Introduction

The 50th anniversary of the Supreme Court's school desegregation order has intensified public awareness of the persistent gap in academic achievement between black and white students. The black—white gap is partly the difference between the achievement of all lower-class and middle-class students, but there is an additional gap between black and white students even when the blacks and whites come from families with similar incomes.

The American public and its political leaders, along with professional educators, have frequently vowed to close these gaps. Americans believe in the ideal of equal opportunity and also believe that the best way to ensure that opportunity is to enable all children, regardless of their parents' stations, to leave school with skills that position them to compete fairly and productively in the nation's democratic governance and occupational structure. The fact that children's skills can so clearly be predicted by their race and family economic status is a direct challenge to our democratic ideals.

Policy makers almost universally conclude that these existing and persistent achievement gaps must be the result of wrongly designed school policies – either expectations that are too low, teachers who are insufficiently qualified, curricula that are badly designed, classes that are too large, school climates that are too undisciplined, leadership that is too unfocused, or a combination of these.

Americans have come to the conclusion that the achievement gap is the fault of "failing schools" because it makes no common sense that it could be otherwise. After all, how much money a family has, or the color of a child's skin, should not influence how well that child learns to read. If teachers know how to teach reading, or math, or any other

subject, and if schools emphasize the importance of these tasks and permit no distractions, children should be able to learn these subjects whatever their family income or skin color.

This common-sense perspective, however, is misleading and dangerous. It ignores how social class characteristics in a stratified society like ours may actually influence learning in school. It confuses social class, a concept that Americans have historically been loath to consider, with two of its characteristics, income and, in the United States, race. For it is true that low income and skin color themselves don't influence academic achievement, but the collection of characteristics that define social class differences inevitably influences that achievement.

Recognizing social class and its impact on learning

This book tries to explain how social class differences are likely to affect the academic performance of children. For example, parents of different social classes often have different styles of childrearing, different ways of disciplining their children, different ways of communicating expectations, and even different ways of reading to their children. These differences do not express themselves consistently or in the case of every family; rather, they influence the average tendencies of families from different social classes.

That there would be personality and childrearing differences, on average, between families in different social classes makes sense when you think about it: if upper-middle-class parents have jobs where they are expected to collaborate with fellow employees, create new solutions to problems, or wonder how to improve their contributions, they are more likely to talk to their children in ways that differ from the ways of lower-class parents whose own jobs simply require them to follow instructions without question. Children who are raised by parents who are professionals will, on average, have more inquisitive attitudes toward the material presented by their teachers than will children who are raised by working-class parents. As a result, no matter how competent the teacher, the academic achievement of lower-class children will, on average, almost inevitably be less than that of middleclass children. The probability of this reduced achievement increases as the characteristics of lower-social-class families accumulate.

Many social and economic manifestations of social class also have important implications for learning. Health differences are among them. Lower-class children, on average, have poorer vision than middleclass children, partly because of prenatal conditions, partly because of how their eyes are trained as infants. They have poorer oral hygiene, more lead poisoning, more asthma, poorer nutrition, less adequate pediatric care, more exposure to smoke, and a host of other problems. As will be discussed in this book, each of these well-documented social class differences is likely to have a palpable effect on academic achievement, and, combined, the influence of all of these differences is probably huge.

The growing unaffordability of adequate housing for low-income families is another social class characteristic that has a demonstrable effect on average achievement. Children whose families have difficulty finding stable housing are more likely to be mobile, and student mobility is an important cause of low student achievement. It is hard to imagine how teachers, no matter how well trained, could be as effective for children who move in and out of their classrooms as teachers can be for children whose attendance is regular.

Differences in wealth between parents of different social classes are also likely to be important determinants of student achievement, but these differences are usually overlooked because most analysts focus only on annual income to indicate disadvantage. This practice makes it hard to understand, for example, why black students, on average, score lower than white students whose family incomes are the same. It is easier to understand this pattern when we recognize that children can have similar family incomes but be ranked differently in the social class structure, even in economic terms: black families with low income in any year are likely to have been poor for longer than white families with similar income in that year. White families are likely to own far more assets that support their children's achievement than are black families at the same current income level.

Throughout this book, the term "lower class" is used to describe the families of children whose achievement will, on average, be predictably lower than the achievement of middle-class children. American sociologists once were comfortable with this term, but it has fallen out of fashion. Instead we tend to use euphemisms like "disadvantaged" students, "at-risk" students, "inner-city" students, or students of "low-

socioeconomic status." None of these terms, however, capture the central characteristic of lower-class families: a collection of occupational, psychological, personality, health, and economic traits that interact, predicting performance not only in schools but in other institutions as well that, on average, differs from the performance of families from higher social classes.

The critique in this book tries to show that much of the difference between the average performance of black and white children can probably be traced to differences in their social class characteristics. But there are also cultural characteristics that likely contribute a bit to the black—white achievement gap. These cultural characteristics may have identifiable origins in social and economic conditions — for example, black students may value education less than white students because a discriminatory labor market has not historically rewarded black workers for their education — but values can persist independently and outlast the economic circumstances that gave rise to them.

One of the bars to our understanding of the achievement gap is that most Americans, even well-educated ones, are inexpert in discussions of statistical distributions. The achievement gap is a phenomenon of averages, a difference between the average achievement of lower-class children and the average achievement of middle-class children. In human affairs, every average characteristic is a composite of many widely disparate characteristics. For example, we know that lead poisoning has a demonstrable effect on young children's I.Q. scores. Children with high exposure to lead, from fumes or from ingesting paint or dust, have I.Q. scores, on average, that are several points lower than the I.Q. scores of children who are not so exposed. But this does not mean that every child with lead poisoning has a lower I.Q. Some children with high lead levels in their blood have higher I.Q. scores than typical children with no lead exposure. When researchers say that lead poisoning seems to affect academic performance, they do not mean that every lead-exposed child performs more poorly. But the high performance of a few leadexposed children does not disprove the conclusion that lead exposure is likely to harm academic achievement.

This reasoning applies to each of the social class characteristics that are discussed in this book as well as to the many others that, for lack of space or the author's ignorance, are not discussed. In each case,

differences in the average academic performance of children from different social classes, but, in each case, some children with lower-class characteristics perform better than typical middle-class children.

Good teachers, high expectations, standards, accountability, and inspiration are not enough

As is argued in this book, the influence of social class characteristics is probably so powerful that schools cannot overcome it, no matter how well trained are their teachers and no matter how well designed are their instructional programs and climates. But saying that a social class achievement gap should be expected is not to make a logical statement. The fact that social class differences are associated with, and probably cause, a big gap in academic performance does not mean that, in theory, excellent schools could not offset these differences. Indeed, there are many claims today, made by policy makers and educators, that higher standards, better teachers, more accountability, better discipline, or other effective practices can close the achievement gap.

The most prominent of these claims has been made by a conservative policy institute (the Heritage Foundation), by a liberal advocacy group (the Education Trust), by economists and statisticians who claim to have shown that better teachers do in fact close the gap, by prominent educators, and by social critics. Many (although not all) of the instructional practices promoted by these commentators are well designed, and these practices probably do succeed in delivering better educations to some lower-class children. But a careful examination of each claim that a particular school or practice has closed the race or social class achievement gap shows that the claim is unfounded.

In some cases, the claim fails because it rests on the misinterpretation of test scores; in other cases, the claim fails because the successful schools identified have selective student bodies. Remember that the achievement gap is a phenomenon of averages – it compares the average achievement of lower- and middle-class students. In both social classes, some students perform well above or below the average performance of their social class peers. If schools can select (or attract) a disproportionate share of lower-class students whose performance is above average for their social class, those schools can appear to be quite

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mended. But their successes provide no evidence that their instructional approaches would close the achievement gap for students who are average for their social class groups.

The limitations of the current testing regime

Whether efforts to close the social class achievement gap are in-school or socioeconomic reforms, it is difficult to know precisely how much any intervention will narrow the gap. We can't estimate the effect of various policies partly because we don't really know how big the achievement gap is overall, or how big it is in particular schools or school systems.

This lack of knowledge about the merits of any particular intervention will be surprising to many readers because so much attention is devoted these days to standardized test scores. It has been widely reported that, on average, if white students typically score at around the 50th percentile of achievement on a standardized math or reading test, black students typically score at around the 23rd percentile. (In more technical statistical terms, black students score, on average, between 0.5 and 1.0 standard deviations below white students.)

But contrary to conventional belief, this may not be a good measure of the gap. Because of the high stakes attached to standardized tests in recent years, schools and teachers are under enormous pressure to raise students' test scores. The more pressure there has been, the less reliable these scores have become. Partly, the tests themselves don't really measure the gap in the achievement of high standards we expect from students because high standards (for example, the production of good writing and the development of research skills and analysis) are expensive to test, and public officials are reluctant to spend the money. Instead, schools use inexpensive standardized tests that mostly, though not entirely, assess more basic skills. Gaps that show up on tests of basic skills may be quite different from the gaps that would show up on tests of higher standards of learning. And it is not the case that a hierarchy of skills are gained sequentially by students. Truly narrowing the achievement gap would not require children to learn "the basics" first. Lower-class children cannot produce typical middleclass academic achievement unless they learn basic and more advanced skills simultaneously, with each reinforcing the other. This is, in fact, how middle-class children who come to school ready to learn acquire both basic and advanced skills.

The high stakes recently attached to standardized tests have given teachers incentives to revise the priorities of their instruction, especially for lower-class children, so that they devote greater time to drill on basic skills and less time to other, equally important (but untested) learning areas in which achievement gaps also appear. In a drive to raise test scores in math and reading, the curriculum has moved away not only from more advanced mathematical and literary skills, but from social studies, literature, art, music, physical education, and other important topics where test scores do not result in judgments of school quality. We don't know how large the race or social class achievement gaps are in these subjects, but there is no reason to believe that gaps in one domain are the same as the gaps in others, or that the relationships between gaps in different domains are consistent at different ages and on different tests. For example, education researchers normally expect that gaps in reading will be greater than gaps in math, probably because social class differences in parental support play a bigger role for reading than for math. Parents typically read to their very young children, and middle-class parents do so more and in more intellectually stimulating ways, but few parents do math problems with their young children. Yet, on at least one test of entering kindergartners, race and social class gaps in math exceed those in reading.

Appreciating the importance of non-cognitive skills

We also don't know how large are the social class gaps in non-cognitive skills - character traits like perseverance, self-confidence, self-discipline, punctuality, communication skills, social responsibility, and the ability to work with others and resolve conflicts. These are important goals of public education; in some respects, they may be more important than academic outcomes.

Employers, for example, consistently report that workers have more serious shortcomings in these non-cognitive areas than in academic proficiency. Econometric studies show that non-cognitive skills are a stronger predictor of future earnings than are test scores. In public opinion surveys, Americans consistently say they want schools to produce good citizens and socially responsible adults first, and high academic proficiency second. Yet we do a poor job, actually no job at all, in assessing whether schools are generating such non-cognitive

outcomes. And so we also do a poor job of assessing whether schools are successfully narrowing the social class gap in these traits, or whether social and economic reform here, too, would be necessary to narrow these gaps.

There is some evidence that the non-cognitive social class gaps should be a cause for concern. For very young children, measures of anti-social behavior mirror the academic test score gaps. Children of lower social classes exhibit more anti-social behavior than children of higher social classes, both in early childhood and in adolescence. It would be reasonable to expect that the same social and economic inequalities that likely produce academic test score gaps produce differences in non-cognitive traits as well.

In some areas, however, it seems that non-cognitive gaps may be smaller than cognitive ones. In particular, analyses of some higher education affirmative action programs find that, when minority students with lower test scores than white students are admitted to colleges, the lower-scoring minority students may exhibit more leadership, devote more serious attention to their studies, and go on to make greater community contributions. This evidence reinforces the importance of measuring such non-cognitive student characteristics, something that few elementary or secondary schools attempt. Until we begin to measure these traits, we will have no insight into how great are the non-cognitive gaps between lower- and middle-class students.

