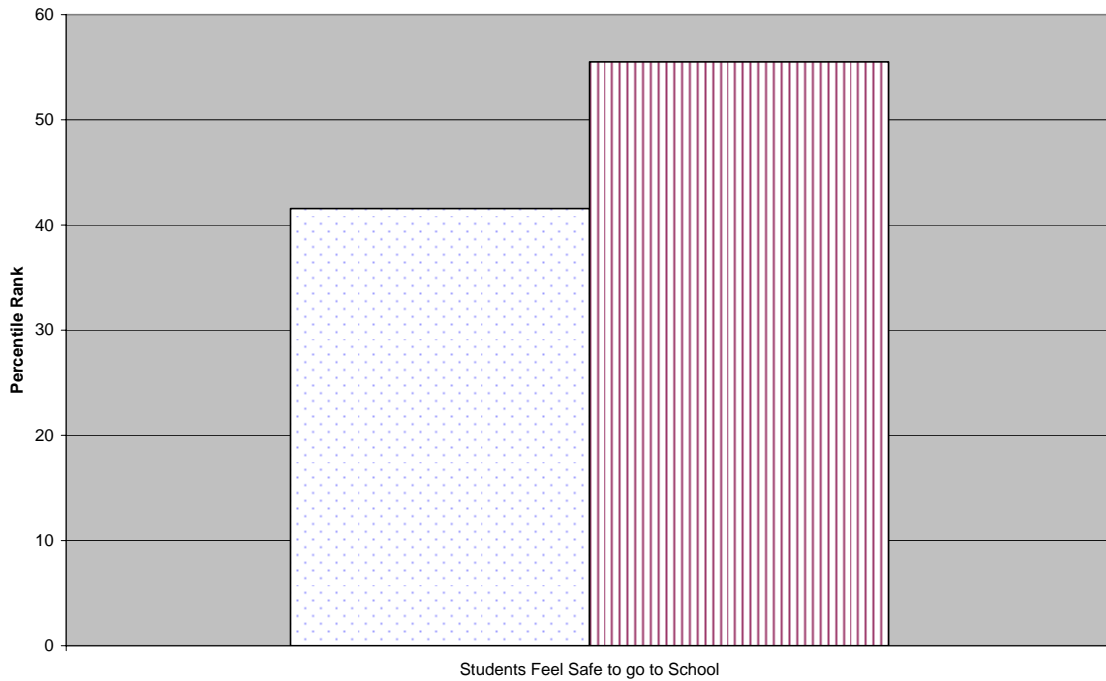


Probably in part because black youths are more likely to live in distressed communities, we are less able to provide them with safe school environments. Schools where more than 50 percent of the students are minority report 96 serious violent incidents annually per 100,000 students. Schools where from 5 to 19 percent of the students are minority, a proportion that would be more nationally typical, report fewer than half that number, 40 serious violent incidents per 100,000 students.

Similarly, schools where at least ¾ of the students receive subsidized lunch report 81 violent incidents per 100,000 students. Schools that are more representative, where 20 to 34 percent of the students receive subsidized lunch, report 58 violent incidents per 100,000 students.⁶⁶

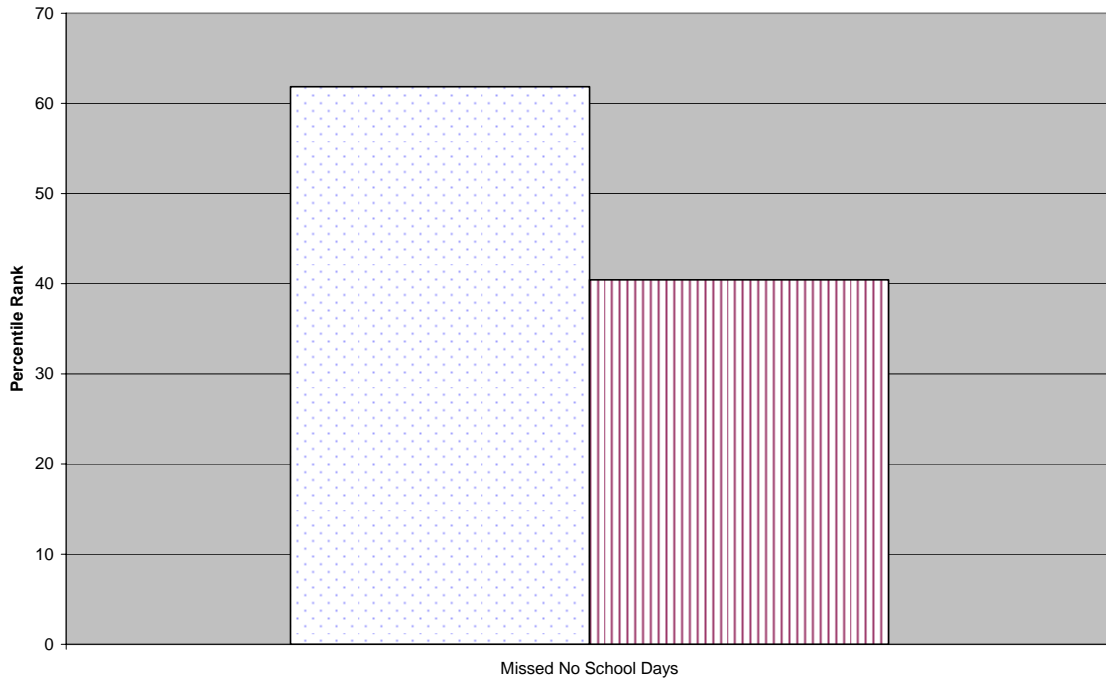
Ten (10) percent of black high school students report feeling too unsafe to go to school at least once in the month before being surveyed, twice the rate for white high school students.⁶⁷ If black students miss more school days because they are unsafe, this will affect the time available for learning and also depress achievement.

Figure 7.14 - Attending Safe Schools



Despite these relative feelings of lack of safety, however, black children seem to be more motivated in some ways to attend school than white children. Black children, for example, miss significantly fewer days of school because of illness or injury than do white students.⁶⁸ Partly, this may result from black parents having fewer child care alternatives, and so children are more likely to be sent to school when mildly ill.*

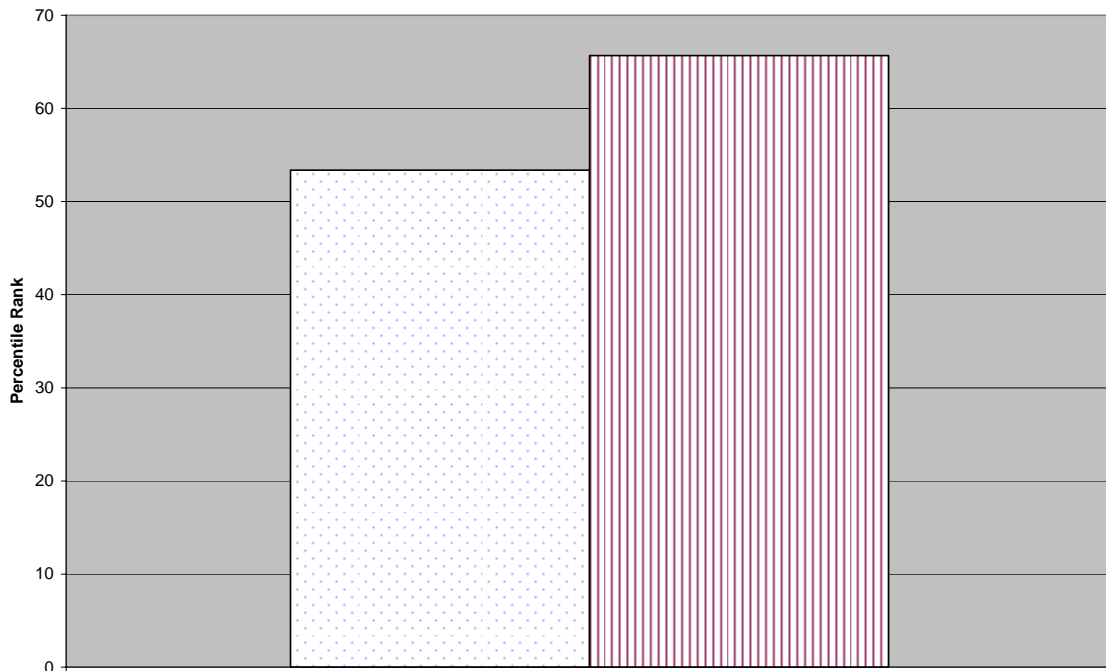
Figure 7.15 - School Attendance



* We report these data as presented by the National Center for Health Statistics. However, we recognize that they may be inconsistent with the more plausible pattern that disadvantaged children who are more likely to have poorer health are more likely to miss school because of poor health. NCHS reports that 40 percent of black children missed no school days in the past 12 months due to illness or injury, compared to 21 percent of white children. And, NCHS reports, 32 percent of poor children missed no school days due to illness or injury, compared to 24 percent of non-poor children; 35 percent of children whose parents have less than a high school education missed no school days due to illness or injury, compared to 26 percent of children whose parents have more than high school. These are the data upon which we rely. Nonetheless, they seem inconsistent with data we report, below, that black children are more likely to suffer from asthma and are more likely to miss school as a result. Starfield (1997) concludes that poor children miss 30 percent more days from school than non-poor children.

Earlier, we presented data showing inequalities in the anti-social behavior of four year olds. These differences continue through school. Black 12 year-old children are more likely to engage in dishonest, cruel, non-cooperative, violent or disobedient behavior than whites: on a scale of pro-social behavior, black 12 year olds are at the 53rd percentile, and whites are at the 67th.^{69*}

Figure 7.16 - "Pro-Social" Behavior of Twelve-Year Olds

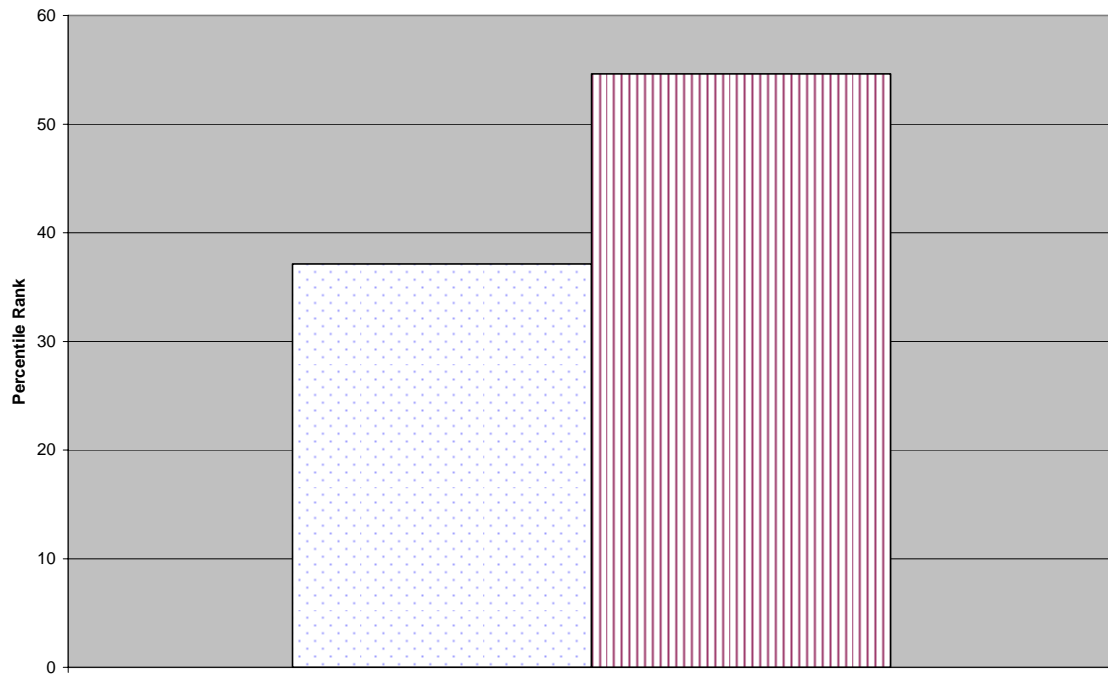


Although blacks comprise only 15 percent of the juvenile population, they commit 55 percent of all known juvenile murder offenses. Twenty-five (25) of every 100,000 black 14-17 year olds are known murder offenders. The corresponding rate for

* See note, above, regarding Figure 6.11, for an explanation of why both blacks and whites, on average, are above the 50th percentile on this indicator.

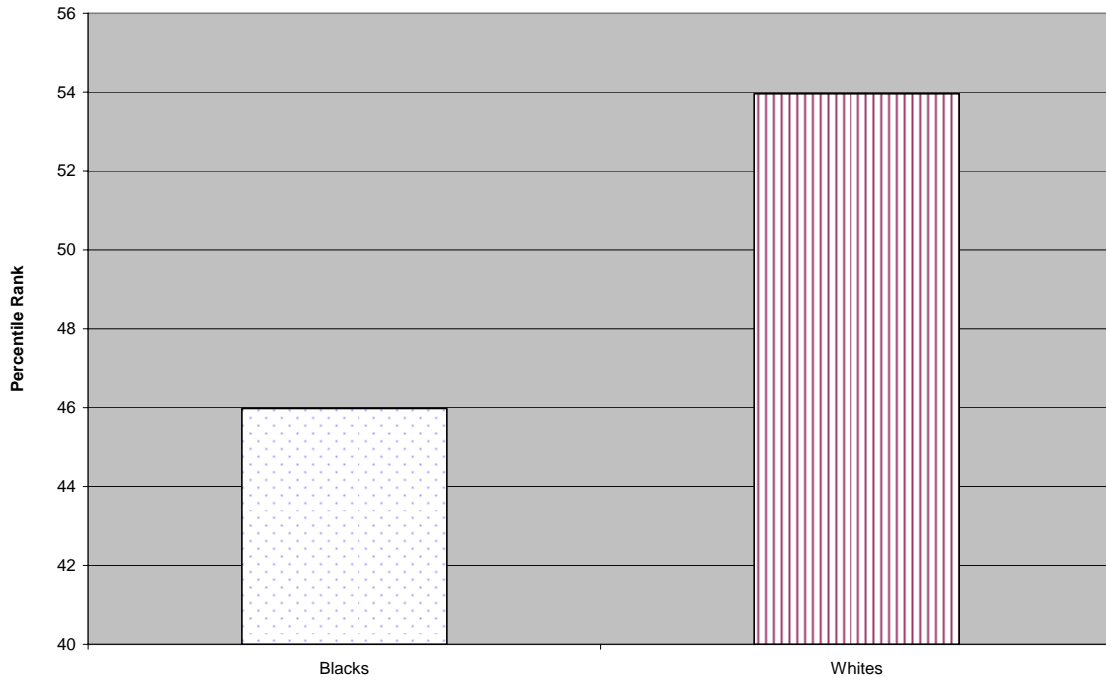
white juveniles is 4 per 100,000; the black juvenile murder offender rate is more than six times the white rate.⁷⁰

Figure 7.17 - Adolescents with Lawful Non-violent Behavior



Summary: Again, we summarize these indicators of non-classroom hours, assuming that children's experiences are normally distributed and that each of the indicators has equal weight. As this chart shows, black children, on average, are at the 46th percentile of all children on measures of positive out-of-classroom experiences, while white children, on average, are at the 54th percentile.

Figure 7.18 - Summary: Positive Non-school Experiences of Schoolchildren

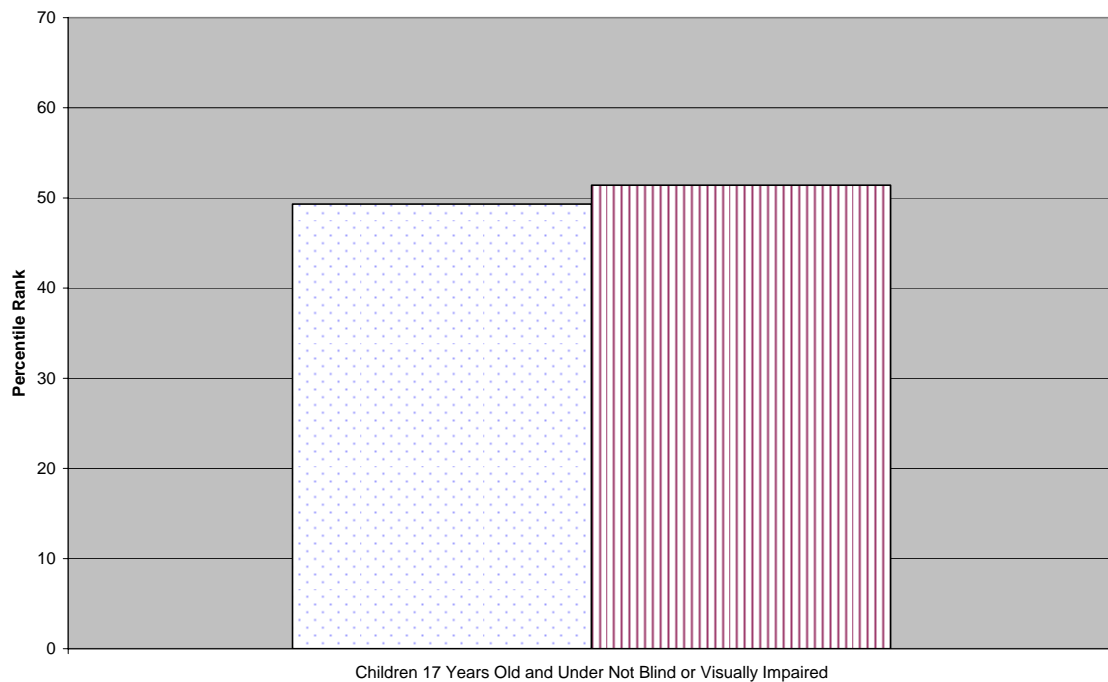


8.
Health of School Age Children

We described above the inequalities in the health of young children who enter school. As they move through school, inequalities persist, but take somewhat different forms.

Mentioned above was that black children enter school with a rate of vision difficulty that makes reading difficulty more probable. For children under 18, for the most severe cases of blindness and vision difficulty that cannot be corrected by eyeglasses, the rate for blacks is 2.6 percent; for whites, 2.3 percent.⁷¹ Again, we have no good national data on less severe vision problems that nonetheless affect reading success.

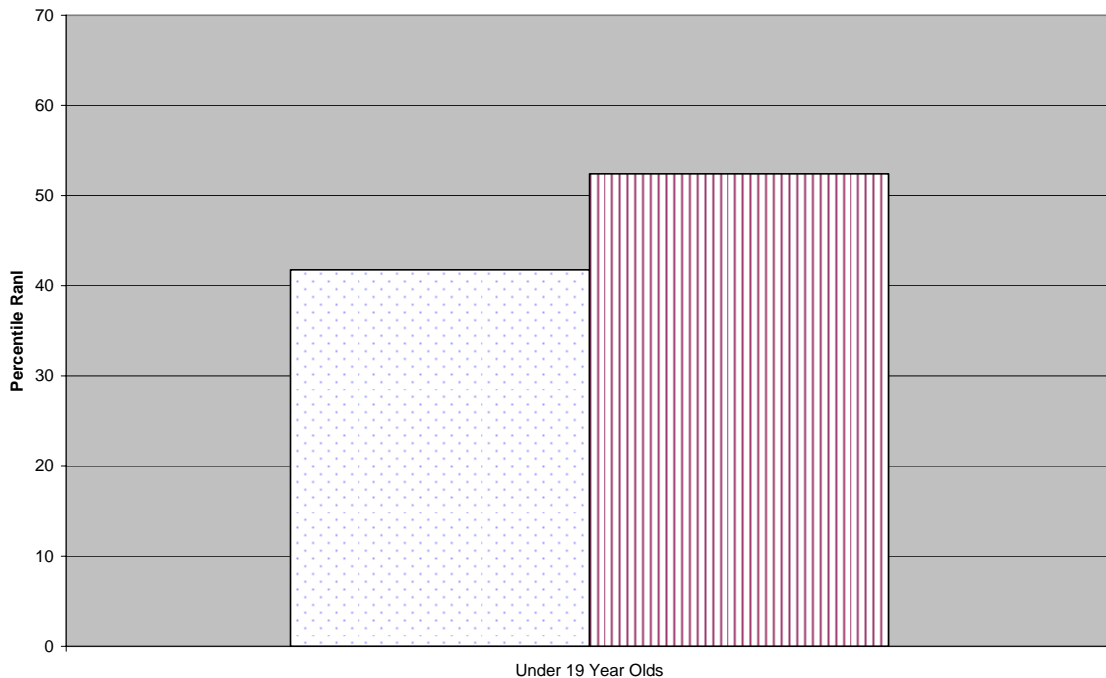
Figure 8.1 - Schoolchildren's Healthy Vision



Because the environmental conditions in neighborhoods where disadvantaged children reside contain more allergens, minority and low-income children are more likely

to suffer from asthma. Seventeen (17) percent of black children suffer from asthma, vs. 11 percent of white children. (Because black children get worse primary medical care and are less likely to be diagnosed, these numbers may understate the disparity.) Again, this is a racial and socioeconomic disparity; although poor children suffer from asthma more than non-poor children, the disparity for poverty (15 percent for poor children vs. 12 percent for non-poor) is smaller than the racial disparity.⁷²

Figure 8.2 - Non-Asthmatic Breathing



Asthma is generally believed to be the single largest cause of chronic school absenteeism.⁷³ It keeps children up at night, and, if they do make it to school the next day, they are likely to be drowsy and less attentive. Middle-class asthma sufferers typically get treatment for its symptoms, while disadvantaged children get relief less often. As a result, low-income asthmatic children are about 80 percent more likely than middle-class asthmatic children to miss more than seven days of school a year from the

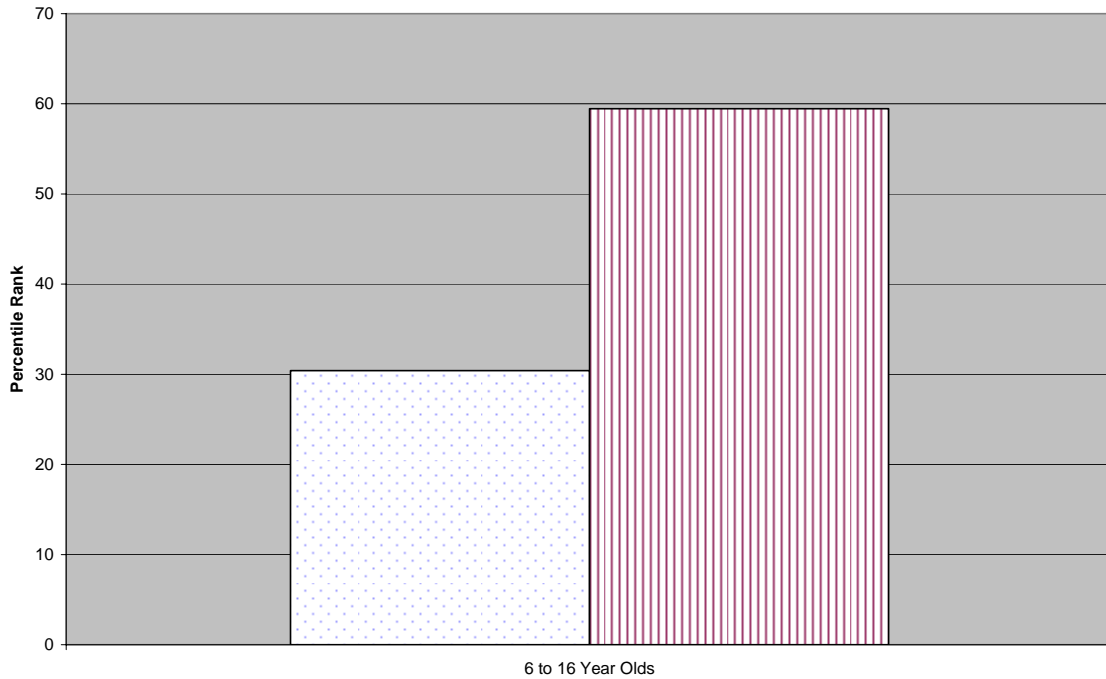
disease.⁷⁴ Children with asthma refrain from exercise and so are less physically fit. Irritable from sleeplessness, they also have more behavioral problems that depress achievement.⁷⁵

Perhaps because of environmental factors, asthma increased for children overall by 50 percent from 1980 to 1996. But it increased twice as rapidly for black children,⁷⁶ perhaps partly because their environments are worse, or because their low rate of diagnosis is improving. Unequal increases in asthma, with its impact on children's attendance and behavior, will undermine other efforts to raise black student achievement.*

We noted above that although lead poisoning has diminished, black preschoolers have 3 times the rate of whites. Disparities in blood lead levels continue during the school years. There is no clear cut-off between dangerous and safe blood lead levels. Many school-age children have less-than-“dangerous” levels that still have subtle depressing effects on cognitive ability. In particular, school-age children with levels even half as high as those considered dangerous have lower reading scores, lower math scores, lower nonverbal reasoning scores, and less short-term memory. For black and white children from the ages of 6 to 16, 22 percent of blacks have this half-dangerous level, more than three times the white rate of 6 percent.⁷⁷

* The accuracy of these rates may be questioned because they are self-reported (by parents) and because there may now be more awareness of asthma, leading parents to categorize respiratory problems as asthmatic that they might not have categorized in this way in 1980. However, there seems to be a consensus among public health professionals that asthma has increased, even if the specific rate of increase reported here is open to question. Noguera 2003 found a chronic respiratory disease rate of 40 percent in an Oakland, California school.

