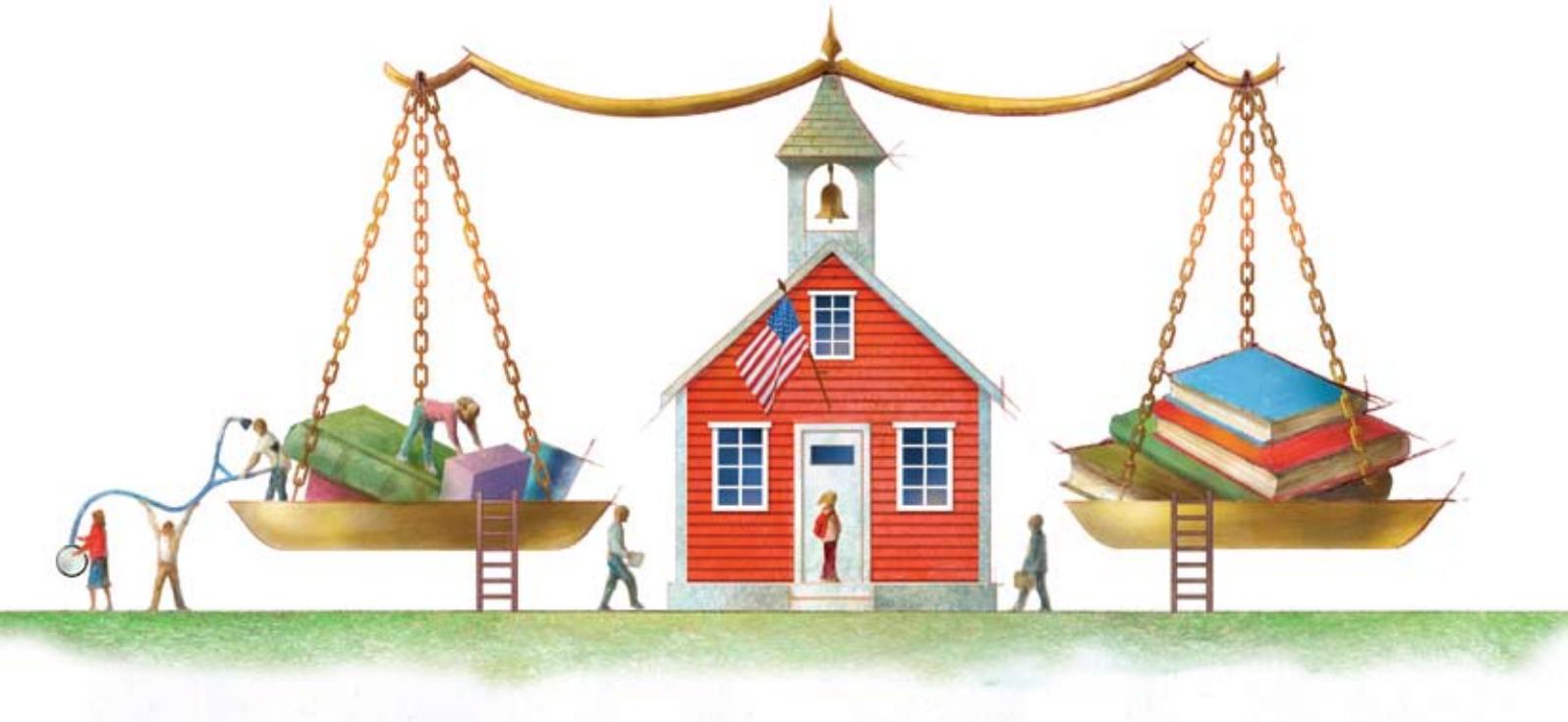


Equalizing Opportunity

Dramatic Differences in Children's Home Life and Health Mean That Schools Can't Do It Alone



BY RICHARD ROTHSTEIN

Public discourse about education pays great attention to the stubborn persistence of an achievement gap between poor and minority students and their wealthier white peers—and public schools come under great criticism for their apparent inability to close that gap. Some of this criticism may be justified. But there is more to the story than school reform. No society can realistically expect schools alone to abolish inequality. If students come to school in unequal circumstances, they will largely, though not entirely, leave

school with unequal skills and abilities, in both cognitive and noncognitive domains. This is not a reason for educators to throw up their hands. Rather, in addition to efforts to improve school practices, educators, along with community partners, should exercise their own rights and responsibilities as citizens to participate in redressing the inequalities with which children come to school.

Income is more unequal and lower-class* families have less access to medical care in the United States than in any other industrial nation. The gap in average achievement probably can-

*Richard Rothstein is a research associate at the Economic Policy Institute, former national education columnist with the New York Times, and author of several books, most recently *Grading Education: Getting Accountability Right*, which he coauthored with Rebecca Jacobsen and Tamara Wilder. This article is adapted with permission from *Class and Schools: Using Social, Economic, and Educational Reform to Close the Black-White Achievement Gap*, published in 2004 by the Economic Policy Institute and Teachers College Press.*

*Throughout this article, 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, captures 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) that, on average, differs from the performance of families from higher social classes.

not be narrowed substantially as long as the U.S. maintains such vast differences in socioeconomic conditions. Although some lower-class children can overcome these handicaps, and although more effective schools can help narrow the gap a little, it is fanciful to think that, on average, children from such different social classes can emerge at age 18 with comparable academic abilities.