Moving forward

Three tracks should be pursued vigorously and simultaneously if we are to make significant progress in narrowing the achievement gap. First is school improvement efforts that raise the quality of instruction in elementary and secondary schools. Second is expanding the definition of schooling to include crucial out-of-school hours in which families and communities now are the sole influences. This means implementing comprehensive early childhood, after-school, and summer programs. And third are social and economic policies that enable children to attend school more equally ready to learn. These policies include health services for lower-class children and their families, stable housing for working families with children, and the narrowing of growing income inequalities in American society.

Many of the curricular and school organizational reforms promoted by education critics have merit and should be intensified. Repairing and upgrading the scandalously decrepit school facilities that serve some lower-class children, raising salaries to permit the recruitment of more qualified teachers for lower-class children, reducing class sizes for lowerclass children (particularly in the early grades), insisting on higher academic standards that emphasize creativity and reasoning as well as basic skills, holding schools accountable for fairly measured performance, having a well-focused and disciplined school climate, doing more to encourage lower-class children to intensify their own ambitions - all of these policies, and others, can play a role in narrowing the achievement gap. These reforms are extensively covered in other books and in public discussions of education and are not dwelt upon in this book. Instead, the focus here is the greater importance of reforming social and economic institutions if we truly want children to emerge from school with equal potential.

Readers should not misinterpret this emphasis as implying that better schools are not important, or that school improvement will not make a contribution to narrowing the achievement gap. Better school practices can probably narrow the gap. School reform, however, is not enough. In seeking to close the achievement gap for low-income and minority students, policy makers focus inordinate attention on the improvement of instruction because they apparently believe that social class differences are immutable and that only schools can improve the destinies of lower-class children.

This is a peculiarly American belief – that schools can be virtually the only instrument of social reform – but it is not based on evidence about the relative effectiveness of economic, social, and educational improvement efforts. While many social class characteristics are impervious to short-term change, many can be easily affected by public policies that narrow the social and economic gaps between lower- and middle-class children. These policies can probably have a more powerful impact on student achievement (and, in some cases, at less cost) than an exclusive focus on school reform, but we cannot say so for sure because social scientists and educators have devoted no effort to studying the relative costs and benefits of non-school and school reforms. For example, some data presented in this book suggest that establishing an optometric clinic in a school to improve the vision of low-income

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children would probably have a bigger impact on their test scores than spending the same money on instructional improvement. We can't be certain if this is the case, however, because there have been no experiments to test the relative benefits of these alternative strategies.

Proposals to increase the access of lower-class families to stable housing should also be evaluated for their educational impact, as should proposals to improve all facets of the health of lower-class children, not their vision alone.

Incomes have become more unequally distributed in the United States in the last generation, and this inequality contributes to the academic achievement gap. Proposals for a higher minimum wage or earned income tax credit, designed to offset some of this inequality, should be considered educational policies as well as economic ones, for they would likely result in higher academic performance from children whose families are more secure.

Although conventional opinion is that "failing" schools contribute mightily to the achievement gap, evidence indicates that schools already do a great deal to combat it. Most of the social class difference in average academic potential exists by the time children are three years old. This difference is exacerbated during the years that children spend in school, but during these years the growth in the gap occurs mostly in the after-school hours and during the summertime, when children are not actually in classrooms.

So in addition to school improvement and broader reforms to narrow the social and economic inequalities that produce gaps in student achievement, investments should also be made to expand the definition of schooling to cover those crucial out-of-school hours. Because the gap is already huge at three years of age, the most important focus of this investment should probably be early childhood programs. The quality of these programs is as important as the existence of the programs themselves. To narrow the gap, early childhood care, beginning for infants and toddlers, should be provided by adults who can provide the kind of intellectual environment that is typically experienced by middle-class infants and toddlers. This goal probably requires professional care givers and low child—adult ratios.

Providing after-school and summer experiences to lower-class children that are similar to those middle-class children take for granted would also likely be an essential part of narrowing the achievement

gap. But these experiences can't comprise just after-school or summer remedial programs where lower-class children get added drill in math and reading. Certainly, remedial instruction should be part of an adequate after-school and summer program, but only a part. The advantage that middle-class children gain after school and in the summer likely comes mostly from the self-confidence they acquire and the awareness they develop of the world outside their homes and immediate communities, from organized athletics, dance, drama, museum visits, recreational reading, and other activities that develop their inquisitiveness, creativity, self-discipline, and organizational skills. After-school and summer programs can be expected to have a chance to narrow the achievement gap only by attempting to duplicate such experiences.

Provision of health care services to lower-class children and their families is also needed to narrow the achievement gap. Some health care services are relatively inexpensive, like a school vision clinic. Dental clinics likewise can be provided at costs comparable to what schools typically spend on less-effective reforms. A full array of health services, however, will cost more, but can't likely be avoided if there is a true intent to raise the achievement of lower-class children. Some of these costs, however, are not new; they can be recouped by school clinics with reimbursements from other underutilized government programs, like Medicaid.

For nearly half a century, the association of social and economic disadvantage with a student achievement gap has been well known to economists, sociologists, and educators. Most, however, have avoided the obvious implication of this understanding – raising the achievement of lower-class children requires amelioration of the social and economic conditions of their lives, not just school reform. Perhaps this small volume can spur a reconsideration of this needlessly neglected opportunity.

Social class, student achievement, and the black-white achievement gap

The legacy of the Coleman report

The 50th anniversary of the Supreme Court's desegregation decision in *Brown vs. Board of Education* has directed renewed attention to the persistent achievement gap between black and white students. The court's ruling was an early hint that American public education should be judged on whether schools produce racially equal outcomes. When it relied on sociological reasoning, particularly that of Kenneth Clark, to show that segregation inevitably led black students to achieve less, the court spurred a debate in which Americans continue to engage. If equal resources do not produce equal achievement, what will?

By 1964, 10 years after the court decision, the achievement gap remained huge. Many districts resisted integration. Advocates of equality were convinced that a gap persisted simply because, whether segregated or integrated, black children continued to attend more poorly financed schools.

So Congress then ordered a study to prove, once and for all, that blacks attended inferior schools and that this caused their relatively low achievement. Most people thought the proposed study was somewhat silly; after all, why prove once again that blacks attended inferior schools? But James S. Coleman, a sociologist then at Johns Hopkins University, accepted the charge and concluded, to his own consternation, that variation in school resources had very little – almost nothing – to do with what we now term the test score gap between black and white children. Instead, the family backgrounds of black and white students, their widely different social and economic conditions, accounted for most of the difference.²

Since the Coleman report, refuting this conclusion has been an obsession of education research. Surely, there were flaws in Coleman's analysis. He found, for example, more variation in achievement within schools than between them, but left mostly unexplored whether relative teacher effectiveness might explain this variation more than student background. Nonetheless, scholarly efforts over four decades have consistently confirmed Coleman's core finding; no analyst has been able to attribute less than two-thirds of the variation in achievement among schools to the family characteristics of their students.

Yet no matter how often confirmed, the claim remains counter-intuitive. Why should poverty mean a child can't learn to read, write, and compute? Surely, a good teacher can guide any child, regardless of skin color or family income, to do these things. Surely, throughout our history, poor children have used education to rise in the United States, and poverty was no fatal impediment. If today there is an achievement gap, common sense says that schools must not be doing for blacks what they did for immigrants and other poor youngsters since the nation's founding.

This book endeavors to show why socioeconomic differences must produce an achievement gap between students from different social classes, why these differences have always produced such a gap (myths about a golden age of immigrant achievement notwithstanding), and why this unpleasant reality actually makes the most compelling common sense. Children from lower social classes and from many racial and ethnic minorities, even in the best schools, will achieve less, on average, than middle-class children.

Some common misunderstandings about the achievement gap

Three misunderstandings about the achievement gap cloud public discussion about the pathways by which social class influences learning.

First, the Coleman report's finding that families are a much bigger influence than school quality on achievement is too easily misinterpreted as the notion that "schools don't make a difference." Since it is apparent that schools make a big difference – as the late Senator Daniel Patrick Moynihan (and a co-author, Frederick Mosteller) quipped, "children don't think up algebra on their own" - we are tempted simply to

dismiss Coleman's claim. But what the Coleman report argued is not that schools don't influence achievement but rather that the quality of schools attended by black and white children has little influence on the difference in average achievement between black and white students. If we describe average achievement, schools clearly have the biggest influence of all. This is common sense, and it is not wrong. Whether children learn math is schools' responsibility, but you will be better at predicting which children do better in math, and which do worse, if you know their social class backgrounds.

Think of Coleman's finding this way: all students learn in school, but schools have demonstrated limited ability to affect differences in the rate at which children from different social classes progress. Children from higher social classes come to school with more skills and are more prepared to learn than children from lower classes. All children learn in school, but those from lower classes, on average, do not learn so much faster that they can close the achievement gap.

A second misunderstanding stems from the loose way that the "achievement gap" is described in public discourse. Scholars and educators used to portray the gap in relative, or "norm-referenced" terms. A description of this type leads to the conclusion that average black achievement is from one-half to a full standard deviation below average white achievement. In other words, if average white students are at about the 50th percentile of a national test score distribution, then average black students would be somewhere between about the 16th and the 31st percentile in that distribution.⁴

In contrast, policy makers now typically report achievement in "criterion-referenced terms" - they ask not how students rank in comparison to national averages (or norms), but whether they passed a specific point on a scoring scale. This point is usually termed "proficiency." So instead of asking how black students achieve, on average, relative to whites, policy makers ask what percentage of blacks passed the cut point, and how this compares to the percentage of whites who did so.

This shift in measurement causes great mischief because the gap now depends on how difficult the cut point is. If very simple skill levels are judged proficient, most students of both races can pass the test. If more skill is required, fewer will pass. The simpler the level, the smaller the gap.5 Effective schools can ensure that close to 100% of students, regardless of race or social class, pass simple tests. These schools can

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then claim to have closed the gap because both blacks and whites pass the proficiency point equally. But if the same students took somewhat more difficult tests, achievement gaps would re-appear.

As Chapter 2 discusses further, many claims by those who now

brag that their particular approaches can close the gap have been based on this statistical sleight of hand – if you set a cut score low enough, you can eliminate the gap without in any way changing average achievement of students from different social classes. (And as Chapter 3 describes more fully, this is a strategy that federal law now invites states to adopt.)

So to be clear: when the following pages describe why differences in social class *must* produce a big achievement gap, they refer to a gap in *average* achievement in the wide range of skills that schools should produce – not only basic math and literacy, but also the ability to reason and create; an appreciation of history, science, art, and music; and good citizenship, self-discipline, and communication skills.

The third misunderstanding is to equate group averages and the per-

formance of all individuals within the group. We all know highly suc-

cessful students from lower-class backgrounds, and it is tempting to conclude that their success proves that social class cannot be what impedes most disadvantaged students. But there is a distribution of achievement in every social group, and these distributions overlap. While average achievement of lower-class students is below average achievement of middle-class students, there are always some middle-class students who achieve below typical lower-class levels. And there will always be some lower-class students who achieve above typical middle-class levels. Demography is not destiny, but students' social and economic family characteristics are a powerful influence on their relative average achievement.

These three clarifications should be kept in mind in any discussion of causes of the achievement gap between white and black students or between middle-class and low-income students. First, schools do make a big difference in the level, if not in the variation, of achievement. Second, socioeconomic differences are less of a bar to closing the achievement gap if the gap is measured only as the difference between groups in low-level proficiency. And, third, the power of social class to predict average performance is not inconsistent with high achievement of some students from lower classes. Any average includes relatively higher and relatively lower performance of some in the group.

If these three misunderstandings are not permitted to cloud our thinking, then the Coleman report's conclusion seems not at all counter-intuitive; indeed, it makes perfect sense that the economic, educational, and cultural characteristics of families have powerful effects on learning, effects that even great schools cannot obliterate, on average.