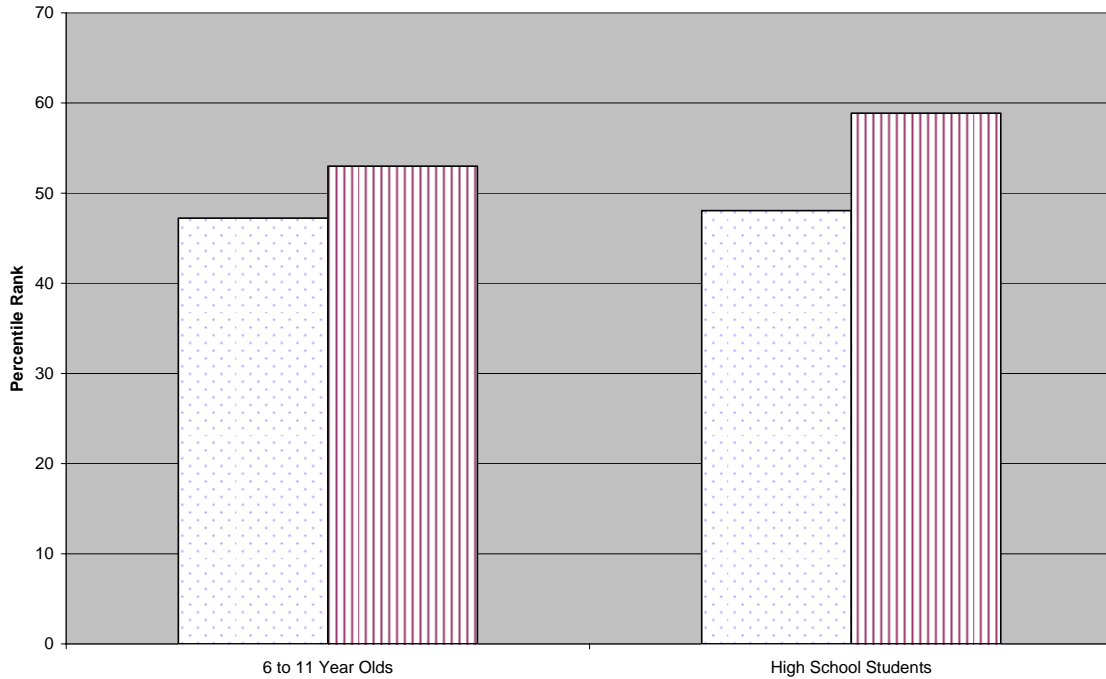
Figure 8.3 - Schoolchildren's Avoidance of Lead in Blood



Perhaps from differences in diet, perhaps from differences in opportunities for sports and physical activity, black children are more likely to be overweight than whites. Excessive television watching is a significant predictor of obesity in children,⁷⁸ and we have already seen that black children, perhaps because of less adequate child care arrangements, watch more television than whites. In the elementary school years, 20 percent of black children are overweight, vs. 14 percent of whites. Including those who are not overweight, but who are heavy enough to be seriously at risk of overweight, 34 percent of black elementary school children are either overweight or at risk of being overweight, compared to 29 percent of whites.⁷⁹ In high school, 18 percent of black students are overweight compared to 12 percent of whites; 36 percent of black high

school students are either overweight or at risk of being overweight, compared to 26 percent of whites.^{80*}

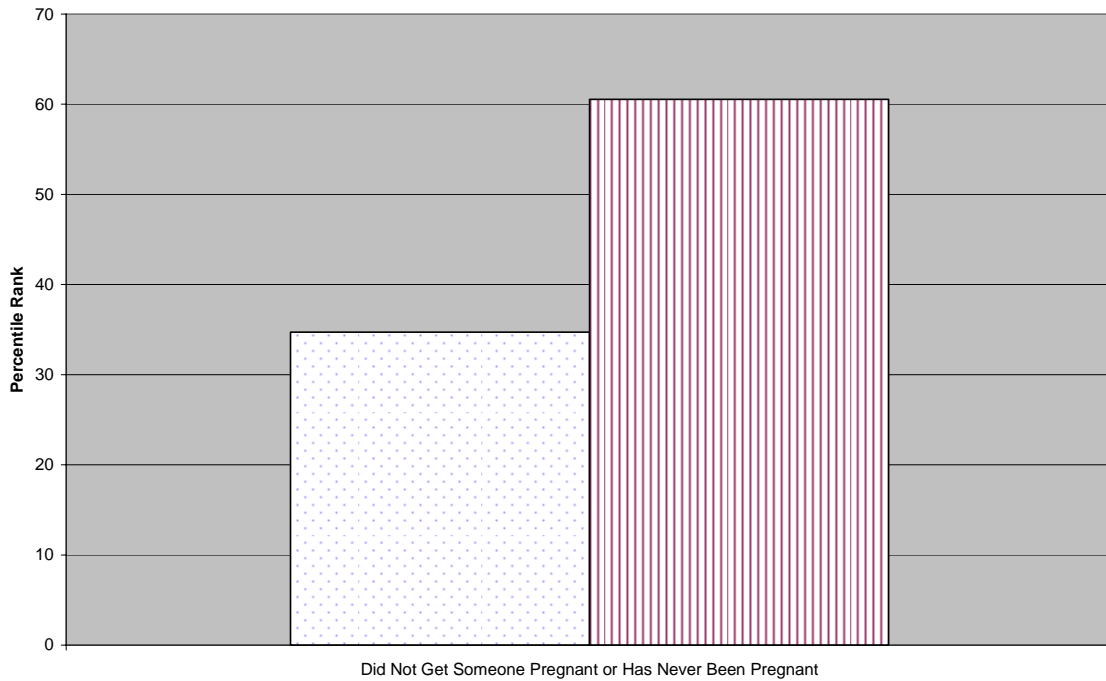
Figure 8.4 - Schoolchildren with Healthy Body Weight



* The Centers for Disease Control (CDC) defines “overweight” as greater than the 95th percentile in “body mass index” (BMI). The body mass index is calculated from the relationship of height to weight, adjusted for age and gender. The CDC defines “at risk of overweight” as body mass index greater than the 85th but less than the 95th percentile (NCHS 2005a).

Black students are more likely to engage in irresponsible sexual behaviors than whites. Nine (9) percent of black high school students have either been pregnant, or gotten someone pregnant, compared to 2 percent of whites.⁸¹

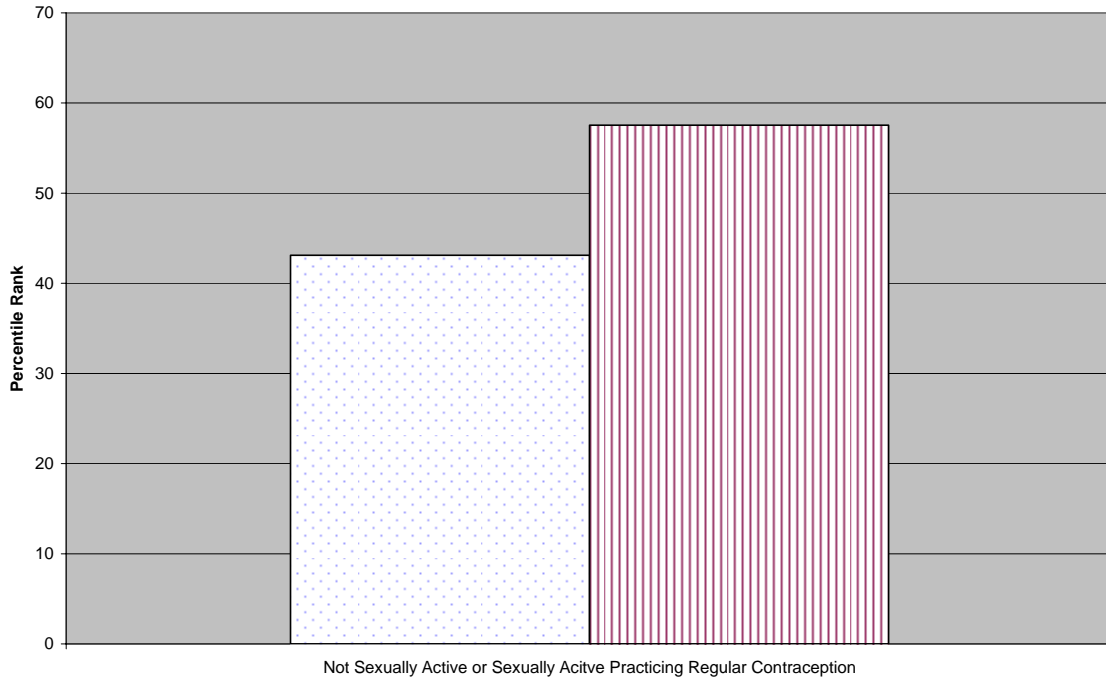
Figure 8.5 - High School Students' Avoidance of Pregnancy



Although white students are somewhat more likely to use contraception than blacks (mostly because white students are more likely to take birth control pills; the rate of condom use is similar for black and white teenagers), most of the difference in pregnancy rates is attributable to the fact that 49 percent of black high school students are sexually active, compared to 30 percent of whites. As a result, 9 percent of black and 4

percent of white high school students are sexually active without practicing regular contraception.^{82*}

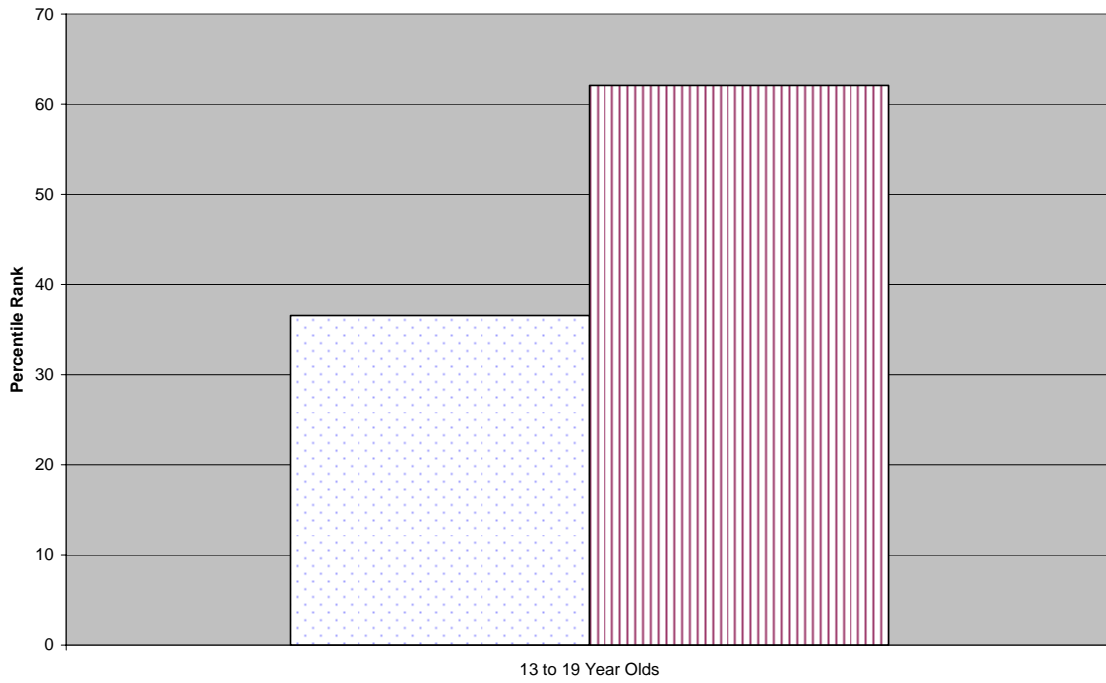
Figure 8.6 - Sexual Responsibility of High School Students



* These estimates are approximate. The numerator is use of contraception during last intercourse, but the denominator is intercourse within last three months. Because the numerator and denominator don't match, the result may be understated.

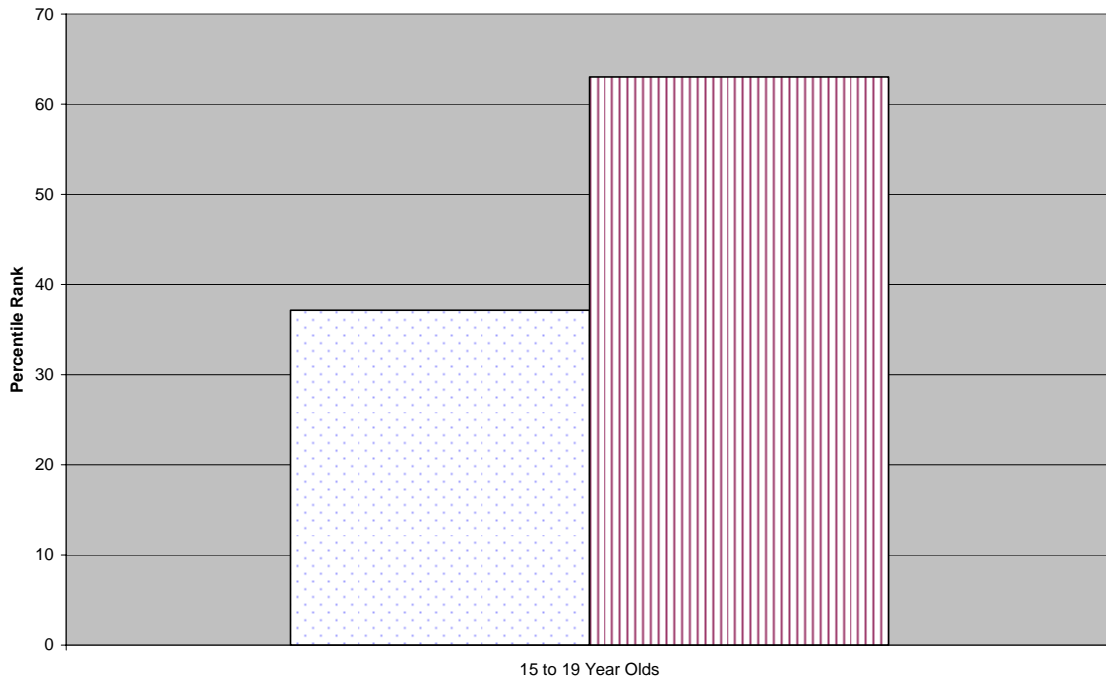
Black teenagers are diagnosed with new cases of AIDS at 20 times the annual rate of whites - for every million black teenagers, there are 29 new cases; for every million whites, 1.5 new cases.⁸³

Figure 8.7 - Adolescents Who Avoid AIDS



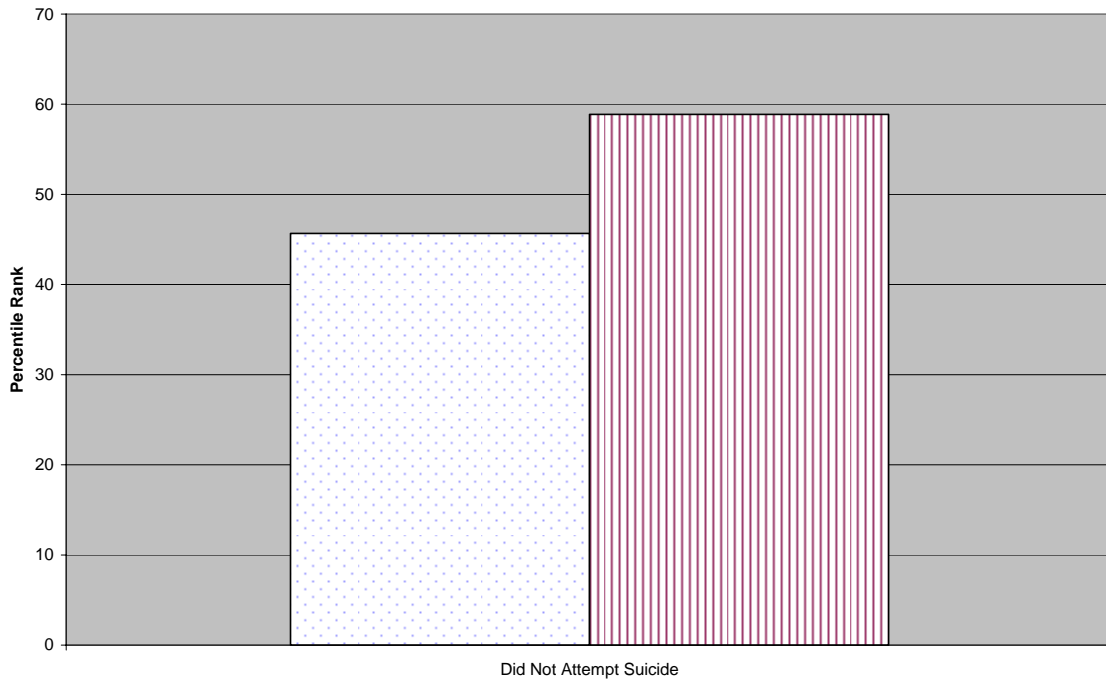
Another mortal danger to black teenagers is firearms. Each year, of every 100,000 black teenagers from 15 to 19 years of age, 27 are victims of homicide by firearms. For whites the rate is 2 per 100,000.⁸⁴

Figure 8.8 - Adolescents Who Avoid Firearm Danger



Black teenagers are also more likely to be suicidal. Four (4) percent of black high school students require medical attention annually for a suicide attempt; only 2 percent of white high school students require it.^{*85}

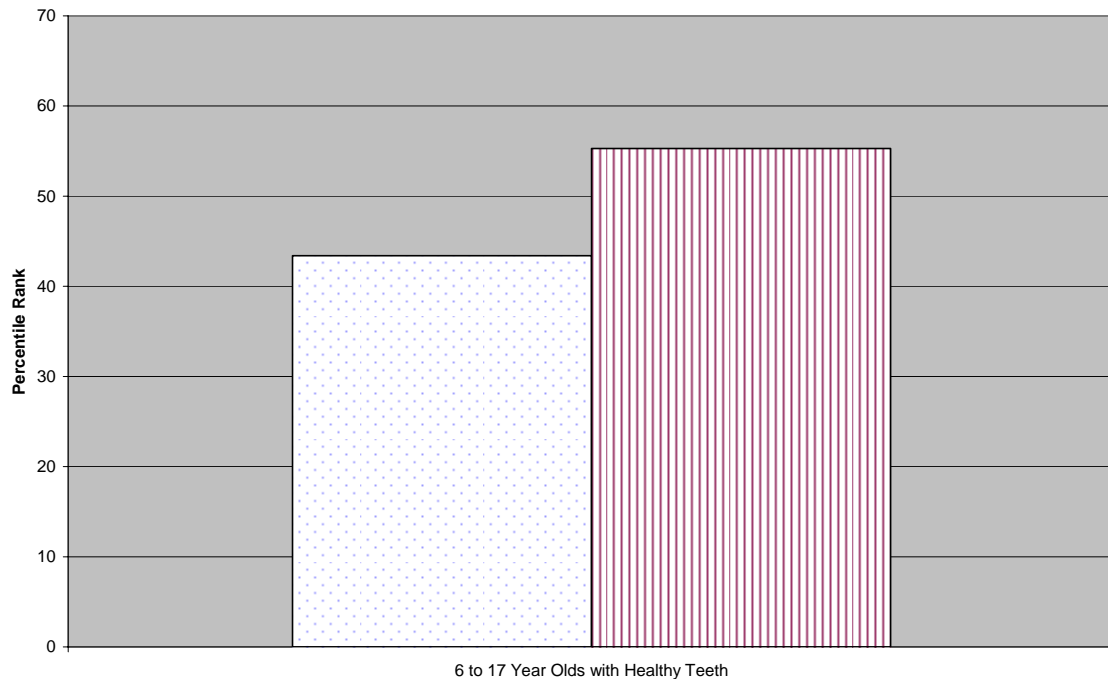
Figure 8.9 - Non-Suicidal Teenage Behavior



* Health experts who reviewed a draft of this report initially reacted that these data must be incorrect, because it is widely believed that white teenagers commit suicide at higher rates than black teenagers. Data confirm that whites from the ages of 15 to 19 are more likely to commit suicide than blacks. Indeed, they commit suicide at twice the rate of blacks: 8.61 per 100,000, vs. 4.03 per 100,000 (CDC 2005d). However, we, and our reviewers, re-checked the data and confirmed that, indeed, black teenagers are more likely than white teenagers to make suicide attempts that are serious enough to require medical attention. It seems implausible that black teenagers would make serious attempts at suicide at higher rates than white teenagers, but that, of all teenagers making such attempts, whites would be so much more likely to be successful. Howell Wechsler, Acting Director of the Division of Adolescent and School Health (DASH) at the Centers for Disease Control and Prevention (CDC), speculated that perhaps white teenagers who plan suicide are more careful in their planning (Wechsler 2005), resulting in more blacks requiring medical attention after a suicide attempt, with more whites being successful in these attempts. However, we have no reason to posit this explanation aside from its ability to reconcile the data. Pending receipt of information that might give us reason to reject the data we report here, we include it in the present draft of this report.

We saw earlier that black preschoolers are only slightly less likely to have healthy teeth than whites. But by school age, the gap has widened. Seventy-two (72) percent of black children, 6 to 17, have healthy teeth (with no untreated dental cavities), compared to 81 percent of whites.⁸⁶ Not only does pain, including toothaches, make it more difficult for children to learn, but their poor oral health makes serious oral diseases more likely when they become adults.

