

***A Report Card on Comprehensive Equity:  
Racial Gaps in the Nation's Youth Outcomes***

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## Summary

This Report Card on Comprehensive Equity attempts to describe the nation's gap in performance between white and black youth. Discussion of the achievement gap is commonplace in American policy making today. Typically, the gap is defined as the difference in standardized test scores, usually only in math and reading, between black and white students. This report differs from typical discussions in these ways:

\* This Report Card describes eight broad goals of American schools and other institutions of youth development, and suggests that the ideal of comprehensive equity must include a narrowing of the performance gap between black and white youth in each of these eight goal areas. These goals have historically been central to Americans' conception of education and youth development and remain so today. They are a meaningful opportunity to achieve adequate

# basic academic skills,

# critical thinking and problem solving,

# social skills and work ethic,

# readiness for citizenship and community responsibility,

# foundation for lifelong physical health,

# foundation for lifelong emotional health,

# appreciation of the arts and literature, and

# preparation for skilled work, for those youths not destined for academic college.

\* The Report Card focuses, to the extent possible, on the *outcomes* of educational and youth development institutions. "Outcomes" are the achievement of adequacy in these eight goals by adolescents and young adults, roughly between the ages of 17 and 25, who are at an

age to have successfully completed the normal course of elementary and secondary education and to exhibit, in their behaviors, the impact of our educational and youth development policies.

Typical discussions of the performance gap focus on test scores during students' school careers. Such scores are only predictors, to an unknown extent, of academic achievement at the end of the schooling years, which is the true object of education and youth development. This Report Card terms "outputs" these scores, as well as other markers of youths' accomplishments during the school years. It distinguishes such outputs from "outcomes," which describe performance at the conclusion of the educational and youth development process. The Report Card includes measurement of outputs only to supplement data on outcomes, because available outcome data are inadequate to tell a complete or fully accurate story.

Because both outcome and output data on each of the broad goal areas, while suggestive, are not definitive, even at the national level, this Report Card on Comprehensive Equity is also based on estimates of black-white gaps in a collection of inputs that research and common sense suggest have a positive impact on performance in each of the goal areas. These inputs, again limited by the availability of representative national data, include parental involvement in their children's schooling; parental engagement in challenging activities with their children; the avoidance by children of excessive television watching; young children's attendance at high-quality preschools; students' exposure to positive peer influences; children's access to books both in public libraries and at home; and a collection of fiscal resources including school spending, smaller classes for young children, better-paid teachers, relatively strong state fiscal support for higher education.

Although this Report Card makes no claim to complete precision in any of these estimates, our judgment is that a measurement of gaps in each of the eight goal areas should incorporate this gap in inputs likely to produce more adequate outcomes. Therefore, the Report Card's estimates of the black-white gap in each of the eight goal areas include, with a weight of 20 percent in each case, this overall input gap. The performance gap described in each of the eight goal areas is comprised of 80 percent of gaps in the various outcome and output indicators of performance in that goal area, and 20 percent of the gap in overall inputs.

\* Many indicators of black-white differences, used in this Report Card on Comprehensive Equity, are well known. Test score gaps in basic academic skills have been publicized widely, and several organizations have published compendia of health and child-rearing indicators. But this Report Card is the first attempt to have a group of national experts weight each available indicator by its relative importance. Using such weights permits the Report Card to make judgments about inequity in each broad goal area. The weights are also a guide to policy, pointing to areas where improvement might have the most impact in raising equity.

\* An underlying assumption of this Report Card on Comprehensive Equity is that in our democratic society, government (state governments, in particular) have a responsibility to ensure that all children have a meaningful opportunity to enter young adulthood with both adequate and equitable outcomes in the eight broad goal areas identified above. Governments should assign some of the responsibility for ensuring this meaningful opportunity to public schools, but should also assign appropriate responsibility to other institutions.

Thus, this Report Card is *not* about the outcomes of schools alone. Rather, it concerns the outcomes of all institutions of youth development, including schools. Both scholars and policymakers now broadly understand that even academic outcomes cannot be attributed to schools alone. The influence of schools in producing academic achievement is complemented by the influences of health care delivery systems, of the quality and availability of early childhood, after-school, and summer programs, of the quality of parenting, and of community environments (including safety, housing quality, racial isolation, and services such as public libraries). When this report uses terms like "institutions of youth development" we mean all of these educational, social, and economic institutions that affect youth outcomes.

Unfortunately, this underlying assumption is not usually reflected in educational or youth development policy. For example, awareness that approximately 25 percent of the black-white academic achievement gap is associated with differences in the health of black and white children, and in the health behaviors of their mothers, should lead policymakers to consider the relative value of placing health clinics in schools as a strategy for improving academic achievement. Similarly, awareness that approximately 14 percent of the black-white achievement gap is associated with differences in the residential mobility of black and white students should lead policymakers to consider the relative value of low-income housing support policies as a strategy for improving academic achievement. Unfortunately, however, although aware that schools are only partially responsible for academic achievement and for racial achievement gaps, contemporary policymakers typically attempt to hold schools fully responsible.

But just as schools are not fully responsible for academic outcomes, they cannot be fully absolved of responsibility for other outcomes of education and youth development.

Consider, for example, the goal of physical health. One aspect (among many) is the growing overweight and obesity status of young people. This troubling national development is characterized by racial disparities similar to those for academic achievement. It may result from deficiencies in the American diet, in the marketing of soft drinks and fast foods, in urban planning (less walking, less opportunity for safe outdoor play), and in recreational choices (computer vs. physical games). But it is also may be the product of school policies that prescribe inadequate time for active physical education and that fail to implement physical education curricula best designed to spur physical fitness. As with academic outcomes, schools and other institutions of youth development are jointly responsible for outcomes of good physical health. Similar co-responsibility of schools and other institutions of youth development apply to all the goals areas discussed in this report.

This Report Card on Comprehensive Equity highlights gaps in the eight broadly defined outcome areas of youth development. The policy implications of awareness of these gaps are not for school leaders alone. The policy implications are for state policymakers who, in seeking better youth outcomes, must balance their desires for school improvement with attention to all of the other institutions that also contribute to youth development.

There is at present little research, and certainly no conclusive research, that can guide policymakers in choosing the mix of school and other social and economic policies that will best provide a meaningful opportunity for all youths to enter adulthood poised for success. This Report Card on Comprehensive Equity implies no recommendations about the mix of such policies. Its sole purpose is to identify the black-white gaps in a broad range of outcomes. Such identification should spur policymakers to experiment with various mixes of school, social, and economic policies to narrow these gaps.

\* This Report Card describes the black-white performance gap in the eight goal areas only at the national level. Typical discussions of the academic achievement gap attempt to measure it at state, district and school levels. But reasonably informative data on performance in the eight goal areas are presently available only at the national level, and even here, data are often inadequate. Without better data, policy makers cannot know which states perform relatively better than others. We recommend that national data collection be improved, and that such collection draw on samples that are large enough to support state-level conclusions about gaps in outcomes for each of the eight goal areas.

This Report Card defines the black-white gap by estimating the mean (average) black and white youth performance in national distributions of performance in each of the eight goal areas. The Report Card expresses these averages as the black percentile rank and the white percentile rank; the gap in each of these goal areas is the difference between these ranks.

Such comparisons of averages necessarily obscure great differences between individuals. There is a wide variation in performance among blacks and among whites in each of the eight areas. In each, although there is a black-white gap favoring white youths, there are some black youths who outperform average whites, and some white youths who underperform average blacks. In some cases, average black youths outperform average white youths on particular indicators, although this is not the case for any goal area as a whole.

This Report Card on Comprehensive Equity concludes that the nation has a black-white performance gap of roughly the following magnitude:



\* Basic Academic Skills: The black-white gap is about 29 percentile points. In a national distribution of achievement of basic skills by the time students are about 17 years old, black students are at the 31<sup>st</sup> percentile, and white students are at the 61<sup>st</sup>.\*

\* Critical Thinking and Problem-Solving Skills: The black-white gap is about 31 percentile points. In a national distribution of achievement of critical thinking skills by the time students are about 17 years old, black students are at the 25<sup>th</sup> percentile, and white students are at the 56<sup>th</sup>.

\* Social Skills and Work Ethic: The black-white gap is about 16 percentile points. In a national distribution of performance in social skills and work ethic by the time youths enter young adulthood, blacks are at the 41<sup>st</sup> percentile, and whites are at the 56<sup>th</sup>.

\* Citizenship and Community Responsibility: The black-white gap is about 13 percentile points. In a national distribution of adolescents' and young adults' citizenship behavior and community responsibility, blacks are at the 42<sup>nd</sup> percentile, and whites are at the 55<sup>th</sup>.

\* Physical Health: The black-white gap is about 7 percentile points. In a national distribution of readiness for lifelong physical health by the time youths enter young adulthood, blacks are at the 47<sup>th</sup> percentile, and whites are at the 54<sup>th</sup>.

\* Emotional Health: The black-white gap is about 5 percentile points. In a national distribution of readiness for lifelong emotional health by the time youths enter young adulthood, blacks are at the 49<sup>th</sup> percentile, and whites are at the 54<sup>th</sup>.

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\* Here, and subsequently, percentile points are rounded to whole numbers, occasionally resulting in a gap that is not identical to the difference in the whole-number percentile rankings of whites and blacks.

\* Appreciation of the Arts and Literature: The black-white gap is about 12 percentile points. In a national distribution of adolescents' and young adults' achievement in, appreciation of, and ability to participate in the arts and literature, blacks are at the 42<sup>nd</sup> percentile, and whites are at the 54<sup>th</sup>.

\* Preparation for Skilled Work: The black-white gap is about 13 percentile points. In a national distribution of young peoples' preparation for successful careers if they are not likely to graduate from college, blacks are at the 41<sup>st</sup> percentile, and whites are at the 54<sup>th</sup>.

\* Overall Inputs: Influencing each of the eight performance gaps is an 18 percentile point gap in overall inputs (fiscal, school, family, and community) that contribute to a meaningful opportunity for performance in each of the goal areas. In a national distribution of access to such resources, blacks are at the 41<sup>st</sup> percentile, and whites are at the 58<sup>th</sup>.

As noted, the above summaries are based on available national data, which in every case are sparse. These estimates are the best that can be done with present data, although the nation could certainly collect better data on each of the broad outcome goals, were we to invest the necessary resources.

Although each of the goal areas is, and has been an important objective of American educational and youth development institutions, each of the areas is not equally important. To help define the relative importance of each goal area, we conducted national surveys of representative samples of all adults, of school board members, of state legislators, and of school superintendents. We considered the results of these surveys, together with our judgments and the

judgment of experts, to weight each of the goal areas by their relative importance. The weights we recommend, and which this Report Card employs, are:

<b>Goal</b>	<b>Relative importance (percent)</b>
Basic Academic Skills in Core Subjects	21
Critical Thinking and Problem Solving	16
Social Skills and Work Ethic	14
Citizenship and Community Responsibility	14
Physical Health	9
Emotional Health	8
Appreciation of the Arts and Literature	7
Preparation for Skilled Work	11
Total	100

By applying these weights to calculations of gaps in each of the goal areas, the Report Card on Comprehensive Equity concludes that schools and other institutions of youth development presently generate an overall black-white gap of about 18 percentile points. This performance gap results from the average black young adult being at the 38<sup>th</sup> percentile in this weighted distribution of performance in the eight goal areas, while the average white young adult is at the 56<sup>th</sup> percentile.

<b>The Black-White Performance Gap in the United States Today</b>			
	Blacks	Whites	Gap
Basic Academic Skills	31	61	29
Critical Thinking and Problem Solving	25	56	31
Social Skills and Work Ethic	41	56	16
Citizenship and Community Responsibility	42	55	13
Physical Health	47	54	7

Emotional Health	49	54	5
Appreciation of the Arts and Literature	42	54	12
Preparation for Skilled Work	41	54	13
Overall Black-White Performance Gap	38	56	18

These estimates are very approximate, given the inadequacies in data and the statistical manipulations necessary to make data from different sources comparable. It is not the intent of this Report Card to give a precise estimate of black-white inequity. Rather, it is the intent to emphasize, first, that measurement of comprehensive inequity must encompass all of the goals of education and youth development, not standardized test scores alone; and second, that imperfect though the data may be, measuring inequity across the many domains of education and youth development is both desirable and more feasible than is commonly thought.

This Report Card is part of a larger project, from which we anticipate additional, though complementary products. One will describe how, in the absence of precise quantitative measurement, schools might be held accountable for their contributions to adequate outcomes. Another will describe and offer cost estimates of a national data collection system of indicators, better suited than those available for this report, to provide meaningful assessments of the performance gap in all eight goal areas, for each state where minority youths are present in significant numbers. A third will describe and offer cost estimates of the ingredients of several school and school-related programs that are likely to generate meaningful opportunity for adequate and equitable outcomes in each of the goal areas.

## Introduction

This Report Card on Comprehensive Equity attempts to describe a national performance gap between white and black youth. This gap is reflected in each of eight major goals of education and youth development: basic academic skills, critical thinking and problem solving skills, social skills and work ethic, readiness for citizenship and community responsibility, foundation for lifelong physical health, foundation for lifelong emotional health, appreciation of the arts and literature, and preparation for skilled work for those youths not destined for academic college.

A report card like this, describing inequities in the performance of schools and other institutions of youth development, implies an accountability system for those institutions. Data on how those institutions are achieving comprehensive equity should create incentives for policy makers to design programs to improve that performance.

However, this Report Card takes no position on what strategies or policies states or their institutions should follow to achieve comprehensive equity. Of course, ongoing policy work at Teachers College, Columbia University (from which this Report Card originates) and other research institutions speaks to this point. But the Report Card implies only that national and state institutions should be held accountable by citizens for equity in results (outcomes), broadly defined. The specific policies that governments pursue to achieve comprehensive equity is, for purposes of the Report Card, a matter of indifference. Much additional research must be done to establish definite causal relationships. For example, the Report Card documents differences in black and white children's access to inputs such as child care quality, racially integrated education, and access to after-school programs. But scholars cannot presently say with confidence whether targeted intensification of access to a particular one of these inputs is most

likely to be fruitful in narrowing the black-white gap in preparation for citizenship, in critical thinking, or in lifelong physical health.

This Report Card measures equity not only in those outcomes that contemporary policy emphasizes - proficiency in basic academic skills - but aims to assess how the nation approaches comprehensive equity on all of the outcomes it expects from schools and other institutions of youth development. It is not sufficient only to report on equity in those domains that are relatively easy to measure, like math and reading. A report that focuses only on these implies incentives for schools to direct resources away from other important activities, and towards math and reading instruction alone.

Based on a historical analysis of the educational views of founding American statesmen (such as Benjamin Franklin, George Washington, and Thomas Jefferson), education theorists (from Horace Mann to John Goodlad), a number of public and governmental commissions at points throughout the 20<sup>th</sup> century, and both state constitutions and supreme court cases in many states, we have concluded that American policymakers have generally embraced the eight broad goals of American education mentioned above.\* The chart on the following page provides definitions of each goal. The nation should aspire to achieve equity in each of these goals, and should evaluate schools and other institutions of youth development by whether their outcomes in each are both adequate and equitable.

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\* For more on our historical analysis of the goals of American education see Rothstein and Jacobsen, 2006, and a forthcoming book by the authors of this report, expanding on its themes.

**Basic Academic Skills in Core Subjects**

Providing students with basic skills in reading, writing and math, and knowledge of science, history, geography, civics, economics, and a foreign language.

**Critical Thinking and Problem Solving**

Providing students with critical thinking and problem-solving skills, such as being able to analyze and interpret information, use computers to develop knowledge, and apply ideas to new situations.

**Social Skills and Work Ethic**

Providing students with social skills and a good work ethic, such as good communication skills, personal responsibility, the ability to get along well with others, and work with others from different backgrounds.

**Citizenship and Community Responsibility**

Providing students with good citizenships skills and a sense of public ethics so that they know how government works and how to participate in civic activities like voting, volunteering, and becoming active in their communities.

**Physical Health**

Providing students with a foundation for lifelong physical health, including good habits of exercise and nutrition.

**Emotional Health**

Providing students with the tools to develop self-confidence, respect for others, and the ability to resist peer pressure to engage in irresponsible personal behavior.

**Appreciation of the Arts and Literature**

Providing students with the opportunity to participate in and appreciate the musical, visual, and performing arts and helping students develop a love of literature.

**Preparation for Skilled Work**

Providing students with the opportunity for vocational, career, and technical education that will qualify them for skilled employment that does not require a college degree.

The Report Card on Comprehensive Equity measures the nation's overall progress by weighting the equity in each goal by that goal's relative importance. Using these weights, we then combine the results for all the goals into a single index number.

To guide us in determining the relative importance of each goal area, we commissioned surveys of nationally representative samples of the general public, school board members, state legislators, and school superintendents. Respondents were asked to judge the relative importance

of each of the eight goal areas. Appendix A1 describes the polling methodology. The average responses of all four samples are presented in **Table 1** below:

**Table 1. Weights as Determined by Opinion Polling (Average of 4 Polls)**

<b>Goal</b>	<b>Relative importance (percent)</b>
Basic Academic Skills in Core Subjects	22
Critical Thinking and Problem Solving	18
Social Skills and Work Ethic	12
Citizenship and Community Responsibility	11
Physical Health	10
Emotional Health	9
The Arts and Literature	9
Preparation for Skilled Work	9
Total	100

Although public opinion can inform policy makers about the views of their constituents, public policy in a representative democracy is not made, and should not be made, from mechanical translations of public opinion polling. Our polling process could not ask policy makers like school board members and state legislators to reflect deeply and at length about these issues, as they and their staff members would presumably do if designing a sophisticated accountability system for institutions of schooling and youth development. Therefore, although we considered the polling results very carefully in developing Report Card weights, we also consulted with experts, particularly faculty members and graduate students at Teachers College,



and considered the emphases that emerged from our historical surveys, to establish these weights.

The weights determined through this process and used in this Report Card are displayed in **Table 2**. They are mostly similar to the weights assigned by our poll respondents, although the Report Card assigns slightly more weight to social skills and work ethic, to citizenship and civic responsibility, and to preparation for skilled work than did the average of the polled groups. Throughout American history, moral and civic concerns have had great weight in policymakers' thinking about goals, and we judge it likely that there will soon be a correction to the unusually strong emphasis given to academic skills by contemporary policymakers, especially in the context of *No Child Left Behind*'s political difficulties. There is now, for example, wide recognition of and concern about the goal distortion that has resulted from accountability for math and reading scores alone.<sup>1</sup> When our polling was conducted, in the summer of 2005, this recognition was considerably less widespread than it is today. Table 2 reflects this anticipated correction. Likewise, we anticipate a correction to the de-emphasis by contemporary policymakers of career and vocational education, as the expectation that all students will attend an academic college is recognized as unrealistic.<sup>2</sup> Table 2 reflects this anticipated correction as well.

However, these judgments are not essential to the message of this Report Card. In this Report Card, the use of these weights for each of the eight goals is fully transparent. Any reader can substitute his or her best judgment of what the relative weights of the eight goals should be, and by performing a simple calculation, re-estimate the overall black-white inequity that we display in the last row of Table 3, on p. 109 below.

**Table 2. Weights Used in the Teachers College Report Card**

<b>Goal</b>	<b>Relative importance (percent)</b>
Basic Academic Skills in Core Subjects	21
Critical Thinking and Problem Solving	16
Social Skills and Work Ethic	14
Citizenship and Community Responsibility	14
Physical Health	9
Emotional Health	8
The Arts and Literature	7
Preparation for Skilled Work	11
Total	100

This Report Card presents available data on the extent to which the nation is achieving comprehensive equity in each of these areas. Our estimates are very approximate, given the inadequacies in data and the statistical manipulations that we were forced to implement to make the data from different indicators comparable. It is not the intent of this Report Card to give a precise estimate of black-white inequity. Rather, it is to emphasize, first, that measurement of inequity must encompass all of the goals of education and youth development, not standardized test scores alone; and second, that imperfect though the data may be, it is more feasible than commonly understood to measure inequity across the many domains of education and youth development.

The guiding political philosophy of this Report Card is that in our democratic society, government (state governments, in particular) have a responsibility to ensure that all children

have a meaningful opportunity to enter young adulthood with both adequate and equitable outcomes in the eight broad goal areas. Governments can assign some of the responsibility for ensuring this meaningful opportunity to public schools, but it will also assign appropriate responsibility to other institutions.

Thus, this Report Card repeatedly uses terms like "institutions of education and youth development" because it is not focused on whether schools alone are successfully producing a comprehensive set of youth outcomes. Rather, it concerns the outcomes of all of the nation's institutions of youth development, including schools. Both scholars and policymakers now broadly understand that even academic outcomes cannot be attributed to schools alone. The influence of schools in producing academic achievement is complemented by the influences of health care delivery systems, of the quality and availability of early childhood, after-school, and summer programs, of the quality of parenting, and of community environments (including safety, housing quality, racial isolation, and services such as public libraries). When this report uses terms like "schools and other institutions of youth development" we mean all of these educational, social, and economic institutions that determine whether youth will have a meaningful opportunity for adult success.

Unfortunately, this broadly shared insight about the joint responsibility of schools and other institutions is not usually reflected in educational or youth development policy. For example, awareness that approximately 25 percent of the black-white academic achievement gap is associated with differences in the health of black and white children, and in the health behaviors of their mothers,<sup>3</sup> should lead policymakers to consider the relative value of placing health clinics in schools as a strategy for improving academic achievement. Similarly, awareness that approximately 14 percent of the black-white achievement gap is associated with differences

in the residential mobility of black and white students<sup>4</sup> should lead policymakers to consider the relative value of low-income housing support policies as a strategy for improving academic achievement. But most policymakers are not now thinking along these lines. Although aware that schools are only partially responsible for academic achievement and for racial achievement gaps, contemporary policymakers attempt to hold schools fully responsible.

But just as schools are not fully responsible for academic outcomes, they cannot be fully *absolved* of responsibility for other outcomes of education and youth development. Consider, for example, the goal of physical health. One aspect (among many) is the growing overweight and obesity status of young people. This troubling national development is characterized by racial disparities similar to those for academic achievement. It may result from deficiencies in the American diet, of urban planning (less walking, less opportunity for safe outdoor play), and of recreational choices (computer vs. physical games). But it may also be the product of school policies that prescribe inadequate time for active physical education and that fail to implement physical education curricula best designed to spur physical fitness. As with academic outcomes, schools and other institutions of youth development are jointly responsible for outcomes of good physical health.

Similar co-responsibility of schools and other institutions of youth development apply to all the goals discussed in this report, including social skills and work ethic, citizenship and community responsibility, emotional health, appreciation of the arts and literature, and preparation for skilled work.

This Report Card highlights gaps in the eight broadly defined outcome areas of youth development. The policy implications of awareness of these gaps are not for school leaders alone. The policy implications are for state policymakers who, in seeking better youth outcomes,

must balance their desires for school improvement with attention to other institutions that also contribute to youth development.

There is at present little research, and certainly no conclusive research, that can guide policymakers in choosing the mix of school and other social and economic policies that will best provide a meaningful opportunity for all youth to enter adulthood poised for success. This Report Card implies no recommendations whatsoever about the mix of such policies. Its sole purpose is to identify the black-white gaps in a broad range of outcomes. Such identification should spur policymakers to experiment with various mixes of school, social, and economic policies to narrow these gaps.

This Report Card describes the black-white performance gap in eight goal areas only at the national level. Typical discussions of the academic achievement gap attempt to measure it at state, district and school levels. But reasonably informative data on performance in the eight goal areas are presently available only at the national level, and even here, data are often inadequate. Without better data, policy makers cannot know which states perform relatively better than others. National data collection should be improved, with large enough samples to support state-level conclusions about gaps in outcomes for each of the eight goal areas.\*

We conclude that there is a black-white performance gap in all eight goal areas combined of 18 percentile points, with blacks at the 38<sup>th</sup> percentile in a national distribution, and whites at the 56<sup>th</sup>. The following pages describe how this gap was estimated.

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\* Because the student populations of schools are too small for most survey data to be reliable at the school-level, evaluation of whether schools are making appropriate contributions to adequately balanced achievement cannot rely heavily on survey data and must involve observational research. A few urban (or, in some states, county-wide) districts are large enough for reliable sampling, but most of these are not sufficiently heterogeneous (in race and social class) for sampled data to support useful conclusions about black-white gaps across all eight goals.

## Equity for whom?

For which groups should we demand that outcomes approach those achieved by white-majority youths?

This report's first concern is with performance in the eight goal areas of African-American youths and how that performance compares with that of white youths. Seven generations after the abolition of slavery, there is no shame of the nation greater than that of our failure to fully integrate black citizens into the mainstream of American society.

Also important, however, is the gap between the performance of children whose families immigrated to this country in recent generations, and that of white children. Analysis of this gap can shed light on how well immigrants are being fully incorporated into society. The ability of peasant and working class immigrants from Eastern and Southern Europe a century ago to benefit from schooling to move into the mainstream has been one of the greatest successes of American social history. We should try to understand whether educational and social institutions are providing immigrants today with similar opportunities.

But such an aim presents enormous difficulties. The most commonly used classification for immigrants, "Hispanics" (or, sometimes, "Latinos") can be misleading. It combines immigrants, children of immigrants, and fully assimilated Americans with ancestry in Latin America or even Spain. It makes no distinction between peasant or unskilled worker immigrants, say from Mexico, and middle class refugees from Cuba or Central America. To evaluate whether children of recent immigrants are making progress comparable to that of children of immigrants a century ago, we need the ability to distinguish children whose parents were born outside the United States and whose parents have less than a high school education. Otherwise, we may over- or underestimate assimilation and progress towards equity.

Ultimately, the data problems can be solved only if the United States develops a unique student identifier system that includes, in addition to the student's name, race (black, white, or Native American), and ethnicity (e.g., Hispanic or non-Hispanic), the student's country of birth, the mother's country of birth, and the mother's (and, ideally, the father's) educational level. Although many states have recently adopted unique student identifier systems, they have not included such information.<sup>5</sup>

True, many difficulties encountered in the measurement of immigrant youth performance are also present for African-Americans. For example, data on blacks also include data on immigrants from Africa and the Caribbean, whose performance is usually superior to that of African-Americans.<sup>6</sup> Students from such immigrant families do not carry with them the inherited burdens of generations of segregation and denial of opportunity in the United States, comparable to that carried by students who are the descendents of American slaves. Also, individuals who, by ancestry, are more white than black are nonetheless categorized as black. This may have been reasonable when Americans with any black ancestry were segregated into black communities and institutions. Today, however, citizens of mixed parentage have more options with regard to where and how they live. Indicators of progress towards equity will be misleading if they include such individuals. Little research has been done on this topic, but one recent study showed that a large proportion of Harvard's black undergraduates were either children of African or Caribbean immigrants, or had one white parent, and that parents who were African had higher levels of education than parents who were African-American or Caribbean.<sup>7</sup> Harvard's efforts to enroll disadvantaged minority students appear less impressive when these circumstances are taken into account.

Nonetheless, this Report Card measures black-white inequity because, outside elite universities, the proportions of blacks who are either from immigrant families or have racially mixed parentage is still relatively small. Ninety-five (95) percent of black Americans are from families where both parents were born in the United States;<sup>8</sup> 97 percent of black schoolchildren are from families where both parents are black.<sup>9</sup> In contrast, only 46 percent of Hispanic-Americans are from families where both parents were born in the United States.<sup>10</sup> And while only 10 percent of blacks marry a non-black, 57 percent of Hispanics with native-born parents marry a non-Hispanic.<sup>11</sup> These contrasts make us confident that we can usefully, if not precisely, measure the black-white gap in performance of the eight goals, to a greater extent than we can do so for Hispanic-Americans.

If, as should be hoped, intermarriage of blacks and whites becomes more frequent, while immigration from Africa and the Caribbean continues to grow, it will become more difficult to make accurate estimates of the extent to which schools and other institutions of youth development are successfully reducing black-white inequity, and specifically how they are ensuring that the most disadvantaged youth in this country, descendants of African-American slaves, are progressing. Then, a unique student identifier system, with data on ancestry, may be necessary for reasonable estimates of black-white gaps as well. But for now, the numbers of black children in the United States who are not descended from American slaves is small enough to permit such estimates without too much inaccuracy.

In all cases, the Report Card considers black-white differences,<sup>\*</sup> unadjusted for socioeconomic status. It does so because our measurement of the black-white gap in the broad outcomes of schools and other institutions of youth development is an effort to take a step

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<sup>\*</sup> For reasons stated in the text, this Report Card describes only black-white differences. Data are mostly available to conduct similar analyses of disparities using differences in socioeconomic status (usually, however, only low-income vs. not low-income).



towards broadening the commonplace discussion of the black-white gap, which defines the gap by academic test scores alone, also unadjusted for socioeconomic status. Surely, the commonly-discussed black-white gap in test scores of basic academic skills would be much smaller if socioeconomic controls were applied, as would be the gaps in the other seven goal areas. Although most analyses of the black-white test score gap find some racial residual after socioeconomic controls are applied, the residual is much smaller than the conventional description. When more sophisticated controls are applied (usually, only eligibility for free and reduced lunch is used), the residual gap becomes smaller still.\*

This observation applies to the gaps in each goal area discussed in this Report Card. For criminal behavior, voting participation, physical fitness, high school graduation and other indicators, the black-white gap, as in academic proficiency, would likely be smaller and usually much smaller, after controlling for socioeconomic characteristics.

The description of performance gaps in these pages is based on an estimate of differences in performance between the average black and average white youth in each of the goal areas of education and youth development. Such comparisons of averages necessarily obscure great differences between individuals.† There is a wide variation in performance among blacks and among whites in each of the eight areas. In each, although there is a black-white gap favoring white youths, there are some black youths who outperform average whites, and some white youths who underperform average blacks. In some cases, average black youths outperform

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\* "Even though traditional measures of socioeconomic status account for no more than a third of the test score gap, our results show that a broader index of family environment may explain up to two-thirds of it. Racial differences in grandparents' educational attainment, mothers' household size, mothers' high school quality, mothers' perceived self efficacy, children's birth weight, and children's household size all seem to be important factors in the gap among young children" (Phillips et al., 1998). For further discussion, see Rothstein 2004.

† Additionally, comparisons of racial group averages obscure gender differences. For example, much of the high black rate of murder offenders is accounted for by black males, not black females. Unfortunately, much of the data utilized in this report are not available disaggregated by both race and gender. See Appendix E for a discussion of recommendations for future iterations of the Report Card.

average white youths on particular indicators, although this is not the case for any goal area as a whole. A discussion of gaps in averages, such as that in this report, risks the danger of obscuring this important reality. We urge readers to keep this in mind.

## Outcome Indicators, Output Indicators, and Input Indicators

Equity can be measured in several ways: by examination of outcomes, outputs and inputs. The preferred measurement is of whether the nation and states are achieving comprehensive and equitable outcomes. Our discussion of "outcomes" includes estimates of whether black and white youths enter young adulthood with equitable (and satisfactory) performance in each of the eight goal areas. Do they leave school with basic academic skills in reading, writing, math, history, science, civics, geography, economics, and a foreign language? Do they leave school with adequate analytic and critical thinking abilities? Do they have satisfactory communication skills, a high level of personal responsibility, the ability to get along with and work well with others? Do they fulfill their responsibilities for democratic participation, including voting, political engagement, community involvement, and commitment to the general welfare? Are they prepared for lifelong physical health, including good habits of exercise and nutrition? Are they emotionally healthy, with self-confidence as well as respect for others? Can they make use of leisure by participating in and appreciating the musical, visual, and performing arts and by immersion in good literature? And if they do not plan on college, are they prepared for skilled employment?