Genetic influences

A family's economic, educational, and cultural traits are influenced by the genetic traits of the parents. This places some limits on how malleable to policy are a family's social class characteristics.

Because of genetic potential, children whose parents have more innate ability are more likely to have more innate ability themselves. This has been confirmed by "adoption studies," in which children brought up in different socioeconomic environments from their biological parents are more similar in their academic achievement to their biological parents than to their adoptive parents. The importance of genetic makeup to academic achievement is rarely discussed in America today, partly because the atmosphere has been poisoned by those who claim that there are differences in academic ability, attributable to genes, between average black and average white students. There is no reasonable basis for such a claim, and there is every reason to believe that the genetic potential within races is identical, or nearly so. Blacks did not become over-represented in the lower class in America because their genetic makeup was inferior, but because they were enslaved, then segregated

The purpose of the rest of this chapter is to explore the influence of families' social and economic conditions on their children's achievement, and to suggest that, to narrow the achievement gap, greater attention should be paid to ameliorating these conditions. We should not devote our attention exclusively to school reform.

and barred from equal opportunity for more than another century.

This book does not dwell on the possible genetic contributions to the social class achievement gap because, given the state of current knowledge, genetic endowment that affects academic achievement is not reasonably amenable to policy influence, whereas socioeconomic conditions or school practices are. It may be that some day more will be known about the interaction of genes and the social and economic environment, and it will then be possible to have a reasoned discussion of

how a balanced policy should not only mix social, economic, and educational reform, but also how these reforms might be made more effective by biological interventions.

We do a little bit of this now. For example, some children, because of their genetic inheritance, have more difficulty seeing print than other children. In such cases, we believe we should offset the effects of genetic makeup on student achievement by providing these children with eyeglasses. In the case of dyslexic children, their difficulty stems not from sight itself but from a genetically influenced tendency to process visual images in ways that make reading more difficult. Here, we agree that the effects of genes on student achievement should be remediated by using different instructional techniques from those used for children without this genetic disability. Increasing attention is also being paid to providing children with different (probably genetically influenced) learning styles with opportunities to learn and to excel in different ways.

The research on genetic contributions to academic achievement is even more preliminary than research on the social and economic contributions. There are even fewer "adoption studies" than there are studies of social and economic influences on achievement. But there is growing understanding by scholars that genetic potential and environmental influence are not distinct but interactive. How genes influence biological development is influenced by environmental conditions, nutrition being the most obvious example. Some people may have a greater genetic disposition to obesity, but whether and how this genetic disposition is expressed depends on the type and quantity of food available. Similar interactions affect academic achievement and the readiness to learn.9

If, however, we were to inquire deeply into how social class influences academic achievement, part of the explanation would be socioeconomic and part would be genetic. This being the case, fully closing the social class achievement gap is probably not a theoretically desirable goal. However, we are far from being in danger of having too small a gap. Fully closing the black—white achievement gap *is* both desirable and feasible, but will first require social and economic reforms that would result in distributing black and white students equally between the social classes.

Social class differences in childrearing

To take full advantage of school, children should enter ready to learn, and their after-school, weekend, and summer activities should reinforce their learning. But children differ in how ready they are to learn when they enter school, and these differences are strongly influenced by their social class backgrounds.

Parents of different social classes tend to raise children somewhat differently. More educated parents read to their young children more consistently and encourage their children to read more to themselves when they are older. ¹⁰ Most parents with college degrees read to their children daily before the children begin kindergarten; few children whose parents have only a high school diploma or less benefit from daily reading. White children are more likely than blacks to be read to or told stories in pre-kindergarten years. ¹¹ Young children of college-educated parents are surrounded by more books at home while children of less-educated parents see fewer books. ¹²

A five-year-old who enters school recognizing some words and who has turned pages of many stories will be easier to teach than one who has rarely held a book. The second child can be taught, but, with equally high expectations and effective teaching, the first will more likely pass a reading test than the second. So the achievement gap begins.

As discussed earlier, this is not a determinist description. Some low-income children are naturally quick learners, take to school well, and respond so well to high expectations that after a few years of school they read better than typical middle-class children. Some middle-class children get no support for learning from troubled families, and some low-income parents organize life around a dream of college. But on average, a typical middle-class child who began to read at home will have higher lifetime achievement than a typical low-income child who was taught only in school, even if each benefits from good curriculum, effective teaching, and high expectations. If a society with such social class differences wants children, irrespective of social class, to have the same chance to achieve academic goals, it should find ways to help lower-class children enter school having the same familiarity with books as middle-class children have.

By kindergarten, almost all upper-class children, about half of middle-class children, and fewer than one in five lower-class children

have used computers.¹³ This difference is not due solely to expense – lower-class families have televisions, and they could obtain computers if they were valued - but rather to differences in how parents from different social classes use computers themselves. If parents routinely sit at computers, toddlers will sit on their parents' laps and play with the mouse and keyboard. If computers are rarely used by parents, their children will be less proficient, even with computers at home. Some school reform proposals include distributing computers to children's families, expecting that this will help close the achievement gap. But while it may help a little, such a distribution will not do much. If schools filled kindergartens with computers, or even distributed them to families, the advantages of children who also learned at home would persist, because differences in computer literacy practices that parents model will not have been affected.

Some people acknowledge the impact of such differences on student achievement but find it hard to accept that good schools should have so difficult a time overcoming them. This challenge would be easier to understand if Americans had a broader international perspective on education. Although many countries' students do better on academic tests, on average, than Americans, class backgrounds influence relative achievement everywhere. The inability of schools to overcome the disadvantage of less literate home backgrounds is not a peculiar American failure but a universal reality. The number of books in students' homes, for example, consistently predicts scores within almost every country.14 Turkish immigrant students suffer from an achievement gap in Germany, as do Algerians in France, as do Caribbean, African, Pakistani, and Bangladeshi pupils in Great Britain, and as do Okinawans and lowcaste Buraku in Japan. 15

An international reading survey of 15-year-olds, conducted in 2000, found a strong relationship in almost every nation between parental occupation and student literacy. The gap between literacy of children of the highest-status workers (like doctors, professors, lawyers) and the loweststatus workers (like waiters and waitresses, taxi drivers, mechanics) was even greater in Germany and the United Kingdom than it was in the United States. In France the gap was about the same as in the United States, while in the Scandinavian countries and Korea it was smaller. There were similar disparities between other social classes. The gap between the literacy of children of middle-class workers (like teachers, accountants,

engineers) and of children of lower-status workers was about the same in the United States and the United Kingdom, greater in Germany than in the United States, and slightly smaller in France than in the United States.¹⁶ After reviewing these results, a U.S. Department of Education summary concluded that "most participating countries do not differ significantly from the United States in terms of the strength of the relationship between socioeconomic status and literacy in any subject."17 Remarkably, the department published this conclusion at the same time that it was guiding a bill through Congress that demanded every school in the nation abolish social class differences in achievement within 12 years. It was enacted as the "No Child Left Behind" law.

Just as giving away computers won't overcome these gaps, so urging less-educated parents to read to children can't fully compensate for differences in school readiness. If children see parents read to solve their own problems or for entertainment, children are more likely to want to read themselves.¹⁸ Parents who bring reading material home from work demonstrate by example to their children that reading is not a segmented burden but a seamless activity that bridges work and leisure. 19 Parents who read to children but don't read for themselves send a different message.

How parents read to children is as important as whether they do; more educated parents read aloud differently. When working-class parents read aloud, they are more likely to tell children to pay attention without interruptions or to sound out words or name letters. When they ask children about a story, questions are more likely to be factual, asking for names of objects or memories of events.²⁰ Parents who are more literate are more likely to ask questions that are creative, interpretive, or connective, like "what do you think will happen next?" "why do you think this happened?" "does that remind you of what we did yesterday?" Middleclass parents are more likely to read aloud to have fun, to start conversations, to provide an entree to the world outside. Their children learn that reading is enjoyable and are more motivated to read in school.²²

Stark social class differences arise not only in how parents read but in how they converse. Explaining events in the broader world to children, in dinner talk, for example, may have as much of an influence on test scores as early reading itself.²³ Through such conversations, children develop vocabularies and become familiar with contexts for reading in school.24 Educated parents are more likely to engage in such talk

and to begin it with infants and toddlers, conducting pretend conversations long before infants can understand the language. Typically, middle-class parents "ask" infants about their needs, then provide answers for the children ("Are you ready for a nap, now? Yes, you are, aren't you?"). Instructions are more likely to be given indirectly: "You don't want to make so much noise, do you?"²⁵ This kind of instruction is really more an invitation for a child to work through the reasoning behind an order and to internalize it. Middle-class parents may not think of themselves as conducting academic instruction for infants, but that is what they are doing with this indirect guidance.

Yet such instruction is quite different from what policy makers nowadays consider "academic" for young children: explicit training in letter and number recognition, letter-sound correspondence, and so on. Such drill in basic skills is unlikely to close the social class gap in learning.

Beginning in 1998, the federal government surveyed a national sample of kindergartners and their parents. The government intends to continue monitoring this sample of children as they move through school. Results so far illustrate how complex are the social class differences in children's academic preparation.

The survey includes data on family income, mother's education, father's education, mother's occupational status, and father's occupational status. Families, mothers, and fathers were ranked on these measures and then the five measures were averaged to create a composite called socioeconomic status, or SES. All children can then be divided into five SES quintiles, with those from the highest 20% of families by SES in the top quintile, and those from the lowest 20% of families by SES in the bottom quintile.²⁶

As you would expect, entering kindergartners from higher social classes have more books in their homes and are read to more frequently by their parents. Yet surprisingly, smaller proportions of parents from higher SES quintiles than from lower SES quintiles believed that their children should know how to count when they first entered kindergarten. Smaller proportions of parents from higher SES quintiles believed that their children should know the alphabet letters before kindergarten.

Similarly in this government survey, black parents were more likely than white parents to believe that their children should count and know the alphabet when they entered kindergarten.²⁷

In a few years, the government will report survey results on this

group of kindergartners when they have third grade test scores. It is probably safe to predict that the average math and reading scores of higher-SES children, fewer of whose parents believe that their children should know the alphabet and count before kindergarten, will, in third grade, be higher than the average scores of children whose parents expected them to master the mechanics of reading and math before kindergarten. These parents from higher social classes were confident that raising children in an environment where literacy was valued and modeled would be a more important determinant of children's own literacy than drilling these children in the basics.

This relative lack of concern among higher-SES and white parents about very young children's mastery of the mechanics of reading and arithmetic does not mean that middle-class parents do not expect their children to absorb a familiarity with letters and numbers more naturally. "Touch and feel" books are among middle-class children's first toys. Later, alphabet blocks, magnetic letters on refrigerator doors, and labels taped on walls or objects are commonplace. Adult conversations vary by social class and become part of infants' and toddlers' background environments. When educated parents speak to each other in children's presence, even if the children are not being addressed directly, these parents use larger vocabularies and more complex sentences than less-educated parents do. Although middle-class preschoolers don't use advanced vocabulary words or sentence constructions themselves, they have an advantage when they hear their college-educated teachers speak or when these words and constructions are first encountered in books.

Soon after middle-class children become verbal, parents typically draw them into adult conversations so children can practice expressing their own opinions. Inclusion this early in adult conversations develops a sense of entitlement in children; they feel comfortable addressing adults as equals and without deference. Children who want reasons rather than simply submitting to direction on adult authority develop intellectual skills upon which later academic success in school will rely. Certainly, some lower-class children have such skills and some middle-class children lack them. But, on average, a sense of entitlement is social class-based.²⁸

Working-class parents typically maintain firmer boundaries between adult and child worlds and are less likely to conduct conversations with

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pre-verbal children. Except when it is necessary to give a warning or issue other instructions, these parents less often address language directly to infants or toddlers. Unlike middle-class parents, working-class parents are less likely to simplify their language (using "baby talk") to show pre-verbal children how to converse, before the children are naturally ready to do so. If children need instruction, the orders are more likely to be direct, undisguised in question form.²⁹

Working-class adults are more likely to engage in conversation with

each other as though their infants, even older children, were not present. These parents make less of a deliberate effort to name objects and develop children's vocabularies. Such parents assume that children will learn to talk naturally. The children do, but not with the same sophistication as middle-class children. One study of black and white workingclass families in the rural South in the 1970s found that black parents made a deliberate effort to teach pre-verbal children to name objects and to speak, but then were more likely than white working-class parents to abandon this activity once the children began talking; the black parents were more likely to view the job of teaching children to speak as having now been accomplished.30

The point here is not that there are childrearing practices, specific to the social classes, that are identical over time and geography. Rather, it is that such patterns do exist, and that they are bound to have an influence on how children learn, at what rate they learn, and what instructional approaches will be most effective in schools.