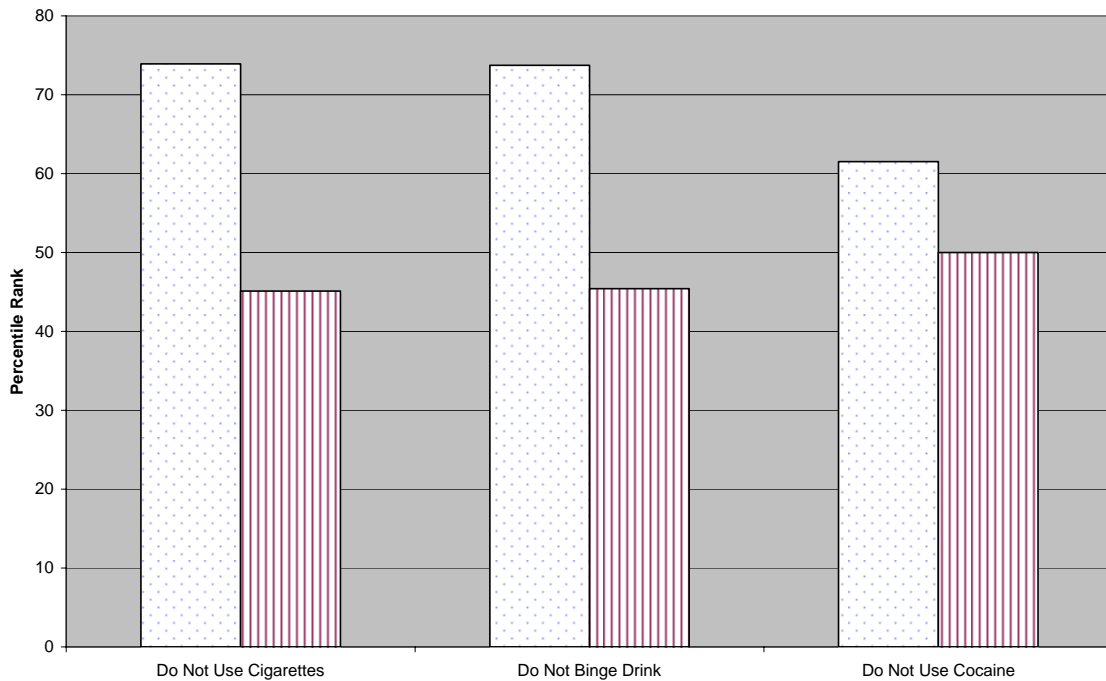
Figure 8.10 - Oral Health of Schoolchildren



In a few important respects, the health of black teenagers is superior to that of whites. For example, black high school students are less likely to engage in substance abuse than whites. Only 9 percent of black twelfth graders regularly smoke cigarettes, compared to 28 percent of whites. Only 11 percent of black twelfth graders engage in

binge drinking, compared to 32 percent of whites. One (1) percent of black twelfth graders use cocaine regularly, half the rate at which whites do. These relative patterns, where blacks engage in less self-destructive behaviors than whites, are established by the eighth grade. Although black and white eighth graders seem to experiment with marijuana to similar extents, as these students move through high school, black marijuana use accelerates much less than white use does.⁸⁷

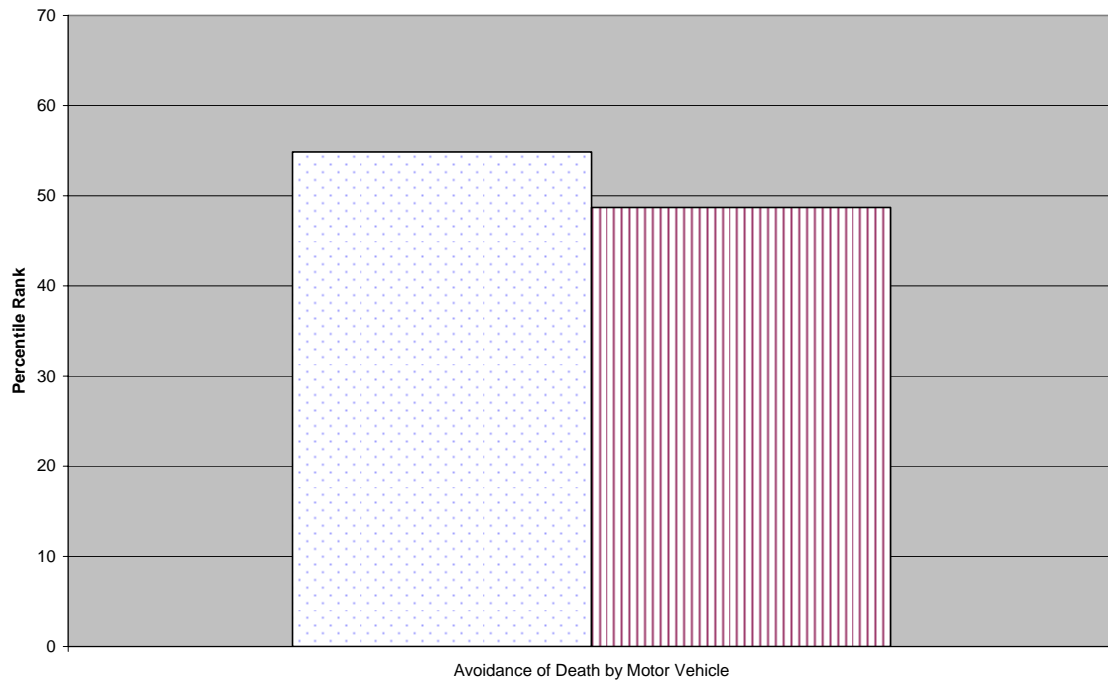
Figure 8.11 - High School Students Who Avoid Substance Abuse



Black high school students are also less likely to die in motor vehicle accidents than white high school students, a circumstance that is probably related, in part, to higher rates of alcohol abuse by whites and probably in part, to the greater likelihood that white teenagers own or have access to automobiles. For every 100,000 black teenagers from 15

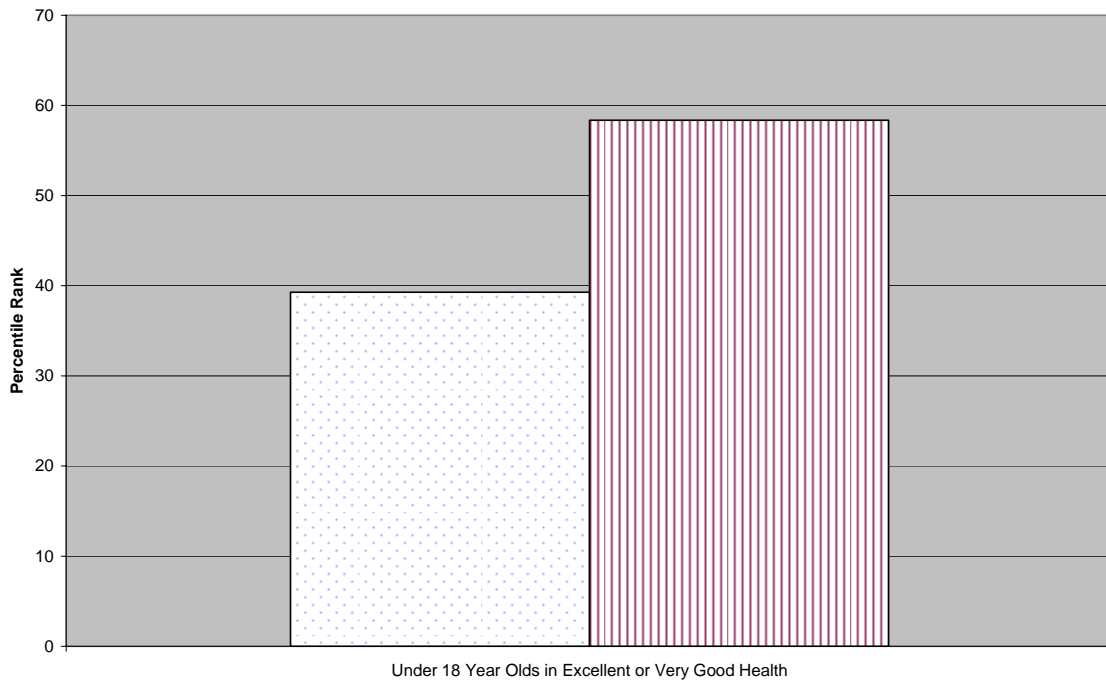
to 19 years old, 17 die each year in motor vehicle accidents. The corresponding number for white teens is 31.⁸⁸

Figure 8.12 - Adolescents Who Drive Safely



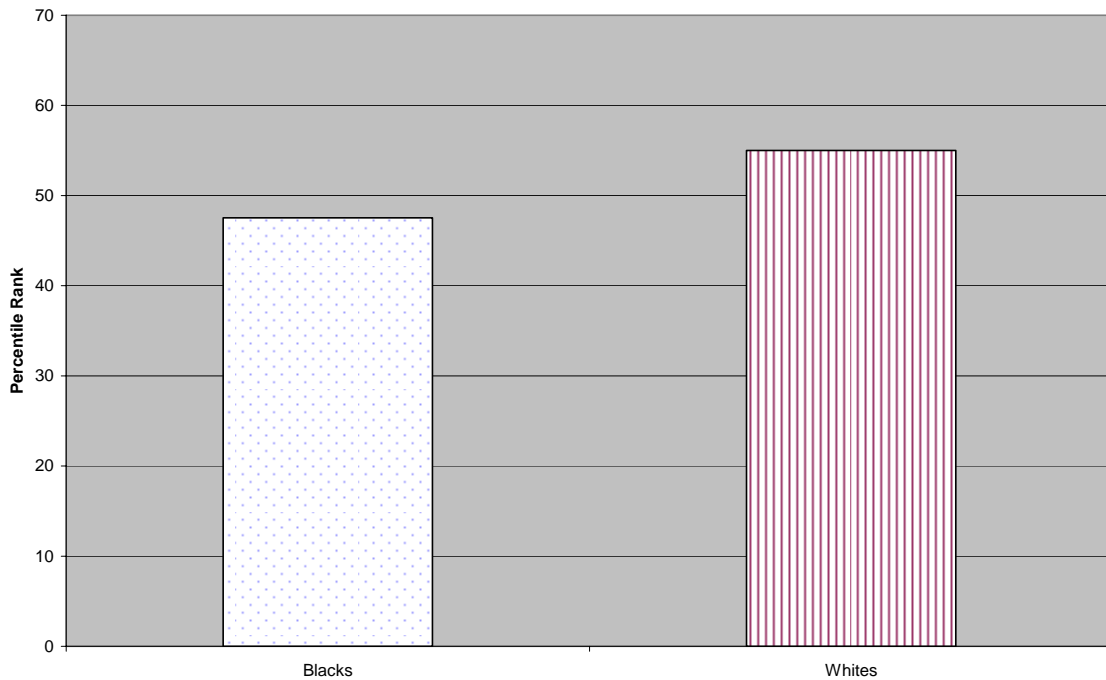
Despite these few contrary indicators, however, the data all together add up to overall disadvantage in the health status of black schoolchildren. Black parents report that 74 percent of their school-aged children are in overall good health, compared to white parents who report that 87 percent are in good health. These parent-reported data are consistent with what we find from a simple average of the other indicators on schoolchildren's health that have been reviewed in this chapter.

Figure 8.13 - Parental Reports of Children's Overall Health



Summary: Assuming that children's experiences are normally distributed on each of the indicators of school-aged children's physical and mental health, and weighting each indicator equally, we find that black school-aged children, on average, are at the 48th percentile in a distribution of favorable health characteristics, while white children, on average, are at the 55th percentile.

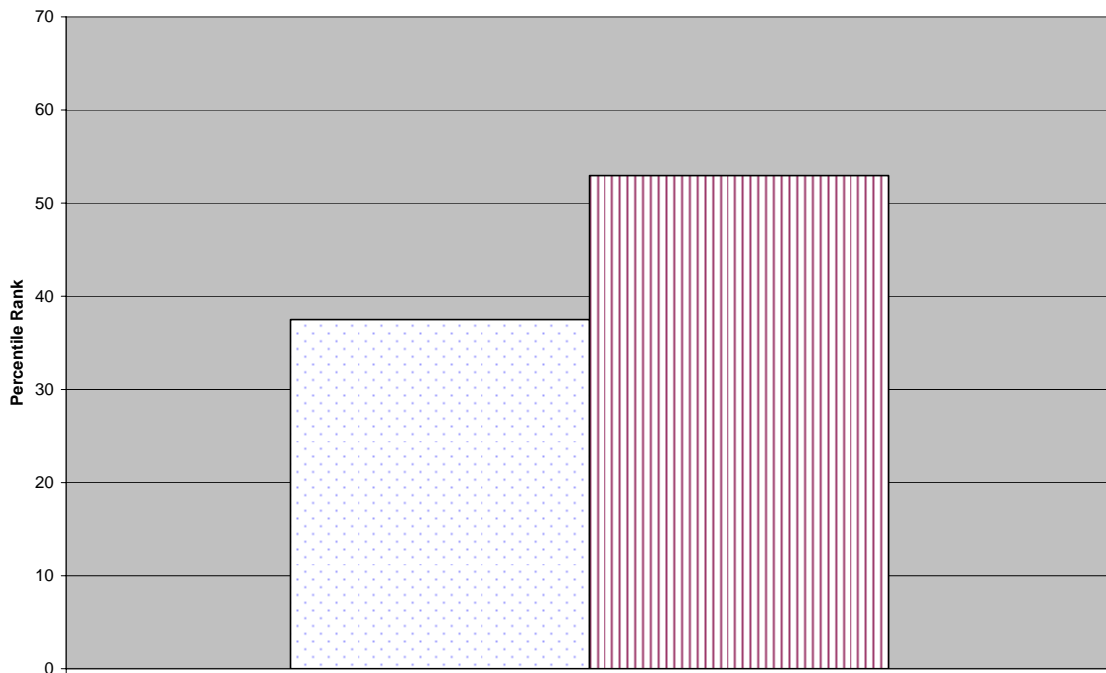
Figure 8.14 - Summary: The Health of School-Age Children



9.
Educational Attainment

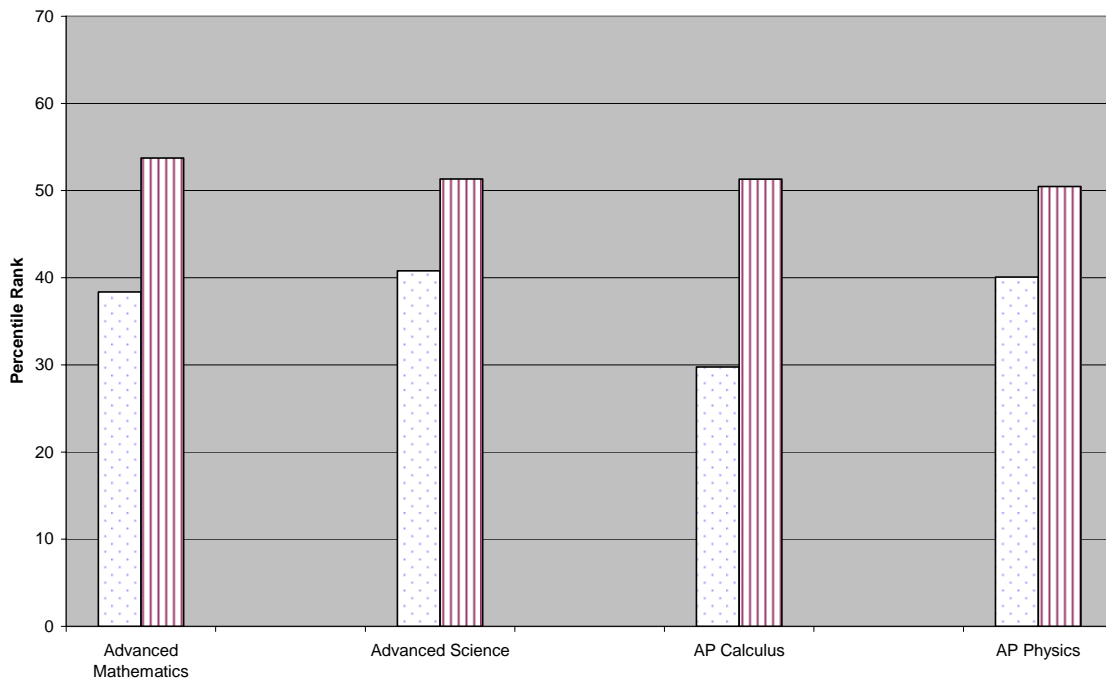
A consequence of these accumulated inequalities is a gap in educational attainment. Differences in high school completion rates have received a great deal of attention lately, with some analysts claiming that as many as half of all black ninth-graders drop out of high school before they are scheduled to graduate. These claims are probably exaggerated, based on some flawed data - for example, they don't account for the fact that students are more likely to spend more than a year in ninth than in other grades, and don't account for high school diplomas awarded by adult education schools or community colleges. However, more realistic numbers still show a troubling gap. Our best estimate of the share of black and white students who earn regular high school diplomas is 74 percent for blacks and 85 percent for whites.⁸⁹

Figure 9.1 - Regular High School Graduation



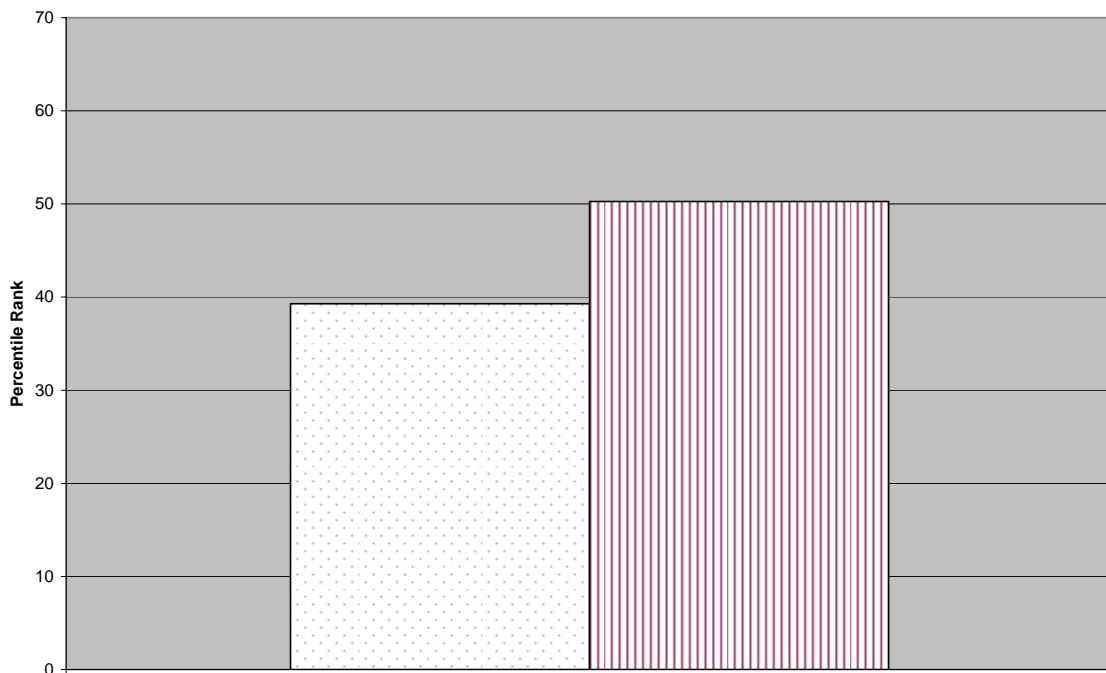
There is also inequality in the academic content of diplomas awarded to blacks and whites. Only 30 percent of black high school graduates take higher level mathematics courses in high school - such as precalculus, calculus, or trigonometry - compared to 45 percent of white graduates who do so.⁹⁰ Three (3) percent of black high school graduates have taken advanced placement calculus, compared to 8 percent of white high school graduates who've done so.⁹¹ Ten (10) percent of black graduates took higher level chemistry, physics, or biology, compared to 16 percent of white graduates who do so.⁹² Two (2) percent of black high school graduates have taken advanced placement physics, compared to 4 percent of white high school graduates.⁹³ Overall, blacks with high school diplomas have earned about 2 percent fewer academic course credits than whites with high school diplomas.⁹⁴

Figure 9.2 - Advanced Course-Taking in High School



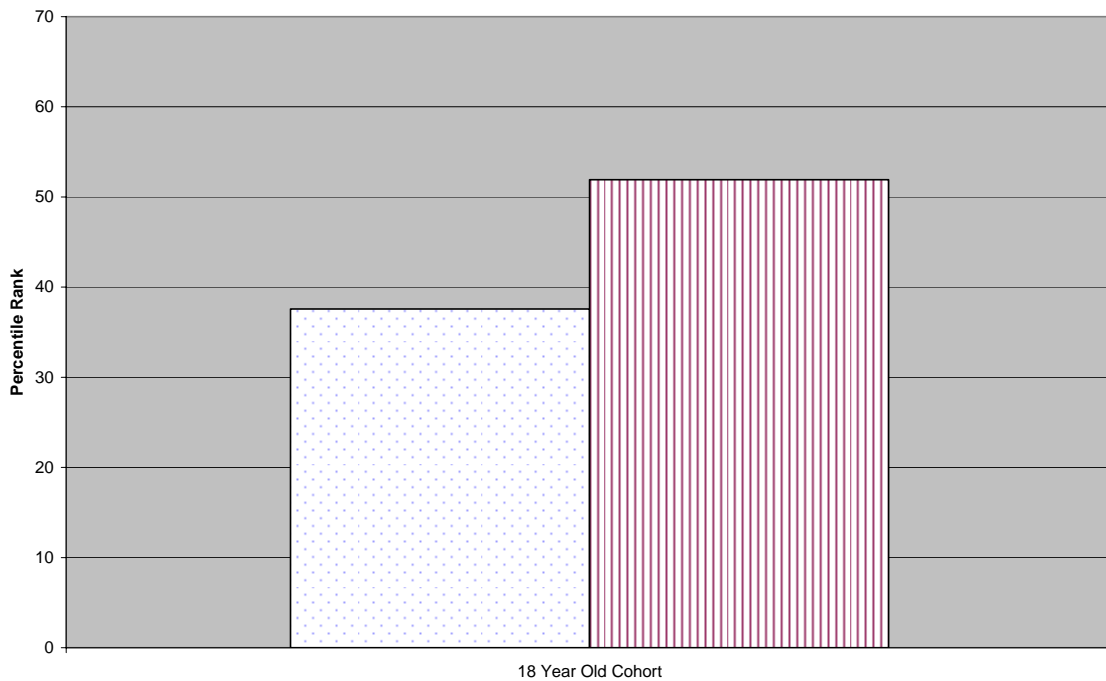
Some dropouts obtain high school equivalency certificates, or G.E.D.s. Although they are commonly termed "equivalency" certificates, a G.E.D. is not truly equivalent to a high school diploma. G.E.D. holders have worse labor market outcomes, for example, than high school graduates, even when their cognitive skills, measured on a common test, are the same. Nonetheless, having a G.E.D. is better than remaining in dropout status, partly because a G.E.D. creates eligibility for post-secondary education. Fourteen (14) percent of black youths get a G.E.D., as do 7 percent of whites. Yet even when G.E.D. holders are included, there remains an inequality in high school completion. Eighty-seven (87) percent of blacks have completed high school, including those who dropped out but later acquired a G.E.D., compared to 92 percent of whites.⁹⁵

9.3 – High School Diplomas (Including G.E.D.s)