A second, but less satisfactory way of estimating equity is by measuring the outputs of schools and other institutions of youth development. "Outputs" are the characteristics and accomplishments of youths at intermediate stages of development, before they have completed the normal path of schooling at about age 17, when they should be able to display how, as young adults, they have benefited from education and other institutions of youth development. Outputs may indicate the likelihood of achieving related outcomes, but do not necessarily ensure them. For example, if we did not have good data on whether students left high school with good basic

reading and math skills, we might consult data on their fourth or eighth grade test scores. Good scores at these earlier ages may make it more likely that students will continue on an adequate trajectory, but do not guarantee it. Schools may follow-up poorly on the instruction of younger children, or tests at younger ages may not emphasize all the skills that are appropriate for high school graduates. Similarly, if we did not have good data on whether youths entered young adulthood with a good work ethic and sense of personal responsibility, we might consult data on high school graduation rates, because high school graduates tend to have more self-discipline than students who drop out. But some students may receive high school diplomas without having self-discipline, so a diploma is a less satisfactory way of measuring the characteristics of a good work-ethic than a direct measure of those characteristics themselves. Receiving a high school diploma is desirable, but should not be thought of as an end, in and of itself. Instead, it is desirable because of what it signifies and what opportunities it creates, and as such should be considered an output, not an outcome.

Third, as the least desirable approach, but one to use where outcome and output data are inadequate, equity can be estimated by measuring the inputs of schools and other institutions of youth development. "Inputs" generally mean the resources that schools and other institutions of youth development have available for generating young adult outcomes, or the policies that such institutions follow that have implications for these outcomes. For example, it may be difficult to assess directly all the citizenship skills of young adults, including their ability to get along with others from different backgrounds, but we expect that if children were not so racially segregated in their housing, communities and classrooms, schools might have an easier job developing the habits of good citizenship. So if data are not available on the ability of young adults to get along

with others of different backgrounds, it may be necessary to use a housing or school segregation index as an input proxy for this outcome.

Similarly, data may be unavailable that assess directly the emotional health of young adults, but we expect that more adult-child interaction that results from smaller class sizes may help children, particularly those from families where they get less adult attention, develop a healthier sense of self-confidence and be more engaged in the learning process.<sup>12</sup> If class size data are not available, an input one step farther removed would be per pupil spending, because schools that spend more money per pupil are more likely to have, though may not necessarily have, smaller classes. Similarly, there may not be good data on critical thinking skills, but having more highly qualified teachers is likely a necessary predicate of children's developing such skills. So spending, class size, and teacher qualifications are inputs to the educational process that are likely to improve all the outcomes Americans seek from public education and other institutions of youth development.

In collecting data for this Report Card, it was always preferable to use data on outcomes, if such data were available. Where they were not available, output indicators, where available, were used as a next-best alternative. Because neither outcome nor output data were always available (even at the national level), and when available, were not fully adequate, input indicators were a way to estimate whether schools and other institutions of youth development have been following policies likely to lead to a meaningful opportunity for success in all goal areas.

Outcomes are the preferable indicator because they do not imply a prescription about how progress should be made. This Report Card does not imply such a prescription. If outcomes are properly described, institutions held accountable for them will necessarily redesign their use

of inputs to maximize the outcomes, based on institutional leaders' best judgment and available research regarding how inputs affect outcomes. There may be disagreement about how to do so, but it is not the purpose of this Report Card to resolve such disputes.

For example, the fact that, as described below, there are sufficient outcome measures – in this case, test scores - available to describe whether there is equity in achievement of the first goal, basic academic skills, does not imply that states should respond to this information by increasing the pressure on schools to raise test scores. Adequate basic academic skills result not only from the efforts of schools, but also from children having adequate health, housing, and community resources, family stability, cultural values, and economic security.<sup>13</sup> Data showing that the outcomes – basic skills competency – are inadequate do not themselves imply any particular formula for improving each of these contributing factors.

Although outcome and output measures are not fully adequate in each of the goal areas, there is no basis for determining their precision or lack thereof. Therefore, the Report Card arbitrarily gives the overall index of input indicators a weight of 20 percent in its estimates of the performance gap in each of the goal areas. Outcome and output indicators comprise 80 percent.\* We discuss the basis for this choice in more detail on pp. 96-97.

For each of the eight goal areas, and for overall inputs, Appendices B1 – B9 list the available indicators, their sources, the underlying performance data, and the black-white gap converted from these data, in percentile ranks.

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\* For one goal area, physical health, the Report Card *also* includes several inputs (for example, whether children have health insurance) that are specific to that goal area. These inputs represent 10 percent of the total weight of physical health indicators. (See note on p. 81.)

## Weighting the Indicators

Many indicators used in this Report Card on Comprehensive Equity will be familiar to most readers. Black-white differences in test scores are well-known, and several organizations publish compendia that describe differences between blacks and whites in physical health status, access to child care, drug use, and others. What distinguishes this Report Card is that all available indicators are weighted by their relative importance. Weights are applied to each of the eight goal areas based upon the opinion of the authors, taking into account the views of the public, school board members, state legislators, and education experts. Within each goal area, weights are applied to each individual indicator. As it was necessary to weight the eight major goals to know the extent to which schools and other institutions of youth development are generating comprehensive equity, so it is also necessary to weight the many indicators within each of the goal areas, to estimate equity in achieving that broadly defined goal. For example, in assessing whether black and white adolescents enter young adulthood poised for healthy lives, should their rate of untreated dental cavities have more, less, or equal weight than whether they are overweight? In assessing whether the nation is narrowing the achievement gap in basic skills, should reading count more, less, or the same as history?

For each of the eight broad goals of education and the additional category of essential inputs, we asked experts in that particular field to determine the relative importance of each indicator for making a judgment about whether equity in that goal is being approached. Experts assigned an integer weight to each indicator in their assigned goal area, ranging from 0 to 100, confined by the stipulation that the total of the weights be equal to 100. For example, experts in workforce development were asked to assign weights to the various indicators in the goal of “social skills and work ethic,” and political scientists and other experts in political participation

and democratic theory were asked to assign weights to the various indicators in the goal of “citizenship and community responsibility.” For each goal area, and for overall inputs, the weights assigned by these experts were averaged to establish weights for the Report Card. The average weights for each goal area, and for the overall inputs, are also displayed in Appendices B1 – B9. The experts who assigned weights to the indicators in the various goal areas are listed in Appendix C.

All data are presented as percentile rankings, showing how the outcomes of black and white youths compare to the average outcomes of all American youths. These percentile rankings illustrate how blacks and whites compare to each other.

Some indicators used for these calculations overlap. For example, in the goal area of citizenship and community responsibility, we use as one indicator, “Participation in Community Activities as Volunteer, Ages 20-24” and as another indicator, “Participation in Two or More Voluntary Organizations, Ages 18 to 49.” In the goal area of physical health, we use as one indicator, “Prenatal Care, First Trimester” and as another indicator, “Prenatal Care, First Two Trimesters.” In such cases, the experts gave whatever weight they thought would be appropriate to one of the indicators, and then whatever marginal added weight they thought would be appropriate for data on the second indicator as well. If they had more confidence in one indicator than another, they were asked to use the more reliable indicator first, and then give whatever additional weight they thought the less reliable indicator should have.

Although there was sometimes a rough consensus among experts on the weights to be assigned to some important indicators (in the inputs category, for example, almost all experts assigned a relatively high weight to whether pre-school children benefited from high quality child care settings, and in the citizenship category, almost all experts assigned a relatively high



weight to whether young adults voted in the last presidential election), there was also considerable variation in the weights assigned by experts to many indicators. Again, using the inputs category as an example, one expert assigned a weight of 0 to whether elementary school children had relatively small class sizes, while another assigned a weight of 15 to this indicator. One expert assigned a weight of 0 to whether children lived in an integrated neighborhood, while another assigned a weight of 10. In the citizenship category, one expert assigned a weight of 0 to whether young and middle-aged adults read a daily newspaper, while another assigned a weight of 15.

With only about a dozen experts participating in the weighting exercise for each indicator, it is not possible to perform a meaningful statistical analysis of the variance, to determine the extent to which our results are sensitive to differences in the weights. We did perform one test, however. We re-ran our results by ignoring the experts' weights and assigning an equal weight to each indicator in a goal area, and then compared the results using these equal weights to the Report Card results using the experts' weights. It is apparent that variation in the final weights causes only very small differences in estimates of the gap. This is yet further evidence of how systematic black-white differences are in American society. Similar gaps appear in almost every indicator, regardless of an indicator's relative importance. This comparison is displayed in Appendix D.

That alternative weights probably make little difference in overall outcomes does not render the weights unimportant. Although, at present, black-white differences on most indicators are similar, the weights are also a guide to policy initiatives. For example, although the black white-gap is similar in overweight status and in oral health, the Report Card's physical health experts give more weight to the former. Although policies to narrow gaps in both areas are

needed, the Report Card weights suggest that reducing the overweight gap is of higher priority, and that gains in reducing this gap will have a bigger impact on the overall health status of young adults than would gains in reducing the oral health gap. This conclusion is similar to the widely shared belief regarding basic skills that, although the gap in reading is smaller than the gap in science, schools should make a priority of improving the reading performance of disadvantaged children because reading has a greater importance-weight than science.

Some experts consulted for this purpose felt they could not weight the indicators in the field of their expertise because the indicators upon which the Report Card relies are inadequate at identifying outcomes that can describe a performance gap. For example, one expert observed that several indicators in the area of emotional health are negative ones, describing the percentage of black and white youth who engage in harmful behaviors such as using dangerous drugs, attempting suicide, or getting pregnant as teens. Data on the absence of such negative behaviors do not accurately imply the percentage of black and white youth who engage in behaviors that are positive indicators of emotional health, such as truthfulness, kindness, generosity and fairness. The Report Card, this expert observed, is "a classic case of 'looking where the light is good.' ... If you want to predict roses, absence of weeds is a very weak variable to start with."<sup>14</sup> The goal of education and youth development which the Report Card attempts to measure is not the absence of bad emotional health, but the presence of good emotional health.

There is merit in this critique, but we nonetheless proceed with the indicators used in this report. Education and youth development policy is currently made, and will continue to be made, on the basis of data available, however poor those data may be. Because government agencies responsible for national surveys are primarily interested in preventing harmful, dangerous or illegal behavior, surveys mostly collect data on these. The data permit important descriptions of

gaps in the extent to which schools and other institutions of youth development turn out black and white young adults who engage in (or, by subtraction, avoid) emotionally unhealthy behaviors. These descriptions may spur policymakers to focus on gap-narrowing strategies (perhaps recreational policies, or after-school programs, or cooperative learning curricula in schools) that might help youth to avoid negative behaviors, and this would be a desirable result.

Of course, a priority should be the development of better data that would enable the direct calculation of the gap, if any, in young adults' potential for good emotional health, and such data could hopefully inspire better policies.

Frequently in this report, we make recommendations that samples in existing surveys be expanded, to support more reliable conclusions about black and white youths. Yet because small sample sizes limit the utility of many surveys employed by the Report Card, expanding the sample of each is not the most practical way to proceed. Instead, it would be more efficient to design and administer a single new survey with a sufficient sample size, incorporating the subject areas of many existing surveys. In a companion report, we will describe the characteristics of a data collection system that could, if implemented nationwide, better assess equity in youth outcomes.

The Report Card on Comprehensive Equity makes no effort to estimate the absolute level of performance in any outcome. The Report Card shows that in the case of physical health, for example, blacks leave school at the 47<sup>th</sup> percentile of a national distribution of preparation for a healthy adult life, while whites leave school at the 54<sup>th</sup> percentile. These data are consistent with the fact that neither whites nor blacks leave school with adequate readiness for adult health. Blacks may be at the 40<sup>th</sup> percentile in overweight status, while whites are at the 53<sup>rd</sup> percentile, but too many whites as well as blacks are overweight.

Developing absolute standards of performance in each of the goal areas entails daunting conceptual challenges. How many overweight young adults should we expect to find in a healthy population? Certainly, there would be fewer than are now present in populations of both whites and blacks, but how many fewer is harder to pinpoint. Possibly, challenges like these are insoluble and can never be overcome. We have addressed this problem elsewhere, and proposed possible ways to define absolute target goals of performance, but we do not attempt to employ them here.<sup>15</sup> This Report Card is concerned only with *relative* performance – inequity in the outcomes of blacks relative to whites in eight goal areas of education and youth development.

## Creating a Common Scale – Percentile Rankings

If all 17-year-olds in the nation were lined up in the order of their competence in any of the indicators used in the Report Card, we would say that the youth in the very middle of the line was the "median" performer on that indicator. This Report Card imagines such a line for each indicator of outcomes, outputs, or inputs in each of the goal areas. Then, to calculate the inequity of performance on a particular indicator, the Report Card makes an important assumption, one that may not precisely reflect reality.

The assumption is that performance on each indicator is "normally distributed." This means that if we were to draw a graph depicting the performance of all youths in the line, the graph would look like a bell-shaped curve. A few youths would have performance that was far better than the median or the mean (because the median is equivalent to the mean in a normal distribution), and a few youths would have performance that was far worse. But most youths, approximately two-thirds, would be similar to the median youth: their data would be bunched up toward the middle of the graph. About one-sixth would be at the high end, and another one-sixth would be at the low end. Statisticians call the gap between the median youth, and the one-sixth at either end, a "standard deviation;" in other words, about two-thirds of all youths are within one standard deviation of the median. And because the normal distribution is assumed to be perfectly symmetrical (i.e., for every youth whose performance on an indicator is a specified amount above the median, there is another youth whose performance is exactly that much below the median), the median youth is also the mean (or average) youth.

The term "percentile rank" refers to the place each youth occupies in that line. In a normal distribution, youths at the very head of the line (with the best performance in a goal area) are said to be above the 99<sup>th</sup> percentile. A youth whose performance is exactly one standard

deviation above the median (or the mean) is said to be at about the 83<sup>rd</sup> percentile. The median (or the mean) youth is at the 50<sup>th</sup> percentile. The youth whose performance is exactly one standard deviation below the median (or the mean) is said to be at about the 17<sup>th</sup> percentile. And so on.

With this assumption, the Report Card then imagines that all black and white youths in the nation are then re-organized into two separate lines, also in order of performance for each goal area. In one line are all black youths; in the other are all white youths. Again, the Report Card assumes that each line is normally distributed with equivalent variances, and it calculates the average performance of all black youths and the average performance of all white youths, separately. The Report Card then takes the score of the average black and of the average white youth and places these in the line-up of all youths in the nation. The percentile rank of the average black youth's score is said to be the percentile rank of blacks on that indicator. The percentile rank of the average white youth's score is said to be the percentile rank of whites on that indicator. The gap for that particular indicator is the difference between these two percentile ranks.

If we were to eliminate the gap, the three line-ups would be identical; the median (and the mean) youth from the black, white, and all-youth lines would be standing in the same place.

Another way of expressing the concept of percentile rank is this: if a youth is at, say, the 55<sup>th</sup> percentile on a particular indicator, that youth performs better on that indicator than 55 percent of all other youths in the line, but worse than 45 percent of all other youths in the line. If we say that the average white score is at the 55<sup>th</sup> percentile, then the typical (or average) white student performs better than 55 percent of all students (of all races) and worse than 45 percent of all students (of all races).

Consider, for example, the area of basic academic skills. Here, on each subject-area NAEP test, adjusted average white 17-year-old scores are generally close to, and sometimes even slightly above, the 60<sup>th</sup> percentile in a national distribution (that includes whites, blacks, Hispanics, Asians, Native Americans, and others).<sup>\*</sup> Those of average black 17 year-olds are at about the 30<sup>th</sup> percentile, reflecting roughly a 30 percentile gap in academic achievement.

As noted above, this methodology requires some distortion of reality, because performance on any indicator will not necessarily be normally distributed with equivalent variances. Further, even if we know that performance on an indicator is normally distributed in the line-up for all youths, we typically do not have information that tells us whether the separate line-ups for blacks and whites are also normally distributed and have equivalent variances. Therefore, the estimates of inequity made by this Report Card are necessarily approximate, not precise. As an empirical matter, data on large populations are typically close to normal in distribution, and as all data used by the Report Card are for national samples, the approximations involved should not seriously distort reality.

Additionally, the variances of the black, white, and all-youth distributions for which we have distributional data, e.g. NAEP test scores, are quite similar. Yet for some indicators, this assumption of a normal distribution is more valid than for others. It is also the case that for some indicators, the black, white, and all-youth variances will be more similar than on 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 because black students have average reading scores that are a little more than half a standard deviation below the national average, while white students have average scores that are a little more than a quarter of a standard deviation above the national

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<sup>\*</sup> The adjustment referred to here is for dropouts. See pp. 45ff., below.

average, then black 12<sup>th</sup> graders are at the 33<sup>rd</sup> percentile of a national distribution in reading and whites are at the 61<sup>st</sup> percentile. Even here, however, the matter is not straightforward. Although publicly available data confirm that the scale scores of all students are close to normally distributed, publicly available data do not disclose whether black and white student scores, considered separately, are normally distributed. Further, testing experts vigorously dispute whether academic achievement truly is normally distributed, or whether tests (like the NAEP) assume, without evidence, that ability is unidimensional: that test items progress in difficulty and that all students who answer questions deemed to be more difficult can almost always also answer questions deemed to be less difficult.<sup>16</sup> If this assumption is incorrect, then it may be less likely that subgroup variances will necessarily be similar to each other or to the variance in performance of all youth.

In some cases, the data themselves cannot be distributed normally because they are dichotomous. For example, an indicator used to assess equity in physical health is the share of blacks and whites who contract AIDS as young adults. But the data disclose only whether young adults do or do not contract AIDS. What the Report Card assumes here is that there is an underlying normally distributed risk of contracting AIDS, where many young adults who contracted AIDS were only incrementally at greater risk of AIDS than many young adults who did not contract it, where some healthy young adults are almost entirely free of risk, and some contract AIDS after being at very high risk of contracting the disease. This assumption may not be physiologically accurate, but there is no way to determine its truth from the dichotomous data that are available for young adults who either are or are not infected. Appendix A-2 provides a technical description of the statistical procedure that permits all indicator data to be expressed in terms of percentile rank.



Many indicators used by this Report Card are not available on a continuous scale. As another example, to measure whether schools and other institutions of youth development are equitably producing good citizens, the Report Card employs data on the percentages of young black and white adults who vote, as well as the difference, in standard deviation units,<sup>\*</sup> of black and white average 12<sup>th</sup> grade NAEP scale scores in civics. It then combines these two indicators, along with other indicators of citizenship and community responsibility, to create overall percentile rankings of black and white youths in citizenship and community responsibility. But to combine these indicators, it is necessary to convert them to a common scale, or unit of measurement. In other words, the Report Card somehow must combine a dichotomous indicator (whether young adults do or do not vote) with a continuous indicator with a normal distribution, NAEP scale scores in civics, to determine whether blacks and whites are achieving equity in citizenship and community responsibility.

As noted above, the Report Card standardizes its indicators by presenting each as black and white percentile rankings in a national distribution. This common metric not only permits comparisons of equity within goal areas, but between them, to know how the gap in, say, basic skills, compares to the gap in citizenship or in emotional health. And it also permits an aggregation of all the goals, to permit an estimate of the overall performance gap, in all major goal areas combined, between blacks and whites.

Variation in the methods, instruments and scales renders comparisons of differences among the diverse set of indicators approximate. A gap of 29 percentile points on the NAEP reading assessment may not be greater than the gap of 23 percentile points in the share of 24 year-olds who hold a bachelor's degree. However, we can be confident that there are large gaps

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<sup>\*</sup> As noted above, for normally distributed populations, this is equivalent to describing the difference in percentile rank. In a normal distribution, at the mean, one standard deviation unit is approximately equivalent to 33 percentile points.

between blacks and whites both in terms of NAEP reading achievement and of the attainment of a bachelor's degree. We cannot be sure of the extent to which the measurement of each indicator is more or less valid and reliable, and this uncertainty does affect the accuracy of the data presented throughout this Report Card. Therefore, we reiterate that the estimates of inequity made by this Report Card are necessarily approximate, not precise.

To make the consistency of inequalities easier to understand, the Report Card presents each indicator as the percentile rank of blacks and whites who have some positive characteristic, even where the data themselves are usually presented to 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, one indicator used for whether schools and other institutions of youth development are producing healthy young adults is the share of black and white adolescents who are overweight. The Report Card, however, shows the share of black and white adolescents who are NOT overweight, and then converts these data to percentile rankings of blacks and whites in a distribution of healthy weight. The black-white gap in percentile rankings is unaffected by such a positive presentation.

In all cases, the Report Card presents data for each indicator of inequality for the most recent year available. However, data on many indicators are collected irregularly, and so a few indicators may describe a now-outdated reality. Although we have tried to stay current, in some cases new data may have been released that supersede the data reported here.\*

Because many indicators used in this Report Card are published irregularly, it is not possible to draw conclusions about trends over time in the black-white gap. Future attempts to develop a new report card on comprehensive equity in the eight goal areas may compare its

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\* Data for this Report Card were collected and analyzed between the autumn of 2005 and the summer of 2007. No indicators have been updated since mid-2007.

findings to those in this Report Card, and be able to draw such conclusions. For now, we note that where trend data are available, the trends are mostly stable, although for some indicators the gap seems to be narrowing over time, and for others the gap is widening. For example, for the likelihood of young black and white adults voting, the gap widened from the 1996 to 2004 presidential elections, although both black and white young adults improved their participation: blacks went from the 50<sup>th</sup> to the 53<sup>rd</sup> percentile rank in voting participation, while whites went from the 51<sup>st</sup> to the 57<sup>th</sup> percentile rank.<sup>17</sup> In overweight status, the gap widened from a survey taken in about 1990 to one taken in about 2002: blacks declined from the 41<sup>st</sup> to the 40<sup>th</sup> percentile rank in overweight status, while whites went from the 52<sup>nd</sup> to the 53<sup>rd</sup> percentile rank.<sup>18</sup> But in teen pregnancy (high school students who avoided getting pregnant or getting someone else pregnant), the gap narrowed from 1995 to 2003: blacks improved from the 33<sup>rd</sup> to the 35<sup>th</sup> percentile rank in avoiding pregnancy, while whites remained at the 61<sup>st</sup> percentile rank.<sup>19</sup>

## The Eight Performance Areas:

### Basic Academic Skills in Core Subjects

#### *Goal Description*

The first outcome goal addressed by this Report Card is equity in basic academic skills – the relative achievement of blacks and whites in reading, writing, math, foreign languages, and knowledge of science, American history, geography, civics, world history and economics. In this goal area the Report Card assesses whether young people of both races leave high school with adequate skills in these basic subjects. These outcomes represent 21 percent of the weight in the entire Report Card.

#### *Measurement of Goal Area*

For the nation, the National Assessment of Educational Progress (NAEP) should be a sufficient source of data on the academic achievement of youth leaving high school.\* But there are two drawbacks to these data. First, NAEP does not "count" for the students who take it – it is what psychometricians call a "low stakes" test. Neither students, their teachers, nor their schools gain any benefit from doing well, nor suffer any punishment if they do poorly. Therefore, students may not try as hard to utilize their skills as they might on a "high stakes" exam, and this is particularly the case for older children. While fourth graders who are selected to participate in NAEP may be expected to do their best simply because they are told to do so, high school seniors are less likely to put forth their best effort if they see no benefit from it.

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\* NAEP, otherwise known as the Nation's Report Card is a nationally representative assessment of American students administered at three grades (4<sup>th</sup>, 8<sup>th</sup>, and 12<sup>th</sup>) in reading, mathematics, science, writing, U.S. history, civics, geography, economics, and the arts in various years. The national NAEP has been administered since 1969 to samples of students. Beginning in 2002 NAEP also began providing results representative for each of the 50 states. NAEP does not provide scores for individual students or schools (NCES 2007i).

This drawback of NAEP for older students, often cited by experts, does not seem to be a reason to reject these NAEP scores for the Report Card because, although there is some evidence that whites exert more effort when taking some exams than blacks, differences in test taking effort, by race, do not seem to be great enough to affect black-white difference in scores, especially on a low stakes test,<sup>20</sup> and there is no reason to believe that black students reduce their effort when stakes decline at a different rate from whites. Because at this stage, the Report Card is only measuring black-white differences, the metric it uses, percentile rankings of blacks and whites on the 12<sup>th</sup> grade NAEP, should be unaffected by the low stakes of the assessment.

The second drawback is more serious. NAEP is administered to high school seniors, not to all members of the 17 year-old cohort. In particular, students who dropped out of school before the NAEP was administered to their cohort are no longer part of the population from which the NAEP sample is drawn. If students who drop out have inferior basic academic skills to students who remain in school, and if, as is the case, black students are more likely to drop out than whites, it is possible that NAEP would underestimate the gap in basic skills of students at the age to leave high school.

Yet it is also possible that NAEP overestimates the racial gap in basic skills. If dropping out is more the norm for black than for white high school students, black drop outs may have more ability, on average, relative to black high school graduates, than white drop outs have relative to white high school graduates. This would translate into a larger racial gap if dropouts are excluded from the calculations.

*Available Data*

Outcomes

Fortunately, the Report Card can make an estimate of what the NAEP scores of high school dropouts would be, and can therefore create an adjusted NAEP score that includes all 17 year-olds. The method is not perfect, but better than any alternative.

In 2003, the federal government administered a verbal and quantitative literacy survey to a sample of all adults, of all ages. This National Assessment of Adult Literacy (NAAL) disaggregates basic skills in reading prose, reading documents, and performing computations, by race, age, and educational attainment.\* The Report Card can determine how black 16-24 year-olds who dropped out of high school perform on these literacy measures compared to black 16-24 year-olds who had graduated or who were still in high school when the NAAL was administered.† The Report Card can make similar determinations for whites.

The Report Card then estimates NAEP scores for all black 17 year-olds by assuming that the relationship between the NAEP scores of blacks who are still in school, and scores that blacks who dropped out would have achieved had they taken the NAEP, is the same as the relationship between NAAL scores of blacks who remained in school and those who dropped out. The Report Card makes a similar assumption for whites.‡

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\* NAAL is a nationally representative assessment of English literacy of adults age 16 and older. NAAL was administered in 1992 and 2003; 19,000 adults participated in the 2003 administration. NAAL is designed to measure functional English literacy - how adults use printed and written information to adequately function at home, in the workplace, and in the community. NAAL measures three types of literacy—prose, document, and quantitative (NCES 2007h).

† For the purposes of the NAEP dropout adjustment, individuals with less than a high school diploma and those with a GED or high school equivalency are considered dropouts.

‡ The Report Card makes one additional assumption before performing these calculations, required because the standard deviation of 12<sup>th</sup> grade NAEP scores does not reflect the performance of dropouts, who were not present as part of the sampled population. To estimate what the standard deviation of 12<sup>th</sup> grade NAEP scores would be if all 17 year-olds were represented, the Report Card employs the variance in 8<sup>th</sup> grade NAEP performance for each race. For 8<sup>th</sup> grade NAEP scores, it calculates the ratio of the standard deviation to the mean and assumes that this ratio would be similar to that for 12<sup>th</sup> grade NAEP if all 17 year-olds were represented.

The 2005 NAEP Math Assessment framework employs a scale of 0-300, instead of the 0-500 scale in the other NAEP assessments used as indicators in this Report Card. However, although NAEP changed its scale for the 12<sup>th</sup> grade math assessment, it did not change the scale for the 8<sup>th</sup> grade mathematics assessment. As a result, the authors of this Report Card were not able to adjust the 12<sup>th</sup> grade

Specifically, to estimate NAEP 12<sup>th</sup> grade reading, writing, American history, geography, and civics scores, the Report Card uses the relationship in scores between those of dropouts and those of 16 to 24 year-olds who are still in school or have completed school, on the NAAL prose and document tests, averaged together. To estimate NAEP math, economics and science scores, the Report Card uses similar relationships on the NAAL quantitative literacy test. The National Assessment Governing Board plans, in 2012, also to assess a random sample of 12<sup>th</sup> graders in world history. Student knowledge of world history is also a basic skill, and the Report Card will include these data when they become available. For now, as a "placeholder," the Report Card assumes that the relative percentile ranks of black and white world history achievement would be similar to the weighted average of the relative percentile ranks for the other basic skills for which data are now available.

There is one basic skill not covered by this method – the ability to read and speak a foreign language. There is no NAEP exam given to a random sample of 12<sup>th</sup> graders that assesses their fluency in a foreign language, the outcome which the Report Card should measure. Nor are there any available output data on fluency (such as, for example, foreign language test scores at earlier ages). The only input data available are the percentages of students who are enrolled in foreign language instruction – in 2000, 34 percent of students in grades 7-12 were enrolled in a foreign language course in high school.<sup>21</sup> But these data, reported by the American Council on the Teaching of Foreign Languages (ACTFL), give us no indication of whether the instruction is effective, and are not disaggregated for enrollment by race and ethnicity. We recommend that the National Assessment of Educational Progress assess the second-language abilities of 12<sup>th</sup>

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math standard deviations for NAEP's failure to include dropouts, and the math percentile rankings reported here may slightly under- or over-estimate the true black and white percentile rankings. Additionally, because the NAEP economics assessment is only administered to 12<sup>th</sup> grade students, the economics standard deviations are also unadjusted for high school dropouts. However, we do not believe that this severely compromises the math or economics estimates, nor introduces any bias into the estimations.

graders, and that the National Center for Education Statistics, or the ACTFL, collect enrollment in foreign language study data by race and ethnicity. For the time being, as with world history, as a "placeholder" the Report Card assumes that the relative percentile ranks of blacks and whites in foreign language proficiency would be similar to the weighted average of the percentile ranks in the other basic skills for which data are now available.

### *Percentile Ranking*

Each basic skill is not of equal importance in the Report Card's calculation of the black-white basic skill gap. As noted above, a panel of experts weighted each basic skill, and their average ratings are displayed in Appendix B1. The experts deem reading to be the most important basic skill, followed by mathematics. Next in order of importance are writing, science, U.S. history, geography, civics, economics, world history and foreign language. These judgments are reflected in the weights assigned to each skill in order to estimate an overall black-white gap in the basic skills with which students enter young adulthood.

**Figure 1** is a dot-plot that shows that the black-white gap in basic skills is 29 percentile points.\* In a national distribution of achievement of basic skills by the time students are about 17 years old, black students are at the 31<sup>st</sup> percentile, and white students are at the 61<sup>st</sup>.

(In this, and in subsequent dot-plots, the center of each dot represents the percentile ranking as indicated on the horizontal scale. Except for dots on the top ("total") line, the radius of each dot represents the relative importance of the indicator.)

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\* The formula used to calculate the black and white average percentile rankings in the goal area of basic academic skills is:

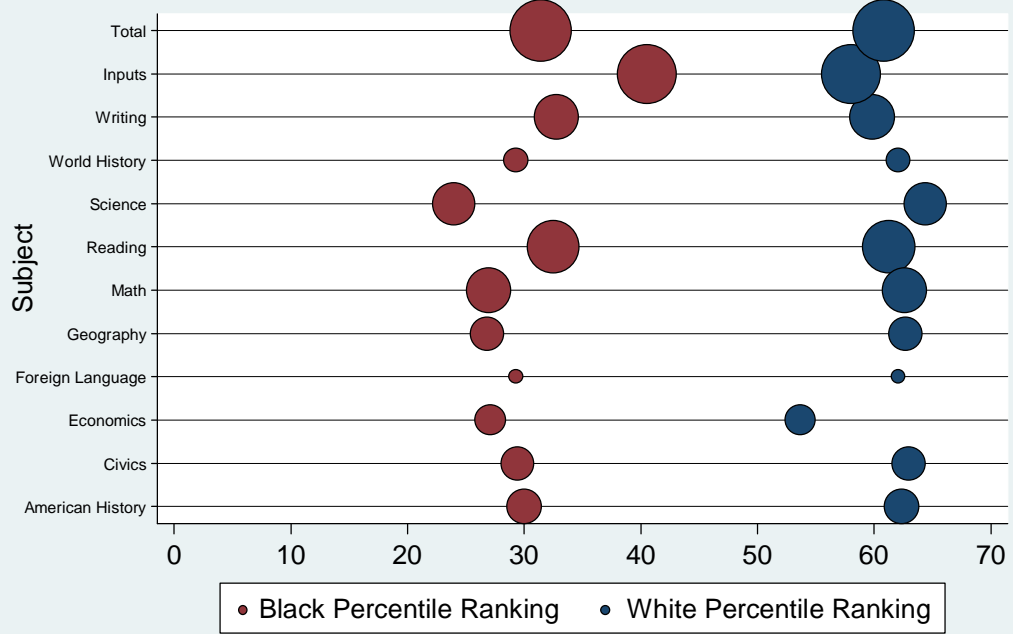
$$P_{\text{whites}} = (P_{\text{reading}} \cdot W_{\text{reading}} + P_{\text{math}} \cdot W_{\text{math}} + P_{\text{writing}} \cdot W_{\text{writing}} + P_{\text{science}} \cdot W_{\text{science}} + P_{\text{amerhis}} \cdot W_{\text{amerhis}} + P_{\text{geography}} \cdot W_{\text{geography}} + P_{\text{civics}} \cdot W_{\text{civics}} + P_{\text{econ}} \cdot W_{\text{econ}} + P_{\text{worldhis}} \cdot W_{\text{worldhis}} + P_{\text{foreignlang}} \cdot W_{\text{foreignlang}})(.80) + (P_{\text{inputs}} \cdot W_{\text{inputs}})(.20)$$

Where  $P$  equals the average the percentile ranking of the racial group (whites in the above example) and  $W$  is each indicator's weight.