Today, these social class differences may help to explain why schools have more success in narrowing the achievement gap at lower grades, only to see it widen later on. In the upper grades, when posing more open-ended questions increasingly becomes a way to learn, middleclass children do what comes naturally to them. Lower-class children may succeed with direct instruction when learning basic skills, but are less prepared for the inquiry learning that is more important to academic success in upper grades. Tests in primary years have more questions of fact, identification, or simple recall, questions like those that children of lower-class families are used to answering when stories are read to them. But tests in the later grades contain more questions requiring abstract reasoning or conceptualization, the kinds of questions about stories that lower-class children are unused to answering but with which middle-class children have more experience.31

ing. Parents whose professional occupations entail authority and responsibility believe more strongly that they can affect their environments and solve problems. At work, they explore alternatives and negotiate compromises. They naturally express these personality traits at home when they design activities where children figure out solutions for themselves. Even the youngest middle-class children practice these traits that make academic success more likely when they negotiate what to wear or to eat. When middle-class parents give orders, the parents are more likely to explain why the rules are reasonable. But parents whose jobs entail following orders or doing routine

Social classes also differ in the responsibility children take for learn-

tasks exude a lesser sense of efficacy. Their children are less likely to be encouraged to negotiate clothing or food.³²Lower-class parents are more likely to instruct children by giving directions without extended discussion. Following orders, after all, is how they themselves behave at work. So their children are also more likely to be fatalistic about obstacles they face, in and out of school.

The specific details of how childrearing practices tend to vary by social class can change from era to era, yet differences in average achievement of children from different social classes persist. It seems, for example, that while middle-class parents are today more "permissive" than working-class parents, the reverse used to be the case; current patterns began to be established in the second half of the 20th century. However, broad patterns continue, in ways that are little understood. A study based on surveys of parents in both the United States and Italy concluded, over 30 years ago, that parents whose occupations required creativity and decision making were less likely to punish their children for actions where the children's intent was desirable, even if matters did not work out as intended. Parents whose occupations were routine and who were closely supervised were more likely to base punishment on the children's actions themselves, regardless of intent.³³ In both countries, disciplinary practices varied by social class and in particular by whether parents (fathers in particular) had more or less autonomy and opportunities for creativity in their own work. This study provided further confirmation that achievement gaps by social class are not a peculiarly American phenomenon. They have persisted and are likely to continue in any society where the occupational structure requires vastly different skills and work habits for employees in different strata.

Differences in childrearing practices by social class extend not only to how behavior is rewarded or punished but to differences in conceptions of appropriate behavior. Middle-class parents' behavioral expectations are typically aligned with those of schools, while lower-class parents' expectations are sometimes in conflict. Lower-class children, for example, are often expected by their parents to fight back and defend themselves physically when they are provoked, and are ridiculed or punished if they fail to do so. Yet the opposite response is sanctioned in school.³⁴

Middle-class children's self-assurance is enhanced in after-school activities that sometimes require large fees for enrollment and almost always require parents to have enough free time and resources to provide transportation. Organized sports, music, drama, and dance programs build self-confidence (with both trophies and admiring adult spectators) and discipline in middle-class children. Lower-class parents find the fees for such activities more daunting, and transportation may also be more of a problem. In many cases, such organized athletic and artistic activities are not available in lower-class neighborhoods, so lower-class children's sports are more informal and less confidence-building, and offer less opportunity to learn teamwork and self-discipline. For children with greater self-confidence, unfamiliar school challenges can be exciting; such children are more likely to be from middle-class homes, and they are more likely to succeed than those who are less self-confident. Confident.

Homework has been controversial for the last century, partly because educators observed that homework exacerbated the academic differences between middle- and working-class children, largely because middle-class parents are more likely to assist effectively with homework. In 1916, a North Carolina professor visited homes in Durham to record the help that middle- and working-class children got with their homework, and how this help influenced their grades in school. "Where the parents are capable of guiding the child and are inclined to supervise the home study, their children succeed in school," he observed, but because factory workers are less likely to supervise homework than are middle-class parents, schools "reproduce social inequality." In 1940, a New Rochelle school official led a national campaign to abolish homework and compensate for it by extending the school day – partly because, he observed, children from lower-income families did not benefit from parental support for homework as did middle-class students.

Homework would increase the social class achievement gap even if all parents were able to assist their children with homework. Parents from different social classes supervise homework differently. Consistent with overall patterns of language use, middle-class parents – particularly those whose own occupational habits require problem solving – are more likely to assist children by posing questions that decompose problems and that help children figure out the correct answers. Lower-class parents are more likely to guide their children with direct instructions. Children from both strata may go to school with the correct answers to homework problems, but middle-class children will have gained more in intellectual power from the exercise than do lower-class children.³⁹

Again, remember, these traits are not perfectly correlated with social class; there is overlap between the average characteristics of lower-and middle-class children. Some lower-class children have more self-confidence than typical middle-class children. Some middle-class parents have more authoritarian styles, and some working-class parents want their children to practice working their way out of difficulties and to understand the reasons for rules the children must follow. But, on average, good schools and teachers will have more academic success with middle-class children whose parents feel confident they can shape their environments, and who do not have the habit of blind obedience but rather believe that rules are only as legitimate as they are reasonable.

There is no suggestion here that the childrearing practices of middle-class parents are morally superior to those of lower-class parents, nor that middle-class childrearing practices develop children who are more psychologically well-adjusted or who function better in all adult roles. Taken to an extreme, many middle-class childrearing practices described here can result in selfish and otherwise "spoiled" children. The only suggestion here is that children who are raised with self-confidence and a sense of entitlement, whether spoiled or not, can have an advantage when called upon to master difficult academic material in school.

Twenty years ago, two researchers from the University of Kansas visited the homes of families from different social classes to monitor conversations between parents and toddlers. The researchers found that, on average, professional parents spoke over 2,000 words per hour to their children, working-class parents spoke about 1,300, and welfare

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mothers spoke about 600. So by age 3, children of professionals had vocabularies that were nearly 50% greater than those of working-class children and twice as large as those of welfare children. Indeed, by three years of age, the children of professionals had larger vocabularies themselves than the vocabularies used by adults from welfare families in speaking to their children. Cumulatively, the Kansas researchers estimated that by the time children were four years old, ready to enter preschool, a typical child in a professional family would have accumulated experience with 45 million words, compared to only 13 million for a typical child in a welfare family.40 Grandparents' social class backgrounds can also have a direct ef-

fect on student achievement. This may widen the black-white achievement gap because black children typically have more contact with their grandparents than do white children. This difference is partly due to a higher rate of single and teenage motherhood in the black than in the white community, and a tradition in the black community of close ties between nuclear and extended families, dating in part from the difficulty of maintaining the integrity of nuclear families during slavery.⁴¹ So childrearing often falls to grandmothers when mothers are at work. Although black grandparents are more mature than teen mothers, and children being raised by grandmothers benefit from this greater maturity, it is also the case that black grandparents have significantly less education than white grandparents or black parents. As a result, because black children are raised by grandparents to a greater extent than are white children, black children's verbal fluency, vocabulary, and later academic achievement will partly reflect the lower education level of their grandparents.42

Deficits like these cannot be made up by schools alone, no matter how high the teachers' expectations. For all children to achieve the same goals, those from the lower class would have to enter school with verbal fluency similar to that of middle-class children.

The Kansas researchers also tracked how often parents verbally encouraged children's behavior, and how often parents reprimanded their children. Toddlers of professionals got an average of six encouragements per reprimand. Working-class children received two. For welfare children, the ratio was reversed, an average of one encouragement for two prohibitions. It seems reasonable to expect that when these children later go to school, their teachers cannot fully offset these differences from early interactions. Children whose initiative was encouraged from an early age are probably more likely, on average, to take responsibility for their own learning. If you live in a diverse urban area, you can easily conduct your own

ethnographic research on this topic and need not rely on the rich sociological literature to which this chapter makes reference. When I wrote these words, I was a visiting professor at Teachers College at Columbia University in Manhattan; I discussed with my students how, by riding the Broadway subway line or by taking the bus, they could come to a more profound understanding than most policy makers possess of the gap in achievement between middle-class and lower-class children. As my students traveled from the immigrant community of Washington Heights into mostly black West Harlem and then into the affluent white Upper West Side, they could observe middle- and working-class mothers, black and white, with young children. These mothers' behaviors, highly correlated with their social class, were easy to spot - middleclass mothers in non-stop conversations with their pre-verbal infants or toddlers, commenting on surroundings, recounting events of the day, and giving indirect instructions; working-class mothers, mostly black and Hispanic, speaking to children mostly when instructions were needed, and then with direct language: "Get up, now," not "Isn't this our stop?" Of course, as always, there were exceptions to these generalizations. But after a few hours of observation, clear patterns emerged, patterns that can fairly accurately be used to predict differences in these children's average achievement when they later go to school.

Social class differences in role modeling also make a social class achievement gap almost inevitable. If adults perform jobs requiring little academic skill, their children's images of their own futures are influenced. Again, beware of deterministic simplification: some lower-class children, despite few educated role models, succeed in school, perhaps as the first children in their families to attend college. But on average, these children must struggle harder to motivate themselves to achieve than children who assume that, like their parents' social circle, the only roles are doctor, lawyer, teacher, social worker, manager, administrator, or businessperson. For typically, and predictably, middle-class professional parents tend

to associate with, and be friends with, similarly educated professionals. Working-class parents have fewer professional friends. One survey of parents from different social classes found that 93% of middle-class parents had a friend or relative who was a teacher, compared with 43% of working-class parents and 36% of poor parents. Medical doctors were identified as friends by 70% of middle-class parents, 14% of working-class parents, and 18% of poor parents. These adult friendships reinforce how children imagine their future roles, and what they strive to achieve.

In middle-class homes, "what do you want to be when you grow up?" is a frequent question, posed in a way that assumes choices are limitless. Low-income families ask the question less often; because parental occupational roles have had more to do with economic conditions than with choice, parents assume their children will face similar constraints.

Even lower-class children now usually say they plan to attend college. College has become such a broad rhetorical goal that black eighthgraders tell surveyors that they expect to earn college degrees as often as white eighth-graders respond in this way.⁴⁴ But despite these intentions to pursue education, fewer black than white eighth-graders actually graduate from high school four years later (72% vs. 82%),⁴⁵ fewer black than white eighth-graders eventually enroll in college the year after high school graduation (44% vs. 58%),⁴⁶ and even fewer persist to get bachelor's degrees (17% vs. 35%).⁴⁷

A bigger reason than affordability is that, while lower-class students say they plan on college, they don't feel as much parental, community, or peer pressure to take the courses or to get the grades to qualify and to study hard to become more attractive to college admission offices. Lower-class parents say they expect children to get good grades, but they are less likely to reinforce these expectations behaviorally. Middle-class youth are more likely to be punished by their parents for poor grades, or rewarded for good ones, and black parents are less likely to reinforce high expectations than are white parents at a similar income level.⁴⁸ Teachers and counselors can stress doing well in school to lower-class children, but such lessons compete with children's own self-images, formed early in life and reinforced daily at home.