This difference in high school completion is compounded by differences in the college enrollment of high school graduates. Forty (40) percent of black high school graduates enroll in a four-year college the following year, compared to 51 percent of white high school graduates. As a share of the entire college-age population, 24 percent of blacks enroll, compared to 36 percent of whites.⁹⁶

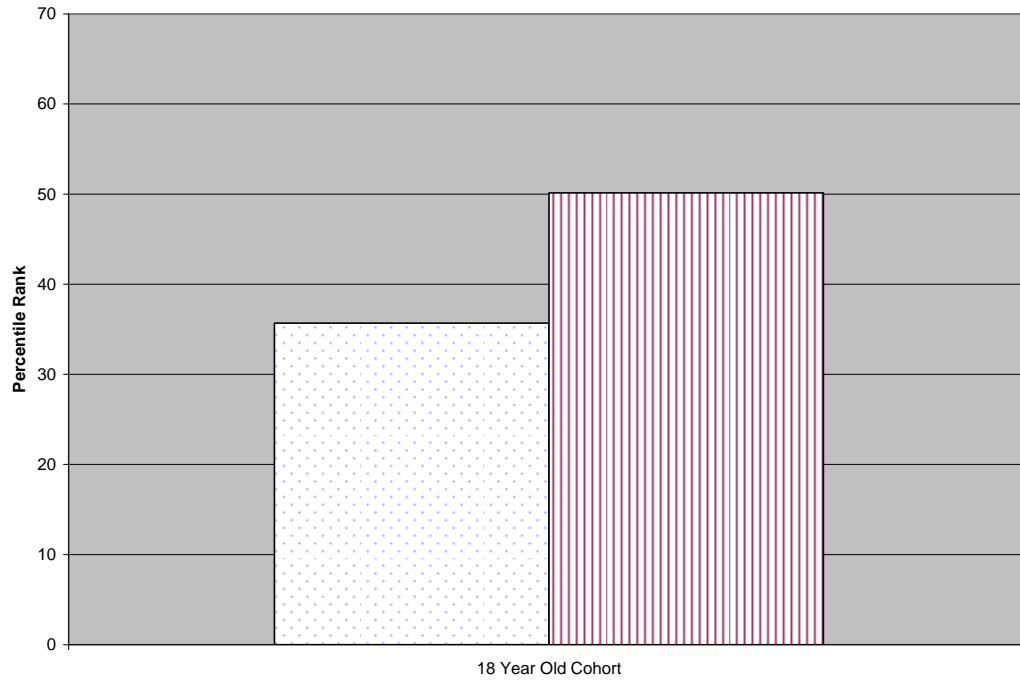
Figure 9.4 - Enrollment in Four-Year College



Four-year college enrollment is an increasingly misleading indicator, as the number increases of students who enroll in community colleges either for terminal associate degrees, as a way to begin a four-year college degree, or for technical training. Forty-two (42) percent of black high school graduates (or G.E.D. holders) enroll in a two year community college, compared to 37 percent of white high school graduates (or G.E.D. holders). As a share of the entire college-age population, 48 percent of blacks

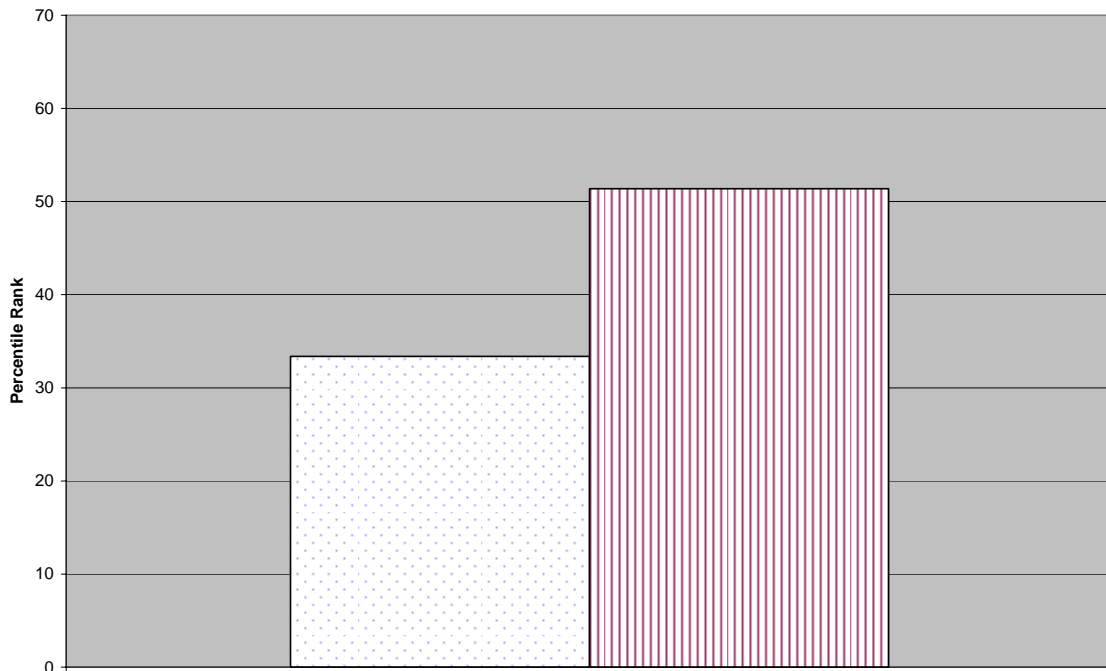
enroll in either a two-year or four-year postsecondary institution, compared to 63 percent of whites.⁹⁷

Figure 9.5 - Enrollment in College (Including Community College)



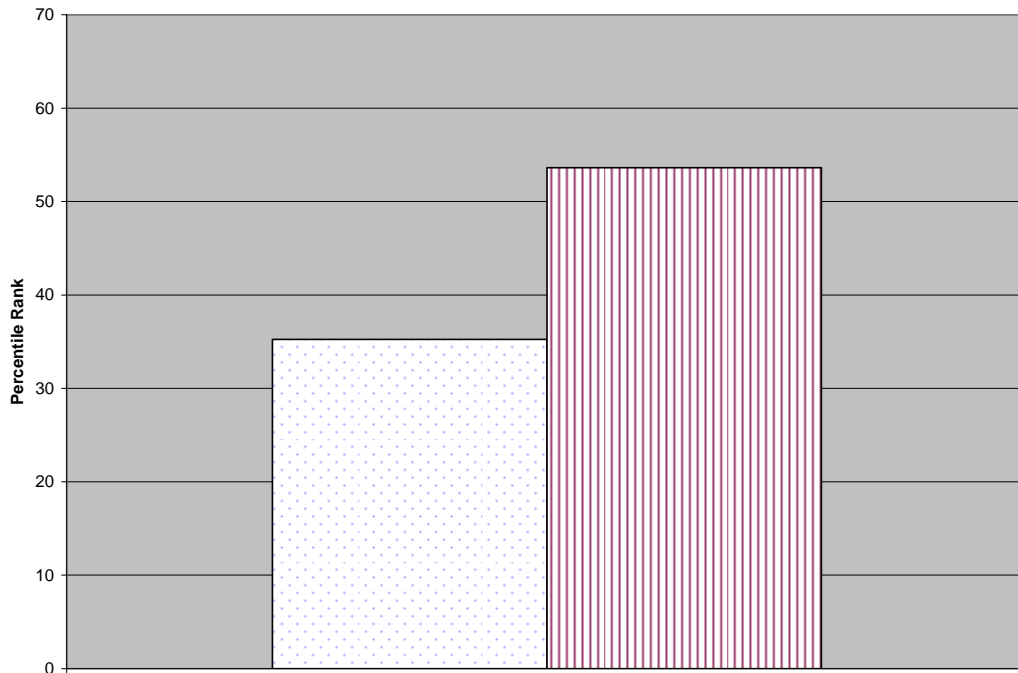
Enrollment in postsecondary education is valuable, but not nearly as much so if students do not complete with an associate's or bachelor's degree. Of those who enroll in a two-year college, 9 percent of black students have an associate's degree five years later, and another 3 percent went on to a four-year college to earn a bachelor's degree, for a total of 12 percent. For whites who enroll in a two year college, 18 percent have an associates degree and another 11 percent have a bachelor's, for a total of 30 percent.⁹⁸

Figure 9.6 - Completion of Community College



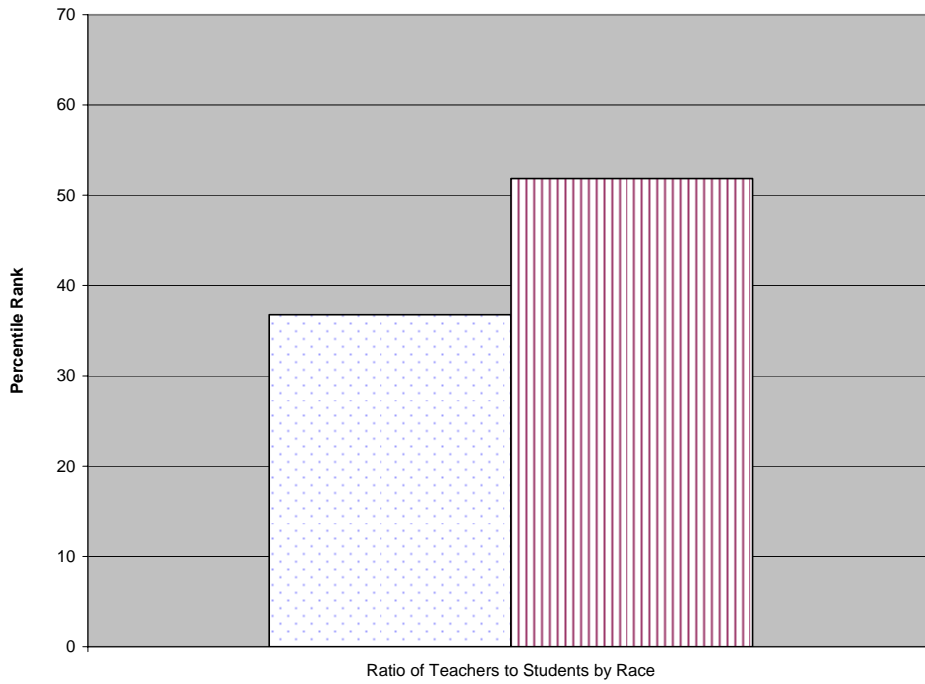
For students who enroll in a four-year college, 43 percent of blacks and 62 percent of whites have earned a bachelor's degree five years later. Of those who did not complete, some are still enrolled and will get a degree later. Five years after starting college, 72 percent of blacks have either gotten a degree or are still enrolled, whereas 81 percent of whites have similarly persisted.⁹⁹ Another way to think of this statistic is that black college students drop out at a rate that is half again as great as the white college dropout rate.

Figure 9.7 - Completion of Four-Year College (Bachelor's Degree)



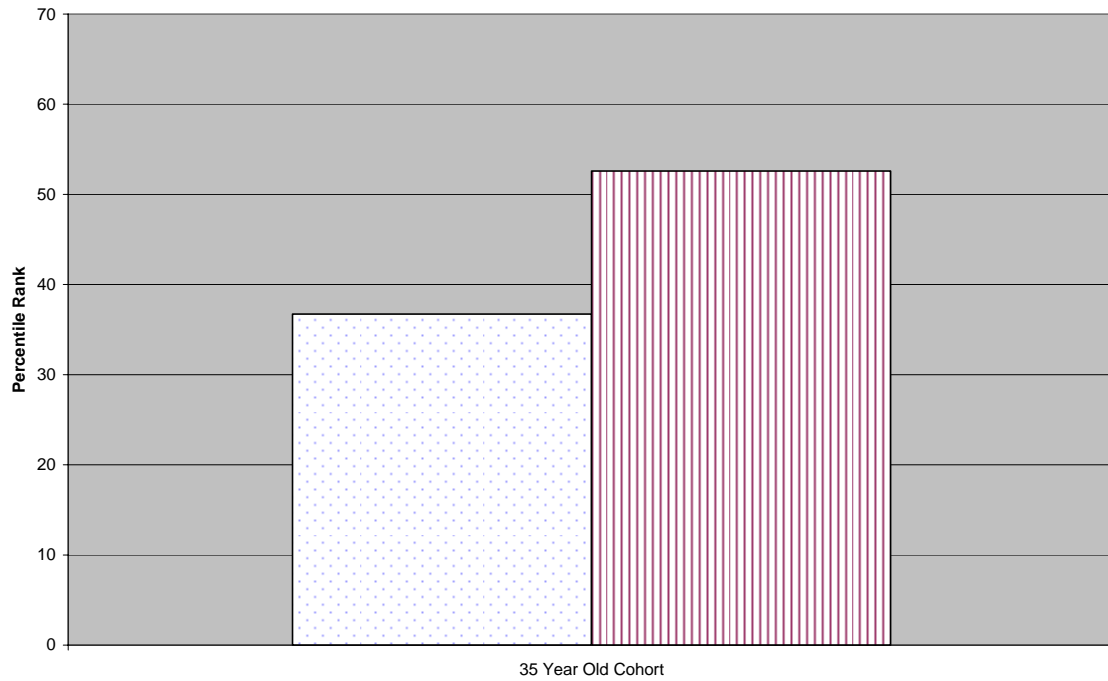
One consequence of these inequalities in college completion is that blacks continue to be underrepresented in the nation's elementary and secondary teaching force. Only 8 percent of all public school teachers are black, whereas 16 percent of the school age population is black.¹⁰⁰

Figure 9.8 - The Vocation of Teacher



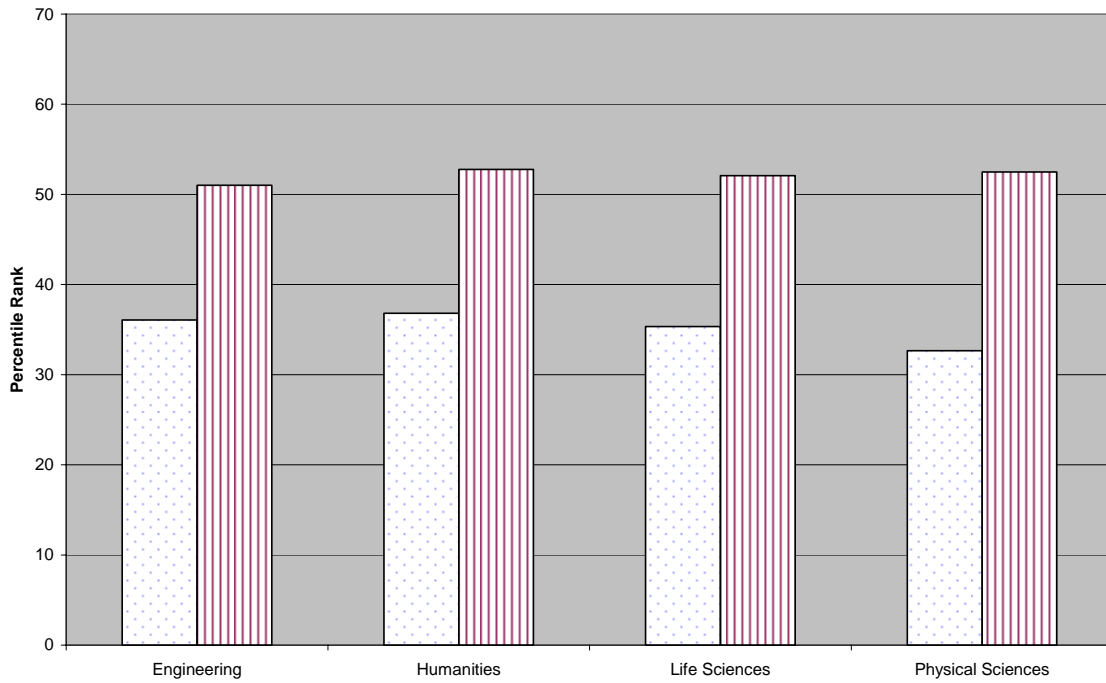
Of course, these inequalities are further compounded when we consider advanced degrees. Consider the following data in the context of the fact that, of all 35 year olds, blacks comprise 12 percent.¹⁰¹ Excluding those awarded in the field of education, only 5 percent of all doctoral degrees are awarded to blacks.¹⁰²

Figure 9.9 - Doctoral Degrees Earned



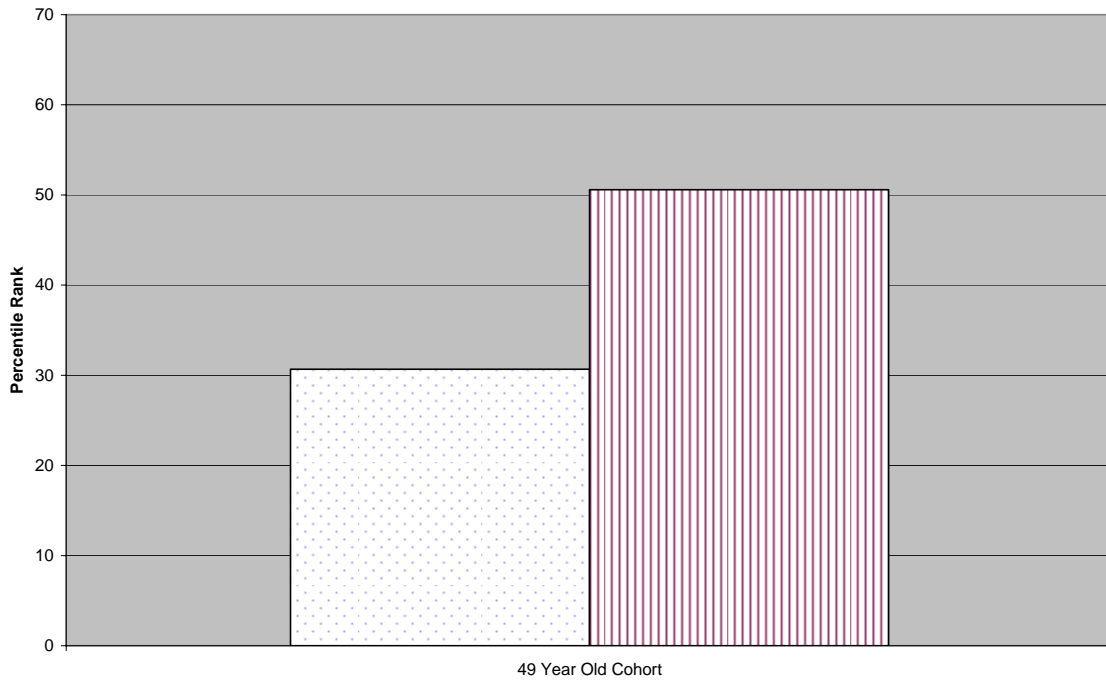
In engineering, only 4 percent of all doctoral degrees are awarded to blacks. Blacks also get only 4 percent of all doctoral degrees in the humanities. They get 6 percent of the doctoral degrees in the social sciences. In the life sciences, they get 4 percent of the doctorates, and in the physical sciences, 2 percent.¹⁰³

Figure 9.10 - Doctoral Degrees, by Discipline



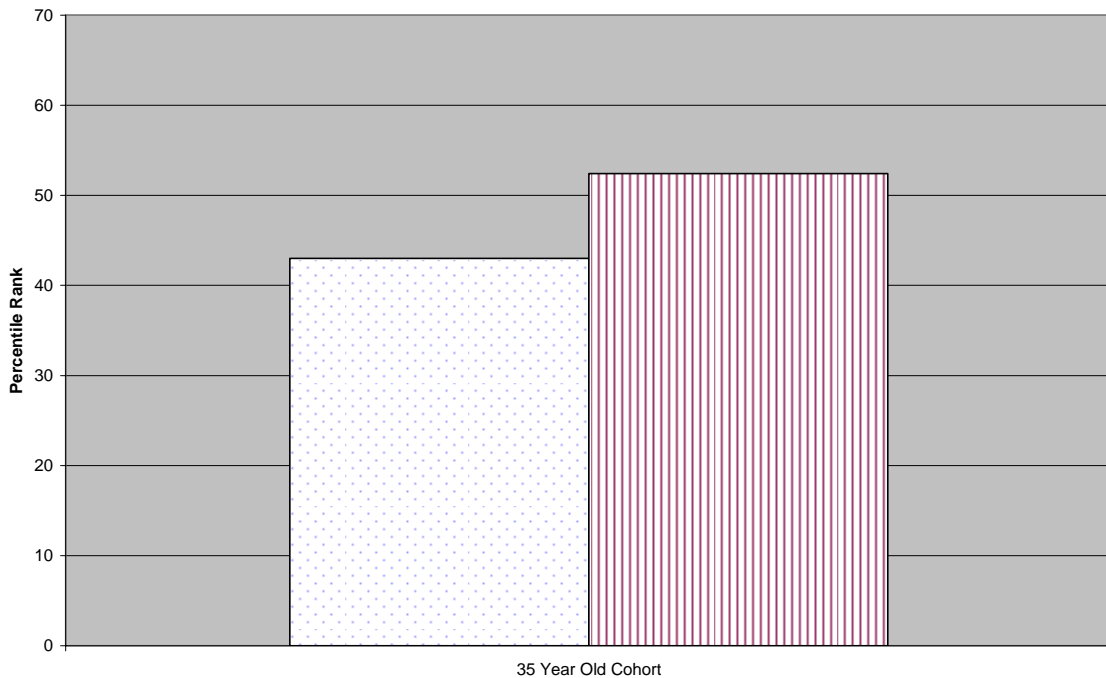
Thus, it is no surprise that only 5 percent of all full time instructional faculty in higher education are black, and this includes those working at historically black institutions.¹⁰⁴ If we don't count black faculty at historically black institutions, then the share of faculty that is black at all other institutions of higher education is only 3 percent.¹⁰⁵

Figure 9.11 - Higher Education Faculty



Looking at master's degrees, again without including education or MBA's, only 9 percent of all master's degrees are awarded to blacks. An exception, however, is the highly valued MBA, the master's degree in business administration. Here blacks earn these degrees at rates that are getting close to being proportional to black representation in the overall population. Ten (10) percent of MBA's (not including those awarded to foreign students) are now awarded to blacks.¹⁰⁶

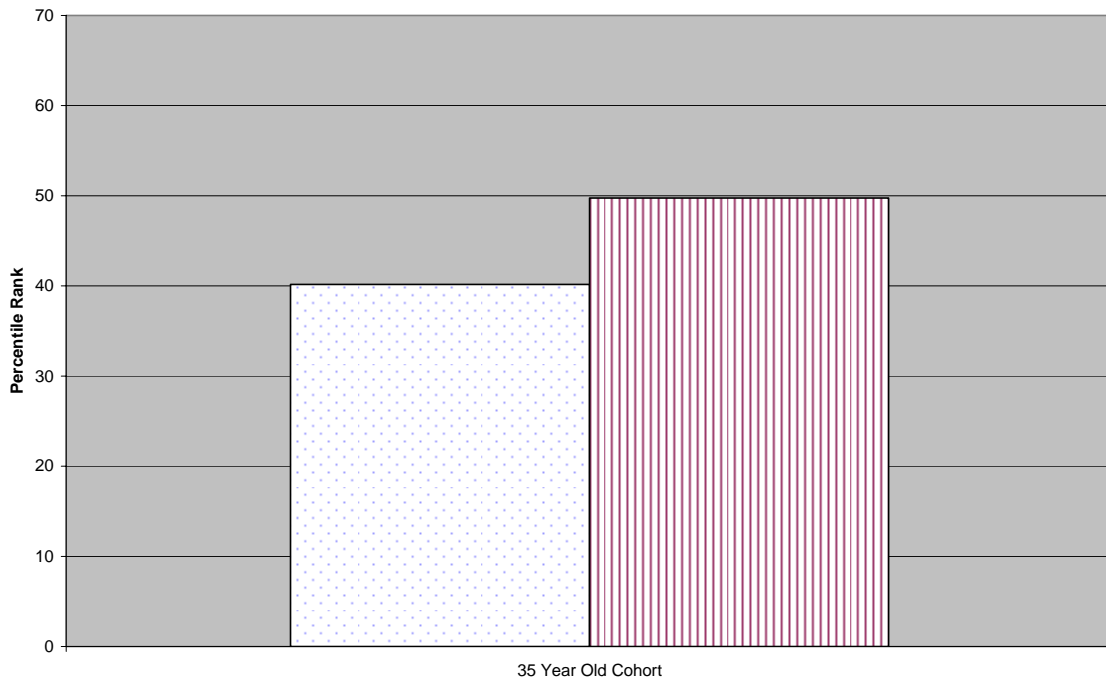
Figure 9.12 - Master's Degrees Earned



We mentioned above that one reason that black children have poorer health than white children is that there are fewer primary care physicians in neighborhoods where most residents are black. Part of the reason for this is that we educate so few black physicians. Only 7 percent of all M.D. degrees (not including those awarded to non-resident aliens) are awarded to blacks. Only 4 percent of all dentistry degrees are awarded

to blacks. And only 2 percent of all degrees in optometry are awarded to blacks. Overall, only 6 percent of all degrees in medicine, dentistry and optometry are awarded to blacks.¹⁰⁷