The average black and white percentile rankings for each goal area and the overall inputs were calculated by substituting the relevant indicators into this formula.



Figure 1. Goal 1: Basic Academic Skills in Core Subjects  
Average Percentile Rankings



## Critical Thinking and Problem Solving

### *Goal Description*

Educators sometimes make a distinction between two kinds of academic proficiencies. Although the line between them is fuzzy, most learning experts consider that reasoning, criticism, making connections, analyzing and synthesizing information, and applying old ideas to new problems is of a "higher order" than the basic skills of memorizing facts, learning procedural rules (as in spelling and grammatical conventions, and mathematical algorithms), or comprehending the ideas of others. The Report Card gives academic proficiency an overall weight of 37 percent; of that, 21 percent is for basic skills and 16 percent for this second set of skills termed "critical thinking."

### *Measurement of Goal Area*

Most standardized tests focus primarily on the assessment of basic academic skills. Fewer teachers have the training to teach critical thinking; in an environment where schools and teachers are judged by their students' test scores, it makes sense to some to include on tests only skills that teachers can more easily impart and for which they can be judged successful.

It may seem that only basic skills lend themselves to a standardized, multiple choice format that is easy and inexpensive to score, and that assessment of critical thinking skills requires constructed responses, where students have to produce an original piece of work. But assessment of critical thinking skills can be standardized. Basic skills are emphasized on standardized tests more because these skills are less expensive to assess. Multiple choice questions of basic skills can be machine scored, but questions assessing critical thinking skills are often more complex, requiring human judgments. It requires less time for a student to answer

a question requiring basic skill, and so more basic skill material can be covered in a short period of time.

Under the pressure of testing for accountability, several states have dropped constructed response items from their standardized tests, because these items are so much more expensive to score. Fifteen states have fully eliminated constructed response questions from their standardized tests, or never included them in the first place.<sup>22</sup>

Yet critical thinking skills can be assessed without constructed response items. Although constructed responses usually require more critical thinking than multiple choices, a constructed response may only assess a basic skill, such as asking for the sum, " $2 + 2 = ?$ ", where the student must fill in the answer without having alternatives from which to choose. And a multiple choice question may assess critical thinking, such as asking students to read a passage and interpret a character's motivation, where several alternative motivations are offered from which students can choose.

So it would not be difficult to design better tests of critical thinking that relied more heavily on multiple choice questions and that was inexpensive to score. Some such tests exist, although none have been administered to a nationally representative population of 17 year-olds. The familiar SAT of the College Board, for example, includes multiple choice questions that attempt to assess critical thinking. The "Rainbow Project" of psychologist Robert J. Sternberg has developed a test that includes a critical thinking component, as a supplement to existing college admissions tests; it has been piloted by a number of community colleges nationwide.<sup>23</sup> Other tests are also now being developed, mostly aimed at assessing college students' critical thinking abilities,<sup>24</sup> but there is no reason why such tests could not be administered to a national

sample of 17 year-olds. From this we could learn whether critical thinking skills are being developed, and if so, how equitably these skills are distributed among subpopulations.

### *Available Data*

#### Outcomes

For now, in the absence of such an exam, the Report Card again draws from the National Assessment of Educational Progress for a rough estimate of critical thinking skills. Earlier, we noted that this Report Card uses NAEP to report on the achievement of basic skills, because most NAEP questions assess such skills. But NAEP also includes a somewhat larger proportion of questions assessing critical thinking than do other standardized assessments.\*

The Report Card includes the same ten subjects here as were included in the goal of basic academic skills in core subjects: reading, writing, math, foreign languages, and knowledge of science, American history, geography, civics, world history and economics. Again, it employs a "placeholder," for world history and foreign language, assuming that the relative percentile ranks of blacks and whites in critical thinking about world history and in a foreign language would be similar to the weighted average of the percentile ranks in the other critical thinking skills for which data are now available.

For reporting on basic skills, the Report Card describes the difference, in percentile ranks, of the average scores of black and white 17 year-olds (adjusted for the fact that not all 17 year-olds remain in school long enough to take the 12<sup>th</sup> grade NAEP exams). For reporting on critical thinking skills, the Report Card relies on the fact that NAEP publishes "item maps" which illustrate the kinds of questions that students at different points in the NAEP scale *usually* answer

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\* However, the National Assessment Governing Board recently announced a plan to increase the proportion of basic skill questions on the NAEP science test, and decrease the proportion of questions requiring critical thinking (Cavanagh 2005). We do not know whether there will be similar changes in other NAEP tests in order to make the NAEP more similar to standardized tests that states are using for accountability purposes.

correctly. Questions reflecting critical thinking skills are more concentrated at the top of the NAEP scale than at the bottom, although it would not be unusual to find students with low scores getting some critical thinking questions correct. It would also not be unusual to find students with high scores getting a higher proportion of basic skills questions correct, and fewer critical thinking questions correct, than most students at that score level.

As a first approximation of critical thinking, the Report Card assumes that 12<sup>th</sup> graders who score at the "advanced" level or above on a NAEP exam have successfully developed critical thinking skills.

For example, on the math 12<sup>th</sup> grade NAEP test, most students scoring at the advanced level have correctly answered questions asking them to analyze the assumptions made in a mathematical model, or to solve a problem in more than one way.<sup>25</sup> In reading, most students scoring at the advanced level have appropriately answered questions that ask them to read a passage and relate its meaning to their own experiences and to the world beyond.<sup>26</sup> In science, most students scoring at the advanced level have correctly answered questions asking them to design investigations into real-world scientific problems and use their reasoning abilities to make predictions.<sup>27</sup> In civics, most students scoring at the advanced level can discern differences between American ideals and realities, and can explain how these differences were reflected in past and present public policies.<sup>28</sup> In geography, most students scoring at the advanced level have correctly identified alternative solutions to problems stemming from human spatial organization or environmental instability.<sup>29</sup> In U.S. history, most students scoring at the advanced level can answer questions asking them to utilize historical evidence to critically evaluate historical claims.<sup>30</sup> In economics, most students scoring at the advanced level can answer questions requiring them to analyze economic data and apply economic concepts to real-

world situations.<sup>31</sup> And in writing, most students scoring at the advanced level can create an essay that utilizes a variety of strategies (such as anecdotes, repetition, and literary devices) to support and develop ideas.<sup>32</sup>

The Report Card computes the percentages of all black and all white 17 year-olds who score above this advanced level, including both those students represented in the sample of 12<sup>th</sup> graders who take the NAEP exam, and those who dropped out of school before the NAEP was administered. To do this, for each race the Report Card observes the share of dropouts who scored at the highest performance level on the NAAL, assuming that these dropouts were likely to possess critical thinking skills. Next, it assumes that, again for each race, the ratio of graduates to dropouts who scored at the highest performance level of the NAAL is similar to the ratio of graduates to dropouts who would be presumed to score at the highest performance level of the NAEP. From these data, the Report Card estimates the percentage of all black and all white 17-year-olds who would have scored at the advanced level of the NAEP, had NAEP sampled the entire cohort, graduates and dropouts alike.\*

It may seem strange to assume that any significant number of dropouts possess the equivalent of advanced NAEP proficiency, when so small a number of regular 12<sup>th</sup> graders exhibit such critical thinking ability. Yet data from NAAL do suggest that dropouts can possess critical thinking skills. The highest performance level in the NAAL reflects the ability to perform "complex and challenging literacy activities."<sup>33</sup> Of the total adult population, 2 percent of high school dropouts scored at this level on the prose literacy test, 3 percent scored at this level on the document literacy test, and 2 percent scored at this level on the quantitative literacy test.<sup>34</sup>

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\* The NAAL describes its highest performance level as "proficient," while the NAEP describes its highest performance level as "advanced." These criteria definitions were established independently, and the different nomenclature does not imply a real difference in the skills being demonstrated. From item descriptions for each assessment, we think it reasonable to very approximately equate these levels for present purposes.

Further, little is understood about dropouts, their reasons for dropping out, or their characteristics. For example, 29 percent of all students who drop out of high school earn a GED certificate within two years of their cohort's regular graduation date. Another 15 percent of dropouts earn a GED from two years to six years after their regular graduation dates, and another 5 percent earn a regular high school diploma (perhaps through an adult school or community college) during this time period.<sup>35</sup> The minimum passing rate for a GED is considerably higher than average scores of regular high school graduates,<sup>\*</sup> so it is probable that some of these dropouts have adequate critical thinking skills, although they may not have been enrolled in school when the 12<sup>th</sup> grade NAEP was administered to their cohort.

### *Percentile Ranking*

The Report Card does not assume that the various NAEP subject areas have the same relative importance in the assessment of critical thinking as in basic skills. Therefore, a separate panel of experts in academic achievement offered judgments of the relative importance of each of the subject areas for which the Report Card estimates data on critical thinking skills. The average of these judgments is displayed in Appendix B2.

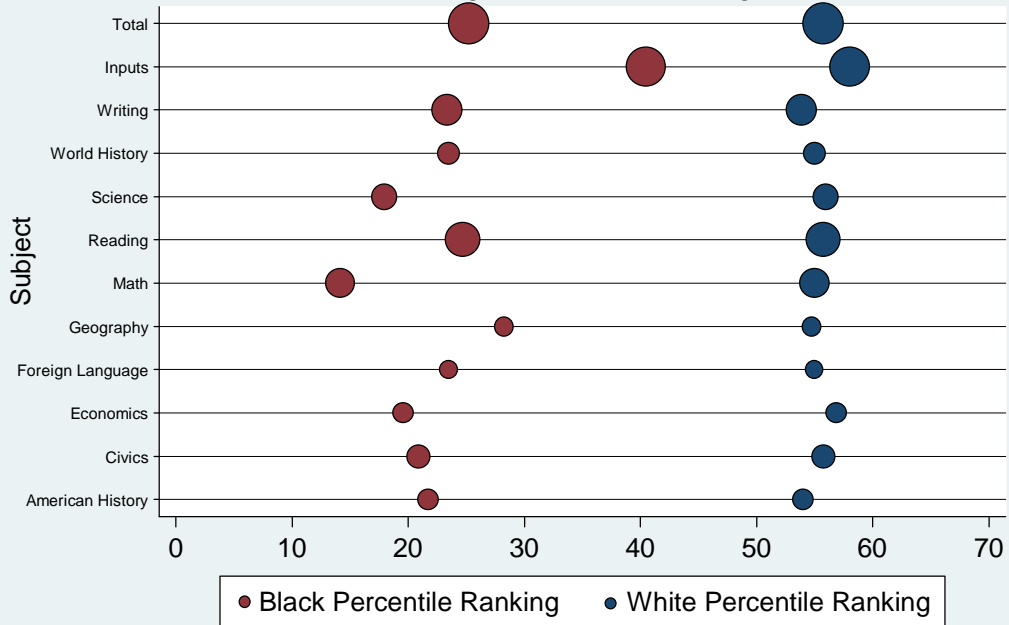
**Figure 2** shows that black-white gap in critical thinking skills is 31 percentile points. In a national distribution of achievement of critical thinking skills by the time students enter young adulthood, black students are at the 25<sup>th</sup> percentile, and white students are at the 56<sup>th</sup>.

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\* The passing score on GED tests is set at a level that about 1/3 of high school graduates could not meet. Prior to 1997, when the passing score on GED tests was raised, about 1/4 of high school graduates could not meet the GED standard (Arenson 1997).

GED's have earning profiles that are more like those of high school dropouts than of graduates, and the GED is generally considered by employers and the U.S. Army to be inferior to a regular high school diploma, but this is because high school graduates typically have superior self-discipline and similar character traits, when compared to holders of the GED, not because high school graduates' cognitive test scores are superior. They are not, on average. See Cameron and Heckman 1993.

Figure 2. Goal 2: Critical Thinking and Problem Solving  
Average Percentile Rankings





## Social Skills and Work Ethic

### *Goal Description*

Very inadequate measures are available of whether young adults of different sub-groups have developed good social skills and work ethic, including good communication skills, personal responsibility, the ability to get along with others and to work with others from different backgrounds. This is not because such data would be difficult to collect. Many surveys of employers report on whether their hires of recent high school graduates possess these traits. However, no surveys of which we are aware disaggregate the data by race, and so it is impossible to say whether such traits are equitably distributed at entry into adulthood. Such surveys should be conducted, with samples large enough to support conclusions about sub-group differences in such traits.\*

### *Available Data*

### Outputs

As a proxy for direct measures of whether young people have such social skills, the best output measures presently available are educational attainment rates, particularly high school graduation rates. Youths who fail to graduate from high school are likely to be deficient in traits like responsibility, persistence and self-discipline, even when their cognitive skills are as good as, if not superior to those of high school graduates. Graduates are more likely to be employed,

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\* The National Employer Survey, commissioned by the National Center on the Educational Quality of the Workforce and conducted by the U.S. Census, provided extensive information on worker education, employer training and employer business characteristics, and business productivity. Unfortunately, this survey was only administered once in 1994 with a shorter follow-up survey administered again in 1996. More problematic for our purposes is the fact that employee characteristics and demographics were not included. We recommend a second administration of an expanded version of this survey.

We do not recommend that employers be asked specifically about the social skills and work ethic of their young black and white employees. Rather, we recommend that employers be surveyed about the social skills and work ethic of their young employees generally, and separately asked about the racial composition of their young employees. Results could then be weighted by the racial composition of establishments surveyed to obtain a national estimate of the social skills and work ethic of young black and white employees.

and earn more than dropouts, after controlling for test scores. This does not seem simply to be a result of misleading signaling that a high school diploma provides to employers seeking new hires.<sup>36</sup>

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.<sup>37</sup> These claims are probably exaggerated, based on 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. The best data come from longitudinal studies such as the National Educational Longitudinal Study (NELS 88)<sup>\*</sup> or the National Longitudinal Surveys of Youth (NLSY79 and NLSY97) that follow students over time and usually begin data collection before or upon entry into high school, and follow students through graduation and beyond.<sup>38</sup> The NLSY97, which tracked a nationally representative sample of 9,000 12 to 16 year-olds annually since 1997, provides the most recent accurate data on high school graduation and GED rates.<sup>†</sup> According the NLSY97, as of 2002, 82 percent of all 20-22 year-olds had received a high school diploma and 5 percent had earned a GED; for blacks, 75 percent had received a high school diploma and 7 percent earned a GED; corresponding rates

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<sup>\*</sup> NELN 88 surveyed a nationally representative sample of eighth graders in 1988 and then at four time points thereafter. Students were asked about a variety of topics including school, work and home experiences. To complement the student survey data teachers, parents, and school administrators of the students were surveyed, and administrative student level data were obtained (NCESj).

<sup>†</sup> The NLSY97 was designed to detail the transition from school to work and from adolescence to adulthood, and, therefore, collected data on respondents' labor market behavior and educational experiences. The 1997 sample consists of individuals born in the U.S. between 1980 and 1984 (BLS 2005).

for whites are 85 percent and 5 percent.<sup>39</sup> These data represent the cohort that should have graduated from high school between 1998 and 2000.\*

The Report Card uses both the high school diploma rate and the high school diploma-plus-GED rate as outputs for the goal of social skills and work ethic. It also includes three post-secondary attainment rates—enrollment in a post-secondary institution, from the U.S. Census Bureau’s Current Population Survey (CPS); and receipt of an associate’s degree and receipt of a bachelor’s degree, both obtained from the Beginning Postsecondary Students Longitudinal Study (BPS) - because all three serve as proxy measures of self discipline, personal responsibility, and communication skills.<sup>†</sup> The Report Card estimates that 33 percent of black 18-24 year-olds are enrolled in a degree-granting postsecondary institution compared to 43 percent of white young adults. For 24 year-olds, 4 percent of blacks have only an associate’s degree, compared to 9 percent of whites; 12 percent of blacks attained a bachelor’s degree or more, compared to 27 percent of whites.<sup>‡</sup>

There are a few other output measures of whether youths, while they are still of school age, participate in the kinds of activities that are likely to enhance personal responsibility, the ability to get along well with others, and the ability to get along with others from different backgrounds. The National Household Education Surveys Parent and Family Involvement

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\* These data are almost identical to the more reliable, yet older data collected from the NELS:88. The NELS:88 provides more reliable data because all the data collected in the NELS:88 were cross-referenced for accuracy with the respondents’ high school transcripts. NELS:88 reveals that at about age 26, 83 percent of 1988 eighth graders have a high school diploma and 8 percent earned a GED; 74 percent of blacks have a high school diploma and 14 percent have a GED; and 86 percent of whites have a high school diploma and 7 percent have a GED (Mishel and Roy 2006, Table 9.).

<sup>†</sup> BPS collected data on persistence in and completion of postsecondary education programs, the relationship between work and education, and the effect of postsecondary education on individuals’ lives. BPS surveyed more than 9,000 first-time entrants into postsecondary education at two time points: two years after first time enrollment (1998) and 5 years after first time enrollment (2002) (NCESk).

<sup>‡</sup> The source for these data, and for other indicator data used in the Report Card, is found in the appropriate appendices to this report.

Survey (NHES:PFI) collects one such measure: the participation of kindergarten through 12<sup>th</sup> grade students in non-school sponsored scouting or sport activities.\* Out of school, 20 percent of black youths take part in scouting programs, compared to 27 percent of white youths who do so. Thirty (30) percent of black youths take part in organized sports, like soccer or Little League, compared to 48 percent of white youths who do so. Considering combined participation on either in-school or out-of school sports teams, the Youth Risk Behavior Surveillance Survey (YRBSS) reports that 54 percent of black high school youths participate, compared to 58 percent of whites who do so.†

Another output measure of the development of personal responsibility and a work ethic is whether young people are employed for pay during the summer months. Perhaps these data should be considered an input, whether society offers adolescents the opportunity to work for pay, because paid employment during the summer may be more dependent on opportunity than on need: 39 percent of black 16 to 19 year-olds work for pay in the summer, compared to 54 percent of white 16 to 19 year-olds do so.

From the National Longitudinal Study of Youth (NLSY), researchers have calculated whether children engage in dishonest, cruel, non-cooperative, violent or disobedient behavior. The Report Card uses such calculations for the oldest age available, children who are 12 years old, to estimate whether they are likely to refrain from such behavior as adults, and considers this

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\* NHES: PFI surveys a nationally representative sample of parents of children in grades K-12. The 2003 NHES: PFI surveyed over 12,000 respondents on involvement in their children's education (Hagedorn et al. 2004).

† YRBSS, conducted by the Centers for Disease Control and Prevention (CDC), surveys 9<sup>th</sup> to 12<sup>th</sup> grade students at the national, state, and local level via school-based surveys conducted every two years. The purpose of YRBSS is to document health risk behaviors that contribute to the leading causes of death, disability, and social problems in youth and adults in the United States (NCCDPHP 2006).

an indication of whether they are likely, as adults, to possess good social skills and work ethic.\* At age 12, on a scale of pro-social behavior, black children are at the 53<sup>rd</sup> percentile, and whites are at the 66<sup>th</sup>.†

### *Percentile Ranking*

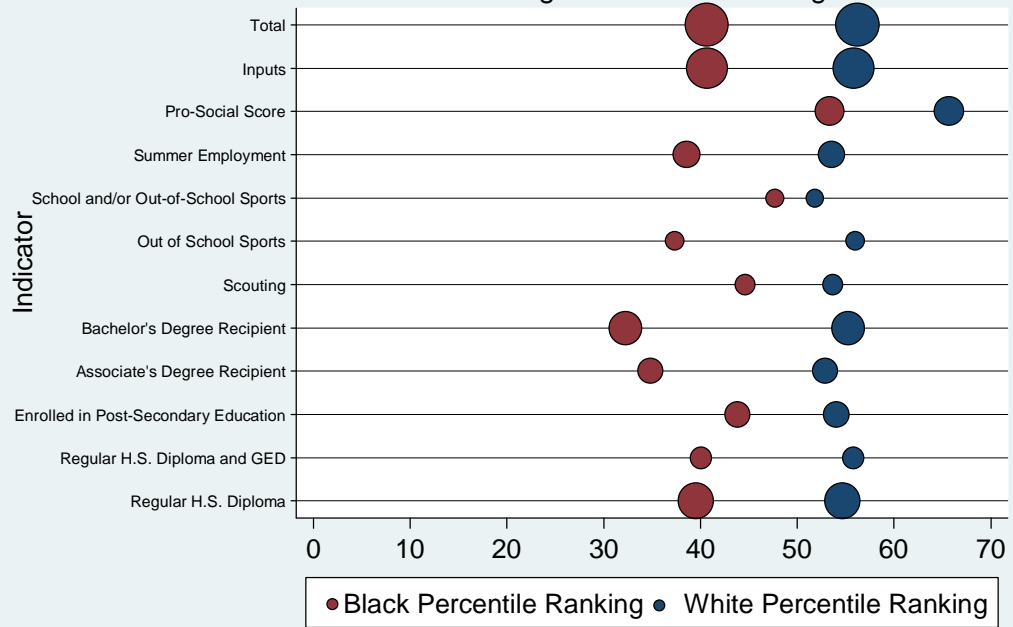
A panel of experts weighted each of these indicators, and their average ratings are displayed in Appendix B3. After applying these weights, **Figure 3** shows that the black-white gap in social skills and work ethic is 16 percentile points. In a national distribution of social skills and work ethic by the time youths enter young adulthood, blacks are at the 41<sup>st</sup> percentile, and whites are at the 56<sup>th</sup>.

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\* NLSY79 surveyed men and women born in the U.S. from 1957-1964 at multiple points starting in 1979 to obtain data on labor market activities and other life events. Additionally, the biological children of the NLYS79 women were surveyed biennially since 1988 (BLS 2005)

† Blacks and whites both have average pro-social behavior above the 50<sup>th</sup> 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.

Figure 3. Goal 3: Social Skills and Work Ethic  
Average Percentile Rankings



## Citizenship and Community Responsibility

### *Goal Description*

Fourteen percent of the weight in the Report Card's evaluation of the overall importance of youth outcomes is citizenship and community responsibility: whether young adults participate in civic activities like voting, volunteering, and becoming active in their communities, and whether they have a sense of public ethics, a commitment to the well-being of their fellow citizens and society.

### *Available Data*

### Outcomes

Black young adults are less likely than whites to participate fully in civic life and democratic governance, perhaps because they are less prepared for it in their schools and communities, or possibly because they have fewer opportunities for involvement, or maybe because they lack the motivation to engage in these activities.

Participation in the electoral process is one important outcome measure. 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. No data are available, however, on the share of black and white young adults who participated in separately scheduled or local elections. Inasmuch as good citizenship requires participation in local, as well as national political life, such data should be collected.

Another outcome measure is participation in community activities as a volunteer.\* Only 15 percent of young black adults (aged 20-24) engage in volunteer activities, compared to 21 percent of whites who do so.

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\* The Current Population Survey asks adults whether they had done any volunteer activities through or for an organization. If individuals indicated they had not volunteered, the interviewer probed with a more

A second measure of this outcome is reported by the General Social Survey (GSS), conducted since 1972 by the National Opinion Research Center (NORC) at the University of Chicago.<sup>\*</sup> It collects data on many outcomes of the kind in which the Report Card is interested, including whether adults participate in a church group, professional society, literary or art group, farm organization, nationality group, school fraternity, hobby club, school service, youth group, sports club, labor union, or other voluntary organization. Participation in all of these types of voluntary organizations contributes to the health of civil society and so the Report Card considers it as a measure of whether adults are prepared for citizenship and community responsibility. The samples are too small to permit conclusions about differences in whether young black and white adults participate in such organizations, but do support conclusions about differences in whether young and middle-aged blacks and whites, ages 18 to 49, participate.<sup>†</sup> For black adults aged 18 to 49, 30 percent participated in two or more of these voluntary organizations. For whites, 40 percent participated.<sup>‡</sup>

Another indicator from the GSS measures civic engagement of young and middle-aged adults (18 to 44 year-olds). Nineteen (19) percent of blacks read a newspaper everyday. Slightly more whites, 21 percent, read a newspaper everyday.

Whether young adults contribute to charity is another measure of citizenship, commitment to the well-being of the broader society. Data on whether adults make charitable contributions is also collected by the GSS. Again, the samples are too small to permit

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specific follow-up question which gave examples of two types volunteer activities: activities done for children's schools and activities done for youth organizations (U.S Census Bureau 2004b).

<sup>\*</sup> GSS surveys two nationally representative samples of approximately 1,500 U.S. adults, 18 years or older, biennially. Each year the survey contains a core section of demographic and attitudinal questions and varying topics of special interest (NORC 2007).

<sup>†</sup> Participation in voluntary organizations varies by gender as well as race, however, the sample size of the GSS does not support reliable estimates disaggregated by age, race, and gender.

<sup>‡</sup> Almost every respondent, black or white, reported participating in at least one voluntary organization.



conclusions about differences in whether young black and white adults make such contributions, but permit conclusions about differences in whether young and middle-aged blacks and whites, ages 18 to 49, make contributions. The Report Card employs these data as an outcome indicator, but we urge that future surveys, with larger samples, permit disaggregated conclusions for younger adults, whose civic commitments would more accurately reflect their experiences in schools and in other institutions of youth development. It would also be desirable to link such data to information about income, so that comparisons could be made on the percentages contributed by black and white young adults, controlling for income levels. For the present, however, the Report Card uses the fact that 64 percent of black adults, ages 18 to 49, and 78 percent of white adults in that age range make charitable contributions.

As additional measures of citizenship, the Report Card uses data on whether young adults contacted a public official or participated in a political protest. The Center for Information and Research on Civic Learning and Engagement (CIRCLE) conducted a nationally representative survey of adolescents and adults over 15 years old (*The Civic and Political Health of the Nation: A Generational Portrait*) which includes these two measures for adolescents and young adults (15-25 year-olds). CIRCLE found that 9 percent of blacks in this age group contact or visit a public official to express their opinion, compared to 11 percent of whites in this age group who do so. The mostly consistent relationship between black and white young adults found in most of the Report Card indicators is reversed for the indicator measuring the percentage of adolescents and young adults taking part in a protest, march, or demonstration: 13 percent of blacks in this age group take part in a protest, march, or demonstration, compared to 8 percent of whites.

Another indicator of good citizenship is law-abiding behavior. Data on law-abiding behavior are difficult to collect, but there is less under-reporting for the most extreme case,

murder. Although blacks comprise only 15 percent of the juvenile population, they commit 55 percent of all known juvenile murder offenses. Thirteen (13) of every 100,000 black 12-17 year-olds are known murder offenders. The corresponding rate for white juveniles is 2 per 100,000; the black juvenile murder offender rate is more than six times the white rate. Black young adults commit more crimes than whites, a continuation of the pattern for juvenile offenders. For every 100,000 black young adults (in the 20 to 24 year-old age group), there are 44 murder offenders; for every 100,000 whites in this group, there are 10.\*

Another indicator of whether young people are entering young adulthood prepared to live law-abiding lives is the number that are adjudicated by juvenile court systems. Considering all 12 to 17 year-olds who are convicted in juvenile courts of crimes against persons or crimes against property, 30 of every 1,000 black youths are convicted each year, compared to 11 white youths.†

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.<sup>40</sup> The study could not determine whether the more aggressive treatment of black drivers by

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\* Racial disparities in law-abiding behavior are somewhat mediated by gender, specifically the low rates of law-abiding behavior for black males. For example, the male to female ratio of incarcerated blacks is 17 to 1, but the ratio for whites is less than half that. However, female blacks are incarcerated at 3 times the rate of white females (the corresponding incarceration ratio for black males to white males is 6 to 1).

† This indicator does not include drug offenses or crimes against order, but it does aggregate crimes against persons and property. The Report Card could have disaggregated the data by persons and by property, but we do not do so because we employ two other indicators for murder in this goal area. This additional indicator of crimes against persons and property will have some, but limited, additional information about law abiding behavior. The Report Card does not include data on drug offenses because of the impossibility of distinguishing underlying conduct from discriminatory enforcement in this area.

police was related to more serious infractions, more suspicious activities, more resistance to arrest by black drivers, or another cause, but the study suggests 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, 5 percent of blacks are in prison or jail, compared to 1 percent of whites.\* In this age group, black men are incarcerated at 17 times the rate of black women; for whites, the male-female ratio is half that.

### Outputs

Also as measures of whether schools and other institutions of youth development are turning out good citizens, the Report Card includes several output indicators that do not definitively reflect the citizenship behavior of young adults, but which suggest the kinds of activities that are likely to lead to successful outcomes.

One is the proportion of students, at all grade levels, who participate in scouting or a religious group after school.† Both types of organizations attempt to develop the kinds of charitable, ethical, and civic-minded habits and commitments that democracy requires – 20 percent of black students, and 27 percent of whites, participate in scouting groups, while 67 percent of black students, and 61 percent of whites, participate in religious groups.

Another such output indicator is whether students participated in community service projects during their summer vacations. Eight (8) percent of black teenagers either get unpaid

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\* We do not know the extents to which this disparity in incarceration results from greater rates of criminal activity and from discriminatory criminal justice policies. For example, possession of crack cocaine is penalized more severely than possession of powder cocaine, with the former, inexpensive form, more prevalent among blacks, the latter, expensive form, more prevalent among whites (USSC 2007).

† Participation in scouting is also an indicator of the goal area of social skills and work ethic. Participation in an organized voluntary group that engages members in community service activities and teaches them about civic life and engenders a good work ethic is an output for both the goal of social skills and work ethic and the goal of citizenship and community responsibility.

internships or do community service activities during their summer breaks from school, compared to 13 percent of white teenagers. Similar to summer employment and several other indicators, this indicator may reflect the relative availability of internships more than the relative desires of black and white youths to intern. However, this distinction is irrelevant to the output reported here. If the outcome gap is attributable, in part, to a gap in internship opportunities, the policy response should be to provide more opportunities, if comprehensive equity is the objective.

The Report Card also considers data collected in the NELS:88 on whether high school students participate in voluntary community service activities during the school year. Many schools now require students to do community service, and while the experience may be beneficial to the students and the community, evidence suggests that students who are required to perform such service are no more likely to volunteer as adults than students who were not required. However, where service is voluntary, this is an output that leads later to adult civic participation.<sup>41</sup> Twenty-six (26) percent of black high school seniors, and 41 percent of whites, voluntarily serve their communities.\*

Another output that should lead to successful citizenship outcomes is high school students' knowledge of history and government. Yet citizenship outcomes are not the same as knowledge of basic governmental and historical facts, or even of the ability to think critically about public issues. Knowing such facts, and being able to think critically about them, are important, and the Report Card does measure such knowledge and critical thinking ability as part of its measurement of basic skills and critical thinking ability.

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\* These data are somewhat outdated: for 1990-1992, from the 1992 sample of NELS: 88.