These class distinctions are not of recent origin. Fifty years ago, sociologists at the Harvard University "Mobility Project" observed that upper-class children with high test scores were likely to attend college,

while lower-class children with similarly high test scores were not likely to do so. The researchers anticipated this finding. But they puzzled about why some lower-middle-class children with high test scores actually made it to college, while other lower-middle-class children with equally high test scores did not. Surveying these youths and their families, the researchers concluded that the difference was mostly attributable to the aspirations of parents for their children to rise in the social structure, and the pressure these parents placed on their children to do so.⁴⁹ Not much has changed since then. When schools succeed with some children from lower in the social structure but fail with others, we are too quick to conclude that the teachers or schools of the first group must be superior. This assumption may be accurate in many cases. But in others the difference is beyond the reach of schools, due to the range of parental ambition even within a particular social class.

While watching soccer games or waiting for piano lessons to end, middle-class parents consult one another about the experiences their children share at school. 50 When parents want to influence a school policy (for example, if they prefer that their children be assigned to a different teacher's classroom, if they want their children admitted to a "gifted" program, or if they seek special education services for children who are having difficulty), middle-class parents are more confident about challenging administrators and more likely to have support from other parents with similar concerns or with expertise to share. 51 No matter how attentive school administrators are to individual children, youngsters whose parents intervene will have an edge; on average, which children get this edge is predictable by parents' social class. This difference also adds to the gap in academic achievement between lower- and middle-class children.

The best schools try to address the alienation of many lower-class parents from their children's schooling, because if parents get more involved they can help raise their children's expectations of themselves. Parental involvement in schools is one way of counteracting the dissonance that children perceive between their parents' professed support for academic achievement and their parents' actions, which often send the opposite message. So educators often try to get parents more involved in school, by observing classrooms, helping teachers, ushering field trips, or becoming active in the PTA. But while these forms of parental involvement may help a little, they can't do much to narrow

the class-based achievement gap because the forms taken by parental involvement are also class-based. Parents whose own jobs are routine, where they are expected to follow well-defined roles, often assume that schools should operate similarly. "Education," they think, falls under the job classification of teacher and it is not a parent's place to question how teachers perform their assigned tasks. Middle-class parents, in contrast, more easily assume a right to collaborate with teachers because these parents' own professional roles often place a premium on making suggestions to others whose formal responsibilities differ. In more affluent middle-class communities, where teachers have educations no greater, and perhaps substantially less, than the parents' own, parents' confidence about intervening grows even stronger.

Several years ago, I participated in a research team that conducted a series of interviews of parents and teachers in public and private schools in California. We were trying to determine if there was something public school administrators could learn from educators in the private sector, so that the public school leaders could duplicate the widely reported greater parental involvement in private schools. What we found was that, contrary to popular belief, parental involvement did not vary by whether a school was public or private but rather by whether the school's parents were lower or middle class.

In parochial schools in low-income neighborhoods, for example, we found teachers who complained about the lack of parental involvement as much as teachers in any public school. These private school teachers blamed the lack of parental involvement for their pupils' low test scores. In these schools, if the principal was able to get parents involved, it was mostly to help with fundraising, by selling candy, for example.

In public schools in affluent communities, in contrast, we found parental involvement that exceeded anything experienced in typical private schools. Teachers in these public schools complained to us that parents were so intrusive that it was impossible to deliver a coherent curriculum. One teacher reported that each week she received a curricular suggestion from a parent of nearly every child in her class. The involvement of parents was so burdensome in one middle-class public school that it had a high turnover of teachers; they often quit to find work at schools where parents were less involved.⁵²

Cultural influences on achievement, black underachievement, and racial discrimination

Parents from some immigrant cultures express even greater deference toward teachers than do American-born lower-class parents. These immigrant parents fear (sometimes accurately) that their grammar will not earn teachers' respect or that they will not understand what teachers say. Cultural differences influence achievement in other ways as well. Immigrant students from Asia often achieve more in American schools (again, only on average) than similarly low-income blacks or Latin Americans. Too often, commentators assume that the cause of these differences must be that teachers and schools have lower expectations of Latin American or black students. While low expectations may play a role, it is not a complete explanation.

The religious values of some immigrant groups may have an impact. Asian students with Confucian traditions are often taught obligations to serve their parents with academic achievement. Latin American and Asian immigrant families may have similar incomes and be similarly close-knit, but where the former expect children to serve by assisting with chores, the latter expect them to do so by studying. Lending further support to the idea that culture plays a role is the fact that students whose mothers were born in Asia typically have higher academic achievement than Asian students with American-born mothers who are more likely to be culturally assimilated and less likely to place intense pressure on children to achieve academically.

Similar cultural differences have shown up in the past. Many American believe that public schools did a better job of educating and assimilating immigrants a century ago than they do now. This impression is not confirmed by historical fact. In truth, the children of some immigrant groups a century ago did relatively well in school while the children of other groups did relatively poorly, just as is the case today. For example, although Eastern European Jewish and Southern Italian immigrants arrived in the United States at roughly the same time, had similar poverty, and were both non-English speaking, their children performed very differently in school, with Jews posting higher achievement and attainment. The hand-wringing of a century ago about the high failure and dropout rates of children from Italian and some other immigrant groups is remarkably similar to concerns commonly ex-

pressed today about the children of peasant immigrants from Latin America. In the early 20th century, schools were engines of mobility only for some groups and not for others. After one generation in this country, typical children of some ethnicities went to college in large numbers, but children of other ethnicities took two and sometimes three generations to experience similar attainment.⁵⁶

Cultural traits can have complex causes. Partly, a black community culture of underachievement may help to explain why even middle-class black children often don't do as well in school as other children from similar socioeconomic backgrounds. On average, middle-class black students don't study as hard as white middle-class students, and blacks are more disruptive in class than whites from similar income strata. Low expectations that teachers have of black students may be unfair to those who desire to excel, but these expectations are partly based on the real experiences of teachers with black students who, more than whites, perform below their potential. When such students get to high school, their potential may no longer be visible.⁵⁷

This culture of underachievement is easier to understand than to cure. Throughout U.S. history, many black students who excelled in school were not rewarded in the labor market for their effort. Although a black professional class (doctors, teachers, lawyers) served segregated black communities, many well-educated black adults could only find work as servants (Pullman car porters, for example) or, in business and clerical fields, as assistants to less-qualified whites. Some commentators have publicized the idea that these practices have entirely disappeared in the United States and that black and white workers with similar test scores now have similar earnings and occupational status.⁵⁸

It is certainly true that blacks who excel academically are rewarded in the labor market more than used to be the case.⁵⁹ But it is also true that labor market discrimination, even for black workers whose test scores are comparable to those of white workers, continues to play an important role. Racial discrimination against black workers with adequate cognitive skills is more pronounced for high school graduates and for males than it is for college graduates and for females. In fact, strong evidence suggests that black college graduates and black females now can expect to earn as much, if not more, than white college graduates and white females whose test scores are similar. But against black males with only a high school education, discrimination persists.⁶⁰

Evidence of ongoing discrimination comes from the continued success of employment discrimination cases. For example, in a prominent 1996 case Texaco settled for a payment of \$176 million to black employees after taped conversations of executives revealed pervasive racist attitudes, presumably not restricted to executives only of this corporation. Other evidence comes from studies that find black workers with darker complexions have dramatically less labor market success than black workers with lighter complexions but with identical education, age, and criminal records. 61 Still more evidence comes from audit studies in which black and white applicants with similar qualifications were sent out to apply for job vacancies; the white applicants were far more successful than the black applicants. Indeed, in one recent study where young, well-groomed, and articulate black and white college graduates, posing as high school graduates with identical qualifications, applied for entry-level jobs, whites who reported criminal records on their applications got positive responses more often than blacks who reported no criminal records.62

It does not take a lot of discrimination for the effects to accumulate. Young workers tend to change jobs frequently, so if young black workers experience discrimination, the attitudes toward employers of some of these workers may become more mistrusting, and future employers may treat these workers less favorably because of the workers' less cooperative attitudes. This compounding of an initial experience of discrimination can lead to a lifetime of reduced earnings for black workers whose skills are similar to those of white workers.

So the expectation of black students that their academic efforts will not be rewarded to the same extent as the efforts of their white peers is rational for the majority of black students who do not expect to complete college. Some will reduce their academic effort as a result. We can say that they should not do so and, instead, should redouble their efforts in response to the greater obstacles they face. But as long as racial discrimination persists in the labor market, the average academic achievement of black students will be lower than the average achievement of white students, simply because many black students (especially males), who see that academic effort has less of a payoff for them than it has for whites, can be expected to respond by reducing their effort.

Even if discrimination were suddenly to end completely, and clearly it has not, community expectations that academic prowess will be

unrewarded, based on 150 years of reality, would not disappear overnight. The culture of many black families is one where anticipation of mistreatment remains prevalent. The grandparents and in some cases the parents of today's black workers entered the labor market at a time when explicit "whites-only need apply" hiring practices were prevalent, even in Northern cities where the practices were nominally unlawful.64

In a recent survey in four major cities, two-thirds of black adults said they believed they still experienced "a lot" of discrimination. 65 When black students who say they value education are pressed harder by interviewers to state what they really believe, they respond affirmatively to statements like "people in my family haven't been treated fairly at work no matter how much education they have."66 It should be expected that black students will absorb this anticipation from their homes and communities, and that it will not be erased simply by insisting that teachers hold high expectations for black students.

So it is not surprising that black students whose parents were born in the Caribbean perform better, on average, than black students whose parents were born in the United States. Unlike parents born here, immigrant blacks believe that education offers opportunity for mobility, and they have not become cynical from generations of frustrated ambitions. Immigrant parents from Caribbean cultures, like Asian parents, place greater pressure on their children to succeed academically.⁶⁷

It is commonplace for blacks to say they have to be twice as good as whites to qualify for the same position.⁶⁸ Some black students respond to this folk wisdom by working twice as hard. But more respond with lassitude. Inspirational teachers may push some students from the second group into the first, but even the best teachers are unlikely to succeed with all black students. Failing only with a few explains part of the gap in achievement between black and white students, on average.

There is also an oppositional culture in the black community, in which dignity and self-respect have been earned by opposition to majority institutions, including public schools, that were oppressive or worse. This attitude should also be understood historically; generations of black adults have maintained their dignity by withholding respect, however privately it was necessary to do so, from white institutions. Perhaps today that oppositional culture is no longer a rational reaction to American institutions as they presently operate. But it would be naive to exnect black students, raised in nearly homogenous de-facto segregated communities, suddenly to enter school without pride in their mistrust of majority institutions, including educational ones. This too contributes to the achievement gap.69

Again, these cultural explanations are not determinist. Some black students succeed despite cultural pressures not to do so. And, at best, cultural factors explain only part of the difference between black and white student achievement, most of which is attributable to the fact that black families, on average, have lower social class characteristics than white families.

Health differences and school performance

Despite these big race and social class differences in childrearing, role modeling, and cultural characteristics, the poor achievement of lowerclass students may not mainly be caused by these differences. Childrearing practices, role modeling, and values play a role, but even more important may be differences in the actual social and economic conditions of the classes.

Vision

Overall, lower-income children are in poorer health. Their greater incidence of vision problems has the most obvious impact on their relative lack of school success. Children with vision problems have difficulty reading and seeing what teachers write on the board. Trying to read, their eyes may wander or have difficulty tracking print or focusing. Tests of vision show that these problems are inversely proportional to family income; in the United States, poor children have severe vision impairment at twice the normal rate.70 Juvenile delinquents especially have extraordinarily high rates of such problems; difficulties in seeing and focusing may contribute to their lack of mainstream success.71 Foster children, who experience even more stress than most disadvantaged children, also have unusually high vision failure rates.72

Fifty percent or more of minority and low-income children have vision problems that interfere with their academic work.73 A few require glasses, but more need eye-exercise therapy to correct focusing, converging, and tracking problems. Some studies find that test scores of lower-class children who get therapy and free glasses rise relative to

those of children whose vision does not need support. In one experiment where therapy or lenses were provided to randomly selected fourth-graders from low-income families, children who received optometric services gained in reading achievement beyond the normal growth for their age, while children in the control group, who did not get these services, fell farther behind. ⁷⁴

Children who are believed to have learning disabilities are also more likely to have vision impairment. Disproportionate assignment of low-income black children to special education may partly reflect a failure to correct their vision. Often, when children seem to have puzzling difficulties learning to read, the explanation is no more complex than that they cannot see. Sometimes, vision difficulties remain undiagnosed in middle-class children as well, leading also to inappropriate special education placement. But more often, the failure to diagnose is a problem of the poor.