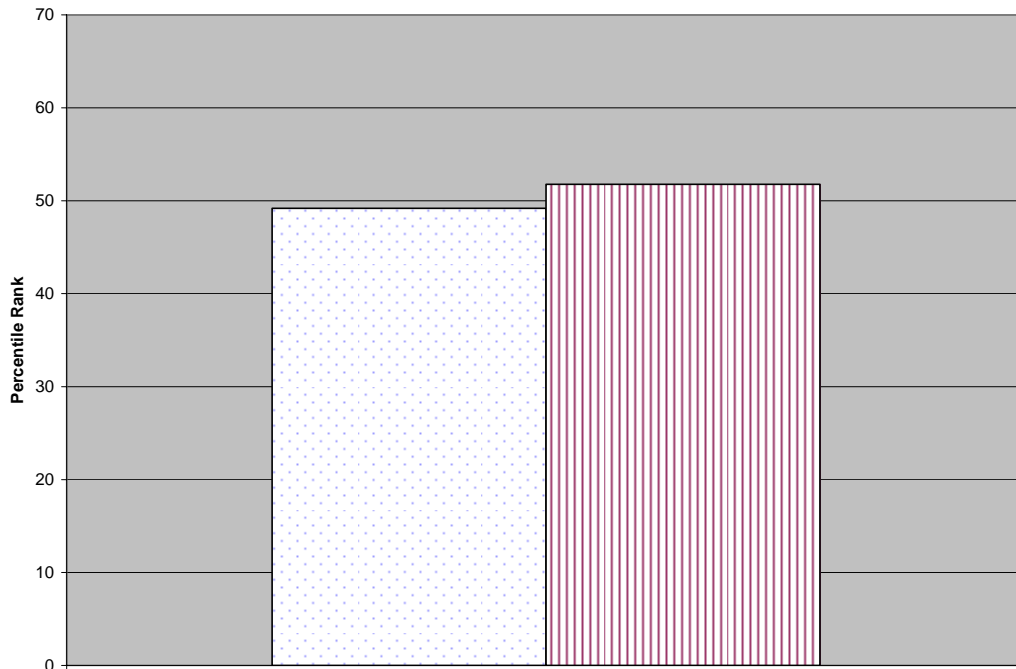
Figure 9.13 - Medical Degrees Earned



In education, however, blacks receive advanced degrees in numbers that are proportional to their representation in the population. Again, keeping in mind that blacks are 12 percent of the age-relevant adult population, they receive 13 percent of all doctoral degrees in education.¹⁰⁸ While, as we noted earlier, blacks continue to be seriously underrepresented in the nation's teaching force, they are less so in school leadership: 11 percent of all public school principals are now black, partly because they are more likely than whites to possess advanced degrees in education.¹⁰⁹ Although doctoral degrees in education have lately come in for some well-deserved criticism, immigrant groups, the

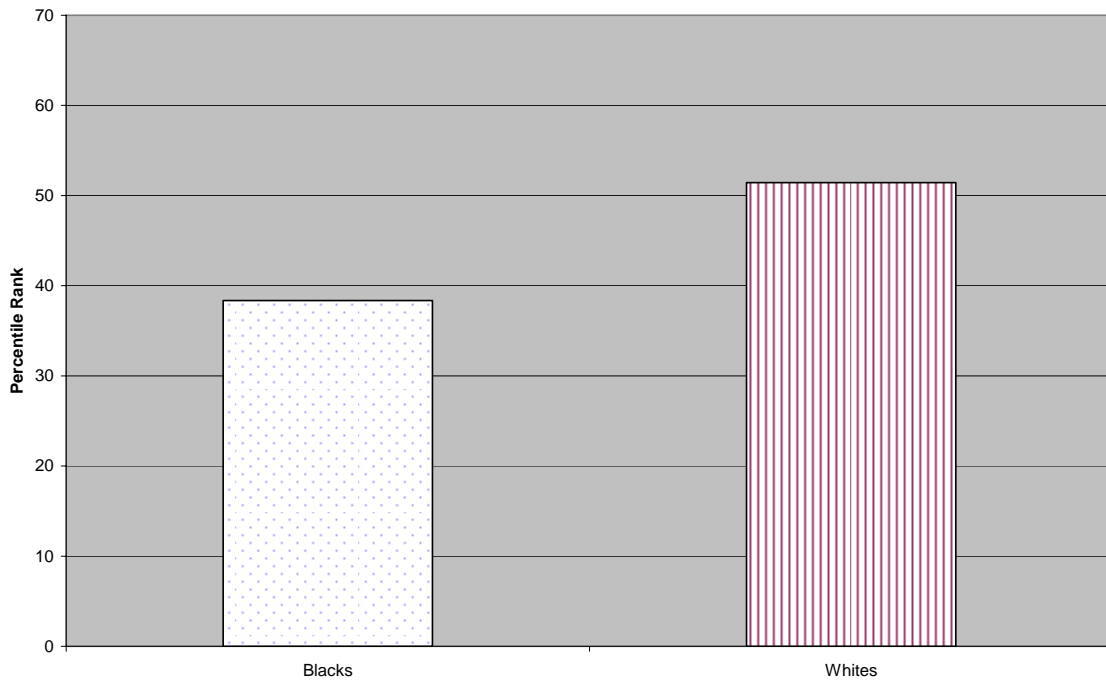
Irish and Jews in particular, early in the last century made their first forays into academic and professional life by establishing representative positions in the field of public education, particularly in large cities. If these data suggest that a similar beachhead is now being established by blacks, perhaps we are not entirely devoid of hope for remedying the inequalities that plague American society and preordain a system of educational inadequacy.

Figure 9.14 - Leadership in Elementary and Secondary Education



Summary: Nonetheless, as this figure shows, assuming that each of the indicators of educational attainment reflects a normal distribution, and weighting each of these indicators equally, we find that black youths and young adults, on average, are at the 38th percentile in the distribution of educational attainment, while whites are at the 51st percentile.

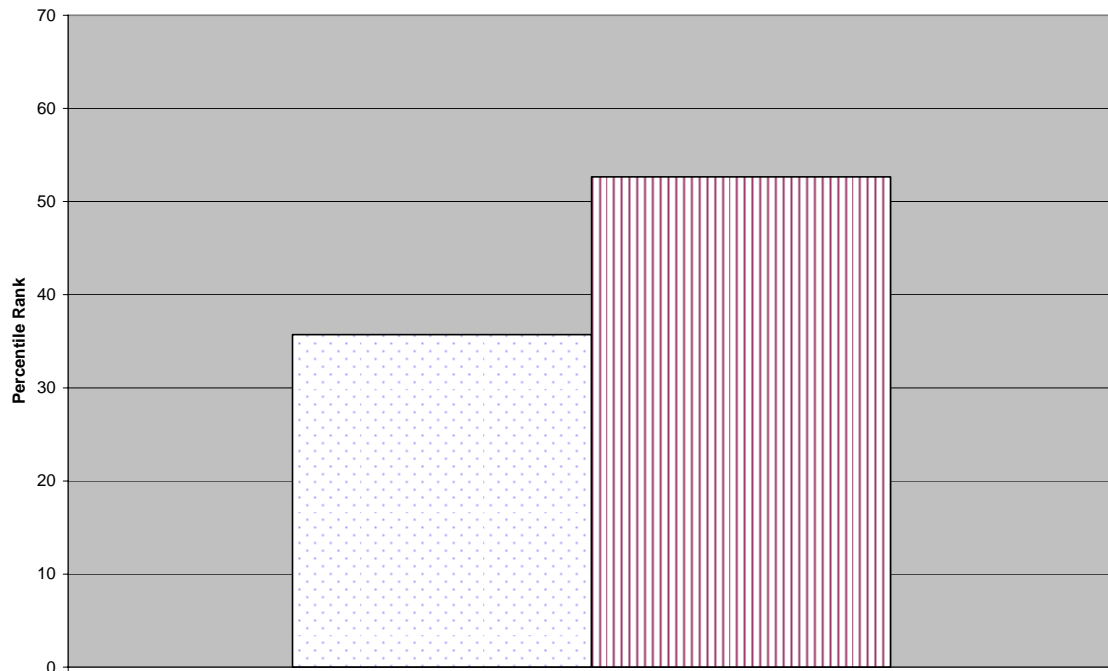
Figure 9.15 - Summary: Educational Attainment



10. Economic Security

Black and white adults lead unequal lives as well. As at previous stages of life, these inequalities partly continue the inequalities of earlier stages, and partly they are accelerated. About 11 percent of black workers were unemployed last year, compared to 5 percent of white workers.¹¹⁰

Figure 10.1 - In the Labor Force and Employed

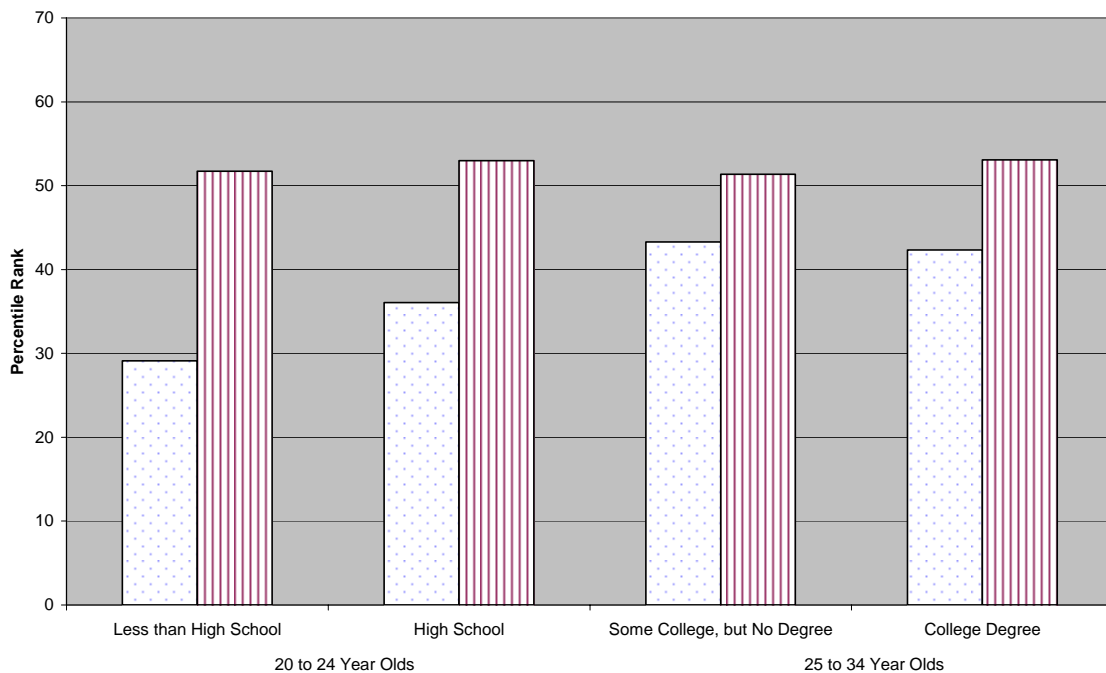


Partly this is because black labor force participants have less education than whites and unemployment rises for workers with less education. But partly black workers suffer additional labor market disadvantages, even after their education is taken into account. The data that follow are from the most recent years for which we have full data. The numbers will be quite different for years that fall at other points in the business cycle, but the black-white relationships are fairly consistent. For 20 to 24 year olds

without high school diplomas, 68 percent of blacks were employed, compared to 86 percent of whites. For 20 to 24 year old workers with only high school educations, 83 percent of blacks were employed, compared to 92 percent of whites.¹¹¹

For inequalities after college, we can consider workers from the ages of 25 to 34. For workers with some college education but who are not college graduates, 96 percent of blacks were employed, compared to 98 percent of whites. For workers with a college degree, 97 percent of blacks were employed, compared to 99 percent of whites.¹¹²

Figure 10.2 - In the Labor Force and Employed, by Education

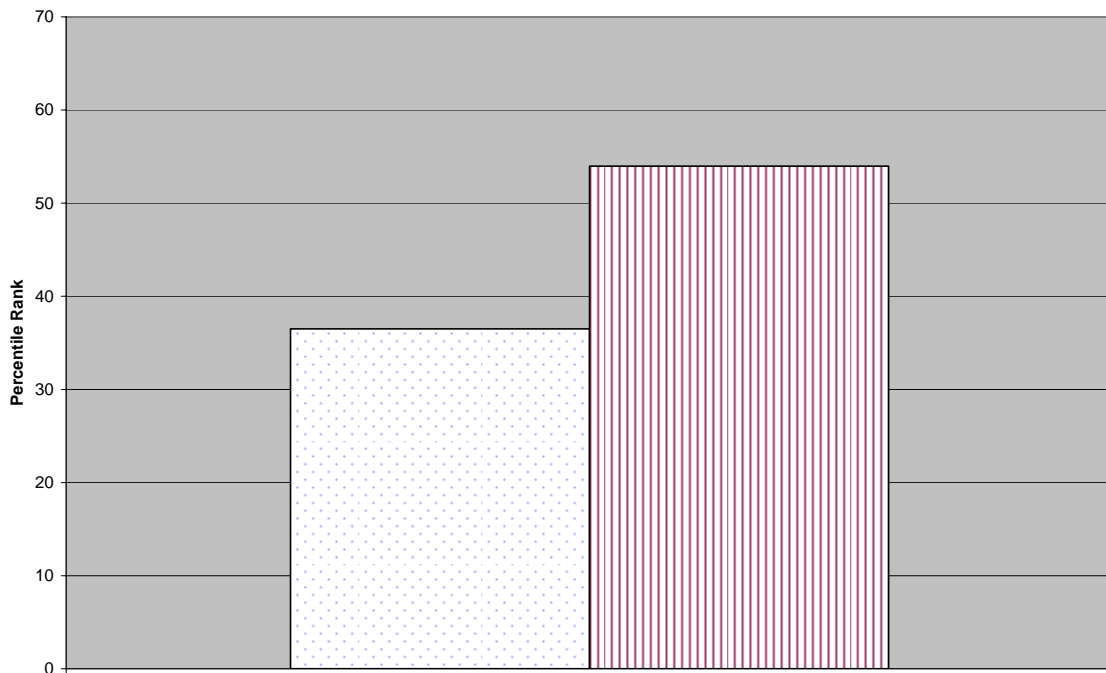


Some analysts suggest that this inequality is only apparent, and not real, because the educations received by blacks are less adequate than those of whites with similar educational attainment. If this is the case, then unemployment rates for blacks and whites with comparable educational adequacy may not differ, even if it appears that blacks and whites with similar quantities of education are not equally successful in finding

employment. We have some evidence to support this supposition. We saw earlier that the diplomas of white high school graduates represent more academic course credits than the diplomas of black graduates. But while this may be part of the explanation, it is not all of it. Although national data on this point are not available, the continuing findings of audit studies, in which blacks and whites with identical educational backgrounds have differences in jobseeking success, show that labor market discrimination against black workers persists.

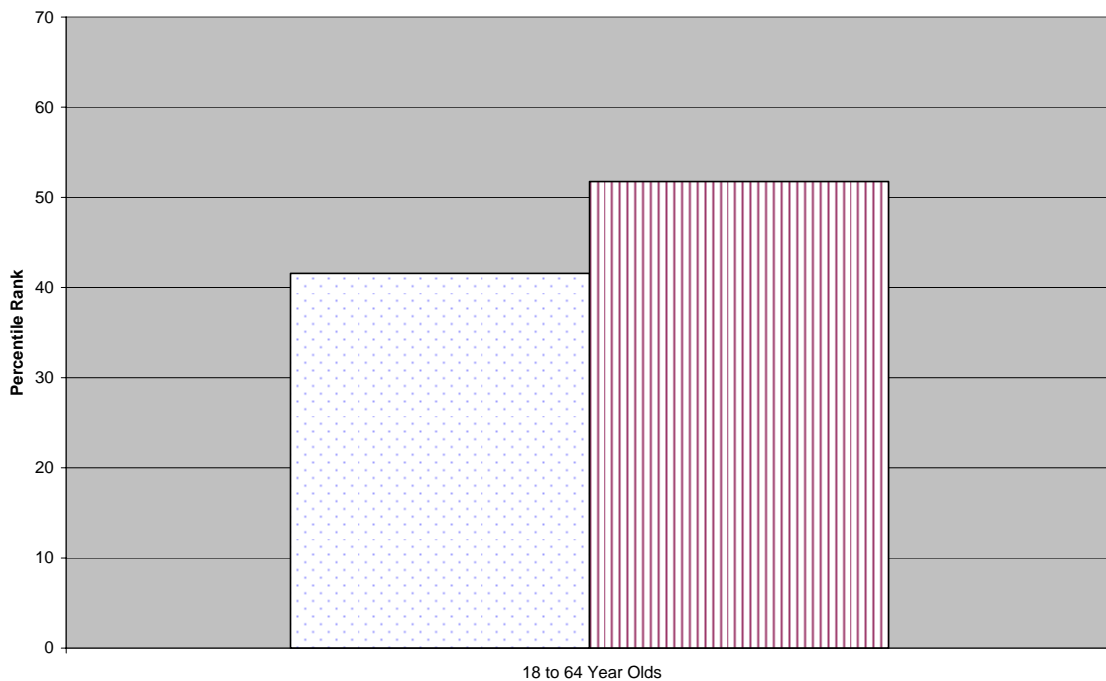
The most serious form of unemployment is long term unemployment, or joblessness that lasts more than six months, often with the loss of unemployment benefits. Here too, we find inequality. Three (3) percent of black workers are long-term unemployed, compared to 1 percent of white workers. Although 20 percent of all unemployed workers are black, 25 percent of the long-term unemployed are black.¹¹³

Figure 10.3 - In the Labor Force and Either Employed or Short-Term Unemployed



Some workers are not counted as unemployed, because they are not actively seeking work. They may not want work or may be discouraged from looking for work because recent job searches have been fruitless. So another way to look at inequality in employment is to use the percentage of the total working-age labor force that is employed. Those not employed, the non-workers, include the unemployed as well as discouraged workers. Sixty-six (66) percent of the black working-age population is employed, compared to 75 percent of the white working-age population.¹¹⁴ The lower black employment rate is primarily attributable to the lower employment rate for black males, not females.

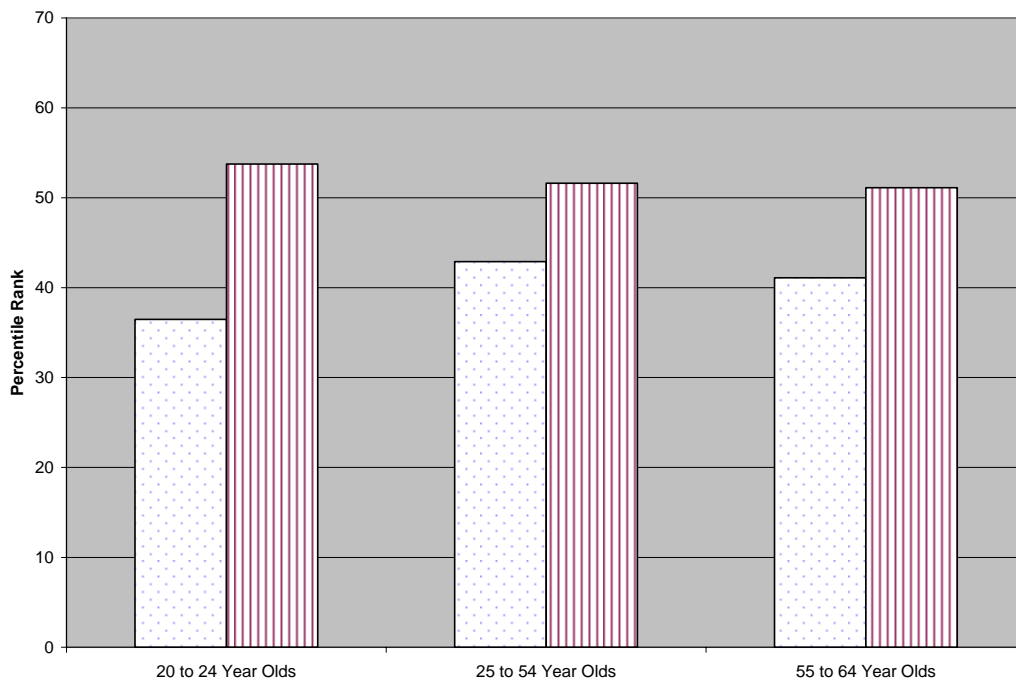
Figure 10.4 - Employment of the Working-Age Population



These differences characterize young adults, middle-aged, and older adults. For young adults, aged 20 to 24, 55 percent of blacks are employed, compared to 71 percent of whites. For middle aged adults, ages 25 to 54, 73 percent of blacks are employed,

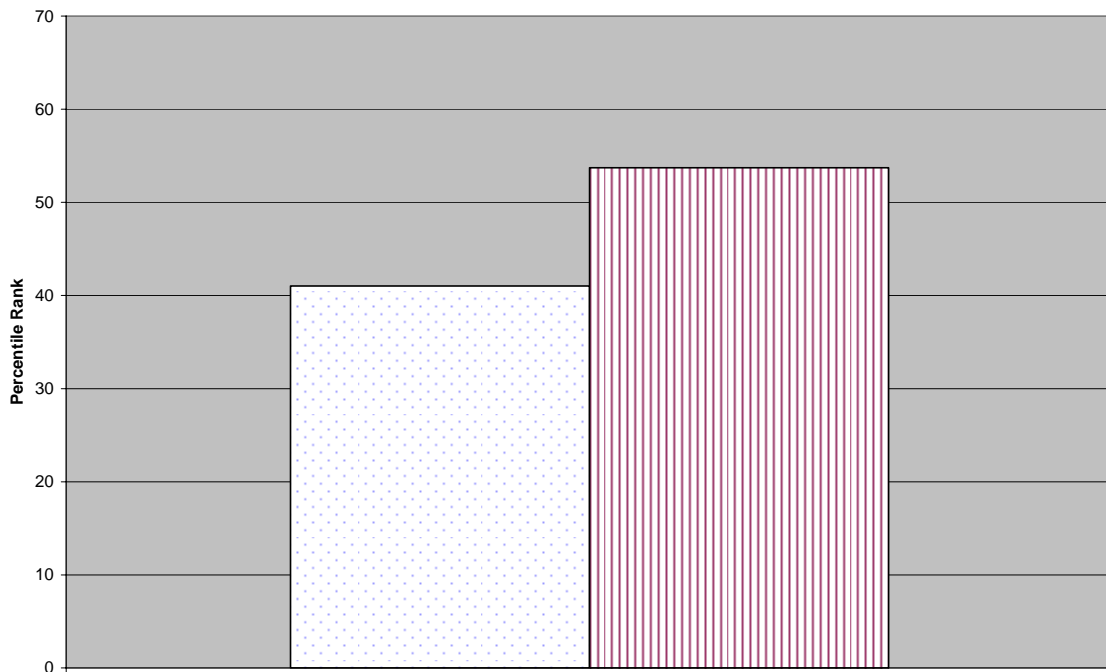
compared to 80 percent of whites. And for older adults, aged 55 to 64, the employment rates are 51 percent for blacks and 61 percent for whites.¹¹⁵ These data may misrepresent the inequalities, because they are calculated only for the civilian non-institutionalized population. Because black adults are more likely to be incarcerated than white adults, the employment of blacks as a share of all working age adults (especially the younger ones) is relatively lower than we show here. But this would be offset, to what degree we do not know, by the greater likelihood of blacks being employed in the military.