And the Report Card also uses 12<sup>th</sup> grade test scores in American history, civics, and geography as additional output indicators of preparation for citizenship.\*

Even if higher scores on tests of civic knowledge do not cause greater voter participation, it still seems plausible that a basic knowledge of history and civics is a pre-condition for intelligent use of the franchise. On the American history test, black 12<sup>th</sup> graders are at the 30<sup>th</sup> percentile and white 12<sup>th</sup> graders at the 62<sup>nd</sup>; on the civics test, black 12<sup>th</sup> graders are at the 29<sup>th</sup> percentile and white 12<sup>th</sup> graders at the 63<sup>rd</sup>; and on the geography test, black 12<sup>th</sup> graders are at the 21<sup>st</sup> percentile and white 12<sup>th</sup> graders at the 56<sup>th</sup>.

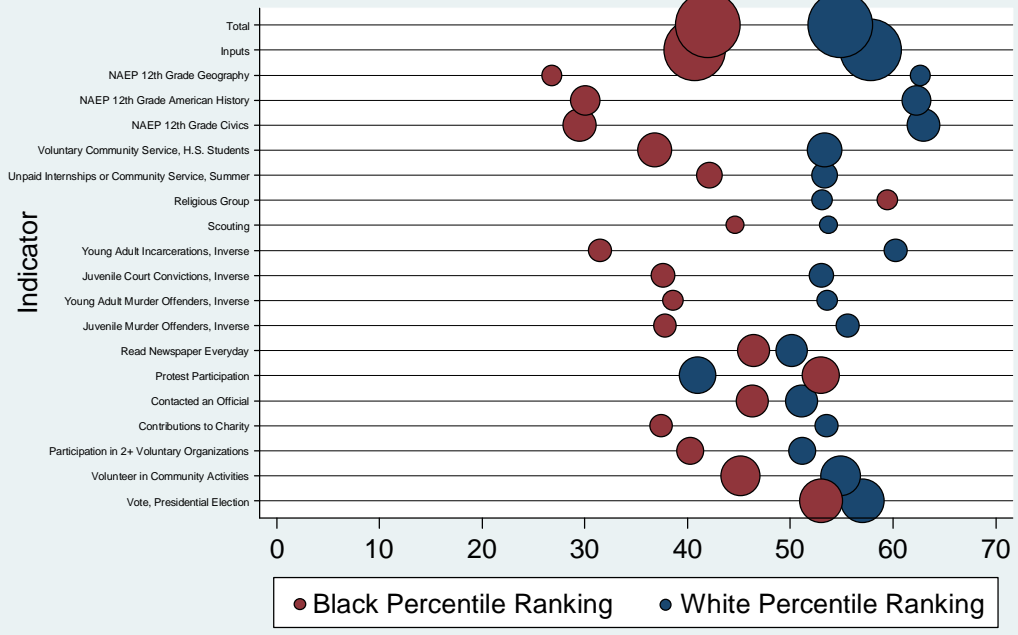
### *Percentile Ranking*

A panel of experts weighted each of these indicators, and their average ratings are displayed in Appendix B4. After applying these weights, **Figure 4** shows that the black-white gap in citizenship and civic behavior is 13 percentile points. In a national distribution of adolescents' and young adults' performance in citizenship and civic behavior, blacks are at the 42<sup>nd</sup> percentile, and whites are at the 55<sup>th</sup>.

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\* That the Report Card uses these test scores as indicators of citizenship, as well as of basic and critical thinking skills, results in some double-counting of these scores. However, expert panelists gave these test scores only a minimal weight as outputs in the goal area of citizenship and community responsibility.

Figure 4. Goal 4: Citizenship and Civic Participation  
Average Percentile Rankings



## Physical Health

### Goal Description

If schools and other institutions dedicated to youth development were fully meeting the goal of physical health (with a weight of 9 percent in the Report Card), youths would enter young adulthood in good health, poised to lead healthy lives that would enable them to be fully productive economically, and as participating members of their families, communities, states and nation. They would expect, on average, regardless of race, ethnicity or family economic status, to have healthy life spans that extended as far as modern medical technology permits.

### *Measurement of the Goal Area*

For this goal, ideal outcome data cannot be current and so are limited in their ability to guide health and education policy. For example, black adults are more likely to die prematurely of cancer and cardiovascular and pulmonary disease than whites. Considering adults from the ages of 45 to 54, for example, the death rate from heart disease for blacks is 175 per 100,000; the death rate for whites is less than half as great, 84 per 100,000.<sup>42</sup> These outcome data, however, reflect in part the potential for good health with which 17 year-olds emerged into young adulthood in the 1970s, and with which young children entered schools in the 1950s. If the nation followed ideal policies today, it could not expect them to be fully reflected in such outcome data until 2050. If outcome data from the Report Card are to influence policy, they must have more immediate relevance than this ideal approach.

There are, however, data on a number of outcome, output and input indicators that health experts believe provide a fairly accurate picture of the potential for lifelong health with which young people enter young adulthood.

### *Available Data*

## Outcomes

One outcome indicator collected from the Centers for Disease Control and Prevention's National Center for Health Statistics' National Health Interview Survey (NHIS) is the number of black and white adults who consider themselves in excellent or very good health.\* Yet, these data are limited in value. There may be systematic differences in how blacks and whites categorize similar health statuses. Because the National Center for Health Statistics carefully monitors the validity of such self-reports, this limitation is minor. More important is that the data are not disaggregated by age and include all adults over the age of 18. If there were good self-report data on young adults, the Report Card could draw inferences about how schools and other institutions of youth development prepare youth of different races for healthy lives. But these data include even elderly adults, whose poor health may reflect poor health education or treatment of schoolchildren a half a century or more ago. Thus, the data would be relatively insensitive to improvements schools and other youth development institutions now make for young people. Although the Report Card includes these data, expert panelists gave this indicator relatively little weight (4 percent).

An outcome for which there are young adult data is the rate of overweight and obesity, predicting several adverse adult health outcomes, including diabetes and heart disease. These data, collected in the Centers for Disease Control and Prevention's National Center for Health Statistics' National Health and Nutrition Examination Survey (NHANES), show that for young adults (aged 20 to 44), 70 percent of blacks are overweight or obese, compared to 57 percent of

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\* The NHIS is a cross-sectional survey of the civilian non-institutionalized population of the United States. Interviewers trained by the U.S. Bureau of the Census conduct the personal household interviews. The main goals of the NHIS are to monitor trends in illness and disability, to track progress toward achieving national health objectives, to provide a means for researchers to analyze various health problems and access to and utilization of appropriate healthcare, and to evaluate federal health policy. Furthermore, the NHIS provides data on many health problems and conditions by demographic and socioeconomic characteristics (NCHS 2007a).



whites.\* In the distribution of all young adults, blacks are at the 40<sup>th</sup> percentile of healthy weight, while young white adults are at the 53<sup>rd</sup> percentile.

These young adult rates reflect patterns that, for this generation of young adults, were established during the school years from the 1970s to the recent past, but they continue today – the most recent data show that 21 percent of black elementary school children are overweight or obese, compared to 16 percent of whites;<sup>43</sup> and 16 percent of black high school children are in this category, compared to 12 percent of whites.<sup>44</sup>

There are many causes of racial differences in overweight or obese status, including possible genetic differences, diet, and exercise. An output indicator relating to this outcome, collected in the Behavior Risk Factor Surveillance System (BRFSS) of the Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS) is the share of black and white young adults who engage in regular physical activity and exercise.<sup>†</sup> Of 18 to 24 year-olds, 52 percent of blacks engage in regular exercise, compared to 61 percent of whites. Young black adults are at the 44<sup>th</sup> percentile of healthy exercise habits, while young white adults are at the 53<sup>rd</sup> percentile.

These data on overweight and exercise patterns of young adults are sufficient to describe the conditions in which adolescents leave school and move into young adulthood. And with patterns of overweight and inactivity established during the school years, there are also good input data: the share of black and white secondary school students whose school and extra-curricular programs include regular physical activity. Because the Report Card has adequate data

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\* The NHANES examines a nationally representative sample of approximately 5,000 individuals. Combining interviews and physical examinations, NHANES assesses the health and nutritional status of adults and children in the United States (NCHS 2007b).

† Conducted by U.S. state and jurisdiction health departments, the BRFSS annually monitors health conditions and risk behaviors in the United States (NCCDPHP 2007).

on physical activity of young adults, it is not necessary to include an indicator of such activity for students, whose value would consist only of its ability to predict the physical activity of young adults. Nonetheless, although not including these data in our calculations, we note that 86 percent of black and 92 percent of white secondary school students engage in regular physical activity.<sup>45</sup>

Although not necessary for a young adult outcome-focused Report Card, it would not be difficult to develop even better output data on schoolchildren's physical activity. There is an available standardized assessment, called a "Fitnessgram" of students' aerobic capacity, muscular strength, endurance, and flexibility.<sup>46</sup> Some physical educators use it, but schools are not held accountable for adequate student physical strength in the way they are held accountable for math and reading scores. More balanced accountability would be necessary, nationwide, to prevent schools from dropping physical education classes to spend more time on basic academic skill test preparation. Every state should require such assessments of physical strength, and school accountability systems should give such assessments their appropriate weight.

This is not to suggest, however, that if states are held accountable for reducing the share of youths who are overweight, and for reducing the gap in healthy physical condition for black and white youths, increasing the time in schools devoted to physical education is the only, or the best strategy. Physical education is only one of the contributing factors to healthy weight. The overweight condition of young children is also associated, for example, with living in neighborhoods that their parents perceive as unsafe, probably because children in unsafe neighborhoods are less likely to be permitted by their parents to exercise by playing outdoors.<sup>47</sup> Further, children living in crowded, urban neighborhoods may not have access to physical recreation opportunities. Therefore, holding policymakers accountable for youths entering

adulthood in good health may create incentives to enhance the safety of low-income neighborhoods, or perhaps provide after-school programs emphasizing physical activity for children living in unsafe neighborhoods, as well as, or perhaps instead of, adding more physical education to school curricula.

Another young adult outcome that reflects the preparation adolescents have for health is the share of black and white young adults who contract AIDS. Because this Report Card focuses, where possible, on outcomes, it takes no position on the politically and culturally contentious issues of whether schools should teach abstinence, distribute condoms, or give legitimacy to the homosexuality of some students. The reality is that whatever schools and other institutions of adolescent development are doing, it is not working. Of black young adults, ages 20 to 24, 21 out of 100,000 are diagnosed annually with new cases of AIDS. For whites, it is only one per 100,000. In distributional terms, young black adults are at the 35<sup>th</sup> percentile of behavior that prevents the spread of AIDS, while young white adults are at the 63<sup>rd</sup> percentile.

Another health outcome is the rate of asthma in children. Asthma is not curable, only treatable, so prevention needs to begin in early childhood, and must focus heavily on the monitoring and improvement of environmental conditions in the homes and communities where young children reside. Asthma is not only an adverse health outcome in itself, it also is an adverse input for the performance in other goal areas, because children who suffer from asthma are more likely to be absent from school and are less likely to be able to engage in vigorous physical activity that is necessary for other healthy outcomes. For children (under the age of 19), 18 percent of blacks suffer from asthma, compared to 12 percent of whites. In distributional terms, black children are at the 42<sup>nd</sup> percentile of freedom from asthma, while whites at the 52<sup>nd</sup> percentile.

An indicator of health differences between whites and blacks when they enter young adulthood, collected in the CDC's NCHS' National Vital Statistics System (NVSS), is mortality from firearms and from motor vehicles.\* Each year, of every 100,000 black teenagers from 15 to 19 years of age, 28 are victims of homicide by firearms. For whites the rate is 1 per 100,000. In distributional terms, black teenagers are at the 37<sup>th</sup> percentile of freedom from death by firearm, while white teenagers are at the 66<sup>th</sup> percentile.

There is a reverse inequity, however, when it comes to teen deaths in motor vehicle accidents. Black adolescents are less likely to die in motor vehicle accidents than white adolescents, a circumstance probably related, in part, to higher rates of alcohol abuse by whites and also to the greater likelihood that white teenagers own or have access to automobiles. For every 100,000 black teenagers from 15 to 19 years of age, 15 die each year in motor vehicle accidents. The corresponding number for white teens is 28. In distributional terms, black teenagers are at the 55<sup>th</sup> percentile of freedom from death by motor vehicle, while white teenagers are at the 49<sup>th</sup> percentile.

We re-emphasize here an overall theme of this Report Card on Comprehensive Equity. Although outcome data can be used to hold state and national policymakers accountable for achieving the broad goals of education and youth development, the data themselves have no implications regarding which inputs policymakers should deploy to improve performance in these goal areas. In the case of motor vehicle fatalities, it may seem plausible that educators should reconsider the abandonment of driver education in high school curricula to make more time available for academic courses. But this is not the only conclusion to be drawn from these data. Perhaps driver-education courses are ineffective, and this outcome indicator suggests,

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\* NVSS is an inter-governmental data sharing system that collects data on births, deaths, marriages, divorces, and fetal deaths (NCHS 2007c).

instead, that states should increase the penalties for parents and other adults who make alcohol available to teenagers. As in other cases, the outcomes of the educational and youth development process result both from what schools do and from what other social, economic, community and familial institutions do. The Report Card implies no theory about the relative value of alternative policies that might enhance performance of any particular outcome.

The Report Card does not consider teen pregnancy as an indicator of physical health status. Rather, it addresses indicators of teen pregnancy in its discussion of emotional health, because getting pregnant (or getting a partner pregnant) as a teen suggests immaturity and irresponsibility. However, the Report Card does consider engaging in unprotected sexual activity to be an indicator of poor health, because of its potential to result not only in pregnancy but in AIDS and other sexually transmitted diseases. This report's discussion of emotional health will note below that black adolescents are more likely to engage in irresponsible sexual behaviors than whites. Although black adolescents are somewhat more likely to use condoms than whites, black adolescents are also more likely than whites to be sexually active. As a result, 15 percent of all black and 12 percent of all white high school students are sexually active without practicing regular contraception.\*

When adolescents enter young adulthood, they are more likely to be poised for physically healthy lives if they do not use (and abuse) cigarettes, alcohol, or drugs. Therefore, the Report Card uses outcome indicators showing the shares of black and white high school seniors who

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\* These estimates are approximate. The numerator is use of condom during last intercourse, but the denominator is intercourse within last three months. Because the numerator and denominator do not match, the result may be understated.

refrain from smoking cigarettes, drinking alcohol (and from binge drinking), or use marijuana, inhalants, “ecstasy,” cocaine, heroin, methamphetamines, illegal steroids, or needles.\*

Again, these data do not necessarily imply that school curricula alone should be expected to reduce such usage. Although schools could perhaps do more to educate youths about the dangers of tobacco, alcohol, or drugs, or perhaps do more to develop youths’ self confidence to reject peer pressure to use these substances, other social institutions also play a role. For example, whether children see smoking modeled as desirable behavior in movies has an influence on whether they smoke themselves.<sup>48</sup>

Good oral health is another characteristic which schools and other institutions of youth development should enhance, and the Report Card includes outcome data on children with untreated dental cavities. The ideal outcome would be data for adolescents entering young adulthood, but the available data are for all children from the ages of 6 to 17. They show that 72 percent of black children have healthy teeth (with no untreated dental cavities), compared to 81 percent of whites. Not only does pain, including that from toothaches, make it more difficult for children to learn, but poor oral health makes serious oral diseases more likely later as adults. In distributional terms, black children are at the 44<sup>th</sup> percentile of children in good oral health, while whites are at the 55<sup>th</sup> percentile.

### Outputs

Health outcome data cited thus far – adult self-reports of their health status; overweight condition; diagnoses for AIDS; asthma suffering; death from firearm and motor vehicles; teenagers’ safe sexual practices; teenagers’ use of tobacco, drugs, and alcohol; and oral health – do not fully describe whether young people enter young adulthood in adequate physical health.

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\* A limitation of these data is that the behaviors of adolescents who drop out of high school before their senior years are not included. Unlike the case of academic skills, here we have no way to adjust these data for dropouts.

Therefore, the Report Card supplements these outcome data with additional indicators, reflecting health outputs and inputs.

One output indicator is whether babies are born with adequate weight. 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 about 3 pounds), 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 5 ½ pounds), a condition still putting children at risk, 14 percent of black babies have low birthweight, vs. 7 percent of whites.

Another output indicator is whether children get all appropriate immunizations before 3 years of age, because children who do not get such immunizations are also more likely to have inadequate health care throughout childhood and adolescence, and are therefore more likely to leave school unable to lead fully healthy adult lives. The CDC's NCHS' National Immunization Survey (NIS) reports that by the age of 35 months, 81 percent of black children have received standard vaccinations for diphtheria, tetanus, pertussis, polio, measles and influenza. For whites, the vaccinated share is 84 percent.\*

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,<sup>49</sup> is more prevalent among black children. Iron deficiency anemia also predisposes lead absorption, further depressing cognitive ability.<sup>50</sup> The CDC's Pediatric Nutrition Surveillance System (PedNSS), which surveys children in federal programs for low-income children, reports that 20 percent of blacks under the age of

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\* The NIS is a nationally representative telephone survey of parents of United States children between the ages of 19 and 35 months. (NCHS 2007d).

five are anemic, vs. 11 percent of whites.\* Black preschool children are at the 34<sup>th</sup> percentile of children with adequate iron in blood, while white teenagers are at the 56th percentile.†

Lead in children's blood also predicts adverse cognitive and social outcomes.<sup>51</sup> Three (3) percent of black children but only 1 percent of whites, ages one to five, have blood lead levels that are dangerously high. Because damage from lead poisoning is most likely permanent, this output indicator for very young children limits the outcomes of young adults.

The nation has 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.<sup>52</sup> 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 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. Differences in dangerous blood lead levels are still present for school children. Although the levels themselves are small, the percent of black children from the ages of 6 to 19 with dangerous blood lead levels (.03 percent) is 150 percent that of whites (.02 percent).

### Inputs

Next the Report Card considers several inputs, the resources and practices that are likely to lead to healthy lifelong outcomes.

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\* PedNSS is a program based surveillance system that monitors the nutritional status of infants and children served by federally-funded maternal and child health and nutrition programs (PPNSS 2005).

† Although the Report Card's data are only for anemia among black and white children who are enrolled in federal programs for low-income children, it nonetheless presents the opportunity for a rough estimate of black-white differences among all children. The Report Card develops 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.)



One is health insurance coverage. For children under 18, 8 percent of blacks lack health insurance, including Medicaid or CHIP (the Children's Health Insurance Program, federally subsidized children's insurance); of whites, 6 percent lack coverage.

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. There are no reliable 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.<sup>53</sup>

If schools are expected to contribute to the production of young adults with good health, therefore, schools probably require the resources to establish full service health clinics, including pediatricians, dentists, and optometrists providing both routine and preventive care.

There are good data on whether children get regular dental care. In addition to health insurance as an input to the goal of health, therefore, the Report Card considers whether children get regular dental care - although the data are inadequate to indicate anything about the quality of care received.

Black children are less likely to get primary and preventive dental care than whites. Although 73 percent of black children (2-17 year-olds) have seen a dentist at least once in the previous year, compared to 81 percent of whites, this relatively small disparity may not reflect larger disparities in the average number of dental visits, or in the type of medical facility visited.

Schools and other institutions of youth development cannot achieve adequate goals if they are indifferent to the delivery of prenatal care. Therefore, the Report Card utilizes as input indicators whether mothers receive prenatal care prior to the second trimester of pregnancy, and whether they receive prenatal care prior to the third trimester. Twenty-four (24) 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.

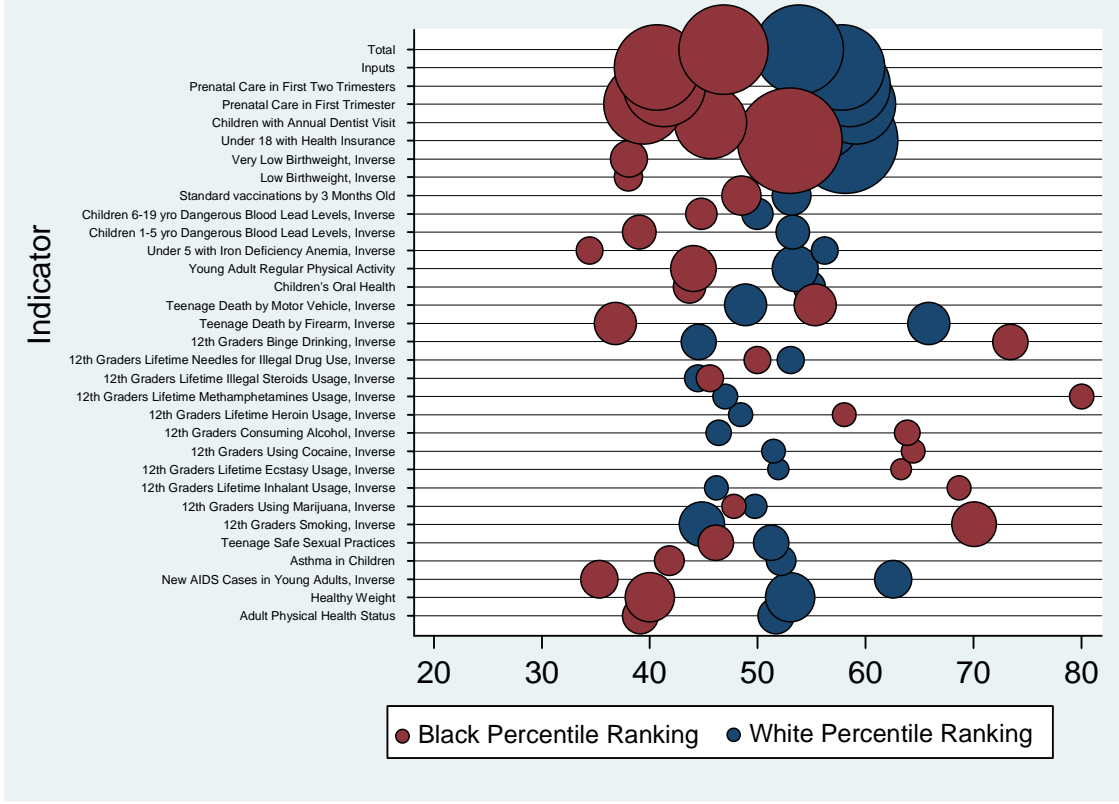
### *Percentile Ranking*

A panel of public health experts weighted each of these indicators, and their average ratings are displayed in Appendix B5. After applying these weights, **Figure 5** shows that black-white gap in the potential for physical health is 7 percentile points. In a national distribution of performance in physical health by the time children enter young adulthood, black youths are at the 47<sup>th</sup> percentile, and white youths are at the 54<sup>th</sup>.

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\* In one respect, the Report Card's calculation of the gap in physical health differs from calculations of gaps in other goal areas. Although medical and public health experts provided weights to determine the relative importance of each outcome and output indicator, considered as a group, and of each input indicator, considered as a separate group, the Report Card did not rely on expert panelists to assign a weight of 10 percent to the input group as a whole, and 90 percent to the combined group of outcome and output indicators. This was an arbitrary decision on the authors' part. However, we tested the sensitivity of our results to this decision, and concluded that the choice of weight for the input group made little difference to the results. With inputs, as a share of the entire physical health category, having a weight of 5 percent or less, the black-white gap in physical health appears to be 6 percentile points. With inputs having a weight of from 6 percent to 19 percent, the black-white gap in physical health appears to be 7 percentile points. With inputs having a weight of from 20 percent to 33 percent, the black-white gap in physical health appears to be 8 percentile points. With inputs having a weight of 34 percent or more, the black-white gap in physical health appears to be 9 percentile points. See a related discussion of a weighting assumption in Appendix D of this report.

### Figure 5. Goal 5: Physical Health Average Percentile Rankings



## Emotional Health

### *Goal Description*

Surveys of the adult population can provide data regarding whether youths enter young adulthood in good emotional health. Unfortunately, existing surveys sample too small a population to enable us to develop data on young adults specifically. However, the NHIS of the CDC's NCHS includes a series of questions about emotional health.

### *Available Data*

### Outcomes

For those in the 18 to 24 year-old age group, the NHIS determines whether, most of the time in the month prior to being surveyed, respondents suffered from serious psychological distress – they felt sad, worthless, hopeless, nervous, restless, or that “everything was an effort.” The survey finds that 98 percent of black young adults were in good emotional health and did not suffer from serious psychological distress, compared to 97 percent of whites. In distributional terms, young black adults are at the 51<sup>st</sup> percentile of good emotional health on these measures, while young white adults are at the 49<sup>th</sup> percentile.

Reliable data by race from the GSS requires aggregating data for adults from the ages of 18 to 44. The Report Card utilizes this age-range for outcome data, but we recommend that these questions be included in a young adult survey which would provide more accurate data for the targeted age range. According to the GSS, 84 percent of blacks and 90 percent of whites, ages 18 to 44, feel “happy” or “very happy.”

The ultimate outcome of poor emotional health is a suicide attempt. Black and white teenagers are equally likely to be suicidal. Two (2) percent of black and white high school students require medical attention annually for a suicide attempt.\*

In reporting on whether young people enter young adulthood poised for physically healthy lives, the Report Card included an outcome indicator of adolescents who do not use (and abuse) cigarettes, alcohol, or drugs. This indicator also indicates emotional health and so the Report Card includes it as an outcome in this category as well - the shares of black and white high school seniors who refrain from smoking cigarettes, drinking alcohol (and, as a separate component of this indicator, the shares who refrain from binge drinking), or use marijuana, inhalants, “ecstasy,” cocaine, heroin, methamphetamines, illegal steroids, or needles.

Similarly, the Report Card considered, as an outcome indicator of physical health, data on whether adolescents abstained from sexual intercourse or used a condom, because this indicator predicts the likelihood of contracting AIDS or other sexually transmitted diseases. But unprotected sexual activity is also an outcome indicator of emotional immaturity, and so the Report Card uses it here as well. The Report Card also includes, as an outcome indicator of emotional health, whether 17 year-old females get pregnant or, in the case of males, impregnated

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\* 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: 9.21 per 100,000, vs. 4.77 per 100,000 (NCIPC 2004). Nonetheless, black teenagers are just as likely as white teenagers to make suicide attempts that are serious enough to require medical attention. At first glance, it seems implausible that black teenagers would make serious attempts at suicide at the same rates as white teenagers, but that, of all teenagers making such attempts, whites would be so much more likely to be successful. Howell Wechsler, Director of the Division of Adolescent and School Health (DASH) at the Centers for Disease Control and Prevention (CDC), speculates 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. In the absence of information that might provide reason to reject the data reported here, the Report Card includes them.

a partner. Nine (9) percent of black 17 year-olds, and 2 percent of white 17 year-olds, get pregnant or get a partner pregnant.

### Outputs

Because the outcome indicators for which the Report Card has data do not adequately cover the goal of emotional health, several output indicators are also included in the measurement of this goal.

One output indicator of emotional health from early in life comes from the Early Childhood Longitudinal Study which collected a set of behavioral characteristics of kindergartners, including measures of attention span, curiosity, self-control, interpersonal skills, and problem behaviors. Black kindergartners are at the 37<sup>th</sup> percentile on a composite of these behavioral characteristics, compared to whites who are at the 52<sup>nd</sup> percentile.

Another set of behavioral characteristics, an output indicator that may predict adult anti-social behavior, has been collected in the NLSY. It describes the anti-social behavior of four year-olds (reports of their dishonest, cruel, non-cooperative, violent or disobedient behavior both at home and in school) and shows black children more likely to exhibit such immaturities than whites: on a scale of pro-social behavior, black four year-olds are at the 57<sup>th</sup> percentile, and whites are at the 65<sup>th</sup>. Black 12 year-old children are also 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 53<sup>rd</sup> percentile, and whites are at the 66<sup>th</sup>.\*

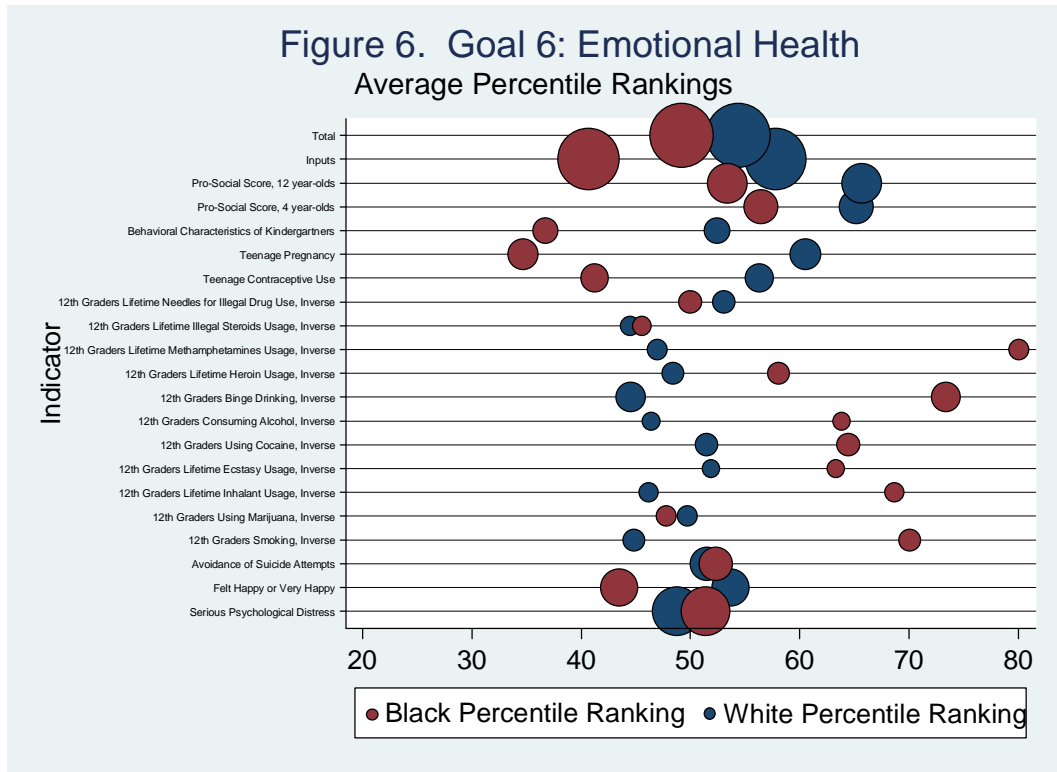
### *Percentile Ranking*

A panel of experts in adolescent development, psychology and public health weighted each of these indicators, and their average ratings are displayed in Appendix B6. After applying these weights, **Figure 6** shows that black-white gap in this potential for emotional health is 5

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\* For an explanation of why both blacks and whites are above the 50<sup>th</sup> percentile, see note on p. 60, above.

percentile points. In a national distribution of performance in emotional health by the time youths enter young adulthood, black youths are at the 49<sup>th</sup> percentile, and white youths are at the 54<sup>th</sup>.



## Arts and Literature

### *Goal Description*

An important goal of American education has always been to enable young people, after their formal educations, to make fulfilling use of their leisure time, by participation in and appreciation of the arts, and by the ability to access and appreciate good literature. The Survey of Public Participation in the Arts (SPPA) documents adults' appreciation and participation in the arts and literature.\*

### *Available Data*

### Outcomes

For young adults (ages 25 to 34) 44 percent of blacks report having read fiction, plays, or poetry in the last 12 months, compared to 51 percent of whites who do so. (Respondents' characterizations of what they had read were not second-guessed by literary standards imposed by the Census.)

The Report Card can also compare the attendance of young black and young white adults, from the ages of 25 to 34, at various arts performances and events in the year prior to a survey being taken. For a jazz performance, 13 percent of blacks and 12 percent of whites attended; for a classical music performance, it was 4 percent of blacks and 11 percent of whites; for opera, it was less than half of one percent of blacks and 4 percent of whites; for a musical, 10 percent of blacks and 19 percent of whites; for a play, 7 percent of blacks and 13 percent of whites; for a ballet performance, 2 percent of blacks and 4 percent of whites; and for attendance at an art museum or art gallery, 16 percent of blacks and 30 percent of whites.

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\* In 2002 the SPPA was a supplement to the August Current Population Survey. Over 17,000 adults participated in the SPPA (NEA 2004).



That black and white young adults may not have equivalent access to such activities, either for reasons of income or community of residence, is no reason to ignore these outcome indicators of arts appreciation – any more than the lack of teenagers' internship or summer work opportunities was reason to ignore these as output indicators of preparation for good citizenship or work skills. In this case, a gap in arts participation may suggest that to achieve comprehensive equity, states must create more arts participation opportunities for low income families or those not living in metropolitan areas.