Lower-class children are more likely to suffer from vision problems because of their less adequate prenatal development than are middle-class children whose pregnant mothers had better medical care and nutrition. Visual deficits also arise because poor children are more likely to watch too much television, activity that does not train the eye to develop hand-eye coordination and depth perception; 42% of black fourth-graders watch six hours or more of television a day, compared to 13% of whites. Middle-class children are also more likely to have manipulative toys that develop visual skills, what is commonly termed hand-eye coordination.

Vision screening in schools usually only asks children to read charts for nearsightedness. Most schoolchildren are never tested for farsightedness or for difficulty with tracking, the problems that are most likely to affect academic performance. Even when testing leads to optometric referrals, low-income children are less likely to follow up. When they get prescriptions for lenses, they less frequently obtain them or wear them to school. Partly, even subsidized costs seem like an unnecessary expense to parents, especially because their children seem to function normally in everyday life; it is only in the reading of print that children's vision deficiencies may become problems. Frames, even in subsidized programs, are typically unfashionable, and children are unwilling to wear them to correct difficulties that impede reading but that don't interfere with most other functions.

Hearing

Lower-class children also have more hearing problems.⁸⁰ These may result from more ear infections that occur in children whose overall health is less robust. But though ear infections are easily treatable for middle-class children with access to good pediatric care, lower-class children whose hearing is less acute will achieve less, on average, in school. If poor children simply had as much medical treatment for ear infections as middle-class children, they could pay better attention and the achievement gap would narrow a bit.⁸¹

Oral health

Children without dental care are more likely to have toothaches; untreated cavities are nearly three times as prevalent among poor as among middle-class children. 82 Although not every dental cavity leads to a toothache, some do. Children with toothaches, even minor ones, pay less attention in class and are distracted more during tests, on average, than children with healthy teeth. So differences in dental care also contribute another bit to the achievement gap between lower- and middle-class children.

Lead exposure

Children who live in older buildings have more lead dust exposure that harms cognitive functioning and behavior.⁸³ High lead levels also contribute to hearing loss.⁸⁴ Low-income children have dangerously high blood lead levels at five times the rate of middle-class children.⁸⁵

Indeed, lead poisoning now exacerbates the achievement gap more than it used to. A generation ago, all children suffered declines in I.Q. from breathing leaded fumes from auto exhaust. For middle-class children, this was the main source of lead exposure. With gasoline now unleaded, middle-class children have less lead exposure, but other sources remain for low-income children who continue to suffer cognitive impairment from lead in wall and house paint to which they are exposed. Although lead-based paint was banned from residential construction in 1978, low-income children more likely live in buildings constructed prior to that date and in buildings that are not repainted often enough to prevent old layers from peeling off. Urban children are also more likely to attend older schools, built when water pipes contained lead. New York City, Baltimore, and Washington, D.C. have re-

cently found it necessary to shut off school drinking fountains because lead exceeded dangerous levels.86

Low-income children are also more likely to live in areas where leaded paint peels from fire escapes or steel beams of elevated trains.87 Compounding the problem further for immigrant children, their families often come to this country with lead poisoning because they migrate from countries where lead-based paint is still used for dishes and pottery, or in remedies and cosmetics.88 Not only is the cognitive harm already done when these children arrive in the United States, but consumption of such products sometimes continues in immigrant communities here, which import the products from the home country.89

Asthma

Lower-class children, particularly those who live in densely populated city neighborhoods, are also more likely to contract asthma - the asthma rate is substantially higher for urban than for rural children, for children whose families are on welfare than for non-welfare families, for children from single-parent than from two-parent families, and for poor than for non-poor families. 90 A survey in New York City found that one of every four children in Harlem suffers from asthma, a rate six times as great as that for all children.91 A Chicago survey found a nearly identical rate for black children and a rate of one in three for Puerto Ricans.92 The disease is provoked in part from breathing fumes from low-grade home heating oil and from diesel trucks and buses (school buses that idle in front of schools are a particularly serious problem), as well as from excessive dust and allergic reactions to mold, cockroaches, and secondhand smoke.93 In the Chicago neighborhoods with the highest asthma rates, nearly half the children suffering from the disease live in homes where adults smoke.94

Asthma keeps children up at night, and, if they do make it to school the next day, they are likely to be drowsy and less attentive. Middle-class children typically get treatment for asthma symptoms, while low-income children get it less often. Asthma has become the biggest cause of chronic school absence.95 Low-income children with asthma are about 80% more likely than middle-class children with asthma to miss more than seven days of school a year from the disease. 96 Children with asthma refrain from exercise and so are less physically fit. Drowsy and more irritable, they also have more behavioral problems that depress achievement. 97

Asthma's relatively greater effect on low-income children adds another bit to the explanation of why poor children's school achievement, on average, is lower. Probably because of environmental factors, asthma seems to be growing rapidly – the asthma rate for all children increased by 50% from 1980 to 1996 and doubled for African Americans.98 If these rates are accurate, the effect of the increase is to offset, to some slight extent, efforts to raise achievement for disadvantaged children.99

Medical care

Children without regular medical care are also more likely to contract other illnesses, some serious, others minor, that keep them out of school. Despite federal programs to make medical care available to low-income children, there remain gaps in both access and utilization. Many eligible families are not enrolled because of ignorance, fear, or lack of belief in the importance of medical care.

Under the 1996 federal welfare reform law, recipients who went to work at low-wage jobs that provided no health insurance continued to be eligible for Medicaid. But the bureaucratic difficulties of enrolling in Medicaid, including the fact that welfare officials in many states discouraged working welfare recipients from enrolling, has meant that many low-income children are still not enrolled. The federal Child Health Insurance Program, adopted in 1997 and intended to extend health care to all low-income children, has helped, but many low-income children are still uninsured. 100 Twenty percent of poor children are without consistent health insurance, compared to 12% of all children; 13% of black children are without insurance, compared to 8% of white children.¹⁰¹ This too adds to the achievement gap.

Even with health insurance, low-wage work interferes with the utilization of medical care. Parents who are paid hourly wages lose income when they take their children to doctors. Parents who work at blue-collar jobs risk being fired for excessive absence, so are likely to skip well-baby and routine pediatric care and go to doctors only in emergencies. Salaried middle-class parents have more flexibility to schedule doctor visits, for themselves and for their children, without loss of job or income.

Lower-class families with health insurance who attempt to use it also confront huge disparities in medical facilities. An analysis of California communities found that urban neighborhoods with high poverty and high 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 primary care physician for every 1,200 residents. 102 At the extremes, one low-income minority Los Angeles neighborhood has one primary care physician for every 13,000 residents, while a nearby high-income neighborhood has one for every 200 residents. 103 These gaps are mirrored nationwide. Low-income families, with or without insurance, are more likely to use emergency rooms and less likely to use primary care doctors, even for routine care.

As a result, black preschoolers are one-third less likely than whites to get standard vaccinations for diphtheria, measles, and influenza. 104 This ongoing difference in regular pediatric care is probably the reason why poor children lose 30% more days from school than the non-poor, on average. 105 The difference in school attendance, attributable to differences in access to health care alone, causes a difference in average achievement between black and white children. Good teaching can't do much for children who are not in school.

Use of alcohol

Youngsters whose mothers drank during pregnancy have more difficulty with academic subjects, are less able to focus attention, have poorer memory skills, less ability to reason, lower I.Q.'s, less social competence, and more aggression in the classroom. 106 On into adolescence, these children continue to have difficulty learning. 107

Fetal alcohol syndrome, a collection of the most severe cognitive, physical, and behavioral difficulties experienced by children of prenatal drinkers, is 10 times more frequent for low-income black than for middle-class white children. 108 Data are not available for disparities by social class for less severe symptoms of prenatal alcohol consumption, but it can be presumed that here, too, the consequences are greater for the lower class. Although affluent women actually consume more alcohol than lower-class women, the affluent tend to drink more evenly. 109 Low-income women tend to drink more heavily in binges that apparently do more harm to a developing fetus. 110

Smoking

Smoking in pregnancy also contributes to lower achievement. Children of mothers who smoked prenatally do more poorly on cognitive tests, their language develops more poorly, they have more serious behavioral problems, more hyperactivity, and more juvenile crime. 111 Because secondhand smoke also causes asthma, children whose mothers smoke after pregnancy also more likely have low achievement.

Maternal smoking behavior adds another bit to the gap; 30% of poor women smoke, compared to 22% of non-poor women.¹¹² During pregnancy, one-fourth of high school dropouts smoke, 50% more than the rate for high school graduates and 13 times more than that for college graduates.113

Birth weight

Partly from mothers' prenatal smoking, low-income children are more likely to be born prematurely or with low birth weights and to suffer from cognitive problems as a result; low-birth-weight babies, on average, have lower I.Q. scores and are more likely to have mild learning disabilities and attention disorders.¹¹⁴ Thirteen percent of black children are born with low birth weight, double the rate for whites. 115 Even if all children benefited from equally high-quality instruction, this difference alone would ensure lower average achievement for blacks.

Recent studies of low-income, mostly Puerto Rican and black women in East Harlem found that exposure to commonly used domestic pesticides was associated with children being born with smaller head circumference and much lower weight (as much as 6 ounces smaller birth weight from exposure). Head circumference, along with low birth weight, is associated with children's lower I.Q. and more behavioral problems. The Environmental Protection Agency has banned these pesticides and they are being phased out, but they are still being sold in minority and low-income communities, sometimes in violation of the ban. As a result of the ban, however, fewer women are now exposed to these pesticides, and their children are being born healthier.¹¹⁶

Low birth weight is only partly caused by inadequate prenatal care, exposure to urban pollutants, diet, smoking, and drinking. The interaction of poor health habits with other stresses exacerbates children's adverse outcomes. Maternal stress has hormonal consequences that interfere with the absorption of nutrients on which a healthy fetus depends.¹¹⁷ Partly for this reason, low birth weight, alcohol consumption, and smoking all have greater negative effects on poor children than on middleclass children who were exposed to similar risks. Poor women, with greater stress and less adequate nutrition, can tolerate less smoke and alcohol and still deliver a healthy baby than women whose better overall health conditions can protect their fetuses from the effects of alcohol or smoking. 118 Perhaps also, middle-class children can more easily overcome earlier health shocks or disadvantage, rebounding when they later experience healthier environments after exposure to risk. 119

Nutrition

Poor nutrition also directly contributes to an achievement gap between lower- and middle-class children. Hunger is not nearly as serious here as in Third World countries where children are so nutrient-deprived that brain growth is impeded, but moderate under-nutrition of the kind found in the United States does affect academic performance, particularly if it is sustained over long periods of time. ¹²⁰

Low-income kindergartners whose height and weight are below normal for children their age tend to have lower test scores. ¹²¹ Iron deficiency anemia also affects cognitive ability; 8% of all children suffer from anemia, but 20% of black children do so. ¹²² Anemia also makes it more probable that children will absorb lead to which they have been exposed. ¹²³ Compared to middle-class children, the poor also have deficiencies of other vitamins and minerals. ¹²⁴ In experiments where pupils received inexpensive vitamin and mineral supplements, test scores rose from that treatment alone. ¹²⁵

Indeed, the relationship between good nutrition and achievement is so obvious that some school districts, under pressure recently to increase poor children's test scores, boosted the caloric content of school lunches on test days. Districts that pursued this strategy posted bigger score gains than those that did not. This does not suggest that children in schools without this caloric boost were hungry or were insufficiently nourished, but only that, following mothers' conventional wisdom, children should "eat a good breakfast" (or lunch) to perform to their potential.