Figure 10.5 - Employment of the Working-Age Population, by Age Group



Income inequalities between workers who are employed are well known. The average hourly wage for all employed black workers was \$14.23 in 2003, compared to \$18.35 for white workers. In other words, black workers' hourly wages were 76 percent of white workers'.¹¹⁶

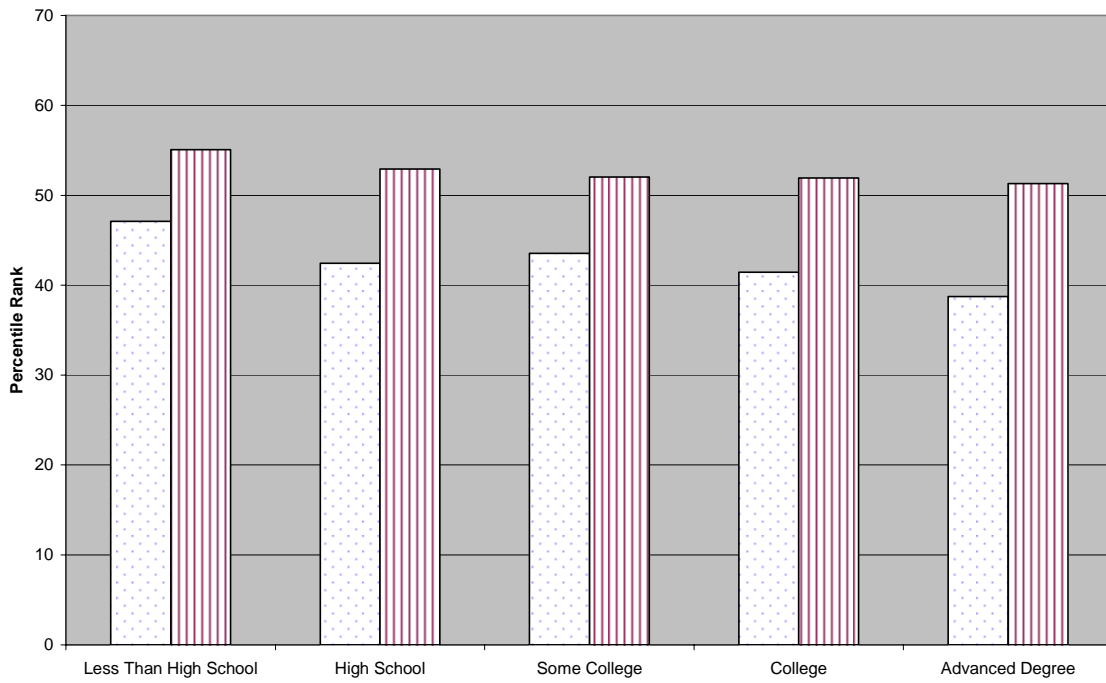
Figure 10.6 - Average Hourly Wages



Here, again, the explanation is partly that black workers have less education than white workers, but there is additional inequality that is not explained by educational attainment differences. For black workers with less than high school educations, hourly wages are 90 percent of whites'. For black workers with only high school educations, hourly wages are 85 percent of whites'. For those with some college education, the ratio is 87 percent, for those with a four year college degree, it is 83 percent, and for those with advanced degrees, it is 80 percent.¹¹⁷ It is particularly noteworthy that the inequalities mostly increase as blacks and whites get more education. These data contradict the

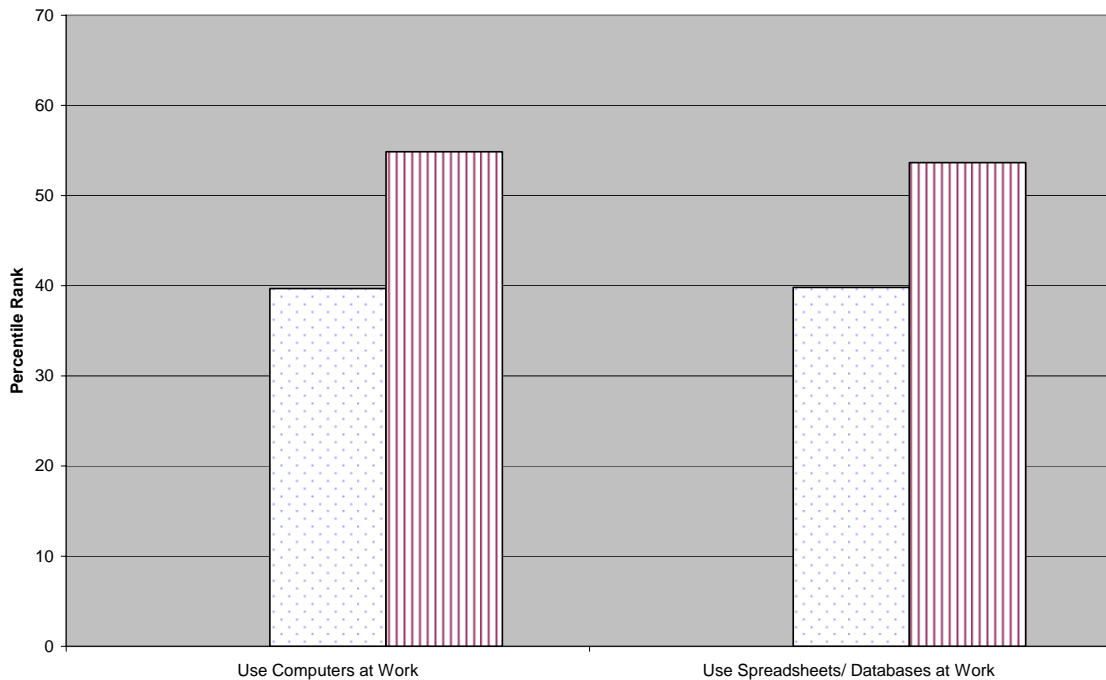
conventional view that inequalities diminish as educational levels increase. As noted earlier, some of these inequalities may be attributable to differences in the quality of education that blacks and whites receive, but direct evidence of discrimination suggests that educational quality cannot be the entire explanation.

Figure 10.7 - Average Hourly Wages, by Education



Employed black workers are less likely to have jobs in which computers are utilized. Only 44 percent of black workers have jobs in which they use computers, compared to 59 percent of white workers. And even for workers who use computers, black workers are likely to use less advanced applications than white workers. For example, considering only workers who use computers, 57 percent of blacks work with spreadsheet or database programs, compared to 63 percent of whites.¹¹⁸

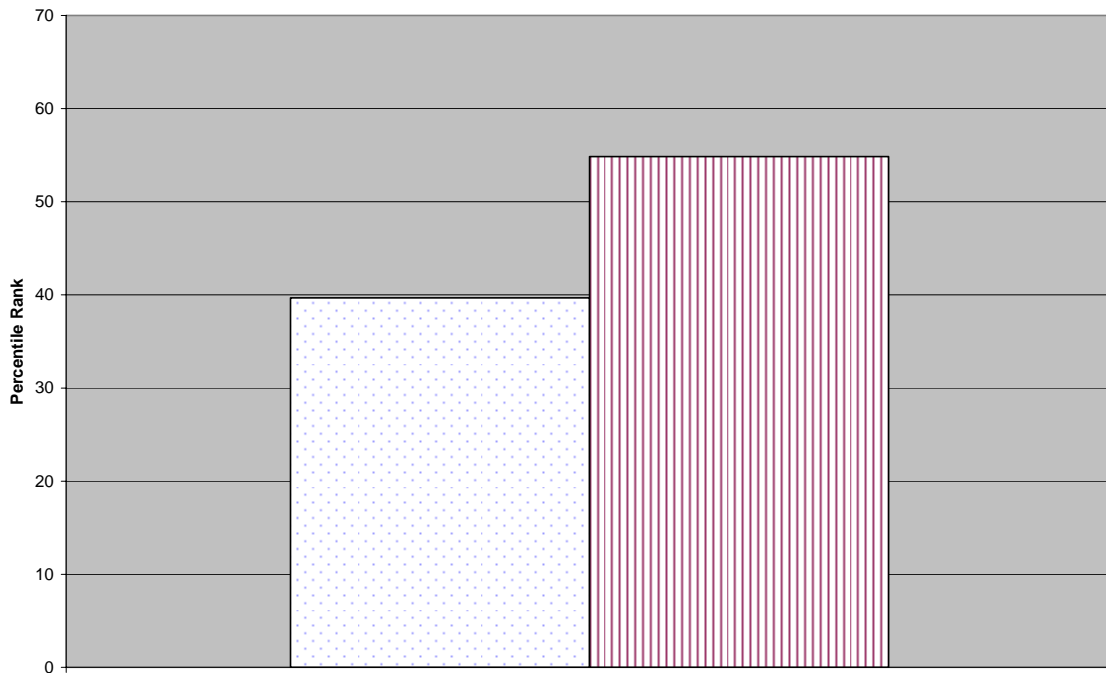
Figure 10.8 - Use of Technology at Work



Exacerbating the inequalities in family health that we described earlier, black employees are less likely to be given health insurance by their employers than white employees. In the private sector, 54 percent of black workers have employer-provided health insurance, compared to 60 percent of white workers. This inequality apparently results not only from different labor market skills of blacks and whites. Although blacks and whites who are college graduates are about equally likely to have employer-provided

health insurance (71 percent vs. 70 percent), for workers with only a high school education, only 50 percent of black workers have employer-provided health insurance, compared to 56 percent of whites.¹¹⁹

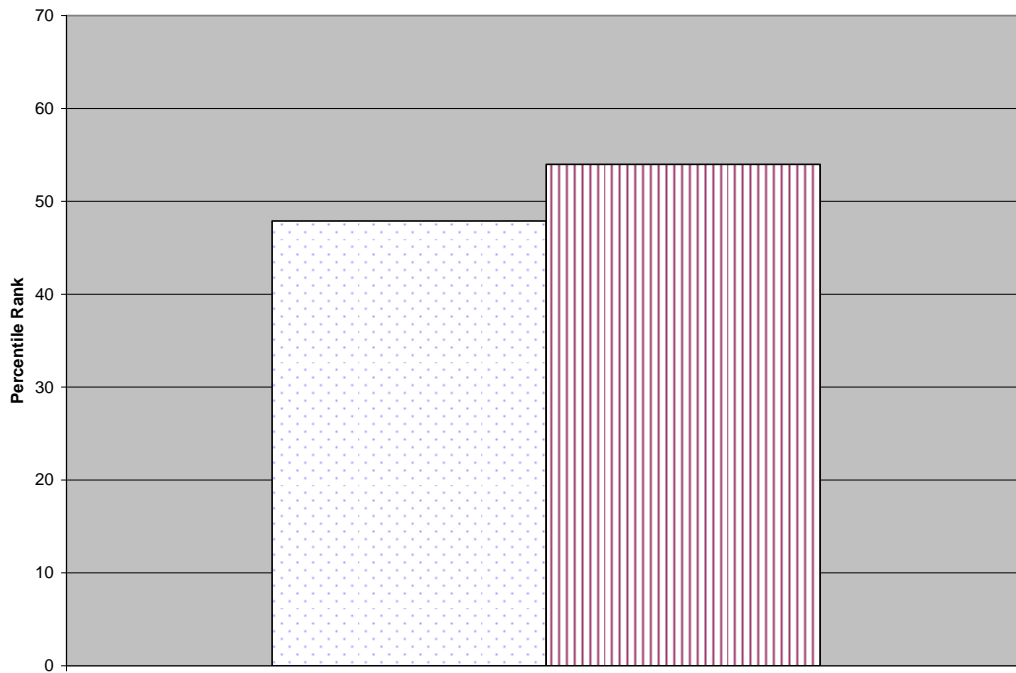
Figure 10.9 - Workers Covered by Employer-Provided Health Insurance



Employer-provided pension coverage is also unequal by race. In the private sector, 41 percent of black workers have employer-provided pension coverage, compared to 51 percent of white workers. And again, the disparities are greater at the bottom: for college educated workers, blacks are only slightly less likely to have employer-provided pension coverage than whites (59 percent vs. 62 percent), but for workers with only a high school diploma, 35 percent of blacks have employer-provided pension coverage, compared to 45 percent of whites.¹²⁰ This inequality has serious consequences for the security of black workers after retirement, and has implications for the burdens faced by younger black workers in caring for their elderly parents. Black workers with school-

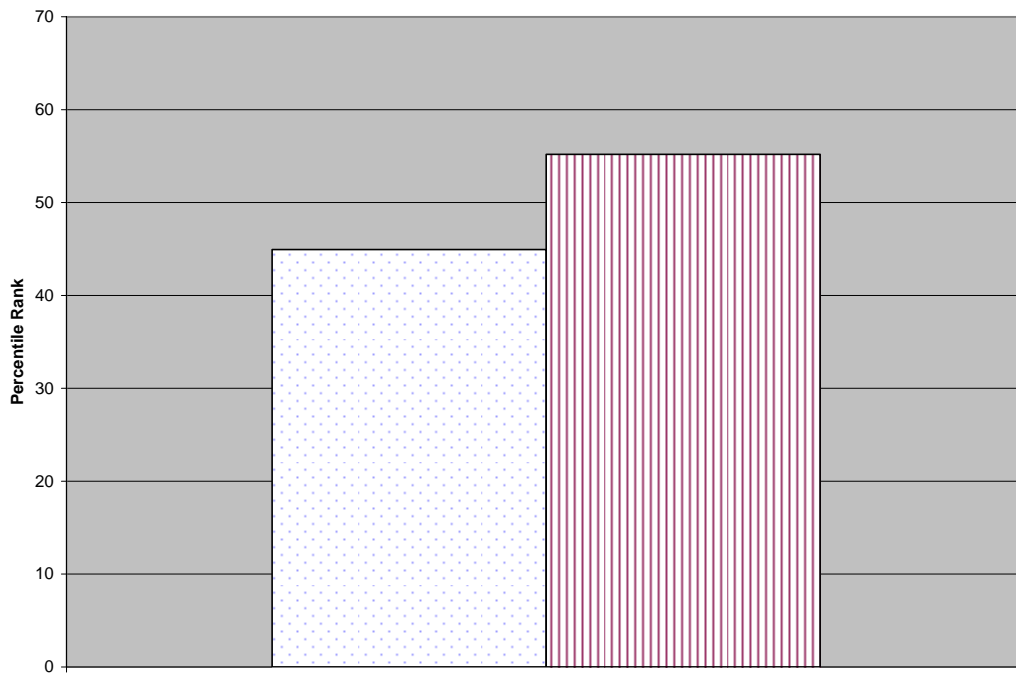
aged children, therefore, are likely to be able to devote a smaller share of their incomes to providing for their children (from quality child care to college tuition) because they must devote a larger share of income to caring for elderly parents.

Figure 10.10 - Workers Covered by Employer-Provided Pension Plan



Inequalities in compensation contribute to inequalities in household income. Median household income for blacks in 2004 was 62 percent of median household income for whites.¹²¹ We have made very slow progress in this regard. The ratio of black to white median family income (also 62 percent in 2003) is only 3 points higher than the 59 percent rate of 1967.¹²²

Figure 10.11 - Median Household Income



Note further that the ratio of black-to-white household income is smaller than the ratio of black-to-white average wages that we described above. In part, this may be due to more employed adults in white families than in black families, itself partly attributable to the greater share of black families headed by single mothers. And, in part, it may be that when black workers are employed, they have fewer hours of work than white workers.

Even more unequal than earnings and incomes is family assets. Median black wealth, defined as net household worth, is only 10 percent of median white wealth.¹²³

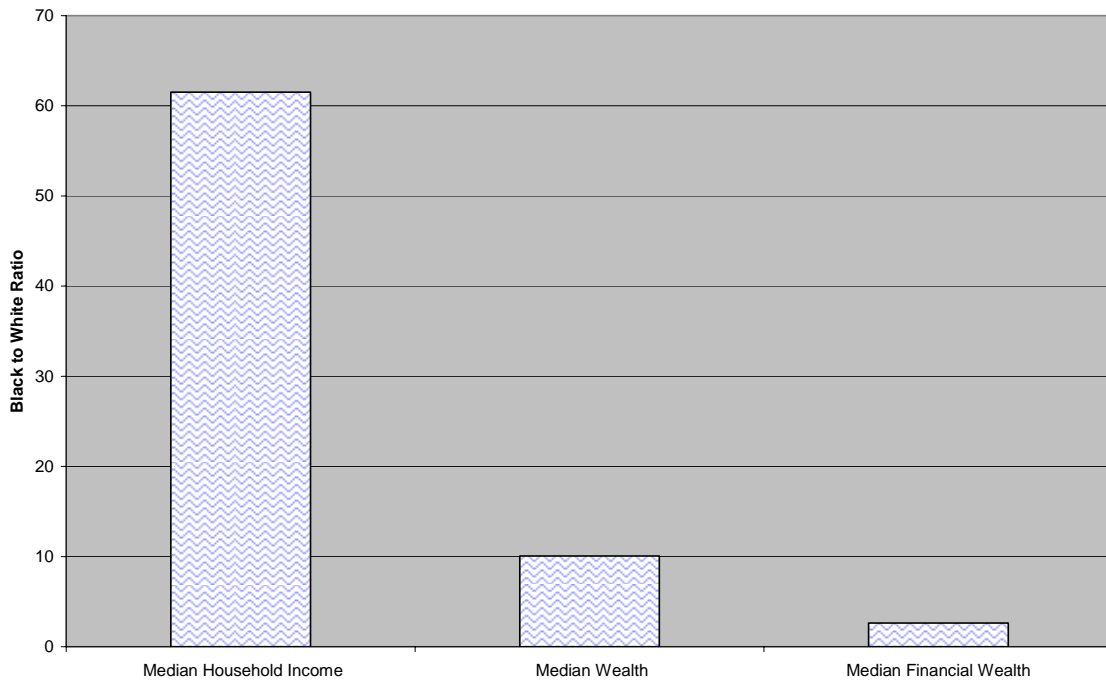
A higher proportion of the net worth of black than white households is in home equity - 48 percent of black families own their own homes, compared to 72 percent of white families.^{124*} So if we look separately at financial wealth, racial inequalities are even more dramatic. Black households have median financial assets of \$1,100, only 3 percent of median white household financial assets of \$42,000.¹²⁵

Because the distribution of wealth in the United States is so skewed, with so much wealth concentrated at the top, median wealth and average wealth are too dissimilar to permit us to estimate an approximate percentile ranking of blacks and whites, as we have done for other indicators. Such a transformation requires, as we have noted, an assumption of normal distribution. The assumption is nowhere fully accurate, but reasonable enough for other indicators. For wealth, however, the assumption is too inaccurate to be useful. Therefore, unlike previous figures, Figure 10.12 does not convert wealth to percentile rankings, but rather simply displays median black income, wealth, and financial wealth as a percentage of the median white values.[†]

* This is apparently not only attributable to less opportunity for black families to accumulate financial assets with which to purchase homes. Discrimination in real estate, including differences in access to mortgage funds, also continues to play a role. For recent evidence, see Avery, Canner and Cook 2005.

† Income distribution is also skewed. For 2004, the median household income for the entire population, \$44,389, is considerably less than average household income for the entire population, \$60,530 (EPI 2005). Thus, the mean is 36 percent greater than the median. Nonetheless, we assumed a normal distribution for the purpose of creating Figure 10.11. The skew in wealth is incomparably greater. For all wealth (data here are for 2001, the most recent available), the median for the entire population is \$73,500, while the average is \$380,146, or 417 percent greater. For financial wealth (2001), the median for the entire population is \$23,200, while the average is \$284,483, or 1,226 percent greater (Wolff 2005). This abnormal distribution makes it foolish even to attempt to estimate relative percentile rankings of blacks and whites without having access to the full data set with wealth points for each individual.

Figure 10.12 Black to White Financial Well-Being

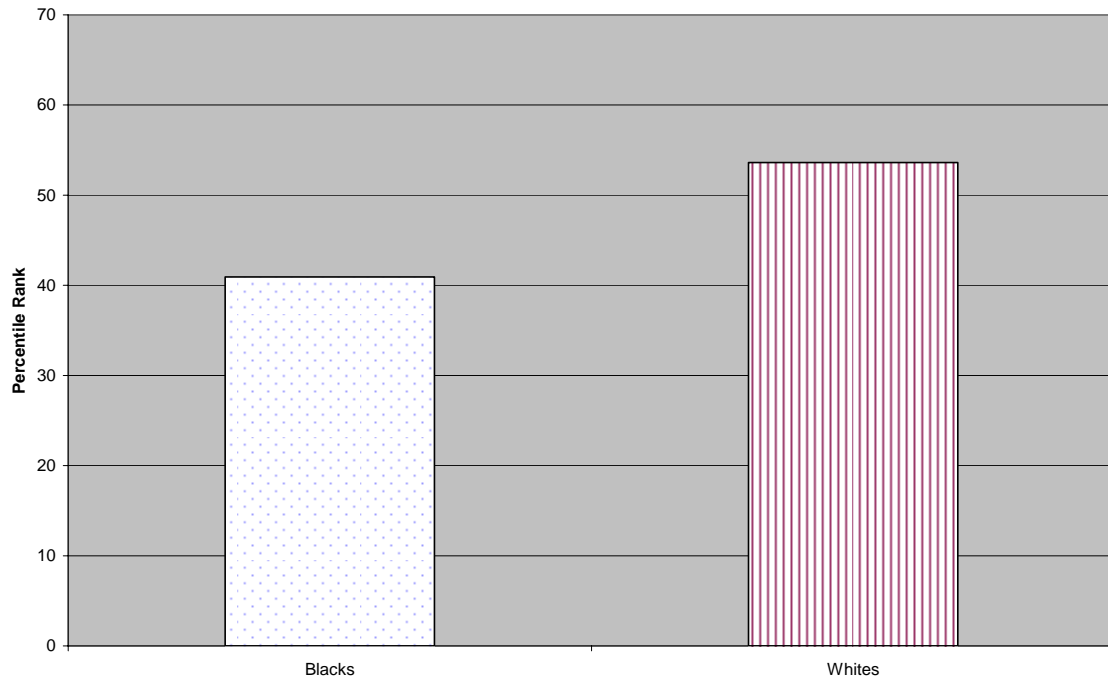


Summary: All of these inequalities in income and wealth, like the inequality in employer-provided pension coverage identified for special mention above, have a direct impact on the likelihood of educational success for children. Families with less income have less income to devote to the welfare of children. Families with less financial wealth are less able to save for college.