The Report Card also includes data on young adults, ages 25 to 34, who created a work of art or participated in an artistic activity. This includes performances of jazz, classical music, opera, choir or chorale, musical play, dramatic play, ballet, or other dance form. It also includes acts of artistic creation, such as composing music, painting, writing, doing photography, pottery, or sewing. And it includes ownership of original art, and the purchase of a work of art in the last year.

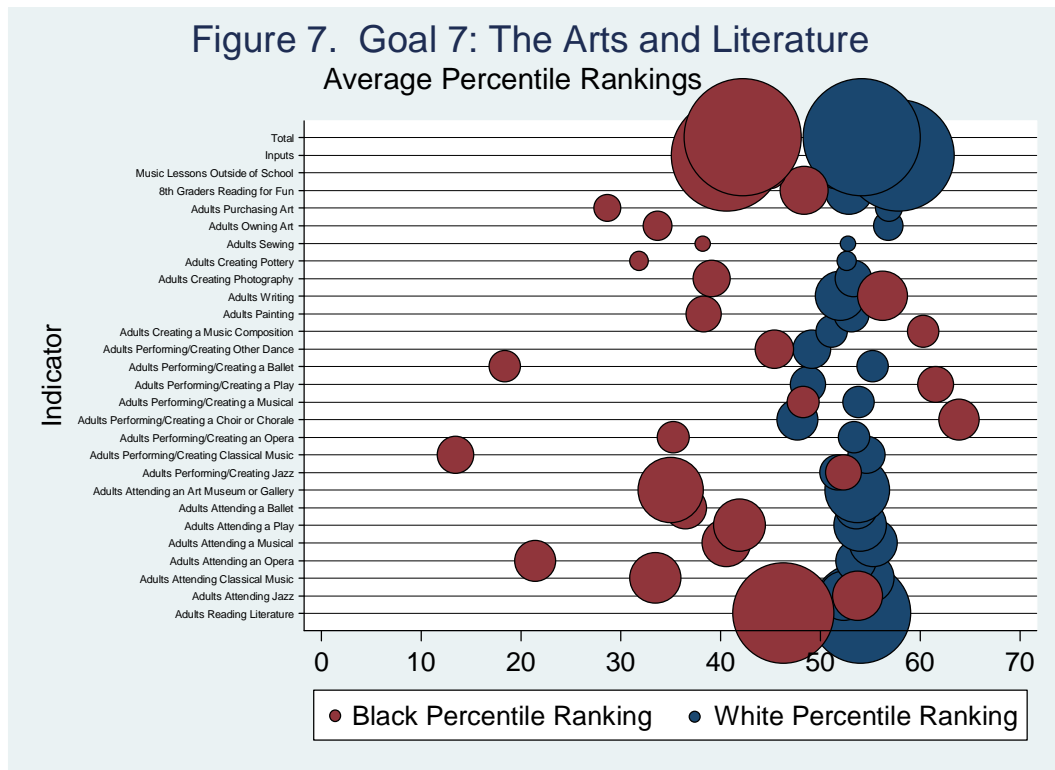
### Outputs

An ideal outcome indicator of love of literature would be whether young adults, once they leave school, read for pleasure - not only for post-secondary school assignments or for work. For example, a better indicator of love of literature than student test scores might be whether young adults participate in “Oprah’s Book Club” or reading groups. But no such data exist. There are data, however, on whether 8<sup>th</sup> graders read for pleasure. This does not guarantee that such a habit will continue on into young adulthood, but reading for pleasure in the 8<sup>th</sup> grade is a good start. So the Report Card includes these data as an output indicator for the love of literature. Seventeen (17) percent of black 8<sup>th</sup> graders read for fun, compared to 20 percent of white 8<sup>th</sup> graders.

Out of school, 14 percent of black elementary and secondary students take music lessons, compared to 18 percent of white students who do so. This is an output indicator, assuming that youths who take music lessons are more likely to have greater participation in, or appreciation of, music as adults.

*Percentile Ranking*

A panel of experts in the arts weighted each of these indicators, and their average ratings are displayed in Appendix B7. After applying these weights, **Figure 7** shows that the black-white gap in this appreciation of and ability to participate in the arts and literature is 12 percentile points. In a national distribution of appreciation of and participation in the arts and literature by the time youths enter young adulthood, blacks are at the 42<sup>nd</sup> percentile and whites are at the 54<sup>th</sup>.



## Preparation for Skilled Work

### *Goal Description*

Providing youth with the opportunity for productive and remunerative employment has long been a goal of American education. Even today, when so much discussion of education assumes that most, if not all, students should be prepared for college, the Report Card assigns a weight of 11 percent to the goal of whether those youths who will not go to college are prepared for skilled employment. Despite the commonplace belief that all, or almost all students should go to college, only 23 percent of all American youth now actually graduate from college<sup>\*</sup>, and these graduates are disproportionately white.<sup>†</sup> Therefore, an ideal of comprehensive equity must include ensuring that students who do not graduate from college are prepared for adequately remunerated skilled work.

Many policy makers today argue that elementary and secondary schools should do nothing that is specifically directed at the fulfillment of this goal. In today's economy, they say, all jobs require advanced literacy and math skills, and students who seek skilled jobs after high school need educational preparation that is no different from that needed by students bound for an academic college education.<sup>54</sup> All that students not bound for college need, according to this view, is the flexibility to change occupations frequently during the course of their work lives.

The Report Card on Comprehensive Equity rejects this claim. Indeed, the opposite may be the case. According to projections of the Bureau of Labor Statistics, fewer than one-third of the job openings in the American economy now, and in the foreseeable future, will require a

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\* Twenty-three (23) percent of 24 year-olds hold a bachelor's degree or more (D'Amico 2007). Some of these are immigrants holding bachelor's degrees who immigrated after normal school-leaving age but before age 24, and some were immigrants without bachelor's degrees who immigrated after normal school-leaving age but before age 24.

† Twenty-seven (27) percent of whites, 24 years of age, hold bachelor's degrees; 12 percent of blacks, 24 years of age, hold bachelor's degrees (D'Amico 2007).

college education. Less than another quarter of the job openings will require the kind of technical training typically provided in a two year community college program. The remainder, about half, will require a high school degree or less, and on-the-job training, usually very short term.<sup>55</sup>

But some of the education for skilled work that has now been pushed up to the community college level could be accomplished to a greater extent by high schools, after school programs, summer employment opportunities, and other institutions of youth development. Workers could also gain some skills in high schools for occupations that do not presently require the formal certification of a two-year technical degree.

Use of such indicators does not deny that all students should have a solid high quality academic education in elementary and secondary schools, and that they should be expected to accomplish each of the other seven goals the Report Card describes. But students not going to academic colleges could also be better prepared for skilled work.

#### *Measurement of the Goal Area*

Measuring equity in this goal area must take account of the reality that a larger proportion of white than black students now successfully complete an academic college education and this inequity will likely persist for some time. Thus, black students are in greater need of high quality preparation for skilled work than whites; comparative measures of blacks and whites who receive such high quality preparation for skilled work must be adjusted for the fact that black students are in greater need of it.

School systems have never been particularly good at identifying the skills needed by the labor market. Too often, they have prepared students for jobs that existed when their teachers were young, not in the next ten years. But the solution cannot be for schools to avoid trying to identify skills of the near future. Surely, the solution has to be both to do a better job of

identifying skills in demand in the near future, and to give students flexibility so that, if predictions are wrong or short-lived, as young adults they have a head start in gaining new skills that are later required.

Another difficulty with measuring this goal is that when most people refer to "skilled" jobs not requiring a college education, what they really mean is *well-paying* jobs not requiring a college education. But skilled and well-paying are not necessarily the same thing. In the future, jobs that pay well are more likely to be those not subject to international competition than those actually requiring high degrees of skill. Truck drivers, for example, are paid more than sewing machine operators, although the latter may require a higher degree of skill. Schools would be foolish to provide youths with skills to succeed in garment manufacturing when such work is now typically contracted offshore for reasons of price, not skill shortages. As Alan Blinder noted in a recent article in *Foreign Affairs*, the distinction between jobs under pressure from international competition and those that are more secure is not one of skills or education:

It is unlikely that the services of either taxi drivers or airline pilots will ever be delivered electronically over long distances. . . . Janitors and crane operators are probably immune to foreign competition; accountants and computer programmers are not.<sup>56</sup>

As emphasized above, this Report Card does not presume to prescribe how schools or other institutions of youth development should accomplish comprehensive equity. Rather, it measures whether schools and other institutions of youth development are, in fact, accomplishing the eight goals in the expectation that this information will inspire or pressure policy makers to implement programs to redress shortcomings in goal performance. The public should hold schools and other institutions of youth development accountable for ends (outcomes), not means (inputs). If such accountability is careful, schools and these other institutions will have all the incentives they need to adopt effective policies.

## *Available Data*

### Outcomes

In the case of preparation for skilled employment, the Report Card can measure equity by identifying those occupations that require a high level of skill, which do not require a college education, and whose compensation is adequate to support a median income family life in America today. Both skill rating, as determined by the U.S. Department of Labor's Bureau of Labor Statistics (BLS), and average weekly wages as reported in the Current Population Survey, were criteria used to identify a set of skilled occupations with compensation adequate to support lives at the median family income or above. Median family income in 2003 was \$52,680, yet this includes families with 2 working parents and income derived from pensions, interest, rent, and government cash assistance, as well as wage, salary and self-employment income.<sup>57</sup> A better benchmark for our purposes is average family earnings, which, in 2003, was \$42,841.<sup>58</sup> Because average family earnings includes both families with one working adult and families with two working adults, we allow the average annual earnings of the chosen occupations to range from a low of \$31,460 to a high of \$52,364. For the criterion, skill rating, occupations in which most of the jobs had a skill rating no higher than 5 (out of nine levels), and in which the majority of the jobs were rated at a skill level of 4 were chosen.\* Between 80 percent and 100 percent of the jobs

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\* A skill rating of 5 indicates: "Knowledge (such as would be acquired through a pertinent baccalaureate educational program or its equivalent in experience, training, or independent study) of basic principles, concepts, and methodology of a professional or administrative occupation, and skill in applying this knowledge in carrying out elementary assignments, operations, or procedures; or In addition to the practical knowledge of standard procedures in Level 4, practical knowledge of technical methods to perform assignments such as carrying out limited projects that involve use of specialized, complicated techniques; or Advanced knowledge of a blue-collar skill to solve unusually complex problems; or Equivalent knowledge and skill."

A skill rating of 4 means: "Knowledge of an extensive body of rules, procedures, operations, products or services requiring extended training and experience to perform a wide variety of interrelated or nonstandard procedural assignments and resolve a wide range of problems; or Practical knowledge of standard procedures in a technical field, requiring extended training or experience, to perform such work as: adapting equipment when this requires considering the functioning characteristics of equipment; interpreting results of tests based on previous experience and observations (rather than directly reading

in the chosen occupations had a skill rating of 5 or less and between 60 percent and 97 percent of the jobs had a skill rating of 4 or less.

The Report Card uses eight occupations to represent those that meet these criteria: firefighting occupations, electricians, industrial machinery repairers, clinical laboratory technologists and technicians, aircraft engine mechanics, electrical and electronic technicians, licensed practical nurses, and machinists. Although not a comprehensive list, these are the kinds of occupations for which schools and other institutions of youth development should prepare young people who do not attend college.

To measure equity, the Report Card identifies the share of the young adult (ages 25 to 29) black and white populations who have not completed a four-year academic college degree program. Equity would require an equal share of such non-collegiate black and white young adults prepared for employment in these skilled occupations. Two (2) percent of black young adults who have not completed a four year college are employed in these skilled and adequately compensated occupations, compared to 3 percent of whites.

### *Percentile Ranking*

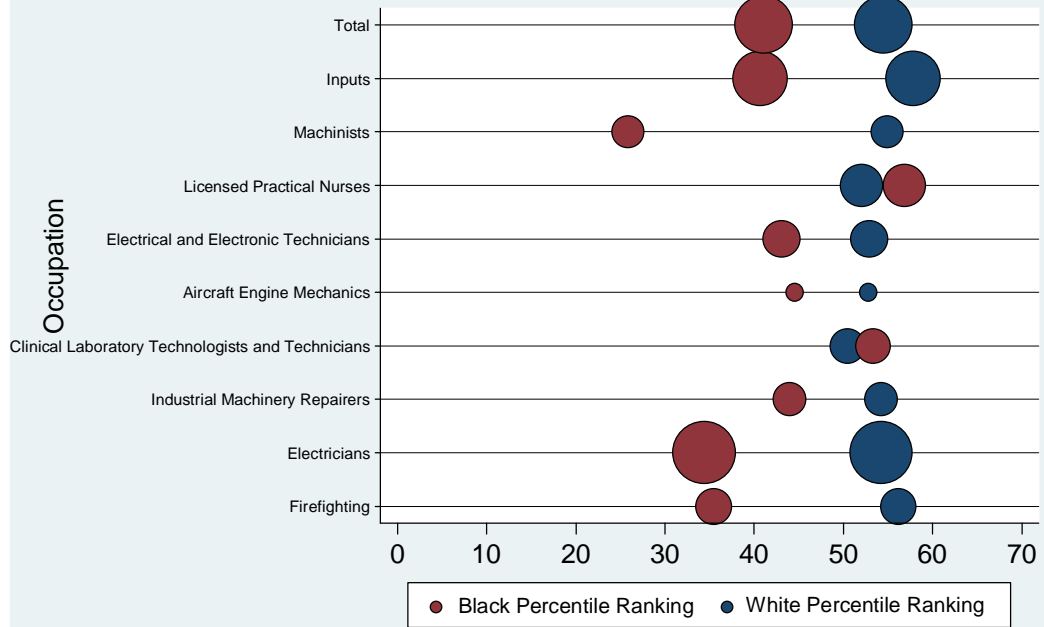
Weighting each occupation by its share of the workforce, **Figure 8** estimates the black-white gap in the extent to which schools and other institutions of youth development prepare youths for successful careers if they are not likely to graduate from college.\* This gap is 13 percentile points. In a national distribution of such preparation, blacks are at the 41<sup>st</sup> percentile, and whites are at the 54<sup>th</sup>.

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instruments or other measures); or extracting information from various sources when this requires considering the applicability of information and the characteristics and quality of the sources; or Comprehensive knowledge of a blue-collar skill, usually acquired through a formal apprenticeship; or Equivalent knowledge and skill” (U.S. Department of Labor 2003, Appendix C).

\* These indicators only describe the gap in the share of young black and white adults who actually hold such jobs, not the gap in the shares of young black and white young adults who are "prepared" for them. If these gaps differ, it suggests that "institutions of youth development" also must be thought of as including employment services and anti-discrimination agencies, among others.

Figure 8. Goal 8: Preparation for Skilled Work  
Average Percentile Rankings





## Overall Inputs

### *Inadequacy of Current Data*

As noted earlier, a Report Card on Comprehensive Equity should ideally include adequate outcome measures for each of the eight broad goals. To have a policy influence, the Report Card should indicate which outcomes the nation fails to achieve, and for which there is greater inequity. Policy makers would then have incentives to shift resources to attempts to enhance the performance of those outcomes where the weighted gaps are largest and where we are most falling short.

However, as the preceding discussion has shown, adequate outcome data on the eight goals are not presently available. One possible exception is the goal of basic academic skills, where 12<sup>th</sup> grade NAEP data, adjusted for dropouts, provides a good indicator of basic skills in most subject areas. However, some subject areas have not been assessed regularly, and at least one (foreign language ability) has never been assessed. So even here, the Report Card cannot conclude with confidence how much schools and other institutions of youth development are falling short in the production of basic academic skills.

Because of this data inadequacy, the Report Card also provides some data on outputs – intermediate measures of performance, usually for children of younger ages, that can reasonably be expected to predict ultimate performance when children enter the adult world. And the Report Card further attempts to supplement inadequate outcome and output data with information on inputs – those resources and practices which professionals reasonably believe are likely to lead to more adequate and equitable outcomes in a particular goal area.

In general, these resources and practices are likely to contribute to overall development of children in several, and in some cases, all of the eight goal areas. We consider these resources

and practices to be investments in children’s overall success, and we include a composite of such overall input indicators. The Report Card then assigns this composite a weight of 20 percent in the evaluation of each of the eight goal areas.\* The Report Card on Comprehensive Equity limits the weight of inputs to only 20 percent to prevent the importance of these inputs from minimizing attention that should be paid to outcome data, inadequate (and usually less well-known) though they are. But we also hope to emphasize that, in the absence of adequate outcome data, inputs should not be ignored. For some goals (academic skills, for example), available national outcome data seem more reliable. For others (social skills and work ethic, for example), outcome data are clearly inadequate. So the Report Card estimates the weight of overall inputs as 20 percent, with the hope and expectation that, as data on outcomes become more available, the weight of these overall inputs can be further reduced.

In any event, because racial differences in American society are so systematic, similar in magnitude across vastly different indicators, the precise weights assigned to inputs actually makes little difference in our overall results. As detailed in **Table 3** on p. 109, with inputs given a weight of 20 percent, this Report Card estimates that the overall black-white gap is 18 percentile points. The gap remains at 18 percentile points with the collection of inputs weighted anywhere from 9 to 100 percent. With inputs weighted less than 9 percent, the gap estimate is 19 percentile points.

#### *Available Data*

#### Parenting

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\* This is an arbitrary figure – with the possible exception of basic skills, just mentioned, the Report Card cannot say with any assurance that the data assembled on outcomes and outputs for any of the eight goal areas are more or less complete than the data assembled on others. Nor can it say that the data assembled on outcomes and outputs for each of the eight goal areas represent precisely 80 percent of what is known to be able to monitor progress in that area.

One set of overall inputs, likely to contribute to performance in each of the goal areas, is parent involvement in children's school experiences. Such parent involvement is likely to influence children's achievement not only in academic performance, but also in social, emotional, and physical health. The Report Card uses these data for this overall input indicator: whether a parent attended a general school meeting, a regularly scheduled parent-teacher conference, or a school or class event, and whether a parent acted as a volunteer or served on a school committee, or participated in a school fundraising activity. For parents of black children, an average of 95 percent engaged in at least one of these activities, 88 percent engaged in at least two, and 72 percent engaged in at least three. For parents of white children, an average of 97 percent engaged in at least one of these activities, 91 percent engaged in at least two, and 78 percent engaged in at least three.

Another parental resource likely to contribute to children's successful development is whether families have books in their homes, perhaps helping to create an atmosphere where reading and all intellectual pursuits have status. Half of all black kindergartners have more than 25 children's books in their homes; 81 percent of white kindergartners have this many books.

Parents who engage in positive activities with their young children (elementary school age, from kindergarten to 5<sup>th</sup> grade) probably provide resources to these children upon which the children can draw for success in several of the eight outcome goals. For example, parents who talk to their children about their family and ethnic heritage intend to develop in these children a sense of pride, of obligation to their communities to succeed, and secure identities that can be the foundation for performance in many areas. The Report Card considers this an input for each of the eight goals.

Similarly, the Report Card includes data on whether parents told stories to their elementary school-aged children, did arts and crafts project with them, played sports or other active games with their children, involved them in household chores, worked with children on projects of some kind, or played games or did puzzles with them. For some indicators, the black-white gap in positive parenting activities reverses the usual pattern. For instance, more white than black parents report engaging in the following activities with their children: telling stories, doing arts and crafts, playing sports or other active games, working on projects, and playing games or doing puzzles. But more black than white parents report talking with their children about family or ethnic heritage and involving their children in household chores.

Another childhood characteristic likely to be reflected in the performance of several goals is television-watching habits. Children who watch too much television are unlikely to be reading as much as those who watch less. Children who watch more television are likely to get less exercise, and be exposed to more advertisements for unhealthy foods. They are also likely to be exposed to more violence and inappropriate sexual situations. Watching too much television may also be a signal that children do not have available the kind of high-quality child care that is a good indicator of the opportunity for successful performance in several goal areas. The Report Card includes data for fourth graders, collected as part of NAEP: 35 percent of black children watch six hours or more of television a day, compared to 17 percent of white children.

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. If so, then excessive television watching by adolescents could signal the absence of many other resources that contribute to young adult success. Alternatively, limited access to safe outdoor environments, confining adolescents indoors could be related to excessive

television watching. On an average school day, 64 percent of black high school students watch three or more hours of television; only 29 percent of white high school students watch this much.

Whether parents read frequently to their young children is another indicator that likely predicts performance, not only in literacy, but in all areas of adult success. Young children who are read to not only become familiar with books and words, but also learn about the broader experiences described in books and to which they can later relate their school instruction. In the preschool years, 79 percent of black children, ages 3-5, get read to regularly by a family member, while 92 percent of white children are read to regularly; in other words, 21 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 32 percent of black children in kindergarten through third grade benefit from *daily* reading by a parent or other family member; 37 percent of white children do so.

This disparity in reading to young children may result from the fact that black children can get less adult attention than white children, other things being equal, simply because there are more children per adult, on average, in black households. This, in turn, is partly because there is a higher rate of single motherhood in black families,<sup>\*</sup> and partly because black women have a higher fertility rate than white women.<sup>†</sup> 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.<sup>59</sup> This might also be true of other outcomes. In black households, a child benefits, on average, from the attention of 1.2 adults; in white households, a child benefits, on average, from the attention of 1.4 adults.

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<sup>\*</sup> In 2006 the rate of single motherhood among black families was 56 percent. White single mothers headed 19 percent of white family households in 2006 (U.S. Census Bureau, CPS 2006b).

<sup>†</sup> In 2004 the annual fertility rate (live births per 1,000 women) for blacks was 67.6 for women aged 15 to 44 years. For whites the comparable rate was 66.1 (Martin et al. 2006, Table 1)

The extent to which families make use of public libraries is another input indicator of overall healthy child development, disclosing whether children are more likely to learn to read and more likely to learn the content of good literature. Especially for young children who must be taken to a library by a parent or other adult, library use is also a likely indicator of healthy adult attention that contributes to many successful outcomes. Visiting public libraries is a similar occurrence for both black and white children between the ages of 3 and 5; 44 percent of black children visit public libraries regularly with a parent or other family member, as do 45 percent of white children.

The overall indicators of parenting described thus far reflect data on parenting practices for young children. Another set of available overall input data concerns parenting activities for children of all elementary and secondary school ages. One indicator is whether elementary and secondary school-aged children were taken by parents to events sponsored by ethnic or community organizations. A similar indicator is whether parents take children to plays or live music concerts.

If these data were available by narrower age ranges than kindergarten to 12<sup>th</sup> grade, they might be considered indicators specifically of good citizenship (in the case of events sponsored by ethnic or community organizations) or artistic appreciation (in the case of live performances), rather than an overall predictor of all eight outcome goals. However, while teenagers who attend ethnic or community organization events might be more likely to continue such civic-minded behavior as adults, and while teenagers who attend plays with parents might develop a lifelong interest in theater, it is less plausible that such activities would have such specific adult outcome results for very young children. Therefore, the Report Card considers whether parents take

children to such events to be indicators of broader healthy parenting that can produce beneficial adult outcomes in all areas, not citizenship or appreciation of the arts alone.

For similar reasons, the Report Card also includes as overall input indicators whether parents take elementary and secondary school-aged children to other positive activities. These include events sponsored by religious organizations; art galleries, museums, or historical sites; zoos or aquaria; public libraries; or sports performances. (More black than white parents report taking elementary and secondary school-aged children to each of the events just described).

There are no adequate national data available on the quality of pre-school or after-school child care settings in which children are placed. But the National Institute of Child Health and Human Development has conducted a survey in which researchers characterized the quality of non-maternal child care settings for pre-schoolers 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. Although the sample sizes are 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.\* In the absence of better data, the Report Card includes these indicators of the percentage of infants and toddlers in high quality child care as an input contributing to the overall success of youth development.

### Positive Peer Effects

As part of the overall input category, the Report Card also includes whether children attend schools that are integrated by race and family economic status, because such experience likely contributes to success in several goal areas: good citizenship, including a sense of public

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\* These are estimates of child care quality for infants and children at the ages of 6, 15, 25, 36, and 54 months. The Report Card includes a simple average of these quality assessments.

ethics; social and work skills, such as the ability to get along with others of different backgrounds; and academic achievement, because the positive influence of higher achieving peers tends to have a net positive effect on student performance. Nonetheless, these relationships are not fully proven.\*

Data on the percent of black and white children living in integrated communities are not available, but the Report Card includes the share of black and white students who attend schools with a concentration of minority students. For all the reasons that social and economic disadvantage contributes to children's failure, living and studying amidst concentrated social and economic disadvantage accelerates that contribution.<sup>60</sup> Black children are more likely to attend school amidst concentrated social and economic disadvantage than whites. Seventy-three (73) percent of black children attend schools where more than half of their fellow students are members of minority groups, compared to 12 percent of white children who do so. Fifty-two (52) 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.

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 get subsidized lunches. Sixty-one (61) percent of black children attend schools where more than 50 percent of classmates are from low-income families, eligible for subsidized lunches. Only 18 percent of white children attend such schools. Twelve (12) percent of black children attend

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\* The 1966 Coleman Report found that peer composition had the strongest relationship to student achievement of any within-school variable (Coleman et al. 1966). The recent Moving to Opportunity experiment found no significant academic benefit to children from very poor families who moved to low-poverty neighborhoods (Sanbonmatsu et al. 2006). Certainly, these results need to be further examined and explained but in the meantime, it seems prudent to retain racial and economic integration as an overall input for successful young adult outcomes.

Evidence is also mixed about whether attending school with higher achieving peers spurs achievement. Lower-achieving students in such situations could become either discouraged or inspired (Mayer and Jencks 1989).



schools where more than 90 percent of their classmates are from low-income families, compared to only 1 percent of white children. In such schools (likely located in severely distressed neighborhoods), peer and community influences towards success are less available.

### After-School Activities

The opportunity to participate in school-sponsored extra-curricular activities is likely to contribute to young people's success. Were data exquisitely fine, the Report Card might be able to assign data on participation in specific activities to specific ones of the eight broad goals, but the data usually do not permit this. In one case, after-school sports participation, however, there are available specific data which the Report Card uses (and described above) as an output indicator of high school students developing personal responsibility and the ability to get along with others that contribute to good social skills and work ethic. With regard to all extra-curricular activities combined, black students are less likely than whites to participate. Fifty-three (53) percent of black secondary school students take part in such activities, compared to 62 percent of whites. The Report Card uses these data as an overall input indicator, because such activities usually aim to develop intellectual, organizational and physical abilities that contribute to all goals – academic proficiencies (basic and critical thinking), social skills, good citizenship, physical and emotional health, artistic appreciation, and preparation for skilled employment.

Inequalities are pervasive in the summer, when white children are more likely to gain additional organizational, athletic, leadership, and academic learning experiences than black children.<sup>61</sup> Twenty-five (25) percent of black schoolchildren participate in organized summer activities of all kinds, compared to 45 percent of white children.

### School Finance

There is controversy among policy makers about the extent to which student outcomes would improve if schools had higher levels of finance. However, even those who dispute that higher funding necessarily leads to improved outcomes would mostly agree that adequate finance is a necessary, if not sufficient input for success in all of the eight goal areas. Therefore, the Report Card uses the level of school funding as an input that can lead to successful outcomes.

For purposes of estimating equity, however, it is not possible to determine how many dollars are available for the education of students from different demographic groups, because funding data are reliable at a level no lower than school districts, and many school districts have student populations drawn from both races. As a rough approximation, therefore, of equity in funding, the Report Card considers that each student in a given state has an equal level of funding devoted to his or her education. (In actuality, spending is highest in wealthy suburban communities, next highest in urban communities, next in middle-income suburbs, and lowest in rural communities.<sup>62</sup>) The Report Card estimates the average number of dollars devoted to black and white students nationwide, first by adjusting each state's per pupil spending average by a factor to equalize the purchasing power of the educational dollar from state to state, and then by averaging per pupil spending in the states, weighted by each state's number of black and white students. With this method, the Report Card concludes that average per pupil spending is \$7,247 for black students and \$7,395 for white students, nationwide.

Most elementary and secondary spending is devoted to teacher compensation. Higher total teacher compensation can purchase smaller class sizes or higher individual teacher salaries. There is little dispute that if teachers, especially at the lower grades, adapt their instructional approaches to take advantage of smaller classes, better achievement can result. As Eric Hanushek, perhaps the leading critic of indiscriminate funding increases puts it, "surely class size

reductions are beneficial in specific circumstances – for specific groups of students, subject matters, and teachers."<sup>63</sup>

There are few data available on average class sizes experienced by students in the various states, as opposed to plentiful data on teacher-pupil ratios, which include teachers assigned to non-classroom duties. Although many non-classroom duties also can contribute to better achievement, there is probably more variability in how non-classroom teachers contribute than to how classroom teachers do. Therefore, the Report Card includes, as another component of its overall input indicator, the average class sizes experienced by elementary and secondary students, by race. As with per pupil spending, this cannot be calculated precisely, because data on class size are not available at a level lower than statewide. Using a methodology similar to that used for per-pupil spending, the Report Card estimates that in elementary schools, black and white students experience the same average class size of 20 students. In high schools, black and white students also experience similar average class sizes of 25 students.

Another input that likely makes a contribution to equity in many goal areas is the quality of teachers. Presumably, more qualified teachers can deliver better instruction in all areas. Yet although there is widespread agreement among policy makers that teacher quality is an important input, there are no widely accepted and validated measures of teacher quality.<sup>64</sup> No Child Left Behind requires each state to employ only “highly qualified” teachers, but each state is permitted to establish its own qualification standards, so it is impossible to know whether a state that reports a higher percentage of highly qualified teachers actually has such teachers or instead has a lower standard of qualification.

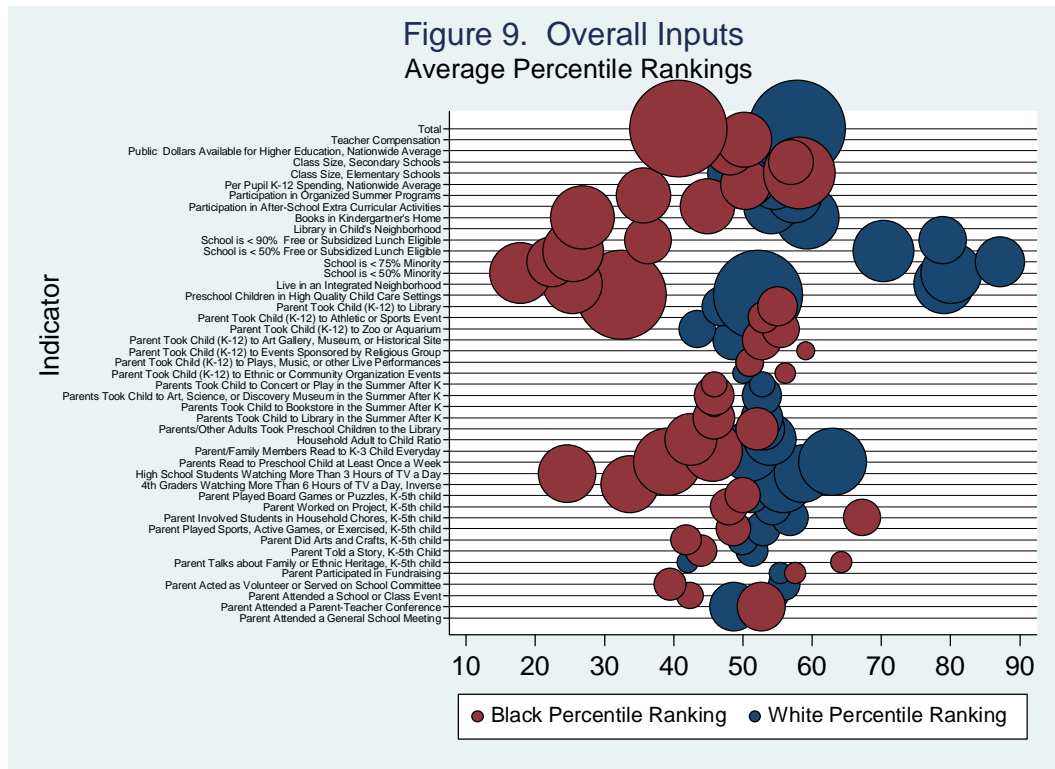
Relying on simple market theory, we assume that teachers with higher compensation, relative to that of comparable professionals, are more highly qualified. Schools will be able to

attract more qualified college graduates to the extent that teacher compensation is, in their geographic region, higher than that of comparable college-educated workers who require no more than a master's degree, such as accountants, managers and administrators, engineers, etc. Again adjusting the ratio of teacher to comparably-educated-professionals compensation by state racial composition, the Report Card estimates that, nationwide, teachers of black students are compensated at a rate that is 77 percent of the compensation of comparably educated professionals, while teachers of white students are compensated at a rate of 78 percent of the compensation of comparably educated professionals.