For low-income children, hunger does make a small contribution to the achievement gap, and lack of good nourishment probably makes a somewhat larger contribution. ¹²⁷ In 2002, at least 2% of children from low-income families seem to have experienced real hunger at some time in the year, even if briefly. ¹²⁸ Needs for food aid have grown so that many cities operating community pantries have reduced the amount of food distributed per family, and more families with emergency needs

are now being turned away from food distribution centers because of insufficient supplies. 129

Welfare-to-work policies seemed to make sense as a way to encourage poor parents to take more responsibility for supporting their children, but the policies may have had a perverse effect for hunger. Food stamp use has fallen because many welfare-to-work participants were either misled or wrongly concluded that they became ineligible. In 1994, 86% of eligible children were in families getting stamps; by 1998, the figure dropped to 69%. New York City, for example, distributes food stamps to only half of those eligible. In light of these trends, it would be astonishing if the academic achievement gap did not grow between well-nourished and poorly nourished or hungry children.

The government subsidizes free breakfast and lunch programs for low-income children; most enroll for lunch, but few for breakfast. Even with the best of intentions, breakfast programs are hard for schools to organize. Arranging to supervise breakfast before classes begin is one problem. Another is scheduling buses to bring eligible children, but not others, to school early.

The result is that only a minority of eligible children get subsidized breakfast in school. In New York State, for example, only 35% of children who get lunch also get breakfast to which they are entitled. Texas with 50%, and California with 40% don't do much better. Urban participation is lower still: in New York City, only 26% of children who get subsidized lunch also get subsidized breakfast.

Yet breakfast programs affect achievement. School nutrition programs mostly assume that children can learn well even if they have to wait until lunch time for a nutritious meal. Evidence from school breakfast programs confirms the folly of this approach. Poor children who get school breakfasts have better test scores and attendance and are better behaved – less hyperactive, for example – than similar children who are not fed.¹³⁴

Like social class differences in childrearing and literacy practices, each of these differences in health – in vision, hearing, oral health, lead exposure, asthma, use of alcohol, smoking, birth weight, and nutrition – when considered separately has only a tiny influence on the academic achievement gap. But together, they add up to a cumulative disadvantage for lower-class children that can't help but depress average performance.

Housing and student mobility

Other socioeconomic differences also add up. Housing is one. Urban rents have risen faster than working-class incomes. Even families where parents' employment is stable are more likely to move when they fall behind in rent payments. In some schools in minority neighborhoods, this need to move boosts mobility rates to over 100%: for every seat in the school, more than two children were enrolled at some time during the year. 135 The lack of affordable housing is not the sole cause of lowerclass children's high mobility - bouts of unemployment and family breakup are among the others - but it is almost certainly one of the important causes.

A 1994 government report found that 30% of the poorest children (those from families with annual incomes of less than \$10,000) had attended at least three different schools by third grade, while only 10%of middle-class children (from families with annual incomes of over \$25,000) did so. Black children were more than twice as likely as white children to change schools this much. 136 Schools with high mobility are often disrupted by the need to reconstitute classrooms to avoid placing all newcomers together, or because classes get too large or too small from new arrivals and departures. 137

So high mobility depresses achievement not only for children who move - each move means readjusting to teachers, classmates, and curriculum - but also for stable children in these schools whose classes are reconstituted and whose teachers use more discrete units and are thus unable to integrate instruction over time. Teachers with mobile students are more likely to review old than introduce new material, and less able to adjust instruction to the individual needs of unfamiliar students. A recent statistical analysis concluded that if black students' average mobility were reduced to the level of white students' average mobility, this improvement in housing stability alone would eliminate 14% of the black-white test score gap. Reducing the mobility of low-income students (those eligible for lunch subsidies) to that of other students would eliminate 7% of the test score gap by income. 138

Middle-class children usually have a quiet place at home, perhaps their own bedrooms, to read or do homework. Children in more crowded housing can less often escape television, conversation, or siblings. Earlier, this chapter discussed how homework itself exacerbates the achievement gap because less-educated parents are less able to help their children think through the problems homework poses. For children with inadequate housing without quiet study space, homework creates further disadvantage.

An achievement gap between stable and mobile or poorly housed pupils is inevitable, on average, even though some mobile children overcome their hardships and some stable children fail to take advantage of their opportunities.

Social class differences between blacks and whites with similar incomes

An aspect of the black-white gap that puzzles many observers is its persistence even for whites and blacks from families whose incomes are similar. Poor whites perform, on average, better than poor blacks, and middle-class whites better than middle-class blacks. How can this be, people wonder? Even if differences in social and economic conditions affect learning, why should there be a gap when income is similar? Surely, many people speculate, even if school efforts are frustrated by children's poverty, why should schools be less effective with poor children from one racial group than from another?

As discussed above, cultural differences explain part of this added black-white gap, after controlling for income, but probably only a small part. The most important reason to expect achievement differences for black and white children whose families have similar incomes is that income is an inexact proxy for the many social class characteristics that differentiate blacks from whites whose current-year income is the same. For example, blacks whose incomes are near the poverty line are more likely to have been poor for several years than whites whose poverty is more often episodic. Children from permanently poor black families will have more obstacles to learning than white children with the same income in the current year, but who are only temporarily poor. 139 For example, both children and adults are in poorer health the longer they have lived in poor families.¹⁴⁰

Partly, the length of time spent in poverty affects student achievement because income affects learning differently at different ages. For adolescents, family income has little effect once their prior achievement is taken into account. What matters most, even for subsequent

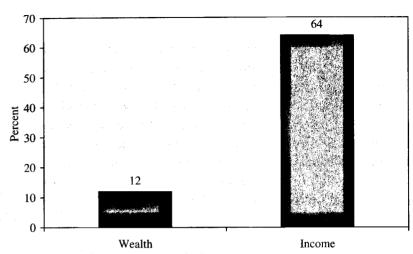
achievement, is family income in early childhood.¹⁴¹ Family income of children below 5 years of age has a bigger impact on whether these children complete high school than their family income later when they are actually in high school.142 This makes sense in light of the importance of early childhood nutrition, health, and nurturing, discussed earlier in this chapter. Families who are poor for longer periods are more likely to have had low income in their children's early years. So the achievement of black children would typically be lower than that of white children from families with similar current low incomes, because the black families were likely to have experienced longer bouts of poverty.

When parents suffer unemployment, children's achievement tends to suffer. Parents under stress from unemployment are more likely to discipline children arbitrarily, leading to more misbehavior. When their parents lose work, adolescents are more likely to be delinquent, use drugs, lose faith in the future, and suffer from depression.¹⁴³ Recovery from these effects is rarely instantaneous. Between black and white families whose current incomes are similar, black workers are more likely to have suffered recent job loss than whites, even if they are now reemployed.

There are also differences between blacks and whites with middleclass incomes. Here again, many observers are puzzled that black middleclass students do more poorly than white middle-class students whose families have similar current incomes. Partly, this difference occurs because black middle-class families are more likely than white families at the same current income level to have poor extended family members to whom some support is given; as a result, black middle-class families are likely to have less income available to spend on children than white families with the same total income. Black families are also larger on average than white ones.144 Families with fewer children have more income to spend per child than families with more children.

Children from small families have higher average achievement than those from large ones, not only because of more income per child. Parents in smaller families have more time to devote to each child because, like income, attention need not be divided so finely.¹⁴⁵ In the 1970s and 1980s, the black-white achievement gap narrowed in part because average black family size decreased faster than average white family size.146 This trend may also help to explain why class size reductions in early grades seem to have a bigger impact on achievement of low-income black

FIGURE 1 Ratio of black to white wealth and income



Source: Mishel et al. (2003).

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than middle-income white children: for children from large families, class size reduction increases the intensity of adult attention proportionally more than a similar reduction for children from smaller families.¹⁴⁷

Assets as well as income affect achievement, and help to explain the gap between middle-class black and white children. Families with similar annual incomes can still have different social class positions because of differences in their wealth, or the assets they control. As Figure 1 shows, the asset gap is huge. Median black family income is about 64% of median white family income, but median black family net worth is only 12% of white family net worth. 148 In practical terms this means that white middle-class families are more likely than black middle-class families to have adequate and spacious housing, even when annual incomes are similar, because white middle-class parents are more likely to have received capital contributions from their own parents for a down payment on a first home, for example. Black middle-class parents are more likely to be the first generation in their families to have middle-class status, and their own parents are less likely to have been able to help in this way. 149 As with all these examples, not all middle-class whites get first-time home down payments from their par-

ents, and not all middle-class blacks fail to get them. But on average, more whites than blacks with similar incomes get them, and this contributes to average differences in neighborhood resources and in housing quality, which in turn contributes another bit to the test score gap.

Asset differences also influence how much families save for children's college educations. Once enrolled in college, family home equity is a strong predictor of whether students graduate. 150 Children's awareness that their families have resources for college can also influence the confidence with which those children assume that college attendance is within their grasp. So between black and white middleclass children whose families have similar current incomes, it would be reasonable to expect the white children to be more confident about their ability to afford college, and thus more dedicated to working hard in high school. Furthermore, white middle-class children are more likely to consider college a routine part of growing up because not only their parents but many adults known to them are likely to have attended college; the result is another bit added to the pressures creating an achievement gap between black and white middle-class children.

Being the first middle-class generation in a family may well have consequences for educational values and parenting practices, as well as for economic security. If high educational aspirations are more a middle- than a working-class value, then families who are the first generation to be middle class might be expected to have less entrenched attachment to education than families whose previous generations were well-educated. It probably takes at least two generations, on average, for changes in the economic characteristics and educational attainment of parents to be fully reflected in how they raise children, including whether they take children to museums and other intellectually stimulating locations outside the home, engage in reading activities, organize other literacy experiences in the home, and adopt less punitive disciplinary styles. 151

So black children's lower scores, on average, even when family income is the same as whites', is not all that hard to understand when we recognize that differences in a particular year's income do not fully describe more complex social class differences.

Does culture or social class explain the black-white achievement gap?

Because of the sensitivity of race in American political history, and because of its ongoing sensitivity and politicization, excessive attention is paid in public debate to the extent to which lower test scores for black students are attributable to race-neutral socioeconomic characteristics or, instead, to the culture of underachievement in the black community. The motivation for this debate is that some conservatives want to show that economic reforms are relatively unimportant and that moral and cultural self-help is the best antidote to low achievement. Some liberals, in contrast, want to deny that cultural factors play a role, partly because they confuse cultural explanations with genetic ones. Yet it should be apparent that the existence of historically rooted cultural differences between black and white Americans does not in any way suggest that blacks and whites have different genetic capacities.

Some liberals also argue that if only economic reforms were implemented, blacks would quickly do as well as whites in school. These liberals fear that acknowledging the role of cultural factors, no matter what their origin, implies that problems of black students in U.S. schools are the "fault" of blacks, not whites, and that therefore the broader society bears little responsibility for remedying inequality.

Things are clearly more complicated - if black students expect their academic efforts to be unrewarded, it is because the weight of historical experience has been that black efforts in fact have been unrewarded. Nonetheless, black students' force of will and determination have to play a role in overcoming the weight of this history; teachers and schools cannot transplant ambition into students who are not yet ready to adopt it.

The debate about whether the low achievement of black students is rooted in culture or economics is largely fruitless because socioeconomic status and culture cannot be separated. On the one hand, if black families value education less because their historical experience has been that education has not paid off in economic mobility, then the undervaluing of education won't likely be eliminated simply with cultural appeals, and social and economic reforms (like non-discrimination enforcement and affirmative action) will also be needed. On the other hand, even if we could develop a complex measure of socioecoSocial class, student achievement, and the black-white achievement gap

nomic status that included, along with family income, measures such as family assets, persistence of poverty, savings for college, grandparents' assets, and so on, and even if this measure fully explained all differences in educational outcomes between blacks and whites, it would not eliminate the possibility that cultural factors play a role. After all, if there were a culture of underachievement in the black community, that could lead families to accumulate less savings for college. If parents strove to achieve less in school, and this resulted in lower family incomes, then a child's family income itself would be partially a cultural effect, not entirely a socioeconomic factor. Similarly, the number of books in a child's home is considered by many social scientists as a measure of social class. But parents can purchase books not only because the parents are well educated and can afford the purchases, but because parents value literacy more highly, a cultural characteristic.