As Figure 10.13, below, shows, assuming that the indicators of employment, wages and income that we have presented each reflects a normal distribution, and weighting each of these indicators of economic success equally, black families, on average, are at the 41st percentile in measures of financial security, while white families

are at the 54th percentile.* Were there a meaningful way to include wealth in these estimates, we believe that the differences in percentile rankings would be even greater.

Figure 10.13 - Summary: Economic Security



* See note above (for Figure 3.8) on "double counting," which applies here as well.

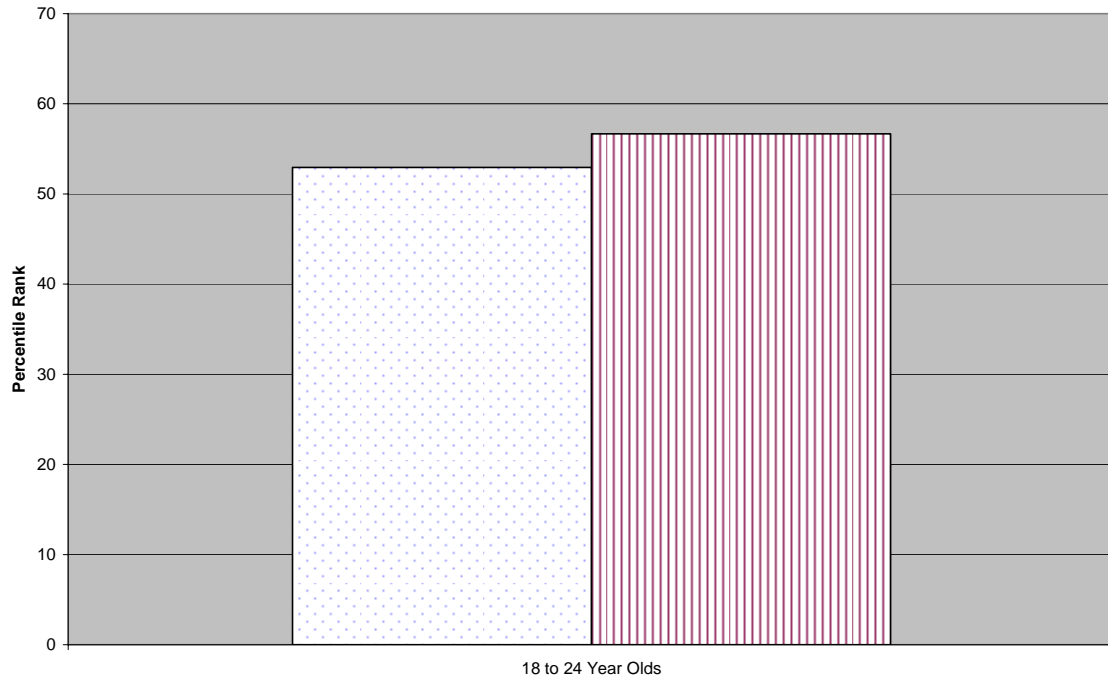
11. Other Adult Life Differences

Inequalities in economic security, compounding educational and health inequalities, contribute to differences in the adult lives of blacks and whites in American society. And these inequalities in adult lives cycle back into differences in how black and white adults are able to support and nurture their children, perpetuating the inequalities for another generation. In the descriptions of adult life that follow, we mostly focus on the activities of young adults, because their lives are presumably more reflective of contemporary educational, social, and economic institutions. Racial inequalities in the lives of older adults can more reasonably be attributed to schools and social conditions of the past.

Black young adults are less likely than whites to participate fully in civic life and democratic governance, either because they are less prepared for it in their schools and communities, or because they have fewer opportunities for involvement.

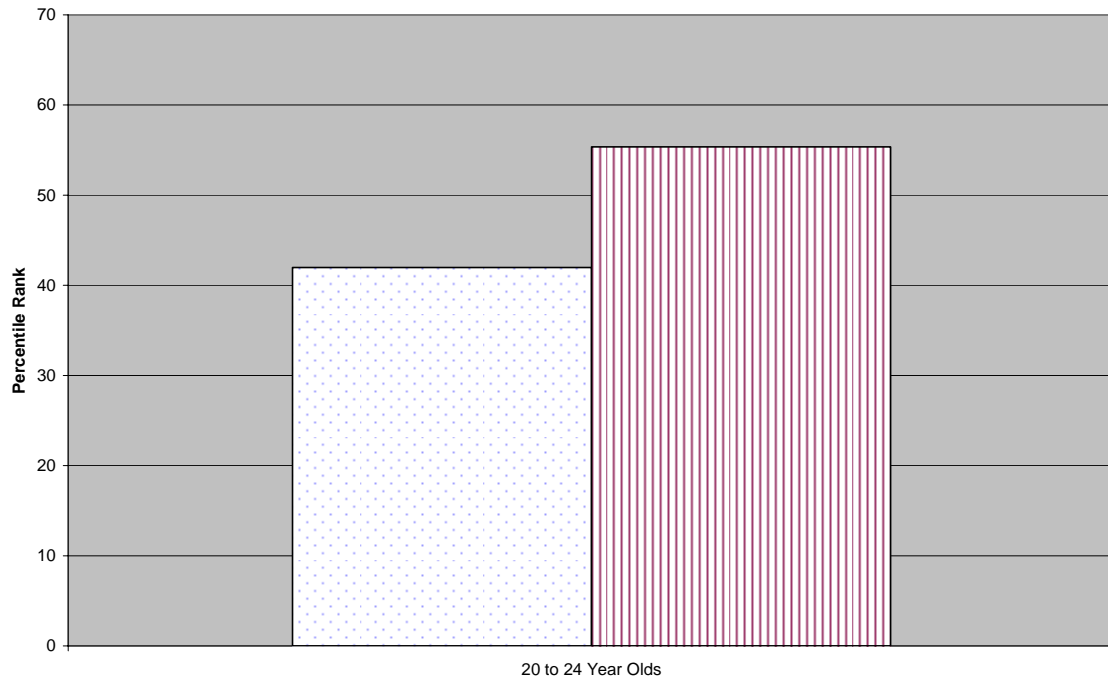
In the last presidential election, 45 percent of young black adults (aged 18-24), voted, compared to 49 percent of young white adults who voted.¹²⁶

Figure 11.1 - Voting Participation



Only 15 percent of young black adults (aged 20-24) engage in volunteer activities, compared to 24 percent of whites who do so.¹²⁷

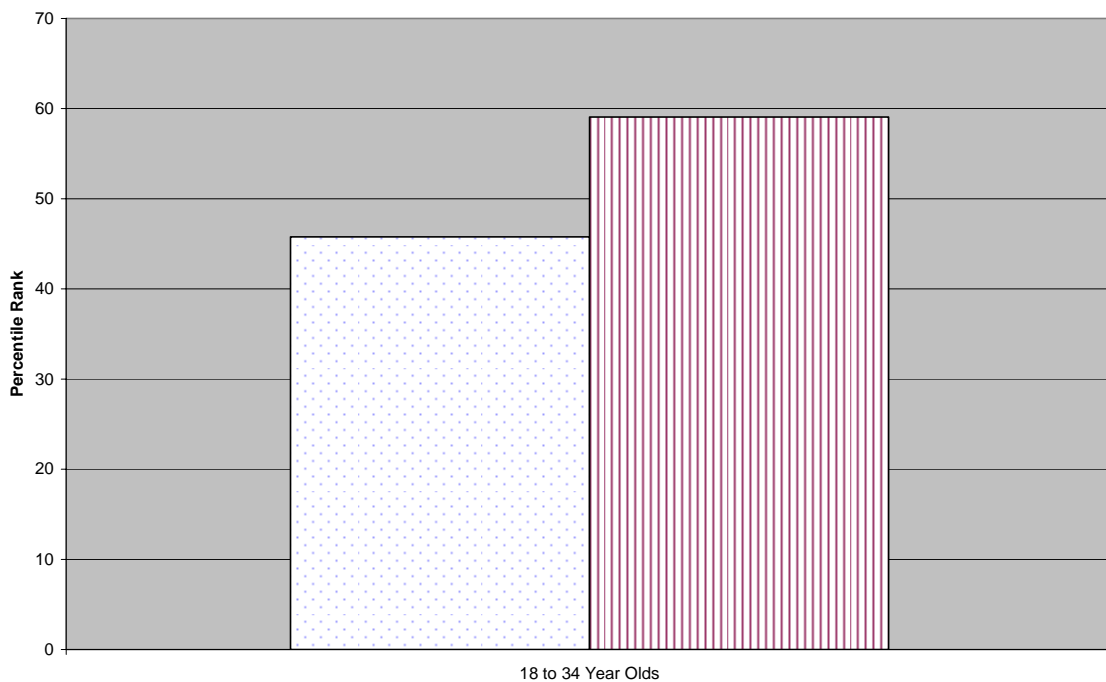
Figure 11.2 - Volunteer Activities



Health inequalities, for which foundations are laid in early childhood and the school years, continue and in some cases grow for young adults who, then, are less able to care for their own children and pass good health habits on to the next generation. The poor health of parents is, therefore, another determinant of children's lower achievement.

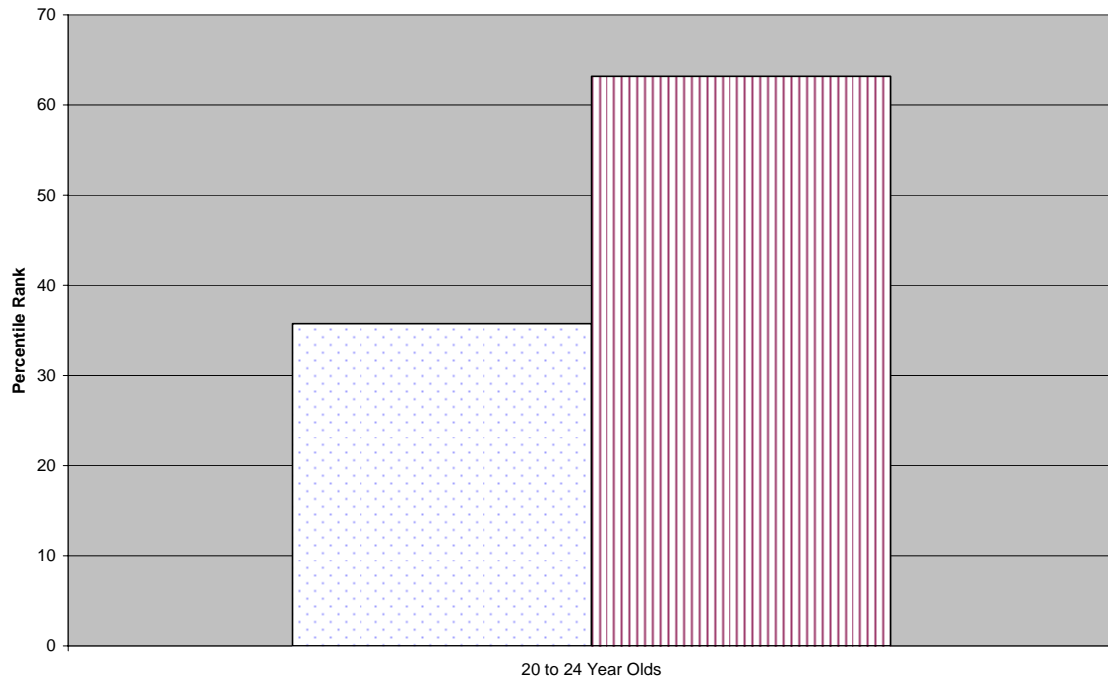
For adults in prime childbearing years, age 18-34, only 68 percent of blacks are covered by health insurance (including employer-provided, individually purchased, and government-provided insurance – such as Medicaid), compared to 79 percent of whites.¹²⁸

Figure 11.3 - Health Insurance Coverage of Adults



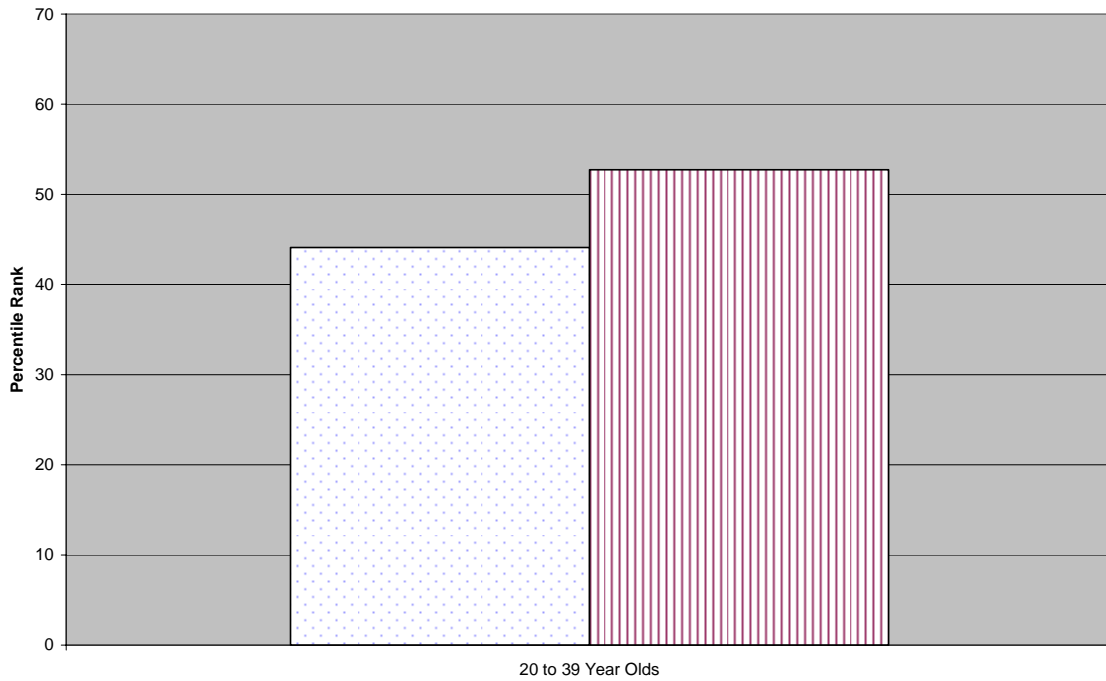
Of every 100,000 young (age 20-24) black adults, 18 are newly diagnosed each year with AIDS. For whites, there is only one diagnosis per 100,000.¹²⁹

Figure 11.4 - Young Adults Who Avoid AIDS



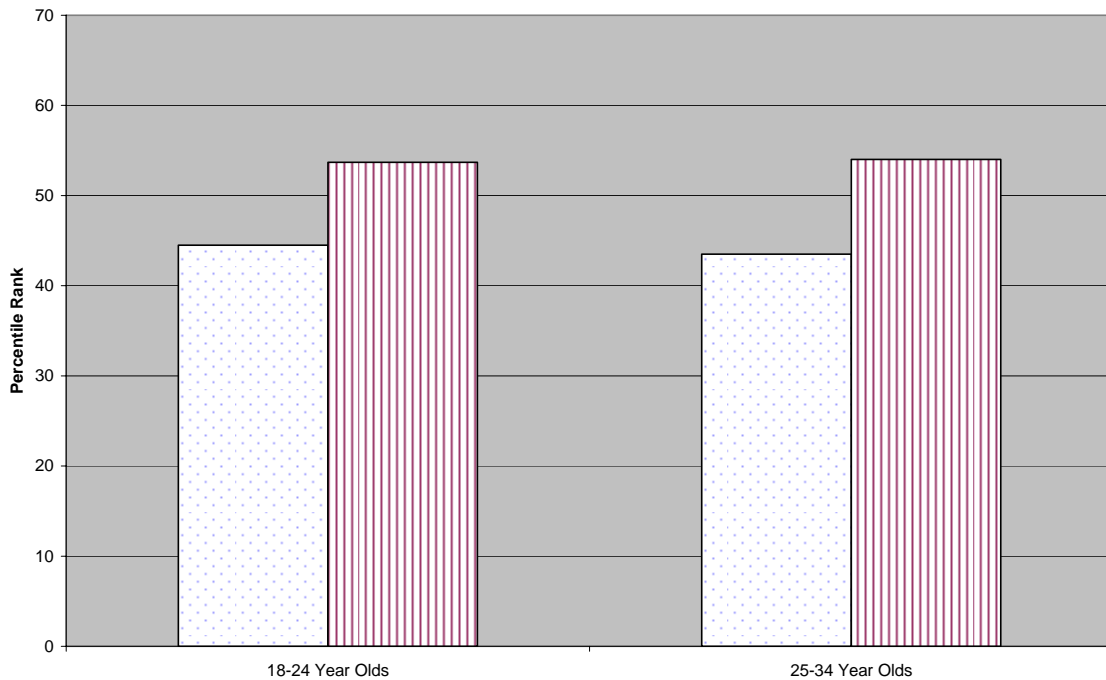
Differences in overweight, established in childhood, continue into adulthood. Sixty-three (63) percent of black young (age 20-39) adults are overweight, compared to 55 percent of whites. Considering only those who are obese, 36 percent of blacks and 24 percent of whites are in this category.¹³⁰

Figure 11.5 - Young Adults with Healthy Body Weight



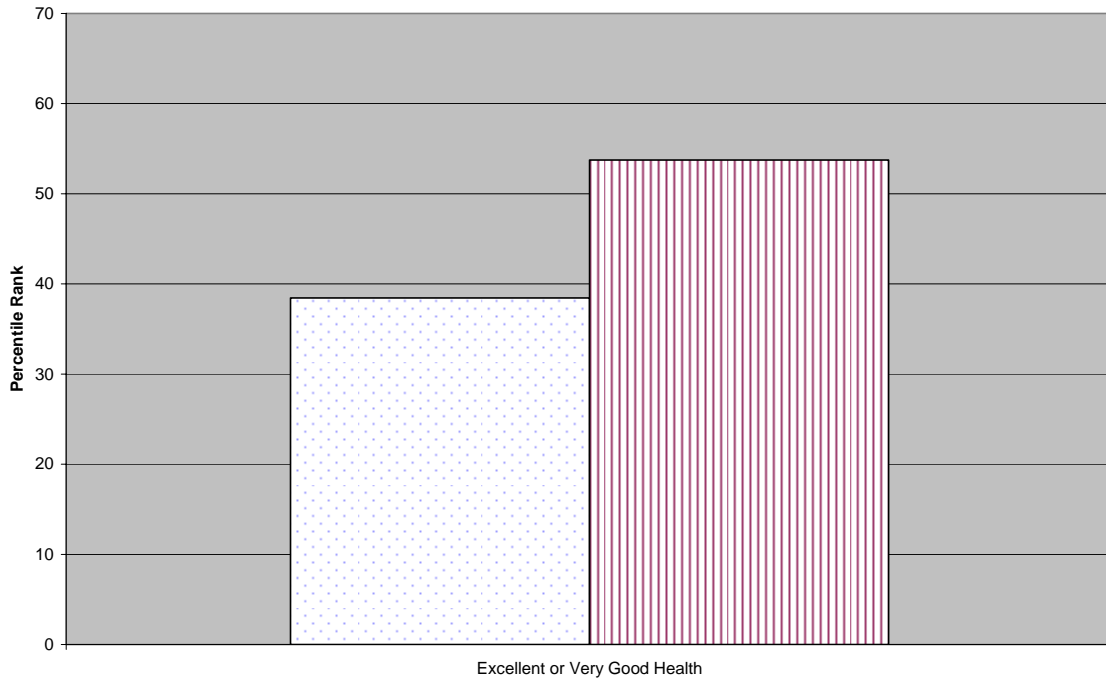
Unequal exercise habits also persist into adulthood. Fifty-one (51) percent of black young (age 18-24) adults engage in the minimal amount of physical activity recommended for good health (including recreational exercise or activity integrated into household work or employment). For whites, 61 percent of young adults do so. Considering adults from 25 to 34 years old, 44 percent of blacks engage in the minimal amount of physical activity, compared to 54 percent of whites.¹³¹

Figure 11.6 - Young Adults with Adequate Physical Exercise



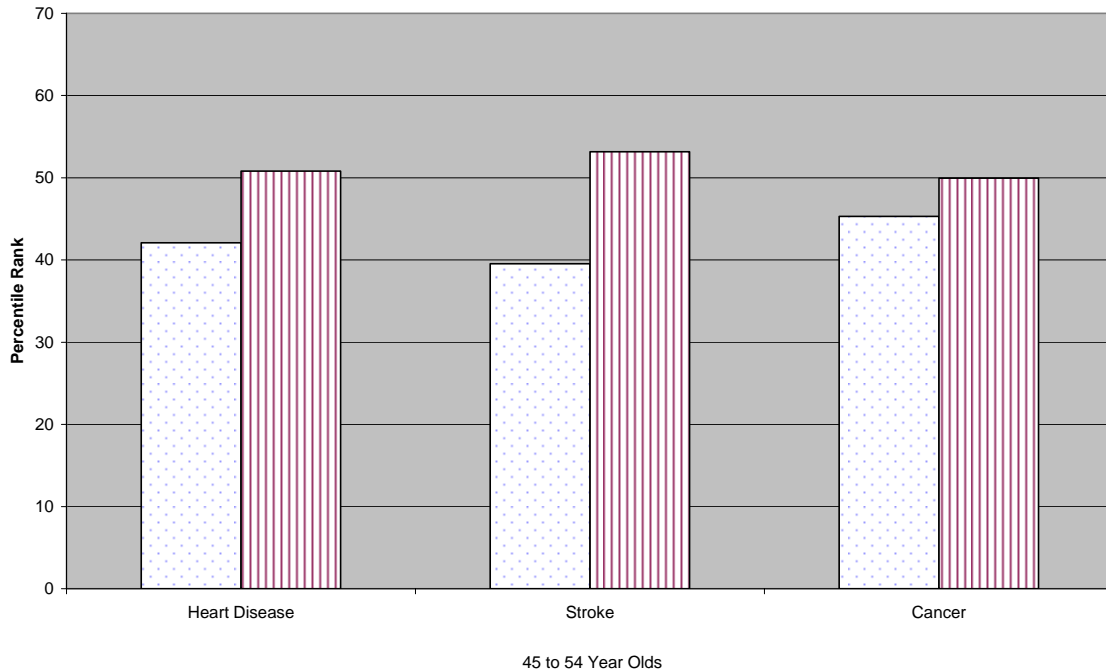
These data are consistent with adults' overall health conditions. Eighty-one (81) percent of black adults consider themselves to be in excellent or good health, compared to 90 percent of all white adults.¹³²