Although at this stage, this national report card is mostly concerned with outcomes, or proxies for outcomes, of 17 year-olds, it does include finance of higher education as part of this overall input estimate. It does so because, while affordability is not the only factor contributing to inequity in the share of students from different sub-groups who attend college, it is one factor. Students who know that they will be able to afford to attend college are more likely to apply themselves in high school when they have the opportunity to make themselves college-ready. To be a valid indicator of such incentives, the Report Card cannot consider only those per-student funds spent by states on students who actually attend college, because such a number could be inflated simply by having fewer college enrollees. Therefore, the Report Card includes, as part of its overall input indicator, the dollars spent by states on higher education, divided by the number of 18 to 22 year-olds in that state. We make similar adjustments for regional cost differences and for the size of each state's 18 to 22 year-old black and white populations, as we made for elementary and secondary school spending. The Report Card concludes that average per pupil public (state and local) dollars available for the higher education of black youths is \$2,679 and for white youths, \$2,694.

## Percentile Ranking

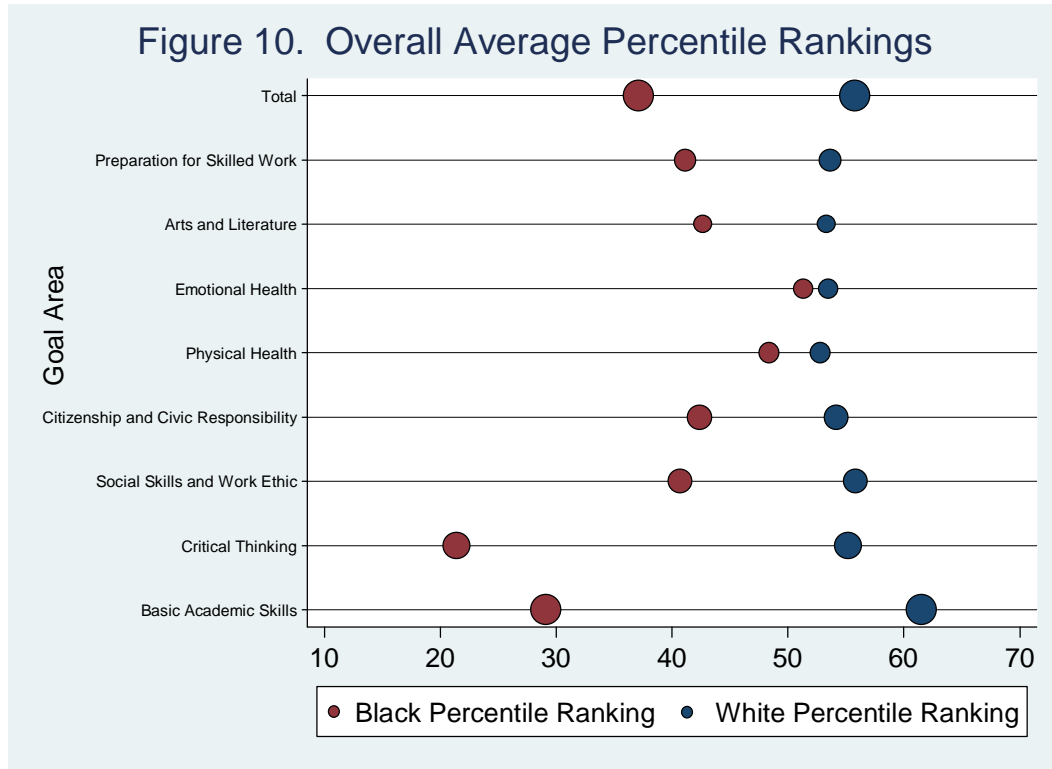
After appropriate weights have been applied to these indicators by experts in school finance and child development, **Figure 9** shows that black-white gap in these overall inputs is 18 percentile points. In a national distribution, black youth are at the 41<sup>st</sup> percentile of being able to benefit from such inputs, and white youth are at the 58<sup>th</sup>.



## Conclusion

With the data presented in this Report Card on Comprehensive Equity, a judgment can be made about the equity with which schools and other institutions are providing a meaningful opportunity to achieve the broad goals of public education and youth development. By applying the overall goal weights to the estimates of equity made for each of the goals of public education and youth development, the Report Card concludes that, overall, the black-white gap is about 18 percentile points, with blacks at the 38<sup>th</sup> percentile of a national distribution, and whites at the 56<sup>th</sup> percentile. **Table 3** and **Figure 10** display these results.

	Blacks	Whites	Gap
Basic Academic Skills	31	61	29
Critical Thinking and Problem Solving	25	56	31
Social Skills and Work Ethic	41	56	16
Citizenship and Community Responsibility	42	55	13
Physical Health	47	54	7
Emotional Health	49	54	5
Appreciation of the Arts and Literature	42	54	12
Preparation for Skilled Work	41	54	13
Overall Black-White Performance Gap	38	56	18



This Report Card on Comprehensive Equity has defined eight broad outcome goals for American education and youth development that represent a firm consensus of America's founders, philosophers, politicians, business and trade union leaders, as well as of contemporary school board members, state legislators and citizens. There may be many reasons why policy makers dismiss the importance of holding schools and other institutions of youth development accountable for a balanced set of outcomes, but one of these reasons is the argument that it is not possible to collect data on anything but test scores in basic skills.

We hope to have demonstrated that, in fact, not only is it possible to collect such data, but much information is already available on the extent to which the nation is achieving equity in each of the eight broadly defined goal areas. The available data are incomplete, often because of sample sizes that are too small to generate the tools needed to determine if young people of both

races are leaving schools and other institutions of youth development equally prepared to succeed in each of the eight outcome areas.

But the lack of such data results not from any technical difficulty but only from lack of will. This Report Card on Comprehensive Equity, we hope, represents a step towards determining how well our nation approaches the task of providing a meaningful opportunity to achieve comprehensive equity across all goals of education and youth development.



## Appendix A – Methodological Notes

### A1: Polling Methodology for Relative Importance of Goals

#### *Online Polling*

To administer a poll to representative samples of the four groups (adults over the age of 18, school board members, state legislators, and school superintendents), we commissioned Knowledge Networks (KN), an online polling firm that maintains a nationally representative panel of the American public, accessible via the internet. KN develops its panel using a conventional random-digit dial (RDD) telephone survey of all U.S. households. Because of the reliance on RDD to develop the panel, cell-phone-only households and those without a landline were excluded from the sampling frame. The resulting sampling error is generally the same as those conducted through a more conventional telephone poll.<sup>65</sup>

Knowledge Networks makes an initial contact, and verified telephone numbers are dialed a minimum of 10 times over a 90 day period. Extensive refusal conversion is also completed to ensure that the sample is representative of the country.<sup>66</sup> In this initial contact, interviewers invite households to participate in the online panel. Approximately 56 percent of contacted households agree to become members of the panel. If the respondent advises the interviewer during the initial recruitment telephone call that the household has a computer and internet access, the interviewer invites the respondent to participate in a panel to take surveys on the household's own equipment. For households that do not have internet access, KN installs WebTV hardware to provide internet access free of charge. Provision of WebTV not only ensures that all contacted households are able to participate, but also is an incentive for respondents.

To maintain panel participation, Knowledge Networks also uses an incentive system that awards points for survey participation, with the points redeemable for prizes. For our goals of education survey, however, additional points were not awarded.

The KN panel is representative of the adult U.S. population, with a slight overrepresentation of those in the middle income categories and slight underrepresentation of those in the upper income categories. Those over 64 are also somewhat underrepresented. The final sample from the panel was weighted using CPS weights to correct for this underrepresentation.

For our goals of education poll, the KN online panel was used to draw a simple random sample of the general public.

In addition to surveying the general public, we also surveyed samples of state legislators, school board members and school superintendents. To draw simple random samples, we used membership databases from the National Conference of State Legislators (NCSL), the National School Boards Association (NSBA), and the American Association of School Administrators (AASA). We are grateful to these organizations for making their memberships lists available to us. These database lists became the universe from which to sample.

Final sample sizes were as follows for the questions used in this analysis:

- KN Panel of the General Public – n=1,297
- State Legislators – n=191
- School Board Members – n=377
- Superintendents – n=830

### *Instrument Construction*

Respondents were presented with eight goals of public education, derived from the authors' analysis of historical documents about the goals of public education. The goals were presented to respondents in random order.

We tested each goal description in cognitive interviews. Seven members of the Knowledge Networks adult panel and three members of the National School Boards Association population agreed to participate in a one hour interview. These respondents completed a draft version of the online poll and then provided feedback regarding the clarity of the instrument as well as their understandings of the goal descriptions. This was followed with the fielding of 300 pretests. In addition to the full survey instrument, additional open-ended questions were added to the survey to elicit responses regarding the clarity of the instrument. Eighty pretests from the general public were completed and only three offered a critique of the goal wording. Fifty-five pretests were completed by state legislators and school board members, and three of these respondents also offered critical feedback regarding the goal descriptions. This feedback influenced revisions of the final instrument.

*Method – Constant Sum Allocation Exercise*

The Report Card draws upon data obtained through a constant sum allocation exercise where respondents were asked to allocate 100 points across the eight goals. Exact question wording was as follows: “We would now like you to think about how important you feel the following goals are. In this question we would like you to allocate a total of 100 points across the eight goals based on the level of importance you feel each should receive.” The online mode supported respondents' accurate completion of this task by alerting respondents if their sums did not total 100. This enabled respondents to revise their responses and resubmit so that errors in addition did not result in the loss of valid responses. The computer system would allow a

respondent to move on even if the allocation exceeded 100 points after the respondent clicked "enter" two times. This allowed respondents to complete other portions of the survey even if this section was completed incorrectly. Less than 0.1% of all respondents allocated more or fewer than 100 points.

## A2: Conversion to Percentile Ranks

For indicators whose original form is dichotomous and for indicators lacking distributional data such as the standard deviation, the Report Card uses 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 outcomes. Utilizing the inverse cumulative normal distribution function, the probit model determines a given probability in the normal distribution of a dichotomous variable. As such, the probit model allows the Report Card to transform dichotomous indicators and indicators lacking distributional data, such as transforming the percent of youth who become pregnant into a relative risk of pregnancy. The probit model assumes that for a dichotomous variable such as becoming pregnant ( $P_i$ ), there is some unobservable threshold ( $I_i^*$ ) in the underlying index of risk of pregnancy ( $I_i$ ), above which an individual/group becomes pregnant. Assuming normality, the probit model uses the inverse cumulative normal distribution to calculate the probability that  $P_i$  is above the threshold,  $I_i^*$ , for a given individual or group,  $i$ .

In some cases, the assumption of a normal distribution is obviously forced. For example, as an indicator of equity in emotional health, the Report Card considers teen pregnancy and finds from available data that 9 percent of black teenagers and 2 percent of white teenagers become pregnant or get someone pregnant. Applying the 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” – the Report Card infers that the average black teenager is at the 35<sup>th</sup> percentile in the national distribution of avoiding teen pregnancy, while the average white teenager is at the 61<sup>st</sup> percentile. This formula for these calculations is as follows:

$$\text{Prob(a person does not become pregnant)} = \text{Prob}(I_i=1)$$

$$= \text{Prob}(I_i > I_i^*)$$

$$= 1 - F(I_i^*)$$

Where:

F is the cumulative distribution function for I, assumed to be standard normal.

$p_i$  is the probability that  $i^{\text{th}}$  individual avoided pregnancy

$I_i^*$  is the threshold of avoiding pregnancy in the normal distribution

Thus, if  $p_i$  is the observed probability of becoming pregnant for this person, we have

$$p_i = 1 - F(I_i^*),$$

Then, assuming a normal distribution (0, 1):

$$I_i^* - I_{\mu}^* = p_{i\mu}$$

Where:

$I_{\mu}^*$  is the mean threshold for the population,

$p_{i\mu}$  is the probability that the that  $i^{\text{th}}$  individual avoided pregnancy in the population's distribution

Lastly,

$$\text{Prob}(z < -p_{i\mu}) = \text{Prob}(z > p_{i\mu}) = \text{Prob}(z > 0) - \text{Prob}(0 < z < p_{i\mu})$$

And,

$\text{Prob}(z > 0) = 0.50$ , since the standard normal is symmetric around zero

So,

$$PR = .5 - \text{Prob}(0 < z < p_{i\mu})$$

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

(becoming pregnant or not becoming pregnant) reported in the literature, but rather as the culmination, on average, of a set of risks of pregnancy, has the advantage of enabling the Report Card to compare the percentile rankings of blacks and whites in emotional health with their rankings in basic skills, critical thinking, citizenship, and the other measures.

For data that are continuous, the Report Card generally uses reported data on average black and white experiences, not data the Report Card itself calculated. The Report Card then assigns the average black and average white experiences to a normal distribution to infer a percentile ranking. 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 agencies who report these data for the underlying data sets from which this can be done. Although more accurate, we do not believe that independently averaging individuals' percentile rankings would affect the broad patterns we are describing. Without individual level data or the variance of each indicator's distribution, the probit model provides an adequate method for transforming the various 174 indicators into a common metric, percentile rankings.

For each indicator used in this report, we describe below the statistical operation used to transform available data into black and white percentile rankings. **Table A2-1**, at the end of this appendix, displays the underlying data from which each of the 174 indicators was created.\*

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\* Of the 174 indicators, 10 are placeholders for data that are unavailable but expected to be available in the near future.

## Goal 1: Basic Academic Skills in Core Subjects

1. Reading scores (12<sup>th</sup> grade NAEP scores, adjusted for dropouts with data from the National Adult Assessment of Literacy): average scale scores and standard deviations for black, white and all students, as reported by NCES 2005a and NCES 2003b, converted to the percentile rank of blacks and whites in the distribution of all scores.
2. Math scores (12<sup>th</sup> grade NAEP scores, adjusted for dropouts with data from the National Adult Assessment of Literacy): average scale scores and standard deviations for black, white and all students, as reported by NCES 2005b and NCES 2003b, converted to the percentile rank of blacks and whites in the distribution of all scores.
3. Writing scores (12<sup>th</sup> grade NAEP scores, adjusted for dropouts with data from the National Adult Assessment of Literacy): average scale scores and standard deviations for black, white and all students, as reported by NCES 2002 and NCES 2003b, converted to the percentile rank of blacks and whites in the distribution of all scores.
4. Science scores (12<sup>th</sup> grade NAEP scores, adjusted for dropouts with data from the National Adult Assessment of Literacy): average scale scores and standard deviations for black, white and all students, as reported by NCES 2005c and NCES 2003b, converted to the percentile rank of blacks and whites in the distribution of all scores.
5. American History scores (12<sup>th</sup> grade NAEP scores, adjusted for dropouts with data from the National Adult Assessment of Literacy): average scale scores and standard deviations for black, white and all students, as reported by NCES 2006b and NCES 2003b, converted to the percentile rank of blacks and whites in the distribution of all scores.



6. Geography scores (12<sup>th</sup> grade NAEP scores, adjusted for dropouts with data from the National Adult Assessment of Literacy): average scale scores and standard deviations for black, white and all students, as reported by NCES 2001 and NCES 2003b, converted to the percentile rank of blacks and whites in the distribution of all scores.
7. Civics scores (12<sup>th</sup> grade NAEP scores, adjusted for dropouts with data from the National Adult Assessment of Literacy): average scale scores and standard deviations for black, white and all students, as reported by NCES 2006a and NCES 2003b, converted to the percentile rank of blacks and whites in the distribution of all scores.
8. Economics scores (12<sup>th</sup> grade NAEP scores, adjusted for dropouts with data from the National Adult Assessment of Literacy): average scale scores and standard deviations for black, white and all students, as reported by NCES 2007n and NCES 2003b, converted to the percentile rank of blacks and whites in the distribution of all scores.
9. World History scores: placeholder, average of available 12<sup>th</sup> grade NAEP scores, adjusted for dropouts, and converted to percentile ranks, as above.
10. Foreign Language scores: placeholder, average of available 12<sup>th</sup> grade NAEP scores, adjusted for dropouts, and converted to percentile ranks, as above.

## Goal 2: Critical Thinking and Problem Solving

11. Reading scores (12<sup>th</sup> grade NAEP scores, adjusted for dropouts with data from the National Adult Assessment of Literacy): percent for black, white and all students scoring at the Advanced level, as reported by NCES 2005a and NCES 2003b, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.

12. Math scores (12<sup>th</sup> grade NAEP scores, adjusted for dropouts with data from the National Adult Assessment of Literacy): percent for black, white and all students scoring at the Advanced level, as reported by NCES 2005b and NCES 2003b, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
13. Writing scores (12<sup>th</sup> grade NAEP scores, adjusted for dropouts with data from the National Adult Assessment of Literacy): percent for black, white and all students scoring at the Advanced level, as reported by NCES 2002 and NCES 2003b, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
14. Science scores (12<sup>th</sup> grade NAEP scores, adjusted for dropouts with data from the National Adult Assessment of Literacy): percent for black, white and all students scoring at the Advanced level, as reported by NCES 2005c and NCES 2003b, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
15. American History scores (12<sup>th</sup> grade NAEP scores, adjusted for dropouts with data from the National Adult Assessment of Literacy): percent for black, white and all students scoring at the Advanced level, as reported by NCES 2006b and NCES 2003b, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
16. Geography scores (12<sup>th</sup> grade NAEP scores, adjusted for dropouts with data from the National Adult Assessment of Literacy): percent for black, white and all students scoring at the Advanced level, as reported by NCES 2001 and NCES 2003b,

converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.

17. Civics scores (12<sup>th</sup> grade NAEP scores, adjusted for dropouts with data from the National Adult Assessment of Literacy): percent for black, white and all students scoring at the Advanced level, as reported by NCES 2006a and NCES 2003b, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.

18. Economics scores (12<sup>th</sup> grade NAEP scores, adjusted for dropouts with data from the National Adult Assessment of Literacy): percent for black, white and all students scoring at the Advanced level, as reported by NCES 2007n and NCES 2003b, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.

19. World History scores: placeholder, average of available 12<sup>th</sup> grade NAEP scores, adjusted for dropouts, and converted to percentile ranks, as above.

20. Foreign Language scores: placeholder, average of available 12<sup>th</sup> grade NAEP scores, adjusted for dropouts, and converted to percentile ranks, as above.

### Goal 3: Social Skills and Work Ethic

21. Regular high school diploma, percent for black, white and all 20 to 22 year-olds, as reported by Mishel and Roy 2006, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.

22. High school diploma (regular and GED), percent for black, white and all 20 to 22 year-olds, as reported by Mishel and Roy 2006, converted to the percentile rank of blacks and whites in the distribution of all scores using the probit model.
23. Enrollment in post-secondary education, percent for black, white and all 18 to 24 year-olds, as reported in NCES 2007I, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
24. Associate's degrees, number of black, white and all 24 year-olds, reported by D'Amico 2007, converted to percentages of the cohort with data from U.S. Census Bureau 2001 and then converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
25. Bachelor's degree or higher, percent of black, white and all 24 year-olds, reported by D'Amico 2007, converted to percentages of the cohort with data from U.S. Census Bureau 2001 and then converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
26. Scouting participation, outside of school, percent of black, white and all K-12 students, as reported in Vaden-Kiernan and McManus 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
27. Organized sports participation, outside of school, percent of black, white and all K-12 students, as reported by Vaden-Kiernan and McManus 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.

28. Participation in sports leagues, both in- and out-of-school, percent of black, white and all high school students as reported in MMWR 2006, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
29. Summer employment, percent of black, white and all 16 to 19 year-olds, as reported by BLS 2006, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
30. Pro-social behaviors, percentile rank of black and white 12 year-olds, as reported by Cuhna et al. 2005.

Goal 4: Citizenship and Community Responsibility

31. Voting in last presidential election, percent of black, white and all 18 to 24 year-olds, as reported by U.S. Census Bureau 2004c, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
32. Volunteering in community activities, percent of black, white and all 20 to 24 year-olds, as reported by U.S. Census Bureau 2004b, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
33. Participation in two or more voluntary organizations, percent of black, white and all 18 to 49 year-olds, as reported by GSS 2004, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
34. Contributions to a charity, percent of black, white and all 18 to 49 year-olds, as reported by GSS 2004, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.

35. Contacting an official, percent of black, white and all 15 to 25 year-olds, as reported by Marcelo, Lopez, and Kirby 2007a and 2007b, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
36. Participation in a protest, percent of black, white and all 15 to 25 year-olds, as reported by Marcelo, Lopez, and Kirby 2007a and 2007b, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
37. Reading a newspaper every day, percent of black, white and all 18 to 49 year-olds, as reported by GSS 2006, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
38. Law-Abiding Behavior (inverse of juvenile murder offenders), percent of black, white and all juveniles, as reported by Snyder, Finnegan and Kang 2006, converted to percentages of the cohort with data from U.S. Census Bureau 2004a, and then converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
39. Law-Abiding Behavior (inverse of young adult [20 to 24 year-olds] murder offenders), number of black, white and all young adults, as reported by FBI 2006, converted to percentages of the cohort with data from U.S. Census Bureau 2005, and then converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
40. Law-Abiding Behavior (inverse of juvenile court convictions for crimes against persons and crimes against property), percent of black, white and all juveniles, as reported by Stahl, Finnegan and Kang 2007, and then converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.

41. Law-Abiding Behavior (inverse of young adult [20 to 24 year-olds] incarcerations), percent of black, white and all young adults, as reported by Harrison and Beck 2006, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
42. Scouting participation, outside of school, percent of black, white and all K-12 students, as reported in Vaden-Kiernan and McManus 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
43. Religious group participation, outside of school, percent of black, white and all K-12 students, as reported in Vaden-Kiernan and McManus 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
44. Participation in unpaid internships or community service during the summer, percent of black, white and all 8th-12<sup>th</sup> grade students, as reported by NCES 1998b, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
45. Participation in voluntary community service, percent of black, white and all high school students, number as reported by Planty and Regnier 2003, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
46. Civics scores (12<sup>th</sup> grade NAEP scores, adjusted for dropouts with data from the National Adult Assessment of Literacy): average scale scores and standard deviations for black, white and all students, as reported by NCES 2006a and 2003b, converted to the percentile rank of blacks and whites in the distribution of all scores.

47. American History scores (12<sup>th</sup> grade NAEP scores, adjusted for dropouts with data from the National Adult Assessment of Literacy): average scale scores and standard deviations for black, white and all students, as reported by NCES 2006b and 2003b, converted to the percentile rank of blacks and whites in the distribution of all scores.
48. Geography scores (12<sup>th</sup> grade NAEP scores, adjusted for dropouts with data from the National Adult Assessment of Literacy): average scale scores and standard deviations for black, white and all students, as reported by NCES 2001 and 2003b, converted to the percentile rank of blacks and whites in the distribution of all scores.

#### Goal 5: Physical Health

49. Health status, percent of black, white and all adults (over age 17), as reported by Pleis and Lethbridge-Çejku 2006, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
50. Healthy weight, percent of black, white and all 20 to 39 year-olds, as reported by NHANES 2001-2004, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
51. AIDS diagnosis, number of black, white and all 20 to 24 year-olds, as reported by NCHSTP 2005, converted to percentages of the cohort with data from U.S. Census Bureau 2002a, and then converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
52. Asthma, percent of black, white, and all under -19 year-olds, as reported by Bloom and Dey 2006, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.



53. Cigarettes, percent of black, white, and all high school students, as reported by YRBSS 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
54. Marijuana, percent of black, white, and all high school students, as reported by YRBSS 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
55. Cocaine, percent of black, white, and all high school students, as reported by YRBSS 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
56. Drinking alcohol, percent of black, white, and all high school students, as reported by YRBSS 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
57. Binge drinking, percent of black, white, and all high school students, as reported by YRBSS 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
58. MDMA ("ecstasy"), percent of black, white, and all high school students, as reported by YRBSS 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
59. Heroin, percent of black, white, and all high school students, as reported by YRBSS 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.

60. Methamphetamines, percent of black, white, and all high school students, as reported by YRBSS 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
61. Illegal steroids, percent of black, white, and all high school students, as reported by YRBSS 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
62. Needles for illegal drug use, percent of black, white, and all high school students, as reported by YRBSS 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
63. Inhalants, percent of black, white, and all high school students, as reported by YRBSS 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
64. Avoidance of death by a firearm, percent of black, white, and all 15 to 19 year-olds, as reported by FIFCFS 2007, converted to percentages of the cohort with data from U.S. Census Bureau 2003, and then converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
65. Avoidance of death by a motor vehicle, percent of black, white, and all 15 to 19 year-olds, as reported by FIFCFS 2007, converted to percentages of the cohort with data from U.S. Census Bureau 2003, and then converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
66. Oral health, percent of black, white, and all 6 to 17 year-olds, as reported by NHANES 2001-2004, converted to the percentile rank of blacks and whites in the distribution of all scores using the probit model.

67. Regular physical activity, percent of black, white and all 18 to 24 year-olds, as reported by the CDC 2005, converted to the percentile rank of blacks and whites in the distribution of all scores using the probit model.
68. Iron deficiency anemia, percent of black, white, and all under 5 year-olds, as reported by PedNSS (adjusted to be representative of all children), converted to percentages of the cohort with data from U.S. Census Bureau 2006a, and then converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
69. Low birthweight, percent of black, white and all live births, as reported by Martin et al. 2006, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
70. Very low birthweight, percent of black, white and all live births, as reported by Martin et al. 2006, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
71. Dangerous blood lead levels (children ages 1 to 5), percent of all black, white, and all children, as reported in MMWR 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
72. Dangerous blood lead levels (children ages 6 to 16), percent of all black, white, and all children, as reported in MMWR 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
73. Standard vaccinations, percent of black, white, and all infants up to 3 months old, as reported by NCHS 2006, converted to the percentile rank of blacks and whites in the distribution of all scores using the probit model.

74. Health insurance coverage, percent of black, white, and all children under age 18, as reported by NHIS 2003-2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
75. Visits to the dentist, percent of black, white, and all children 2 to 17 years old, as reported by NCHS 2006, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
76. Prenatal care in first trimester, percent of black, white and all live births, as reported by NCHS 2006, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
77. Prenatal care in first or second trimester, percent of black, white and all live births, as reported by NCHS 2006, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.

#### Goal 6: Emotional Health

78. Serious psychological distress, percent of black, white and all 18 to 24 year-olds, as reported by NHIS 2003-2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
79. Happy, percent of black, white and all 18 to 44 year-olds, as reported by GSS 2006, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
80. Avoidance of suicide attempts, percent of black, white and all high school students, as reported by YRBSS 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.

81. Cigarettes, percent of black, white, and all high school students, as reported by YRBSS 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
82. Marijuana, percent of black, white, and all high school students, as reported by YRBSS 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
83. Cocaine, percent of black, white, and all high school students, as reported by YRBSS 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
84. Drinking alcohol, percent of black, white, and all high school students, as reported by YRBSS 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
85. Binge drinking, percent of black, white, and all high school students, as reported by YRBSS 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
86. MDMA ("ecstasy"), percent of black, white, and all high school students, as reported by YRBSS 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
87. Heroin, percent of black, white, and all high school students, as reported by YRBSS 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.

88. Methamphetamines, percent of black, white, and all high school students, as reported by YRBSS 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
89. Illegal steroids, percent of black, white, and all high school students, as reported by YRBSS 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
90. Needles for illegal drug use, percent of black, white, and all high school students, as reported by YRBSS 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
91. Inhalants, percent of black, white, and all high school students, as reported by YRBSS 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
92. Safe sex practices, percent of black, white, and all high school students, as reported by YRBSS 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
93. Teenage pregnancy, percent of black, white, and all high school students, as reported in MMWR 2004, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
94. Behavioral characteristics of kindergarteners, percentile rank of black and white kindergarteners, as reported by Grissmer 2005.
95. Pro-social behaviors, percentile rank of black and white 4 year-olds, as reported by Cuhna et al. 2005.

96. Pro-social behaviors, percentile rank of black and white 12 year-olds, as reported by Cuhna et al. 2005.

Goal 7: Appreciation of the Arts and Literature

97. Reading literature, percent of black, white, and all young adults (ages 25 to 34), as reported in U.S. Census Bureau 2002b, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.

98 – 104. Attendance at artistic events or performances (jazz, classical music, opera, musical, play, ballet, art museum or gallery), percent of black, white, and all young adults (ages 25 to 34), as reported in U.S. Census Bureau 2002b, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.

105 – 120. Performing in, creating, or purchasing art (jazz, classical music, opera, choir or chorale, musical, play, ballet, other dance, music composition, painting, writing, photography, pottery, sewing, own art, purchase art), percent of black, white, and all young adults (ages 25 to 34), as reported in U.S. Census Bureau 2002b, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.

121. Reading for fun almost everyday, percent of black, white, and all 8<sup>th</sup> grade students, as reported by NCES 2005a, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.

122. Participation in music lessons outside of school, percent of black, white and all K-12 students, as reported in Vaden-Kiernan and McManus 2005, converted to the

percentile rank of blacks and whites in the distribution of all scores, using the probit model.

Goal 8: Preparation for Skilled Work

123. Firefighters, percent of black, white, and all young adults (25 to 29 year-olds) without a Bachelor's degree, from U.S. Census Bureau 2005 data analyzed by Mishel 2007a, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
124. Electricians, percent of black, white, and all young adults (25 to 29 year-olds) without a Bachelor's degree, from U.S. Census Bureau 2005 data analyzed by Mishel 2007a, converted to the percentile rank of blacks and whites in the distribution of all scores using the probit model.
125. Industrial machinery repairers, percent of black, white, and all young adults (25 to 29 year-olds) without a Bachelor's degree, from U.S. Census Bureau 2005 data analyzed by Mishel 2007a, converted to the percentile rank of blacks and whites in the distribution of all scores using the probit model.
126. Clinical laboratory technologists and technicians, percent of black, white, and all young adults (25 to 29 year-olds) without a Bachelor's degree, from U.S. Census Bureau 2005 data analyzed by Mishel 2007a, converted to the percentile rank of blacks and whites in the distribution of all scores using the probit model.
127. Aircraft engine mechanics, percent of black, white, and all young adults (25 to 29 year-olds) without a Bachelor's degree, from U.S. Census Bureau 2005 data analyzed by



Mishel 2007a, converted to the percentile rank of blacks and whites in the distribution of all scores using the probit model.

128. Electrical and electronic technicians, percent of black, white, and all young adults (25 to 29 year-olds) without a Bachelor's degree, from U.S. Census Bureau 2005 data analyzed by Mishel 2007a, converted to the percentile rank of blacks and whites in the distribution of all scores using the probit model.

129. Licensed practical nurses, percent of black, white, and all young adults (25 to 29 year-olds) without a Bachelor's degree, from U.S. Census Bureau 2005 data analyzed by Mishel 2007a, converted to the percentile rank of blacks and whites in the distribution of all scores using the probit model.

130. Machinists, percent of black, white, and all young adults (25 to 29 year-olds) without a Bachelor's degree, from U.S. Census Bureau 2005 data analyzed by Mishel 2007a, converted to the percentile rank of blacks and whites in the distribution of all scores using the probit model.

### Overall Inputs

131. Attending a general school meeting, percent of black, white, and all parents, as reported by Vaden-Kiernan and McManus 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.