These interactions between culture and social class make it harder

to interpret the studies demonstrating that when other background char-

acteristics - such as parents' educational level and mothers' own test scores, parents' occupational status, family size, number of books in

the home, and children's birth weight - are added to long-term family

income in analyzing test scores, few differences remain between the achievements of socioeconomically similar black and white students. 152 In 1994, The Bell Curve, a book by Richard Herrnstein and Charles Murray, ignited a national controversy by arguing that the black-white achievement gap resulted, in part, from genetic differences between the races. Partly, they reasoned that the black-white achievement gap was so large that it could not be explained by social and economic differences. Their argument, however, fell prey to the commonplace oversimplification of these differences. If black-white social and economic conditions differed only in current income and parental education levels, the social and economic gap may indeed seem too small to explain the achievement gap. But if the full array of socioeconomic differences

Data on the vocabulary and intellectual development of four- and five-year-olds, from the government's ongoing survey of 1998 kindergartners (mentioned above in the section, "Social class differences in childrearing"), provides further evidence for this judgment that social class matters more than race.

are considered, the plausibility of the Herrnstein-Murray argument dis-

appears.153

children cultural factors can play a role in student achievement only indirectly, through values expressed subtly by parents. After all, black four-year-olds do not suppress their own achievement because they believe hard work won't pay off in higher earnings. So while it is not possible to separate culture from socioeconomic status entirely, we can probably come closer to doing this with very young children.

The new data are useful for this discussion because with such young

The data show that there remains a race gap for children of the same SES quintile, but these remaining skill differences between black and white children are relatively small, especially in reading. Most of this racial skill gap is explained by socioeconomic factors - in this case, family income, parental education, and parental occupational status.

Figure 2A displays the reading skills of average four- to five-yearold black students in comparison to white students. Before taking SES into account, there is a big racial gap, with black children scoring about 16 percentile points below white children. 154 But, as Figure 2B shows, most of this gap is eliminated for children of similar SES. Middle-class whites (in the middle quintile) scored at about the 49th percentile, while middle-class blacks scored at about the 43rd percentile.¹⁵⁵ Affluent white children (those in the top SES quintile) scored at

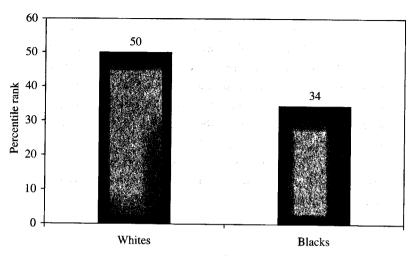
about the 74th percentile, and affluent black children scored at about the 62nd percentile. So a race gap remained, even after controlling for SES. But the race gap at the top end is also small relative to the SES gap; these affluent top-quintile black children still scored higher than white students in the next highest (upper-middle-class, or fourth) quintile,

who were at about the 59th percentile. The same pattern is true at the low end. Black children in the lowest socioeconomic class (bottom quintile) scored at about the 29th percentile, while white children in this lowest class did better, scoring at about the 32nd percentile. But lower-middle-class blacks from the next lowest (second) SES quintile still scored better (at about the 38th percen-

tile) than whites from the lowest SES quintile. In math, the racial gaps are bigger, compared to the SES gaps, than they are in reading, although SES still seems to be more important than race in explaining the achievement gap. 156 Figure 3A shows a 23 percentile racial gap in mathematics skills upon kindergarten entry, but, as Figure 3B shows, the gap is narrower for blacks and whites of similar

socioeconomic status, except for those from the highest SES families.

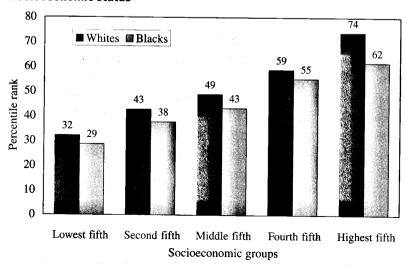
FIGURE 2A Reading skills at start of kindergarten



Note: The reading performance of black students has been normalized to the reading performance of white students.

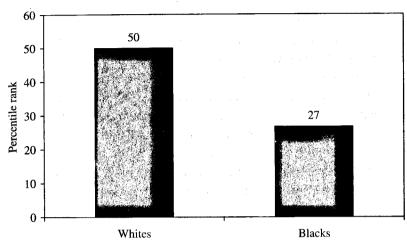
Source: Lee and Burkam (2002).

FIGURE 2B Reading skills on entering kindergarten by race and socioeconomic status



Source: Lee and Burkam 2002, unpublished data.

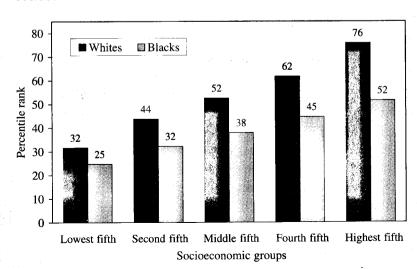
FIGURE 3A Mathematics skills at start of kindergarten



Note: The mathematics performance of black students has been normalized to the mathematics performance of white students.

Source: Lee and Burkam (2002).

FIGURE 3B Mathematics skills on entering kindergarten by race and socioeconomic status



Source: Lee and Burkam 2002, unpublished data.

In math, black children in the top quintile score as well as middle-class whites (both are at the 52nd percentile), and upper-middle-class black children (in the fourth quintile) score about the same as lower-middleclass whites (in the second quintile). Lower-middle-class black children score about the same as bottom quintile whites (both are at about the 32nd percentile).

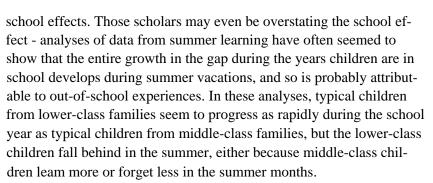
These race gaps, for both math and reading, might well be further diminished if additional social and economic characteristics could be controlled; for example, longer-term income and asset data, not only current family income. But, as noted above, even these more sophisticated social class measures would still be entangled by some cultural factors. All it is reasonable to say is that most of the racial test score gap probably results from social class factors, but a small part may also result from a culture of underachievement. It is possible, indeed likely, that cultural factors play a larger role for older children, but it is also likely that if social and economic conditions were equal for black and white kindergartners, and black children were then as successful in the early years of school as whites, cultural values that are hostile to education might be less attractive to black students when they were older.

Regardless of the historic origins of underachievement, if some black students aim too low in school for reasons that do not apply to whites, average achievement of blacks will fall below that of whites. The culture of low achievement should not be exaggerated in importance, above social class characteristics that apply equally to blacks and whites. But neither should we deny that aspects of black culture contribute to the gap.

Conservatives, both black and white, conclude from all this that community-based motivational campaigns can play a role in narrowing the gap. It seems plausible, but there is yet no evidence that such campaigns actually would have an effect. Because cultural and socioeconomic characteristics are so intertwined, it would be foolish to expect motivational efforts alone to succeed, but equally foolish to deny their potential contribution.

Summer and after-school learning

Earlier in this chapter, it was noted that scholars have never been able to attribute more than about a third of student achievement variation to



Earlier, it was discussed how differences in home literacy support can cause a big gap when children first enter kindergarten. If children entered school with similar readiness, and if all subsequent learning then took place in school, there would be no achievement gap between lower- and middle-class children.'57

Although some studies show that the widening of the gap takes place only during the summers, other studies go further: they find that the initial gap persists, but does not widen. In these analyses, on 12th grade reading tests the black-white gap is not much different than it was at the beginning of school.'58

These data are not without controversy, and some recent studies do show the gap growing during school years, with only about half the 12th grade gap already existing in kindergarten. 159 But even this pattern could not be held to mean that unequal school or teacher quality widens the gap if the widening takes place almost entirely during summer months, when middle-class children's intellectual growth continues and lower-class children's growth stagnates.160

This effect of summer learning has been confirmed by testing children at both the beginning and the end of the school year, making it possible to distinguish gains from formal schooling and those from less formal summer experiences. Such testing confirms that lower- and middle-class children actually show similar growth during elementary school. But each summer, the gap expands. A survey of New York City schoolchildren 40 years ago found that black children learned only one-sixteenth as fast during the summer as during the school year, while white children learned one-fourth as fast.16' Other studies since have confirmed these results.

The reasons for these summer learning gaps are not hard to fathom. Any skill takes practice to develop; reading is no different. Children

who read for pleasure in the summer will be better readers, on average, than children who do not. As was shown earlier, middle-class children are more likely to come from homes where recreational reading has high status; as a result, this is the sort of activity to which children are more likely to turn in their leisure time. Middle-class children are more likely to have books purchased for them by parents and to get books from public libraries. 162 One survey of Philadelphia-area communities found that in neighborhoods where almost all adults were college-educated, retailers stocked 1,300 children's books per 100 children. In a blue-collar Irish and Eastern European middle-income area, there were 30 children's books per 100 children. In a multi-ethnic area there were 10 books per 100 children. And in a predominantly black area, retailers stocked fewer than one book per 100 children. The public library disparity was also huge, with six times as many juvenile library books in upper-income neighborhoods as in black neighborhoods. 163 These data do not mean that all middle-class children spend their summers accumulating books and going to libraries, or that no poor children do so; rather, because more middle-class than poor children read during the summer, the average proficiency of middle-class children will be higher no matter how effective school instruction may be.

During the summer, middle-class children are more likely to attend camp, take family vacations that expose them to new and different environments, go to zoos and museums, or take sports, dance, or music lessons. Each of these experiences for middle-class children, or lack of them for lower-class children, may contribute to growth in the achievement gap during the summer.¹⁶⁴

Even during months that students are in school, they typically attend for only six hours each weekday. In afternoons, evenings, and weekends, middle-class children have more intellectually stimulating experiences, are exposed to more sophisticated adult language, and benefit from more economic security. If the gap really does not grow during the regular school year, schools are probably doing a great deal to narrow it during the regular school day, but these efforts are offset by gapwidening experiences in the after-school hours. 165

We can't construct tests that separate learning during the school day from that in the afternoon or on weekends, but summer learning data are consistent with the achievement gap being entirely due to children's experiences before they enter kindergarten, in afternoons and on weekends, and during the summer. A strategy to close the achievement gap between lower-class and middle-class children cannot ignore these non-school hours.

Each black and each white school child, each poor and rich child, has a different combination of home literacy experiences, health conditions, family resources, and out-of-school opportunities. No single condition leads any particular lower-class child to achieve less than average middle-class children. Some lower-class children overcome these disadvantages and excel. But the accumulation of all them, for typical lower-class and middle-class children, for blacks and whites who are average for their races, makes an achievement gap between these groups nearly inevitable.

This chapter began by noting that, to most Americans, the notion is counter-intuitive that poverty should retard achievement. Subsequent pages have aimed to offer an insight into why the opposite is truly counter-intuitive: how can it be other than that children with such inferior preparations for learning, with such health, housing, and economic disadvantages, could do anything but perform less well, on average, in school?

Yet federal law today demands that, in 10 years, every school must wipe out the achievement gap by race and social class. Many educators and policy makers support this demand of the "No Child Left Behind" act, contending that higher-quality teachers and schools can overcome average social class differences. This claim may defy probability, but is not illogical. After all, the data from summer learning shows that schools do narrow the gap only to have their efforts undermined by out-of-school forces. If schools can narrow the gap in this way, perhaps schools can do even more. Although the achievement gap is not created by poor school quality, conceivably it could be erased by extraordinarily effective schools. The next chapter will argue, however, that some of the most commonly repeated claims that effective schools can close the gap are either fraudulent or misguided.