Figure 11.7 - Adult Self-Reports of Good Health



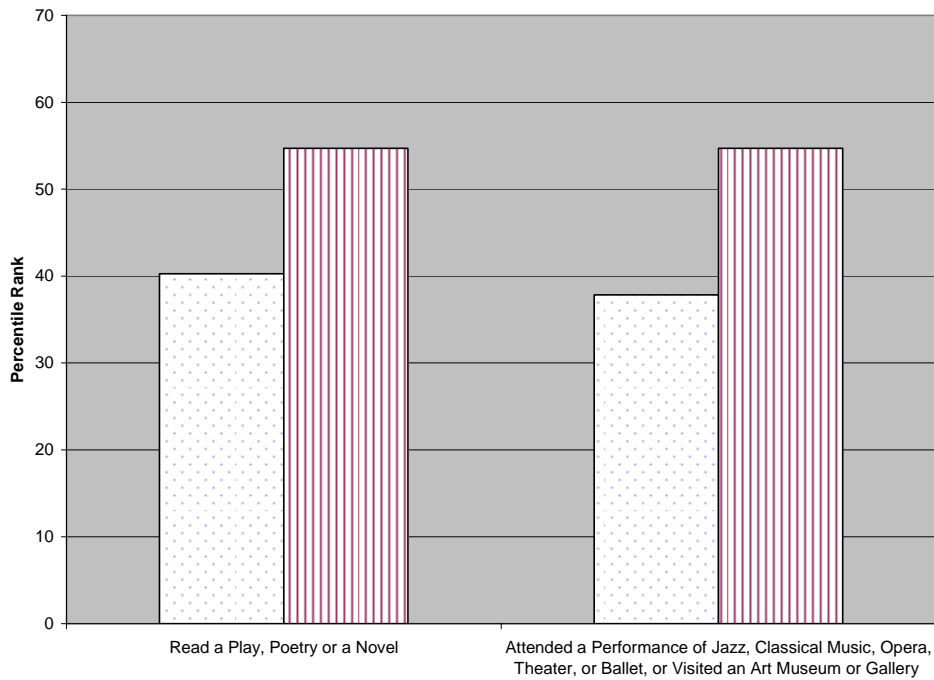
These subjective reports are consistent with the reality that black adults are more likely to die prematurely from cardiovascular disease and cancer than white adults. Of every 100,000 black adults from the ages of 45 to 54, 181 die from heart disease, more than twice the number (88) of whites who do so. Forty-one (41) blacks in this group die of stroke, nearly four times the number (11) of whites. One hundred and eighty-two (182) die of cancer, nearly half again as many deaths as the number (124) for whites.¹³³

Figure 11.8 - Normal Life Span: Avoiding Early Cancer, Stroke, Heart Disease



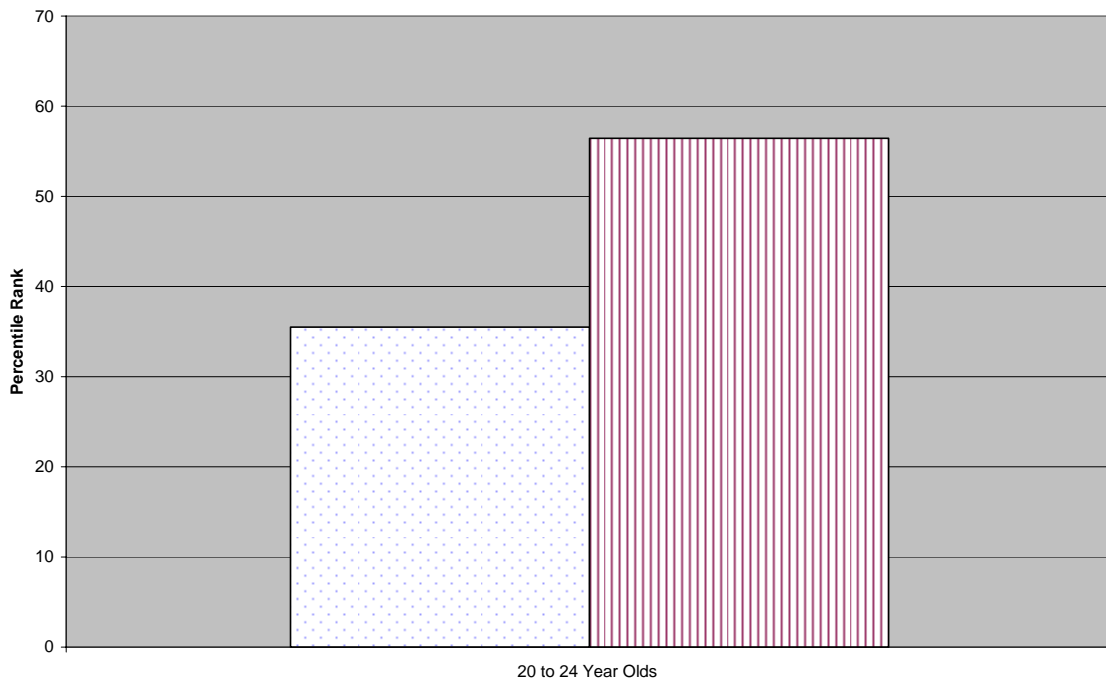
As the foundations for physical health of adults are laid in childhood and adolescence, so too are patterns of culture and literacy. Thirty-seven (37) percent of black adults have read a play, poetry or a novel in the last year, compared to 51 percent of white adults. Twenty-eight (28) percent of black adults have attended a performance of jazz, classical music, opera, theater, or ballet, or visited an art museum or gallery in the last year, compared to 44 percent of white adults.¹³⁴

Figure 11.9 - Adult Literacy and Cultural Activities



Black young adults commit more crimes than whites, a continuation of the pattern we saw for juvenile offenders. For every 100,000 black young adults (in the 20 to 24 year-old age group), there are 56 murder offenders; for every 100,000 whites in this group, there are 7.4.¹³⁵

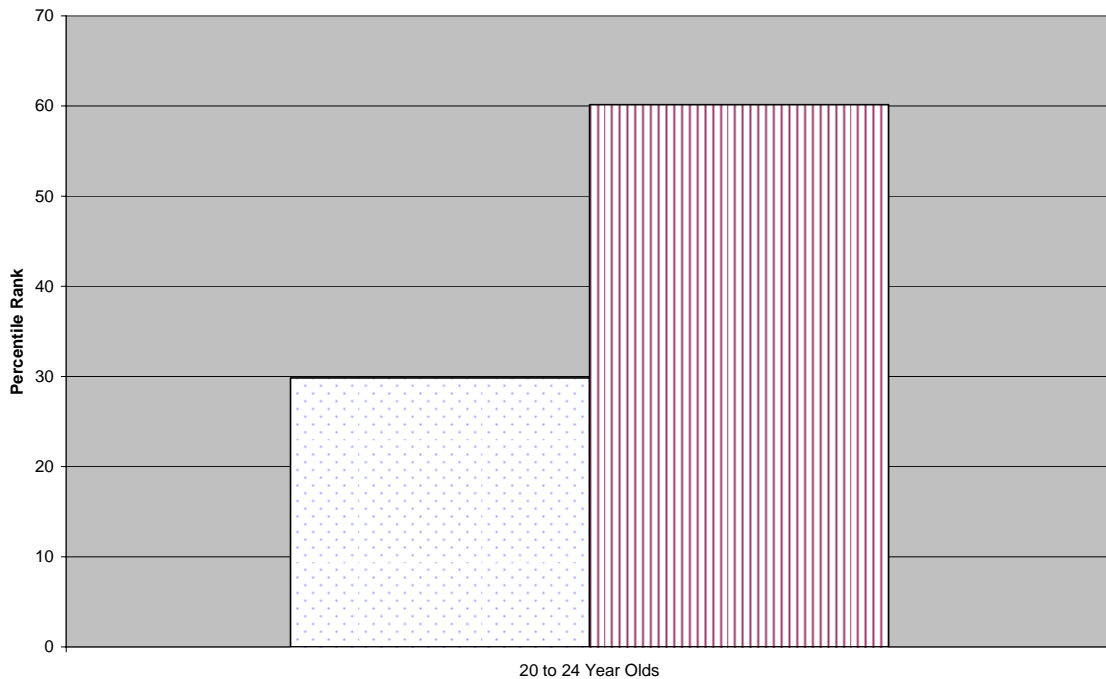
Figure 11.10 - Law-Abiding, Non-Violent Young Adults



Data on incarceration should be interpreted with caution because differences in arrest rates can result from discriminatory policing and prosecution policies, as well as from differences in criminal activity. A recent Department of Justice study found that, although blacks and whites are stopped for traffic violations at relatively equal rates, black drivers who are stopped are more likely to have their vehicles searched and have police force used against them.¹³⁶ The study, of course, could not determine whether the more aggressive treatment of black drivers by police was related to more serious infractions or more suspicious activities by black drivers, but the study is suggestive that

inequalities in overall incarceration rates of blacks and whites probably reflect, to some undetermined extent, both discriminatory treatment and a higher rate of criminal activity by young black adults. For young adults between the ages of 20 and 24, 6 percent of blacks are in prison or jail, compared to 1 percent of whites.* In this age group, black men are incarcerated at 18 times the rate of black women; for whites, the male-female ratio is half that. These incarceration rates and male-female ratios remain nearly the same for young adults from the ages of 25 to 29.¹³⁷

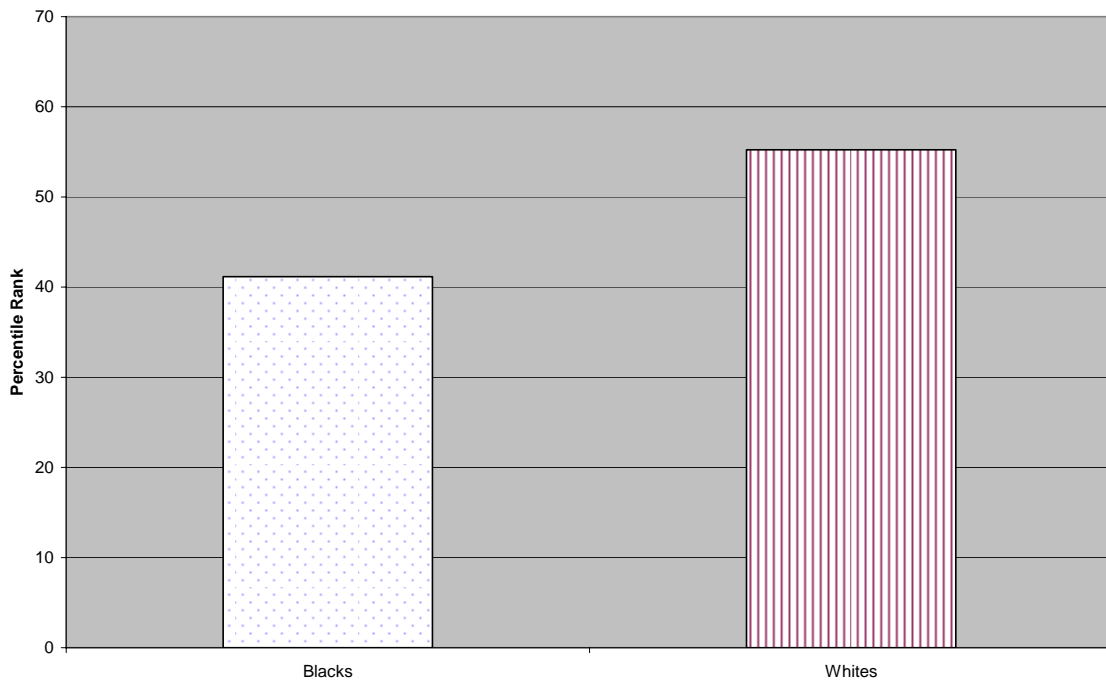
Figure 11.11 -Young Adults Who are Not Incarcerated



* We do not know the extent to which this disparity results from greater rates of criminal activity or from discriminatory criminal justice policies. For example, possession of crack cocaine is penalized more severely than possession of powder cocaine, with the former more prevalent among blacks, the latter more prevalent among whites.

Summary: Bringing together these differences in other adult life experiences, assuming that each of these indicators of adult health, civic participation, and crime reflects a normal distribution, and weighting each of these indicators of adult life experiences equally, black adults, on average, are at the 41st percentile in these measures of adult experience, while white families are at the 55th percentile.

Figure 11.12 - Summary: Positive Adult Life Experiences



Conclusion

This report has presented a broad inventory of black-white inequalities from before birth through adulthood, in academic achievement, health, early childhood care, child and adolescent experiences, educational attainment, economic security, and adult life. In doing so, we have made no attempt to judge which are more important than others, or which result from independent forces of inequality in American society, as opposed to those inequalities which are simply direct consequences of the others.

In future work, we hope to propose a rational weighting scheme and to comment further on causality.

Certainly, there is a prevailing opinion in America today that, of all the inequalities we have described, the gap in academic achievement is the most important, and that if this academic achievement gap were addressed forthrightly, other inequalities would, with the passage of a generation, take care of themselves.

This is not a view that we share, but this report does not attempt to dispute it directly. We only note that even if this claim were true, it may also be true that if we focused all our attention on other inequalities, such as those of health, or of early childhood experiences, then other inequalities, including academic achievement, would diminish substantially.

We have also noted that because it is plausible to expect that the various risks of academic underperformance are cumulative, gaps in academic achievement may well be greater than the separate gaps in health, early childhood preparation, out of school experiences, and economic security, even if these contributing domains were exclusively

responsible for the academic gaps. Of course, they are not exclusively responsible – disadvantaged children also receive inferior schooling.

It would require controlled experimentation, beyond the realm of possibility where human affairs are concerned, to resolve with finality disputes about the relative impacts of the inequalities we have described.

For several reasons, we have focused only on black-white differences, including that the data simply don't exist that would be needed to discuss meaningfully the differences between Hispanics and other Americans. But data limitations also may lead us to understate the inequality of blacks and whites. That is because our data lump together African-Americans who are burdened by our history of domestic slavery and generations of discrimination, more recent immigrants from Africa and from the Caribbean, and young people whose parentage is mixed. There are indications that the outcomes for recent immigrants and the children of mixed parentage are more positive than those for African-Americans generally. If this is true, then the gaps between blacks who have descended from American slaves, and other Americans, is even greater than we have indicated here.

At the present time, immigrants and children of mixed parentage still comprise a relatively small percentage of the non-Hispanic black population (although in some states, like New York, it is becoming increasingly significant), so we can be reasonably confident that the broad trends in black disadvantage that we have described are meaningfully representative of the African-American community. If African and Caribbean immigration, and interracial marriage, increase, it may in the future become

less possible to be accurate about African-American disadvantage without disaggregating data for blacks to an extent not possible today.

In assessing the relative disadvantage of blacks in America, there are countervailing thoughts to consider. Although we have focused on the differences between blacks and whites, many of these differences obscure important commonalities; most blacks and whites in American society, in important respects, are similar. Thus, although it is important to note that fewer blacks than whites have received the most important childhood vaccinations, it is still the case that the vast majority of black children have been vaccinated. Likewise, while fewer black than white preschool children are read to regularly by their parents, most black preschoolers are read to.

The greatest importance of these inequalities may be that they are cumulative. When combined with many other inequalities, some small, some larger, the differences in rate of vaccinations or preschool reading contributes to and compounds a system of pervasive inequality.

While we have described a system of inequalities favoring whites over blacks in American society, our social system is complex, and there are also a number of indicators in which blacks have more favorable experience than whites. Where we have found data on these, we have reported them and included them in our summaries.

Later in this academic year, the Campaign for Educational Equity at Teachers College will release a "report card" in which we make some judgments about the relative importance of various indicators, so that we can evaluate the extent to which the nation and states are making progress towards eliminating the racial inequalities that lead to educational inadequacy. But for the present, all we can conclude from this presentation is

that the pattern of racial inequality in American society is consistent across domains. We can also say that some, perhaps most, of the racial inequality only reflects racial differences in social and economic circumstances, but that some racial inequality cannot be explained simply by social and economic disadvantages. To some extent, this systematic pattern of inequality suggests a society organized along caste, not class lines.

Despite the systematic inequalities we have described, some progress has been made and this leads to the hope that further progress is possible. Perhaps highlighting the extensive costs to American society of permitting these inequalities to continue will help spur us to further action.

Endnotes

¹ NCES 2005a. Except where otherwise indicated, this citation - NCES 2005a - is the source for each indicator in Chapter 2 of this report.

² Lemke et al. 2004; OECD 2004, tables 6.2 and 6.6.

³ Persky, Sandene, and Askew 1998

⁴ NCHS 2004, table 6

⁵ Ibid, table 19

⁶ Ibid, table 19

⁷ Ibid, table 20

⁸ Ibid, table 12

⁹ Ibid, table 13

¹⁰ CDC 2005a, focus area 16-19

¹¹ Census 2005a, table H101

¹² Komaromy et al. 1996

¹³ NCHS 2004, table 74

¹⁴ Ibid, table 79

¹⁵ Ibid, table 72

¹⁶ CDC 2005a, focus area 14-18. These data include Hispanic blacks and Hispanic whites; data for non-Hispanics are not available.

¹⁷ CDC 2005b, table 8

¹⁸ Rothstein 2004, n. 70, 73, p. 157

¹⁹ Ibid, n. 83, 84 p. 158

²⁰ MMWR 2005, p. 515

²¹ GAO 1999

²² Barton 2003; Blum 2004

²³ CDC 2005a, focus area 14-04. These data include Hispanic blacks and Hispanic whites; data for non-Hispanics are not available. The data are not based on a national sample, but on surveys of 8 states CA, CT, GA, MD, MN, NY, OR, TN. The data are representative for these states, however, and there is no reason to believe that they would be radically different in other states.

²⁴ DHPE 2005

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- ²⁵ CDC 2005a, focus area 14-04. See note 23, above.
- ²⁶ NCHS 2004, table 80
- ²⁷ NCES 2005b, table 143
- ²⁸ Census 2005c
- ²⁹ Denton and Germino-Hauskens 2000, table 20
- ³⁰ e.g., Zajonc and Markus 1975
- ³¹ EPI 2005
- ³² This conclusion is extrapolated, assuming linearity, from Denton and Germino-Hauskens, 2000, Table 10.
- ³³ Nord et al. 1999, table 1
- ³⁴ Rathbun and West 2003, Table 4
- ³⁵ Grissmer 2005
- ³⁶ NCES 2005b, table 50
- ³⁷ Grissmer 2005
- ³⁸ Ibid
- ³⁹ Ibid
- ⁴⁰ Ibid
- ⁴¹ NCES 2005b, table 50
- ⁴² Grissmer 2005
- ⁴³ Cunha et al. 2005, Figure 5B. Data tables provided to authors by Dimitriy Masterov.
- ⁴⁴ NICHD 1999
- ⁴⁵ Bub and McCartney 2005. These are estimates of child care quality for infants and children at the ages of 6, 15, 25, 36, and 54 months. We report a simple average of these quality assessments.
- ⁴⁶ Ibid. Again, our estimate of blacks and whites in center care is based on a simple average of the percentage of black and white children in center care at each sampled age.
- ⁴⁷ NCES 2005b, table 45
- ⁴⁸ Walston and West 2004, chapter 4
- ⁴⁹ NCES 2005b, Table 47
- ⁵⁰ Hoffman and Llagas 2003, p. 33

-
- ⁵¹ MMWR 2004, table 56
- ⁵² NCES 2005b, table 429
- ⁵³ Vaden-Kiernan and McManus 2005, table 6. We report an average of percentages of parents who engaged in these activities with their children: told a story; did arts and crafts; played sports, active games, or exercised; worked on a project; and played board games or did puzzles.
- ⁵⁴ Ibid, table 4
- ⁵⁵ Ibid, table 8
- ⁵⁶ Ibid, table 8
- ⁵⁷ Ibid, table 11
- ⁵⁸ Ibid, table 11
- ⁵⁹ MMWR 2004, table 56
- ⁶⁰ Ibid, table 50
- ⁶¹ NCES 1998, p. 42
- ⁶² Ibid
- ⁶³ Vaden-Kiernan and McManus 2005, table 11
- ⁶⁴ NCES 2005b, table 95
- ⁶⁵ Orfield and Lee 2005, tables 6, 7
- ⁶⁶ NCES 2005b, table 145
- ⁶⁷ Ibid, table 148
- ⁶⁸ NCHS 2005c, table 10
- ⁶⁹ Cunha et al. 2005, figure 5B. Data tables provided to authors by Dimitriy Masterov.
- ⁷⁰ Census 2005b. NCCJ 2002. As here, and in what follows, where citations are both to Census 2005b and to another source, the census data were used to establish age-relevant population for purposes of calculating a population rate.
- ⁷¹ CDC 2005a, focus area 28-04
- ⁷² NCHS 2005c, table 1
- ⁷³ Hilts 2000
- ⁷⁴ Halfon and Newacheck 1993
- ⁷⁵ Forest et al. 1997

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- ⁷⁶ MMWR 2002, table 2
- ⁷⁷ MMWR 2000; Lanphear et al. 2000
- ⁷⁸ Hancox and Poulton 2005
- ⁷⁹ Hedley et al. 2004
- ⁸⁰ MMWR 2004, table 58
- ⁸¹ Ibid, table 46
- ⁸² Ibid, table 44
- ⁸³ CDC 2005a; Census 2005b
- ⁸⁴ FIFCFS 2005, Table Health8
- ⁸⁵ CDC 2005a, focus area 18-02
- ⁸⁶ NCHS 2004, table 80
- ⁸⁷ Ibid, table 64
- ⁸⁸ FIFCFS 2005, Table Health8
- ⁸⁹ Mishel and Roy 2005
- ⁹⁰ Hoffman and Llagas 2003, p. 57
- ⁹¹ NCES 2005b, table 139
- ⁹² Hoffman and Llagas 2003, p. 57
- ⁹³ NCES 2005b, table 139
- ⁹⁴ Wirt 2005
- ⁹⁵ Mishel and Roy 2005
- ⁹⁶ Knapp et al. 2003; Census 2005b
- ⁹⁷ Ibid
- ⁹⁸ NCES 2005b, table 313
- ⁹⁹ Ibid
- ¹⁰⁰ NCES 2005b, tables 16 and 67
- ¹⁰¹ Census 2005b
- ¹⁰² NCES 2005b, table 298
- ¹⁰³ Ibid

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- ¹⁰⁴ Ibid, table 237
- ¹⁰⁵ Ibid; Provasnik and Shafer 2004, table A-42
- ¹⁰⁶ NCES 2005b, table 268
- ¹⁰⁷ Ibid, table 274
- ¹⁰⁸ Ibid, table 298
- ¹⁰⁹ Ibid, table 84
- ¹¹⁰ SWA table 3.1
- ¹¹¹ NCES 2005b, table 380
- ¹¹² NCES 2005c, Table 17-1
- ¹¹³ Allegretto and Stettner 2004. Further data from EPI 2005
- ¹¹⁴ SWA table 3.9. Further data from EPI 2005
- ¹¹⁵ Ibid
- ¹¹⁶ SWA, tables 2.6, 2.17. Further data from EPI 2005
- ¹¹⁷ Ibid
- ¹¹⁸ NCES 2005, Table 430
- ¹¹⁹ SWA, table 2.14; Further data from EPI 2005
- ¹²⁰ SWA, table 2.15; Further data from EPI 2005
- ¹²¹ SWA 2005, table 1.6. Further data from EPI 2005
- ¹²² SWA 2005, table 1.6
- ¹²³ Ibid, table 4.6
- ¹²⁴ Ibid, table 4.11
- ¹²⁵ Ibid, table 4.6
- ¹²⁶ Census 2005b
- ¹²⁷ Ibid
- ¹²⁸ Census 2005a
- ¹²⁹ CDC 2005a; Census 2005b
- ¹³⁰ Hedley et al. 2004

¹³¹ CDC 2005c

¹³² NCHS 2005d

¹³³ NCHS 2004, tables 36-39

¹³⁴ NEA 2004, table 9

¹³⁵ FBI 2003, table 2.5; Census 2005b

¹³⁶ Lichtblau 2005

¹³⁷ Harrison and Beck 2005, tables 13-14

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<http://dataferrett.census.gov/>.
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