132. Attending a parent-teacher conference, percent of black, white, and all parents, as reported by Vaden-Kiernan and McManus 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.

133. Attending a school or class event, percent of black, white, and all parents, as reported by Vaden-Kiernan and McManus 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
134. Acting as a volunteer or serving on a school committee, percent of black, white, and all parents, as reported by Vaden-Kiernan and McManus 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
135. Participation in fundraising, percent of black, white, and all parents, as reported by Vaden-Kiernan and McManus 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
136. Talking about family or ethnic heritage with child, percent of black, white, and all parents, as reported by Vaden-Kiernan and McManus 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
137. Telling child a story, percent of black, white, and all parents, as reported by Vaden-Kiernan and McManus 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
138. Arts and crafts with child, percent of black, white, and all parents, as reported by Vaden-Kiernan and McManus 2005, converted to the percentile rank of blacks and whites in the distribution of all scores using, the probit model.
139. Playing sports, active games, or exercising with child, percent of black, white, and all parents, as reported by Vaden-Kiernan and McManus 2005, converted to the

percentile rank of blacks and whites in the distribution of all scores, using the probit model.

140. Involving child in household chores, percent of black, white, and all parents, as reported by Vaden-Kiernan and McManus 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.

141. Working on a project with child, percent of black, white, and all parents, as reported by Vaden-Kiernan and McManus 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.

142. Playing board games or doing puzzles with child, percent of black, white, and all parents, as reported by Vaden-Kiernan and McManus 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.

143. Less than 6 hours of television watching per day, percent of black, white, and all 4<sup>th</sup> grade students, as reported by NCES 2003c, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.

144. Less than 3 hours of television watching per day, percent of black, white, and all high school students, as reported by YRBSS 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.

145. Reading to preschool children at least once a week, percent of black, white, and all preschool students, as reported by NCES 2006c, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.

146. Reading the K-3 students everyday, percent of black, white, and all K-3 students, as reported by Vaden-Kiernan and McManus 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
147. Household adult to child ratio, average ratios and standard deviations for black, white and all students, as calculated by Mishel 2006, converted to the percentile rank of blacks and whites in the distribution of all scores.
148. Taking preschool children to the library, percent of black, white, and all preschool students, as reported in NCES 20071, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
149. Taking child to the library during the summer after kindergarten: data from NCES' Early Childhood Longitudinal Study are not disaggregated by race; placeholder, weighted average of the percentile ranks for other available parenting indicators, above.
150. Taking child to a bookstore during the summer after kindergarten: data from NCES' Early Childhood Longitudinal Study are not disaggregated by race; placeholder, weighted average of the percentile ranks for other available parenting indicators, above.
151. Taking child to an art, science or discovery museum during the summer after kindergarten: data from NCES' Early Childhood Longitudinal Study are not disaggregated by race; placeholder, weighted average of the percentile ranks for other available parenting indicators, above.
152. Taking child to a concert or play during the summer after kindergarten: data from NCES' Early Childhood Longitudinal Study are not disaggregated by race;

placeholder, weighted average of the percentile ranks for other available parenting indicators, above.

153. Taking child to an ethnic or community event, percent of black, white, and all parents, as reported by Vaden-Kiernan and McManus 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
154. Taking child to plays, music or other live performances, percent of black, white, and all parents, as reported by Vaden-Kiernan and McManus 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
155. Taking child to events sponsored by a religious group, percent of black, white, and all parents, as reported by Vaden-Kiernan and McManus 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
156. Taking child to an art gallery, museum of historical site, percent of black, white, and all parents, as reported by Vaden-Kiernan and McManus 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
157. Taking child to a zoo or aquarium, percent of black, white, and all parents, as reported by Vaden-Kiernan and McManus 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
158. Taking child to an athletic or sports event, percent of black, white, and all parents, as reported by Vaden-Kiernan and McManus 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.

159. Taking child to the library, percent of black, white, and all parents, as reported by Vaden-Kiernan and McManus 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
160. High quality child care, percent of black, white, and all 6 to 54 month olds, as reported by Bub and McCartney 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
161. Living in an integrated neighborhood: no data presently available; placeholder based on weighted average of the percentile ranks for other available positive peer effects indicators, below.
162. Attending at school with <50 % minority students, percent of black, white, and all students, as reported in NCES 20071, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
163. Attending at school with <75 % minority students, percent of black, white, and all students, as reported in NCES 20071, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
164. Attending at school with <50 % free or subsidized lunch eligible students, percent of black, white, and all students, as reported by Orfield and Lee 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
165. Attending at school with <90 % free or subsidized lunch eligible students, percent of black, white, and all students, as reported by Orfield and Lee 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.

166. Neighborhood library: data from NCES' Early Childhood Longitudinal Study are not disaggregated by race; placeholder, weighted average of the percentile ranks for other available literacy resources indicators.
167. Greater than 26 books in the home, percent of black, white, and all 4<sup>th</sup> graders, as reported by NCES 2005a, converted to the percentile rank of blacks and whites in the distribution of all scores using the probit model.
168. Participation in after-school extra curricular activities, percent of black, white, and all students in grades 6 to 12, as reported by Vaden-Kiernan and McManus 2005, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
169. Participation in organized summer programs, percent of black, white and all students in grade K to 12, as reported by NCES 1998b, converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
170. Per pupil spending on K-12 education, national average, average spending and standard deviations for black, white and all students, as reported in the NCES 2007I, weighted by shares of black and white students in each state from NCES 2006d, adjusted for geographic cost differences with data from EFSC 2006, and then converted to the percentile rank of blacks and whites in the distribution of all scores.
171. Class size in elementary schools, national average, average class size and standard deviations for black, white and all elementary school students, as reported in NCES 2007I, weighted by shares of black and white students in each state from NCES 2006d, and then converted to the percentile rank of blacks and whites in the distribution of all scores.

172. Class size in secondary schools, national average, average class size and standard deviations for black, white and all secondary school students, as reported in the NCES 2007i, weighted by shares of black and white students in each state from NCES 2006d, and then converted to the percentile rank of blacks and whites in the distribution of all scores.
173. Teacher compensation relative to comparables, by state, as calculated by Mishel 2007b, weighted by percentages of black and white students in each state with data from NCES 2006d, and then converted to the percentile rank of blacks and whites in the distribution of all scores, using the probit model.
174. Public (state and local) dollars available for higher education, national average, average spending and standard deviations for black, white and all 18 to 22 year-olds, as reported in the NCES 2007i, and then weighted by shares of black and white youths in each state from U.S. Census Bureau 2004d, and then converted to the percentile rank of blacks and whites in the distribution of all scores.



Appendix Table A2-1

Underlying Data

<b>Table A2-1</b>			
<b>Indicator, by Goal Area</b>	<b>Whites</b>	<b>Blacks</b>	<b>All</b>
<b>Goal 1: Basic Academic Skills in Core Subjects</b>			
<i>Outcomes</i>			
12th Grade NAEP Reading Assessment, Average Scale Scores, Adjusted for Dropouts	288	260	277
12th Grade NAEP Math Assessment, Average Scale Scores, Adjusted for Dropouts	153	121	142
12th Grade NAEP Writing Assessment, Average Scale Scores, Adjusted for Dropouts	148	123	139
12th Grade NAEP Science Assessment, Average Scale Scores, Adjusted for Dropouts	151	114	139
12th Grade NAEP American History Assessment, Average Scale Scores, Adjusted for Dropouts	293	264	282
12th Grade NAEP Geography Assessment, Average Scale Scores, Adjusted for Dropouts	288	252	275
12th Grade NAEP Civics Assessment, Average Scale Scores, Adjusted for Dropouts	154	124	143
12th Grade NAEP Economics Assessment, Average Scale Scores, Adjusted for Dropouts	145	121	142
12th Grade NAEP World History Assessment, Average Scale Scores, Adjusted for Dropouts	N/A	N/A	N/A
12th Grade NAEP Foreign Language Assessment, Average Scale Scores, Adjusted for Dropouts	N/A	N/A	N/A
<b>Goal 2: Critical Thinking and Problem Solving</b>			
<i>Outcomes</i>			
12th Grade NAEP Reading Assessment, Percent at Advanced Level, Adjusted for Dropouts	5%	1%	4%
12th Grade NAEP Math Assessment, Percent at Advanced Level, Adjusted for Dropouts	2%	0%	2%
12th Grade NAEP Writing Assessment, Percent at Advanced Level, Adjusted for Dropouts	2%	0%	1%
12th Grade NAEP Science Assessment, Percent at Advanced Level, Adjusted for Dropouts	2%	0%	1%
12th Grade NAEP American History Assessment, Percent at Advanced Level, Adjusted for Dropouts	1%	0%	1%
12th Grade NAEP Geography Assessment, Percent at Advanced Level, Adjusted for Dropouts	2%	0%	1%
12th Grade NAEP Civics Assessment, Percent at Advanced Level, Adjusted for Dropouts	5%	1%	4%
12th Grade NAEP Economics Assessment, Percent at Advanced Level, Adjusted for Dropouts	4%	0%	2%
12th Grade NAEP World History Assessment, Percent at Advanced Level, Adjusted for Dropouts	N/A	N/A	N/A

12th Grade NAEP Foreign Language Assessment, Percent at Advanced Level, Adjusted for Dropouts	N/A	N/A	N/A
<b>Goal 3: Social Skills and Work Ethic</b>			
<i>Outputs</i>			
Percent of 20-22 year-olds with a Regular High School Diploma	85%	75%	82%
Percent of 20-22 year-olds with a High School Diploma (Regular and GED)	90%	81%	87%
Percent of 18-24 year-olds Enrolled in Post-Secondary Education	43%	33%	39%
Percent of 24 year-olds that Received Only an Associate's Degree	9%	4%	8%
Percent of 24 year-olds that Received a Bachelor's Degree or Higher	27%	12%	23%
Percent of K-12 students that Participated in Scouting, Outside of School	27%	20%	24%
Percent of K-12 students that Participated in Organized Sports, Outside of School	48%	30%	42%
Percent of High School Students that Participated in Sports Leagues, In- and Out-of-School	58%	54%	56%
Percent of 16-19 year-olds Employed During the Summer	54%	39%	51%
Percentile Rank of 12 year-olds Exhibiting Pro-Social Behaviors	66	53	N/A
<b>Goal 4: Citizenship and Community Responsibility</b>			
<i>Outcomes</i>			
Percent of 18-24 year-olds Voting in Last Presidential Election	49%	45%	42%
Percent of 20 to 24 year-olds that Participated in Community Activities as a Volunteer	21%	15%	18%
Percent of 18 to 49 year-olds that Participated in Two or More Voluntary Organizations	40%	30%	39%
Percent of 18 to 49 year-olds that Made Contributions to a Charity	78%	64%	75%
Percent of 15 to 25 year-olds that Contacted an Official in the Last Year	11%	9%	11%
Percent of 15 to 25 year-olds that Participated in a Protest in the Last Year	8%	13%	11%
Percent of 18 to 44 year-olds Reading Newspaper Everyday	21%	19%	21%
Law-Abiding Behavior (Inverse of Juvenile Murder Offenders)	99.998%	99.987%	99.996%
Law-Abiding Behavior (Inverse of Young Adult (20 to 24 year-olds) Murder Offenders)	99.990%	99.956%	99.985%
Law-Abiding Behavior (Inverse of Juvenile Court Convictions for Crimes against Persons and Crimes against Property)	98.854%	97.022%	98.607%
Law-Abiding Behavior (Inverse of Young Adult (20 to 24 year-olds) Incarcerations)	99.084%	94.702%	98.210%
<i>Outputs</i>			
Percent of K-12 students that Participated in After School Scouting	27%	20%	24%

Percent of K-12 students that Participated in After School Religious Groups	61%	20%	58%
Percent of 8th to 12th Grade Students that Participated in Unpaid Internships or Community Service during the Summer	13%	20%	11%
Percent of High School Seniors that Participated in Voluntary Community Service	41%	20%	38%
12th Grade NAEP Civics Assessment, Average Scale Scores, Adjusted for Dropouts	154	124	143
12th Grade NAEP American History Assessment, Average Scale Scores, Adjusted for Dropouts	293	264	282
12th Grade NAEP Geography Assessment, Average Scale Scores, Adjusted for Dropouts	288	252	275
<b>Goal 5: Physical Health</b>			
<i>Outcomes</i>			
Percent of Adults (18 years old and over) in Excellent or Very Good Health	63%	51%	62%
Percent of 20 to 44 year-olds at a Healthy Weight (BMI $\geq$ 18.5 and $<$ 25)	40%	28%	37%
Percent of 20 to 24 year-olds not Diagnosed with AIDS	99.999%	99.979%	99.995%
Percent of Children under 19 years olds without Asthma	88%	83%	87%
Percent of Sexually Active High School Students that Use a Condom	88%	85%	87%
Percent of 12th Grade Students that Do Not Smoke Cigarettes	68%	87%	72%
Percent of 12th Grade Students that Do Not Use Marijuana	77%	76%	77%
Percent of 12th Grade Students that have Never Used Inhalants	88%	96%	90%
Percent of 12th Grade Students that have Never Used MDMA (Ecstasy)	94%	97%	93%
Percent of 12th Grade Students that Do Not Use Cocaine	97%	98%	96%
Percent of 12th Grade Students that Do Not Drink Alcohol	46%	63%	49%
Percent of 12th Grade Students that have Never Used Heroin	98%	99%	98%
Percent of 12th Grade Students that have Never Used Methamphetamines	93%	99%	94%
Percent of 12th Grade Students that have Never Used Illegal Steroids	97%	97%	98%
Percent of 12th Grade Students that have Never Used Needles for Illegal Drug Use	99%	98%	98%
Percent of 12th Grade Students that Do Not Engage in Binge Drinking	62%	86%	67%
Percent of 15 to 19 year-olds that have Avoided Death by a Firearm	99.999%	99.972%	99.992%
Percent of 15 to 19 year-olds that have Avoided Death by a Motor Vehicle	99.972%	99.985%	99.975%
Percent of 6 to 17 year-olds without Untreated Dental Caries	81%	72%	77%
<i>Outputs</i>			
Percent of 18 to 24 year-olds Engaging in Regular Physical Activity	61%	52%	57%

Percent of Children under 5 years olds without Iron Deficiency Anemia	93%	81%	90%
Percent of Children ages 1 to 5 without Dangerous Blood Lead Levels	99%	97%	98%
Percent of Children ages 6 to 19 without Dangerous Blood Lead Levels	99.8%	99.7%	99.8%
Percent of Infants with Standard vaccinations by 3 months of age	84%	81%	82%
Percent Live Births without Low Birthweight	93%	86%	92%
Percent Live Births without Very Low Birthweight	99%	97%	99%
<i>Inputs</i>			
Percent of Children under age 18 with Health Insurance	94%	92%	91%
Percent of Children ages 2 to 17 that have Seen a Dentist in the Previous Year	81%	73%	76%
Percent of Live Births where Prenatal Care began in the First Trimester	89%	77%	84%
Percent of Live Births where Prenatal Care began in the First or Second Trimester	98%	94%	96%
<b>Goal 6: Emotional Health</b>			
<i>Outcomes</i>			
Percent of 18 to 24 year-olds Not Suffering from Serious Psychological Distress	97%	98%	97%
Percent of 18 to 44 year-olds that are Happy or Very Happy	90%	84%	88%
Percent of High School Students that have Not Attempted Suicide	98%	98%	98%
Percent of 12th Grade Students that Do Not Smoke Cigarettes	68%	87%	72%
Percent of 12th Grade Students that Do Not Use Marijuana	77%	76%	77%
Percent of 12th Grade Students that have Never Used Inhalants	88%	96%	90%
Percent of 12th Grade Students that have Never Used MDMA (Ecstasy)	94%	97%	93%
Percent of 12th Grade Students that Do Not Use Cocaine	97%	98%	96%
Percent of 12th Grade Students that Do Not Drink Alcohol	46%	63%	49%
Percent of 12th Grade Students that Do Not Engage in Binge Drinking	62%	86%	67%
Percent of 12th Grade Students that have Never Used Heroin	98%	99%	98%
Percent of 12th Grade Students that have Never Used Methamphetamines	93%	99%	94%
Percent of 12th Grade Students that have Never Used Illegal Steroids	97%	97%	98%
Percent of 12th Grade Students that have Never Used Needles for Illegal Drug Use	99%	98%	98%
Percent of High School Students Practicing Abstinence or Using Contraception (Birth Control Pill or Condom)	95%	90%	93%
Percent of High School that Avoided Teen Pregnancy	98%	91%	96%
<i>Outputs</i>			
Percentile Rank of Kindergartners Exhibiting Positive Behavioral Characteristics	52	37	N/A

Percentile Rank of 4 year-olds Exhibiting Pro-Social Behaviors	65	57	N/A
Percentile Rank of 12 year-olds Exhibiting Pro-Social Behaviors	66	53	N/A
<b>Goal 7: Appreciation of the Arts and Literature</b>			
<i>Outcomes</i>			
Percent of Young Adults (Ages 25-34) Reading Literature	51%	44%	47%
Percent of Young Adults (Ages 25-34) Attending an Artistic Event or Performance			
Jazz	12%	13%	11%
Classical Music	11%	4%	9%
Opera	4%	0.4%	3%
Musical	19%	10%	15%
Play	13%	7%	11%
Ballet	4%	2%	3%
Art Museum or Gallery	30%	16%	27%
Percent of Young Adults (Ages 25-34) Performing In, Creating, or Purchasing Art			
Jazz	1%	1%	1%
Classical Music	2%	0.05%	1%
Opera	1%	0.2%	1%
Choir or Chorale	3%	8%	4%
Musical	3%	2%	2%
Play	1%	3%	1%
Ballet	0.4%	0.01%	0.2%
Other Dance	4%	3%	4%
Music Composition	4%	6%	3%
Painting	12%	6%	10%
Writing	9%	10%	8%
Photography	14%	8%	12%
Pottery	9%	3%	8%
Sewing	14%	8%	13%
Own Art	20%	7%	15%
Purchase Art	8%	2%	6%
<i>Outputs</i>			
Percent of 8th Grade Student that Read for Fun Almost Everyday	20%	17%	18%
Percent of K-12 students that Participated in Music Lessons, Outside of School	18%	14%	17%
<b>Goal 8: Preparation for Skilled Work</b>			
<i>Outcomes</i>			
Percent of Young Adults (ages 25 to 29) without a Bachelor's Degree that are Firefighters	0.4%	0.1%	0.3%
Percent of Young Adults (ages 25 to 29) without a Bachelor's Degree that are Electricians	1.1%	0.2%	0.8%
Percent of Young Adults (ages 25 to 29) without a Bachelor's Degree that are Industrial Machinery Repairers	0.3%	0.1%	0.2%

Percent of Young Adults (ages 25 to 29) without a Bachelor's Degree that are Clinical Laboratory Technologists and Technicians	0.3%	0.3%	0.2%
Percent of Young Adults (ages 25 to 29) without a Bachelor's Degree that are Aircraft Engine Mechanics	0.1%	0.04%	0.1%
Percent of Young Adults (ages 25 to 29) without a Bachelor's Degree that are Electrical and Electronic Technicians	0.3%	0.2%	0.3%
Percent of Young Adults (ages 25 to 29) without a Bachelor's Degree that are Licensed Practical Nurses	0.4%	0.6%	0.4%
Percent of Young Adults (ages 25 to 29) without a Bachelor's Degree that are Machinists	0.3%	0.02%	0.2%
<b>Overall Inputs</b>			
Percent of Parents that Attended a General School Meeting	0.89	0.89	0.88
Percent of Parents that Attended a Parent-Teacher Conference	0.76	0.79	0.77
Percent of Parents that Attended a School or Class Event	0.74	0.63	0.7
Percent of Parents that Acted as Volunteer or Served on School Committee	0.48	0.32	0.42
Percent of Parents that Participated in Fundraising	0.67	0.69	0.62
Percent of Parents of Elementary School Students that Talk about Family or Ethnic Heritage with their Child	0.45	0.67	0.53
Percent of Parents of Elementary School Students that Told their Child Story	0.76	0.7	0.75
Percent of Parents of Elementary School Students that do Arts and Crafts with their Child	0.75	0.68	0.75
Percent of Parents of Elementary School Students that Played Sports, Active Games, or Exercised with their Child	0.82	0.79	0.8
Percent of Parents of Elementary School Students that Involved their Child in Household Chores	0.98	0.99	0.97
Percent of Parents of Elementary School Students that Worked on a Project with their Child	0.65	0.59	0.61
Percent of Parents of Elementary School Students that Played Board Games or did Puzzles with their Child	0.74	0.73	0.73
Percent of 4th Graders Watching Less than 6 Hours of TV per Day	0.83	0.65	0.79
Percent of High School Students Watching Less than 3 Hours of TV per Day	0.708	0.359	0.628
Percent of Parents that Read to their Preschool Child At Least Once a Week	0.919	0.785	0.857
Percent of K-3rd Grade Students that are Read to Everyday by their Parent/Family Members	0.37	0.32	0.36
Household Adult to Child Ratio	1.5	1.2	1.4
Percent of Parents that Took their Pre-School Child to the Library	0.45	0.44	0.42
Percent of Parents that Took their Child to the Library in the Summer After Kindergarten	N/A	N/A	N/A
Percent of Parents that Took their Child to the Bookstore in the Summer After Kindergarten	N/A	N/A	N/A

Percent of Parents that Took their Child to the Art, Science or Discovery Museum in the Summer After Kindergarten	N/A	N/A	N/A
Percent of Parents that Took their Child to a Concert or Play in the Summer After Kindergarten	N/A	N/A	N/A
Percent of Parents that Took their Child (in grades K-12) to Ethnic, or Community Organization Events	24%	29%	24%
Percent of Parents that Took their Child (in grades K-12) to Plays, Music, or other Live Performances	36%	36%	35%
Percent of Parents that Took their Child (in grades K-12) to Events Sponsored by Religious Group	54%	62%	53%
Percent of Parents that Took their Child (in grades K-12) to an Art gallery, museum, or historical site	19%	22%	20%
Percent of Parents that Took their Child (in grades K-12) to a Zoo or Aquarium	9%	15%	12%
Percent of Parents that Took their Child (in grades K-12) to an Athletic or Sports Event	40%	41%	38%
Percent of Parents that Took their Child (in grades K-12) to the Library	41%	49%	44%
Percent of Pre-school Children in High Quality Child Care Settings	55%	35%	52%
Percent of K-12 students Living in an Integrated Neighborhood	N/A	N/A	N/A
Percent of Students Attending a School that is < 50% Minority	88%	27%	62%
Percent of Students Attending a School that is < 75% Minority	97%	48%	76%
Percent of Students Attending a School with < 50% Free or Subsidized Lunch Eligible Student Body	82%	39%	65%
Percent of Students Attending a School with < 90% Free or Subsidized Lunch Eligible Student Body	99%	88%	94%
Percent of Student with a Neighborhood Library	N/A	N/A	N/A
Percent of 4th Grade Students with Greater than 26 Books in their Home	81%	51%	74%
Percent of 6th to 12th Grade Students that Participated in After-School Extra Curricular Activities	62%	53%	58%
Percent of 1st to 12th Grade Students that Participated in Organized Summer Programs	45%	25%	38%
National Average Per Pupil Spending on K-12 Education	\$7,395	\$7,247	\$7,232
National Average Class Size in Elementary Schools	20	20	20
National Average Class Size in Secondary Schools	25	25	25
National Average Public (State and Local) Dollars Available for Higher Education	\$2,694	\$2,679	\$2,724
National Average Teacher Compensation Relative to Comparables	78%	77%	77%

Appendix B – Data Tables – Applying Weights to Data

Appendix B1

Goal 1: Basic Academic Skills in Core Subjects

	Source (Listed Below)	Weights	Percentile Rank	
			Black	White
<u>Outcomes</u>				
12th Grade NAEP Scale Scores:				
Reading	1	21	33	61
Math	2	15	27	63
Writing	3	14	33	60
Science	4	13	24	64
American History	5	9	30	62
Geography	6	8	27	63
Civics	7	8	29	63
Economics	8	7	27	54
World History	9	4	29	62
Foreign Language	10	2	29	62
Total:		100	31	61

Sources:

- 1: NCES 2005a and NCES 2003b
- 2: NCES 2005b and NCES 2003b
- 3: NCES 2002 and NCES 2003b
- 4: NCES 2005c and NCES 2003b
- 5: NCES 2006b and NCES 2003b
- 6: NCES 2001 and NCES 2003b
- 7: NCES 2006a and NCES 2003b
- 8: NCES 2007n and NCES 2003b
- 9: N/a, placeholder
- 10: N/a, placeholder



## Appendix B2

### Goal 2: Critical Thinking and Reasoning Skills

	Source (Listed Below)	Weights	Percentile Rank	
			Black	White
<u>Outcomes</u>				
Percent of 12th Grade Students At Advanced Level on NAEP Assessments:				
Reading	1	19	25	56
Math	2	15	14	55
Writing	3	15	23	54
Science	4	11	18	56
American History	5	7	22	54
Geography	6	6	28	55
Civics	7	9	21	56
Economics	8	7	20	57
World History	9	8	23	55
Foreign Language	10	5	23	55
Total:		100	25	56

Sources:

- 1: NCES 2005a and NCES 2003b
- 2: NCES 2005b and NCES 2003b
- 3: NCES 2002 and NCES 2003b
- 4: NCES 2005c and NCES 2003b
- 5: NCES 2006b and NCES 2003b
- 6: NCES 2001 and NCES 2003b
- 7: NCES 2006a and NCES 2003b
- 8: NCES 2007n and NCES 2003b
- 9: N/a, placeholder
- 10: N/a, placeholder

## Appendix B3

### Goal 3: Social Skills and Work Ethic

	Source (Listed Below)	Weights	Percentile Rank	
			Black	White
<u>Outputs</u>				
High School graduation rate (regular diploma)				
	1	19	40	55
High School graduation rate (regular diploma and GED)				
	2	7	40	56
Enrolled in post-secondary education, 18-24 year-olds				
	3	10	44	54
Received an Associate's Degree Only, 24 year-olds				
	4	10	35	53
Received no less than a Bachelor's Degree 24 year-olds				
	5	16	32	55
Percent of K-12 students that participate in Scouting				
	6	6	45	54
Percent of K-12 students that participate in Out of School Sports Leagues				
	7	5	37	56
Percent of high school students that participate in School and Out-of-School Sports Leagues				
	8	5	48	52
Summer Employment Rate, 16-19 year-olds				
	9	10	39	54
Pro-Social Scores, 12 year-olds				
	10	13	53	66
Total:		100	41	56

Sources:

- 1: Mishel and Roy 2006, Table 3
- 2: Ibid.
- 3: NCES 2007I, Table 189
- 4: D'Amico 2007 and U.S. Census Bureau 2001
- 5: Ibid.
- 6: Vaden-Kiernan and McManus 2005, Table 11
- 7: Ibid.
- 8: MMWR 2006, Table 58
- 9: BLS 2006
- 10: Cuhna et al. 2005, Figure 4B

## Appendix B4

### Goal 4: Citizenship and Community Responsibility

	Source (Listed Below)	Weights	Percentile Rank	
			Black	White
<u>Outcomes:</u>				
Voting in Last Presidential Election, Ages 18-24				
	1	13	53	57
Participation in Community Activities as Volunteer, Ages 20-24	2	10	45	55
Participation in Two or More Voluntary Organizations, Ages 18 to 49	3	5	40	51
Contributions to Charity, Ages 18-49	4	4	37	54
Contacted an Official, Ages 15-25	5	7	46	51
Protest Participation, Ages 15-25	6	9	53	41
Reading Newspaper, Ages 18-44	7	7	46	50
Law-Abiding Behavior (Inverse of Juvenile Murder Offenders)	8	3	38	56
Law-Abiding Behavior (Inverse of Young Adult (Ages 20-24) Murder Offenders)	9	3	39	54
Law-Abiding Behavior (Inverse of Juvenile Court Convictions for Crimes against Persons and Crimes against Property)	10	4	38	53
Law-Abiding Behavior (Inverse of Young Adult Incarcerations)	11	3	31	60
			0	0
			0	0
<u>Outputs:</u>				
Percent of K-12 students that participate in Scouting	12	2	0	0
Percent of K-12 students that participate in After- School Religious Groups	13	3	45	54
Participation in Unpaid Internships or Community Service during summer, teenagers	14	4	59	53
Participation in Voluntary Community Service, high school students	15	8	42	53
NAEP 12th Civics Grade Scores	16	7	29	63
NAEP 12th American History Grade Scores	17	5	30	62
NAEP 12th Geography Grade Scores	18	3	21	56
Total		100	42	55

Sources:

1: U.S. Census Bureau 2004c

- 2: U.S. Census Bureau 2004b
- 3: GSS 2004
- 4: Ibid.
- 5: Marcelo, Lopez, and Kirby 2007a, Table B and Marcelo, Lopez, and Kirby 2007b
- 6: Ibid.
- 7: GSS 2006
- 8: Snyder, Finnegan and Kang 2006 and U.S. Census Bureau 2004a
- 9: FBI 2006, Table 3 and U.S. Census Bureau 2005
- 10: Stahl, Finnegan and Kang 2007 and U.S. Census Bureau 2004a
- 11: Harrison and Beck 2006, Table 13 and U.S. Census Bureau 2005
- 12: Vaden-Kiernan and McManus 2005, Table 11
- 13: Ibid.
- 14: NCES 1998b
- 15: Planty and Regnier 2003, Table 1
- 16: NCES 2006a and NCES 2003b
- 17: NCES 2006b and NCES 2003b
- 18: NCES 2001 and NCES 2003b

## Appendix B5

### Goal 5: Physical Health

<u>Outcomes</u>	Source (Listed Below)	Weights	Percentile Rank	
			Black	White
Physical Health Status of Adults, 18 and over	1	4	39	52
Overweight or Obese, 20 to 39 year-olds	2	8	40	53
New AIDS diagnoses, 20 to 24 year-olds	3	5	35	63
Asthma, Under age 19	4	3	42	52
Safe Sex Practices, Abstinence or Used Condom	5	4	46	51
No cigarette smoking in last month, 12th grade	6	7	70	45
No marijuana use in last month, 12th grade	7	2	48	50
No cocaine use in last month, 12th grade	8	2	64	51
No alcohol consumption in last month, 12th grade	9	2	64	46
No binge drinking in last month, 12th grade	10	4	73	45
Never used ecstasy, 12th grade	11	1	63	52
Never used heroin, 12th grade	12	2	58	48
Never used methamphetamines, 12th grade	13	2	80	47
Never used illegal steroids, 12th grade	14	2	46	44
Never used needles for illegal drug use, 12th grade	15	2	50	53
Never used inhalants, 12th grade	16	2	69	46
Death by Firearm, 15 to 19 year-olds	17	5	37	66
Death by Motor Vehicle, 15 to 19 year-olds	18	5	55	49
Oral Health, 6 to 17 year-olds	19	3	44	55
 <u>Outputs</u>				
Regular Physical Activity, 18 to 24 year-olds	20	7	44	53

Iron Deficiency Anemia, under 5 year-olds	21	2	34	56
Low Birthweight				
	22	3	38	52
Very Low Birthweight				
	23	4	38	54
Dangerous Blood Lead Levels, ages 1-5				
	24	3	39	53
Dangerous blood lead levels, ages 6-16				
	25	3	45	50
Standard vaccinations by 3 months				
	26	3	49	53
<u>Inputs</u>				
Children under age 18 with health insurance	27	3	53	58
Children, 2-17, seeing a dentist in previous year	28	2	46	56
Prenatal Care, First Trimester	29	2	39	59
Prenatal Care, First Two Trimesters	30	2	41	59
Total:		100	47	54

Sources:

- 1: Pleis and Lethbridge-Çejku 2006, Table 21
- 2: NHANES 2001-2004
- 3: NCHSTP 2005 and U.S. Census Bureau 2002a
- 4: Bloom and Dey 2006, Table 1
- 5: YRBSS 2005
- 6: Ibid.
- 7: Ibid.
- 8: Ibid.
- 9: Ibid.
- 10: Ibid.
- 11: Ibid.
- 12: Ibid.
- 13: Ibid.
- 14: Ibid.
- 15: Ibid.
- 16: Ibid.
- 17: FCFS 2007, Table HEALTH9 and U.S. Census Bureau 2003
- 18: Ibid.
- 19: NHANES 2001-2004
- 20: CDC 2005
- 21: PedNSS 2007, Table 17 and U.S. Census Bureau 2006a, Table POV01
- 22: Martin et al. 2006, Table 31
- 23: Ibid.
- 24: MMWR 2005, Table 1

- 25: Ibid.
- 26: NCHS 2006, Table 81
- 27: NHIS 2003-2005
- 28: NCHS 2006, Table 91
- 29: NCHS 2006, Table 7
- 30: Ibid.

## Appendix B6

Goal 6: Emotional Health				
	Source (Listed Below)	Weights	Percentile Rank	
			Black	White
<u>Outcomes</u>				
Serious Psychological distress, young adults 18-24	1	16	51	49
Feel Happy or Very Happy, 18-44 year-olds	2	10	43	54
Avoidance of Suicide Attempts, High School students	3	7	52	52
No cigarette smoking in last month, 12th grade	4	3	70	45
No marijuana use in last month, 12th grade	5	3	48	50
No cocaine use in last month, 12th grade	6	4	64	51
No alcohol consumption in last month, 12th grade	7	3	64	46
No binge drinking in last month, 12th grade	8	5	73	45
Never used ecstasy, 12th grade	9	2	63	52
Never used heroin, 12th grade	10	3	58	48
Never used methamphetamines, 12th grade	11	3	80	47
Never used illegal steroids, 12th grade	12	3	46	44
Never used needles for illegal drug use, 12th grade	13	3	50	53
Never used inhalants, 12th grade	14	3	69	46
Safe Sex Practices, High School students	15	5	41	56
Teen Pregnancy	16	6	35	61
<u>Outputs</u>				
Behavioral Characteristics of Kindergartners (from ECLS)	17	4	37	52
Pro-Social Behavior of 4 year-olds	18	8	57	65
Pro-Social Behavior of 12 year-olds	19	9	53	66
Total		100	49	54



Sources:

- 1: NHIS 2003-2005
- 2: GSS 2006
- 3: YRBSS 2005
- 4: Ibid.
- 5: Ibid.
- 6: Ibid.
- 7: Ibid.
- 8: Ibid.
- 9: Ibid.
- 10: Ibid.
- 11: Ibid.
- 12: Ibid.
- 13: Ibid.
- 14: Ibid.
- 15: Ibid.
- 16: MMWR 2004, Table 46
- 17: Grissmer 2005
- 18: Cuhna et al. 2005, Figure 4B
- 19: Ibid.

## Appendix B7

### Goal 7: Appreciation of the Arts and Literature

	Source (Listed Below)	Weights	Percentile Rank	
			Black	White
<u>Outcomes</u>				
Adults Reading Literature (Ages 25-34)	1	21	46	54
Adults Attending an Artistic Event or Performance (Ages 25-34)				
Jazz	2	5	54	52
Classical Music	3	5	33	55
Opera	4	3	21	54
Musical	5	5	41	55
Play	6	6	42	54
Ballet	7	4	37	54
Art Museum or Gallery	8	9	35	54
Adults Performing In, Creating, or Purchasing Art (Ages 25 to 34)				
Jazz	9	3	52	52
Classical Music	10	3	14	55
Opera	11	2	35	53
Choir or Chorale	12	3	64	48
Musical	13	2	48	54
Play	14	3	62	49
Ballet	15	2	18	55
Other Dance	16	3	45	49
Music Composition	17	2	60	51
Painting	18	3	38	53
Writing	19	5	56	52
Photography	20	3	39	53
Pottery	21	1	32	53
Sewing	22	1	38	53
Own Art	23	2	34	57
Purchase Art	24	2	29	57
<u>Outputs</u>				
Eighth graders read for fun almost everyday	25	5	48	53
Music lessons outside of school, K-12 graders	26	2	45	52
Total		100	42	54

Sources:

- 1: U.S. Census Bureau, 2002b
- 2: Ibid.
- 3: Ibid.
- 4: Ibid.

- 5: Ibid.
- 6: Ibid.
- 7: Ibid.
- 8: Ibid.
- 9: Ibid.
- 10: Ibid.
- 11: Ibid.
- 12: Ibid.
- 13: Ibid.
- 14: Ibid.
- 15: Ibid.
- 16: Ibid.
- 17: Ibid.
- 18: Ibid.
- 19: Ibid.
- 20: Ibid.
- 21: Ibid.
- 22: Ibid.
- 23: Ibid.
- 24: Ibid.
- 25: NCES 2005a
- 26: Vaden-Kiernan and McManus 2005, Table 11

## Appendix B8

### Goal 8: Preparation for Skilled Work

	Source (Listed Below)	Weights	Percentile Rank	
			Black	White
<u>Outcomes</u>				
Firefighting occupations	1	11	35	56
Electricians	2	33	34	54
Industrial machinery repairers	3	9	44	54
Clinical laboratory technologists and technicians	4	10	53	50
Aircraft engine mechanics	5	3	45	53
Electrical and electronic technicians	6	11	43	53
Licensed practical nurses	7	15	57	52
Machinists	8	8	26	55
Total		100	41	54

Sources:

1: Mishel 2007a and U.S. Census Bureau 2005

2: Ibid.

3: Ibid.

4: Ibid.

5: Ibid.

6: Ibid.

7: Ibid.

8: Ibid.

## Appendix B9

Overall Inputs				
	Source (Listed Below)	Weights	Percentile Rank	
			Black	White
<b><u>Parenting</u></b>				
Parent Involvement in Schools				
Attended a General School Meeting	1	1	52	52
Attended a Parent-Teacher Conference	2	3	53	49
Attended a School or Class Event	3	1	42	55
Acted as Volunteer or Served on School Committee	4	1	40	56
Participated in Fundraising	5	0	58	55
Parent Engages in Activities With Elementary School Children (K-5)				
Talks about Family or Ethnic Heritage	6	1	64	42
Told a Story	7	1	44	51
Did Arts and Crafts	8	1	42	50
Played sports, active games, or exercised	9	1	49	53
Involved students in household chores	10	1	67	57
Worked on project	11	2	48	54
Played board games or did puzzles	12	1	50	51
4th Graders not Watching More Than 6 Hours of TV Per Day	13	3	34	56
High School students not watching more than 3 hours of TV per day	14	3	25	59
Parents Read to Preschool Children at least once a week	15	5	39	63
Parent/Family Members Read to K-3 Children Everyday	16	4	46	51
Household Adult to Child Ratio	17	3	43	54
Parents or Other Adults Taking Pre- school Children to the Library	18	2	52	53
Parents Take Children to Activities in the Summer After Kindergarten				

Library	19	2	46	53
Book Store	20	1	46	53
Art, Science, or Discovery Museum	21	2	46	53
Concert or Play	22	1	46	53
Parents Take Children (K-12) to Activities			0	0
Ethnic, or Community Organization Events	23	0	56	50
Plays, Music, or other Live Performances	24	1	51	51
Events Sponsored by Religious Group	25	0	59	51
Art gallery, museum, or historical site	26	2	53	49
Zoo or aquarium	27	1	56	43
Athletic or Sports Event	28	1	53	52
Library	29	1	55	47
Pre-school children in High Quality Child Care Settings	30	9	32	52
<b><u>Positive Peer Effects</u></b>				
Living in an integrated neighborhood	31	4	25	79
Attending School That is < 50% Minority	32	4	18	80
Attending School That is < 75% Minority	33	3	22	87
Attending School That is < 50% Free or Subsidized Lunch Eligible	34	4	25	70
Attending School That is < 90% Free or Subsidized Lunch Eligible	35	3	36	79
<b><u>Literacy Resources</u></b>				
Library in Child's Neighborhood	36	1	27	59
Books in Kindergartner's Home	37	4	27	59
<b><u>After-School Activities</u></b>				
Participation in After-School Extra Curricular Activities	38	3	45	54
Participation in Organized Summer Programs	39	3	36	57
<b><u>School Finance</u></b>				

Per pupil spending, K-12 education, nationwide average	40	3	50	55
Class Size, elementary schools		5		
	41		58	50
Class Size, secondary schools		2		
	42		57	55
Teacher Compensation, relative to comparables, nationwide average		3		
	43		48	49
Public (state and local) dollars available for higher education, nationwide, average		3		
	44		50	52
Total		100	41	58

Sources:

- 1: Vaden-Kiernan and McManus 2005, Table 3
- 2: Ibid.
- 3: Ibid.
- 4: Ibid.
- 5: Ibid.
- 6: Ibid.
- 7: Ibid.
- 8: Ibid.
- 9: Ibid.
- 10: Ibid.
- 11: Ibid.
- 12: Ibid.
- 13: NCES 2003c
- 14: YRBSS 2005
- 15: NCES 2006c, Table 33-1
- 16: Vaden-Kiernan and McManus 2005, Table 5
- 17: Mishel 2006
- 18: NCES 2007I, Table 45
- 19: N/A, Placeholder
- 20: N/A, Placeholder
- 21: N/A, Placeholder
- 22: N/A, Placeholder
- 23: Vaden-Kiernan and McManus 2005, Table 8
- 24: Ibid.
- 25: Ibid.
- 26: Ibid.
- 27: Ibid.
- 28: Ibid.
- 29: Ibid.
- 30: Bub and McCartney 2005
- 31: N/A, Placeholder
- 32: NCES 2007I, Table 93
- 33: Ibid.
- 34: Orfield and Lee 2005, Table 7
- 35: Ibid.
- 36: N/A, Placeholder

- 37: NCES 2005a
- 38: Vaden-Kiernan and McManus 2005, Table 11
- 39: NCES 1998b
- 40: NCES 2007I, Tables 33 and 168; NCES 2006d, Table 38; and EFSC 2006
- 41: NCES 2007I, Table 38; NCES 2006d, Tables 33 and 64
- 42: Ibid.
- 43: Mishel 2007b and NCES 2006d, Tables 33 and 38
- 44: NCES 2007I, Table 339 and U.S. Census Bureau 2004d



## **Appendix C**

### **Expert Weighting Panelists**

Data for each of the goal areas in the Report Card are drawn from a number of indicators. Before drawing conclusions about black-white inequity in any goal area, the Report Card must determine the relative importance of each indicator. Not all indicators are equally important.

To assign weights to each indicator, experts in each of the goal areas were consulted.\* The weights used in each goal area of the Report Card are the average of weights assigned by the experts in that goal area.

We are grateful for the willingness of these experts to take on the task of weighting the indicators, and for the careful thought they devoted to the task. We acknowledge here the generous help of these experts, as well as of some participants in the weighting panels who wished to remain anonymous.

Institutions are listed for identification purposes only, and may represent the institutions with which these experts were affiliated at the time they participated in the panel, or the institutions from which they retired:

Howard Adelman, Center for Mental Health in Schools, Department of Psychology, University of California at Los Angeles (Goal: Emotional Health)

John P. Allegrante, Teachers College, Columbia University (Goal: Physical Health)

Elizabeth Altmaier, College of Education, University of Iowa (Goal: Emotional Health)

Marcia Angell, Department of Social Medicine, Harvard Medical School, Harvard University (Goal: Physical Health)

Jo-Ann Amadeo, Close Up Foundation (Goal: Citizenship and Community Responsibility)

Tim Ansley, College of Education, University of Iowa (Goal: Critical Thinking)

Arnold Aprill, Chicago Arts Partnerships in Education (Goal: Appreciation of the Arts and Literature)

Thomas Bailey, Teachers College, Columbia University (Goal: Social Skills and Work Ethic)

Paul Barton, Policy Information Center, Educational Testing Service (Goal: Basic Academic Skills)

Mark Bauerlein, Department of English, Emory University

Marjorie Benjamin, American School Health Association (Goal: Physical Health)

James Bogden, Safe and Healthy Schools Project, National Association of State Boards of Education (Goal: Physical Health)

Marla Brassard, Teachers College, Columbia University (Goal: Emotional Health)

Nancy Brener, Division of Adolescent and School Health, Centers for Disease Control and Prevention (Goal: Physical Health)

David Campbell, Institute for Educational Initiatives, University of Notre Dame (Goal: Citizenship and Community Responsibility)

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\* No weighting panel was used for Goal 8 (Preparation for Skilled Work), because the occupations used for this goal were weighted by their relative importance.

Peter Capelli, The Wharton School, University of Pennsylvania (Goal: Social Skills and Work Ethic)

Rico Catalano, School of Social Work, University of Washington (Goal: Emotional Health)

Sandra L. Christenson, College of Education and Human Development, University of Minnesota (Goal: Emotional Health)

Madonna Constantine, Teachers College, Columbia University (Goal: Emotional Health)

Margaret Crocco, Teachers College, Columbia University (Goal: Citizenship and Community Responsibility)

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James Guthrie, Peabody Center for Education Policy, Vanderbilt University (Goal: Inputs)

Carole Hahn, Division of Educational Studies, Emory University (Goal: Citizenship and Community Responsibility)

Michael Handel, Northeastern University (Goal: Social Skills and Work Ethic)

Eric Hanushek, The Hoover Institution, Stanford University (Goal: Inputs)

Richard Hersh, Collegiate Learning Assessment Project (Goal: Critical Thinking)

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Jennifer Hochschild, Department of Government, Harvard University (Goal: Citizenship and Community Responsibility)

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Laura Jannone, School of Nursing & Health Studies, Monmouth University (Goal: Emotional Health)

Christopher Jencks, Kennedy School of Government, Harvard University (Goal: Inputs)

Stephen Jordan, Business Civic Leadership Center, (Goal: Social Skills and Work Ethic)

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Appendix D  
Equal Weight Comparisons

Goal Area	<u>Gap using Expert Panelists' Indicator Weights Percentile Rank</u>			<u>Gap with Each Indicator Weighted Equally Percentile Rank</u>			Difference in Gaps from Two Methods
	Blacks	Whites	Gap	Blacks	Whites	Gap	
Basic Academic Skills	0.31	0.61	-0.29	0.31	0.60	-0.29	0.00
Critical Thinking	0.25	0.56	-0.31	0.27	0.55	-0.28	-0.02
Social Skills and Work Ethic Citizenship and Civic Responsibility	0.41	0.56	-0.16	0.42	0.55	-0.14	-0.02
Physical Health	0.42	0.55	-0.13	0.41	0.55	-0.13	0.00
Emotional Health	0.47	0.54	-0.07	0.41	0.44	-0.03	-0.04
Arts and Literature	0.49	0.54	-0.05	0.51	0.52	-0.01	-0.04
Vocational Education	0.42	0.54	-0.12	0.42	0.54	-0.12	0.00
All Goals	0.41	0.54	-0.13	0.43	0.54	-0.11	-0.02
	0.38	0.56	-0.18	0.38	0.55	-0.17	-0.02

## Appendix E

### Additional Indicators for Future Report Card Iterations

To develop this Report Card on Comprehensive Equity, we examined several hundred indicators for which nationally representative data are available that can be disaggregated by age and race. In selecting which to use, the primary criterion was whether an indicator was informative about outcomes in one of the eight goal areas. Because we concluded that available outcome indicators were not sufficiently definitive regarding whether the goals were being achieved, some output indicators are also used. And because even with the addition of output indicators, the Report Card cannot reach definitive conclusions about the extent to which the eight goal areas are being achieved, a collection of input indicators was also added. In total, this first iteration of the Report Card on Comprehensive Equity is based on 174 indicators, spread over eight goal areas and also including a group of input indicators.

As noted in the body of this report, not each of the 174 indicators is equally important. The authors consulted a panel of experts (listed in Appendix C) in seven of the eight goal areas plus the input collection, and asked these experts to assign weights to each of the indicators in the area in which they had expertise. The weights used in each goal-area table are an average of the experts' judgments regarding the relative importance of indicators relevant to that goal.

In several cases, the experts expressed regret that they were not given the opportunity to weight indicators other than those that this Report Card employs. Usually, the reason for not including these preferred indicators was that the data are not available in a nationally representative database where they can be disaggregated by age and race. But in some cases, the

experts recommended other indicators that presently exist and which could have been included, but which we overlooked. These are listed below.\*

The inclusion of these additional indicators might increase the precision of the Report Card's estimates. However, we are convinced that the broad trends described in this Report Card would be unaffected by inclusion of these additional indicators, which mainly offer slightly different ways of looking at phenomena already described by one of the 174 indicators used. Because many of the newly suggested indicators, described below, came to our attention after most experts had assigned weights to the indicators used, it was not practical to revise this iteration of the Report Card to include the suggested additions or substitutions. However, future iterations of this Report Card may include these additional indicators, weighted appropriately for relative importance.

### **Goal 3: Social Skills and Work Ethic**

Future iterations of a Report Card on Comprehensive Equity could include, as indicators of social skills and work ethic, young adult (15-25 year-olds) participation in organized groups, or clubs during high school, such as sports teams, band or chorus, or language clubs. This indicator is currently available from the Center for Information and Research on Civic Learning and Engagement's (CIRCLE) 2006 Civic and Political Health of the Nation Survey, a national telephone survey that over-samples the target populations of young adults and blacks. Data disaggregated by race and ethnicity have not yet been published for this indicator, but a future iteration of the Report Card could request and then analyze the data file from CIRCLE for this purpose.

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\* In a separate report, we describe a data collection system that would include all desirable indicators necessary to estimate black-white outcome differences, by state, in each of the eight goal areas.

Currently, the Report Card includes summer employment status of 16-19 year-olds. An alternative or supplementary indicator for this goal area may be year-round employment or school enrollment. The Current Population Survey (CPS) of the U.S. Census Bureau collects the necessary data for the creation of this indicator. The share of 16-19 year-olds not enrolled in school and not working disaggregated by race/ethnicity is published by Federal Interagency Forum on Child and Family Statistics, *America's Children: Key National Indicators of Well-Being, 2007*.

#### **Goal 4: Citizenship and Community Responsibility**

CIRCLE's 2006 Civic and Political Health of the Nation Survey is also a resource for measurement of citizenship and community responsibility. Because it over-samples young adults, this survey provides more precise measures of participation in voluntary organizations and of contributions to a charity than does the General Social Survey used in this report. Data from the 2006 Civic and Political Health of the Nation Survey could replace data from the General Social Survey measuring voluntary participation in organizations and contributions to a charity. These two indicators are published in the form the Report Card requires.<sup>67</sup> The Volunteer Supplement of the U.S. Census Bureau's Current Population Survey could also serve as source of more specific data on volunteer participation.

In addition, the 2006 Civic and Political Health of the Nation Survey includes data on the various means by which individuals get news and information. The next iteration of the Report Card could include young adults' frequency of watching the national news on television, frequency of reading the news on the Internet, and frequency of listening to the news on the radio. As with young adult participation in organized groups or clubs during high school, these indicators are not currently published with data disaggregated by race/ethnicity but a future



iteration of the Report Card could request and then analyze the data file from CIRCLE for this purpose.

A variation of the indicator suggested for Goal 3, young adult participation in organized groups or clubs during high school, could also be included in the measurement of Goal 4. A follow-up question in the CIRCLE survey, asked of respondents who indicated they participated in organized groups or clubs during high school, inquires if any of the groups included student government or organizations concerned with social or political issues. These indicators are not currently published with data disaggregated by race/ethnicity, but a future iteration of the Report Card could request and analyze the data file from CIRCLE for this purpose.

One indicator of civic engagement not included in this iteration of the Report Card, but for which there are reliable data disaggregated by race and age, is participation in religious activities. The CIRCLE survey may provide an accurate estimate of young adult participation in religious activities and membership in religious organizations because of the young adult target sample. -However, the CPS is also a reliable source of this indicator, and, because the CPS is a continuous monthly survey, it is a more dependable source, particularly for trend data.

CIRCLE's 2006 Civic and Political Health of the Nation Survey includes other measures of young adults' active citizenship and sense of community responsibility. How often young adults talk with family and friends about current events or things heard on the news, how often they talk with family and friends about political or governmental items, how often they talk to others and try to convince them to vote a certain way during an election, and whether they have expressed their opinion to a newspaper, magazine, radio, or television station in the past year are all indicators that future iterations of the Report Card could include. Several of these potential

indicators have been published with data disaggregated by age and race/ethnicity in Marcelo, Lopez, and Kirby 2007a.

Future iterations of the Report Card could also include campaigning, volunteering, or canvassing for a political candidate or issue in the last year. These indicators are included in the CIRCLE 2006 Civic and Political Health of the Nation Survey, and all are published with disaggregated data in Marcelo, Lopez, and Kirby 2007a.

The CIRCLE 2006 Civic and Political Health of the Nation Survey also asks young adults, “Have you ever confronted someone who has said something that you consider offensive, such as a racist or other prejudiced comment?” The Report Card could use data generated from this question as an indicator, although disaggregated data are not currently published.

To better measure citizenship and community responsibility outcomes, the next iteration could include indicators of neighborhood engagement developed by the Corporation for National and Community Service (CNCS) from the 2006 Current Population Survey volunteering supplement (CNCS 2007). These are: the proportion of adults who reported attending a public meeting within the past year in which community affairs were discussed, the mean number of public meetings attended by adults who participated in one or more meetings, the proportion of adults who reported working with other people in their neighborhoods to fix or improve something within the past year, and the mean number of times adults reported working with their neighbors to fix or improve something.<sup>68</sup> CNCS does not publish these data disaggregated by age and race/ethnicity, but CPS data are readily available.

Data from the International Association for the Evaluation of Educational Achievement’s (IEA) Civic Education Study could supplant or supplement some of the current output indicators of citizenship and community responsibility such as participation in scouting and participation in

unpaid internships in the summer. In 1999, the IEA Civic Education Study asked a nationally representative sample of 14 year-olds if they belong or have belonged to various organizations (including volunteer organizations, environmental organizations, religious organizations, scouts, etc.) and if they read a newspaper. Although these data are not currently published by race/ethnicity, future iterations could obtain the data and analyze them, if necessary requesting the assistance of IEA to do so.

### **Goal 5: Physical Health:**

Indicators used by the Report Card for Goal 5 seem to be the most complete. Nonetheless, a future iteration might also include two important input indicators: the presence of a school-based health center and the full-time nurse-to-student ratio in schools. Both indicators are available in the Centers for Disease Control and Prevention's School Health Policies and Programs Study (SHPPS), a national survey most recently conducted in 2006. Although SHPPS data are at the school level, they are available on the racial/ethnic identities of students at each school; therefore, data could be weighted by the minority population in each school to estimate national inequities.

In the current Report Card, adequate physical activity of young adults is employed as an output indicator because physical activity is conceived as way to promote good physical health outcomes, not as an end in itself. However, adequate physical activity could be considered, in future Report Card iterations, a physical health outcome, not output. (Inasmuch as all physical health outcome and output indicators are weighted as a combined group, such a reclassification would not affect the estimates of inequity.)

### **Goal 6: Emotional Health**

An additional output indicator of emotional health is the percentage of children with a high level of behavioral and emotional problems as determined by the Child Behavioral and Emotional Problems Scale (CBEP). The CBEP was administered to national sample of parents or primary caregivers of children from 3 to 17 years old in the National Survey of American Families (NSAF). Currently these data are not disaggregated by race, but the underlying NSAF data come from a sufficiently large sample to permit reliable estimates by race.

Another indicator that might be included in the next iteration of the Report Card is adolescent bullying. The share of United States' students in grades 6 through 10 that participated in some form of bullying in 1998, disaggregated by race, is available in Nansel et al. 2001.

A resource to be relied upon in future iterations of the Report Card is the National Longitudinal Study of Adolescent Health (Add Health). The first two waves of Add Health interviewed students in grades 7 to 12 between 1994 and 1996. In 2001 and 2002, when the respondents were between the ages of 18 and 26 years old, a third wave included a social psychology and mental health section with questions measuring self-esteem, emotional stability, and adequate psychological development that may be useful for future iterations such as: Do you agree or disagree that in social situations, you tend not to follow the crowd, but instead behave in a way that suits your mood at the time?; Do you agree or disagree that you live your life without much thought for the future?; Do you agree or disagree that you have many good qualities?; Do you agree or disagree that you go out of your way to avoid having to deal with problems in your life?; How often in the last 7 days did you feel that people disliked you?; How often in the last 7 days were you bothered by things that usually don't bother you?; In the past 12 months, how often have you laughed a lot?

The Report Card includes an indicator of suicide attempts resulting in medical attention for high school students. Also available, by age and race, is a broader indicator of self-harm collected by the National Center for Injury Prevention and Control (NCIPC 2007) and published by the Web-based Injury Statistics Query and Reporting System (WISQARS). The NCIPC (2007) defines self-harm as “confirmed or suspected injury or poisoning resulting from a deliberate violent act inflicted on oneself with the intent to take one's own life or with the intent to harm oneself, including suicide, suicide attempt, and other intentional self-harm.”

Many nationally representative emotional health indicators that can be disaggregated by race and age and were used in this Report Card are negative indicators, measuring the absence of a disorder or problem, not the presence of positive behaviors or feelings. The next iteration should include positive indicators of emotional health, if available. The Positive Psychology Center at the University of Pennsylvania publishes various measurement tools that could be used to assess positive outcomes of emotional health (Positive Psychology Center 2007). As mentioned above, the third wave of the Add Health survey also includes a few positive indicators of emotional health that could be included in future iterations.

### **Goal 7: Appreciation of the Arts and Literature**

Future iterations of this Report Card could include additional data on young adult reading from either the American Time Use Survey (ATUS) or the National Assessment of Educational Progress’s (NAEP) long-term trend assessment in reading. Leisure time spent reading during the average weekday and during the average weekend are indicators found in the ATUS. The Bureau of Labor Statistics conducts the ATUS and frequency data are published on its website. The next iteration of the Report Card could obtain and analyze the ATUS data file, disaggregating the data

by age and race/ethnicity. Data on a slightly younger population, 17 year-olds, measuring frequency of reading for fun, are available in NAEP's long-term trend assessment in reading.<sup>69</sup>

### **Inputs**

Two important measures of family characteristics, mother's education and family poverty status, could be included in future iterations. Both indicators are found in many datasets; because it would be preferable to include these indicators for young children, the most suitable source is the Early Childhood Longitudinal Study (ECLS). The Birth Cohort from the ECLS, or the ECLS-B, contains current data on the education level of mothers of kindergarteners, and the family poverty status of kindergarteners. It is likely that the National Center for Education Statistics will publish these data in the near future.

Another indicator of family characteristics, collected in the National Longitudinal Study of Youth (NLSY79), Children and Young Adults survey, is the Home Observation for Measurement of the Environment (HOME) scale, measuring how conducive a child's home environment is for cognitive stimulation and emotional support. These data have been published in Armor (2003).

Future iterations of the Report Card could include additional measures of teacher quality. The NAEP 4<sup>th</sup> and 8<sup>th</sup> grade Reading Assessments both include teacher quality characteristics, such as teacher experience and teacher credentials, by student race/ethnicity. Specifically, including the percent of 4<sup>th</sup> or 8<sup>th</sup> grade students taught by teachers with at least five years of teaching experience and the percent of 4<sup>th</sup> or 8<sup>th</sup> grade students taught by teachers with regular/standard credentials may strengthen the Report Card's ability to capture whether black and white students experience different teacher characteristics. These indicators are available online from the NAEP Data Explorer.

A final source of input indicators is *America's Children: Key National Indicators of Well-Being, 2007*. This report combines 38 indicators of children's well-being from multiple sources. Four indicators deserve consideration for the next iteration of the Report Card: children living with two married parents, the child maltreatment rate, children living in families with secure employment, and children living in food secure households. These four indicators are all from recurring nationally representative surveys and can be disaggregated by race.

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## ENDNOTES

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- <sup>1</sup> McMurrer 2007; Finn and Ravitch 2007a; Finn and Ravitch 2007b; Rothstein and Jacobsen 2006.
- <sup>2</sup> Blinder 2006.
- <sup>3</sup> Currie 2005.
- <sup>4</sup> Hanushek, Kain and Rivkin 2004.
- <sup>5</sup> McNeil 2007; DQC 2007.
- <sup>6</sup> Massey et al. 2007; Rimer and Arenson 2004.
- <sup>7</sup> Haynie 2002.
- <sup>8</sup> U.S. Census 2006
- <sup>9</sup> NCES 2003a
- <sup>10</sup> U.S. Census 2006
- <sup>11</sup> Edmonston, Lee and Passel 2003, Table 9.6
- <sup>12</sup> Finn 1998; Grissmer 1999.
- <sup>13</sup> Rothstein 2004
- <sup>14</sup> Seligman, Martin. 2007. See also Seligman, Steen, Park and Peterson 2005
- <sup>15</sup> See Rothstein, Jacobsen and Wilder 2006.
- <sup>16</sup> Popham 2004; Hoover 2003.
- <sup>17</sup> For the source of underlying data, see Appendix B4.
- <sup>18</sup> For the source of underlying data, see Appendix B5.
- <sup>19</sup> For the source of underlying data, see Appendix B6.
- <sup>20</sup> Sackett et al. 2001; O'Neil and Brown 1997; Chan et al. 1997; Steele and Aronson 1998.
- <sup>21</sup> Draper and Hicks 2002, Table 2.
- <sup>22</sup> Olson 2005
- <sup>23</sup> Sternberg et al. 2004
- <sup>24</sup> Arenson 2006. Hersh 2005.
- <sup>25</sup> NCES 2007a
- <sup>26</sup> NCES 2007b
- <sup>27</sup> NCES 2007c

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- <sup>28</sup> NCES 2007d
- <sup>29</sup> NCES 2007e
- <sup>30</sup> NCES 2007f
- <sup>31</sup> NCES 2007m
- <sup>32</sup> NCES 2007g
- <sup>33</sup> NCES 2007h
- <sup>34</sup> NCES 2003b
- <sup>35</sup> Hurst, Kelly, and Princiotta 2004, Table 1.
- <sup>36</sup> Heckman and Rubenstein 2001; Cameron and Heckman 2003; Duncan and Dunifon 1998; Dunifon and Duncan 1998.
- <sup>37</sup> Greene and Forster 2003; Greene and Winters 2005.
- <sup>38</sup> Mishel and Roy, 2006
- <sup>39</sup> Ibid., Table 9
- <sup>40</sup> Lichtblau 2005
- <sup>41</sup> Planty and Regnier 2003.
- <sup>42</sup> NCHS 2006
- <sup>43</sup> NHANES 2001-2004
- <sup>44</sup> MMWR 2006 p. 94
- <sup>45</sup> YRBSS 2005
- <sup>46</sup> Welk, Morrow, and Falls 2002
- <sup>47</sup> Lumeng et al. 2006
- <sup>48</sup> Sargent et al. 2005
- <sup>49</sup> Polhamus et al. 2003; Idjradinata and Pollitt 1993.
- <sup>50</sup> Brown and Sherman 1995.
- <sup>51</sup> GAO, 1999; Lanphear et al. 2000.
- <sup>52</sup> GAO 1999
- <sup>53</sup> Komaromy et al. 1996
- <sup>54</sup> NCEE 2006; ACT 2006;

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<sup>55</sup> Hecker 2005; Mishel, Bernstein and Allegretto 2006, Table 3.48.

<sup>56</sup> Blinder 2006.

<sup>57</sup> Mishel, Bernstein, and Allegretto 2005, Table 1.1

<sup>58</sup> Mishel, Bernstein, and Allegretto 2005, Table 1.2

<sup>59</sup> e.g., Zajonc and Markus 1975

<sup>60</sup> Wilson 1987

<sup>61</sup> Alexander, Entwisle, and Olson 2007

<sup>62</sup> Parrish, Matsumoto, and Fowler 1995 table 10, 11, 12 <http://nces.ed.gov/pubs95/95300.pdf>

<sup>63</sup> Hanushek 2002, p. 38.

<sup>64</sup> Rice 2003.

<sup>65</sup> Schonlau, Fricker and Elliott 2002

<sup>66</sup> Pineau and Dennis 2004

<sup>67</sup> Marcelo, Lopez, and Kirby 2007a

<sup>68</sup> CNCS 2007

<sup>69</sup> Perie, Moran, and Lutkus 2005