Nonetheless, many of the curricular and school organizational reforms being pursued today 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 lower-class children (particularly in the early grades), insisting on higher academic standards, holding schools accountable for fairly measured performance, creating a well-focused and disciplined school cli-

Most of the social class difference in average academic potential exists by the time children are 3 years old.

mate, 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.

Such reforms are extensively covered in public discussions of education, so it is not necessary for me to review them here. My focus is the great 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 contribute to narrowing the achievement gap. School reform, however, is not enough. The social and economic conditions that lower-class children face must also be addressed. For example, the growing unaffordability of adequate housing for low-income families 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 with children who move in and out of their classrooms as they are with children whose attendance is regular. In schools with high mobility, the nonmobile students are affected too, as classroom dynamics are disrupted and teachers must review material.

And yet, evidence indicates that schools, on average, are doing a great deal to combat the achievement gap. Most of the social class difference in average academic potential exists by

the time children are 3 years old. This difference is exacerbated during the years that children spend in school, but the growth in the gap occurs mostly in the afterschool hours and during the summertime, when children are not in classrooms.¹ So children's out-of-school time offers an enormous—but needlessly neglected—opportunity to narrow the gap.

To better understand just how great the challenge is, this article reviews some of the key differences between lower- and middle-class families in childrearing and children's health. For a more detailed look at these issues, see *Class and Schools: Using Social, Economic, and Educational Reform to Close the Black-White Achievement Gap*, the book from which most of this article is drawn. Schools will not be able to address all of these differences on their own. But we, as a nation, can—and if we are serious about giving all children equal opportunities to succeed, we must.



Since the publication of *Class and Schools*, a growing number of national leaders, from across the political spectrum and with varied expertise, have advocated for combining school improvement with improvements in the social and economic conditions that prepare children to succeed in school. These leaders have sponsored a platform, “A Broader, Bolder Approach to Education,” to which all Americans are invited to add their names at www.boldapproach.org. Yet despite this growing chorus proclaiming that schools alone cannot be expected to significantly narrow the achievement gap, opposition to the “Broader, Bolder Approach” persists. Therefore, it is necessary to reiterate the research establishing the importance of narrowing the gap in readiness to learn, if we are to succeed in narrowing the gap in learning.

Social Class Differences in Childrearing

To take full advantage of school, children should arrive every day ready to learn. But children differ in how ready they are, and these differences are strongly influenced by their social class backgrounds. Parents of different social classes, on average, tend to raise children somewhat differently. For example, more educated parents read to their young children more consistently and encourage their children to read more to themselves when they are older.²

How parents read to children is as important as whether they do; more educated parents read aloud differently. When low-income 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.³ Parents who are more literate are more likely to ask questions that are creative, interpretive, or connective. They ask questions like, “What do you think will happen next?” and “Why do you think this happened?” and “Does that remind you of what we did yesterday?”⁴ Middle-class parents are more likely to read aloud to have fun, to start conversations, and to provide an entrée to the world outside. Their children learn that reading is enjoyable and are more motivated to read in school.⁵

Stark social class differences arise not only in how parents

are more likely to engage in conversation with each other as if their infants, and even their older children, were not present. These parents make less of a deliberate effort to name objects and develop children’s vocabularies.

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 parents on welfare spoke about 600. So by age 3, children of professionals had vocabularies that were nearly 50 percent greater than those of working-class children and twice as large as those of welfare children. Indeed, by 3 years

Middle-class parents are more likely to read aloud to have fun, to start conversations, and to provide an entrée to the world outside.



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.⁶ Through such conversations, children develop broader vocabularies and become familiar with contexts for reading in school.⁷ 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, such as, “You don’t want to make so much noise, do you?”⁸ This kind of instruction is really more an invitation for a child to work through the reasoning behind a command and to internalize it. Soon after middle-class children become verbal, parents typically draw them into adult conversations so children can practice expressing their own opinions.

Working-class parents typically maintain firmer boundaries between the adult and child worlds, and are less likely to conduct conversations with preverbal 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 preverbal 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.⁹ Working-class adults

old, the children of professionals had larger vocabularies 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 4 years old, ready to enter preschool, a typical child in a professional family would have accumulated experience with 45 million words, compared with only 13 million for a typical child in a welfare family.¹⁰

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.

Social Class Differences in Children’s Health

Childrearing practices play a role in school performance, but vast differences in children’s health, and health care, are also important. Overall, lower-income children are in poorer health, suffering from undiagnosed vision problems, lack of dental care, poor nutrition, and more.

Vision

Lower-class children’s higher 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.¹¹ Juvenile delinquents especially have extraordinarily high rates of such problems; difficulties in seeing and focusing may contribute to their lack of mainstream success.¹² Foster children, who experience even more stress than most disadvantaged children, also have unusually high vision failure rates.¹³

Fifty percent or more of minority and low-income children have vision problems that interfere with their academic work.¹⁴ A few require glasses, but more need eye-exercise therapy to correct focusing, converging, and tracking problems. 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

Low-income children with asthma are about 80 percent more likely than middle-class children with asthma to miss more than seven days of school a year from the disease.

beyond the normal growth for their age, while children in the control group, who did not get these services, fell further behind.¹⁵

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 reflect, in part, 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, 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; typically, middle-class pregnant mothers have better medical care and nutrition.¹⁶ Visual deficits also arise because poor children are more likely to watch too much television, an activity that does not train the eye to develop hand-eye coordination and depth perception.¹⁷ Middle-class children are also more likely to have manipulative toys that develop visual skills.¹⁸

Hearing

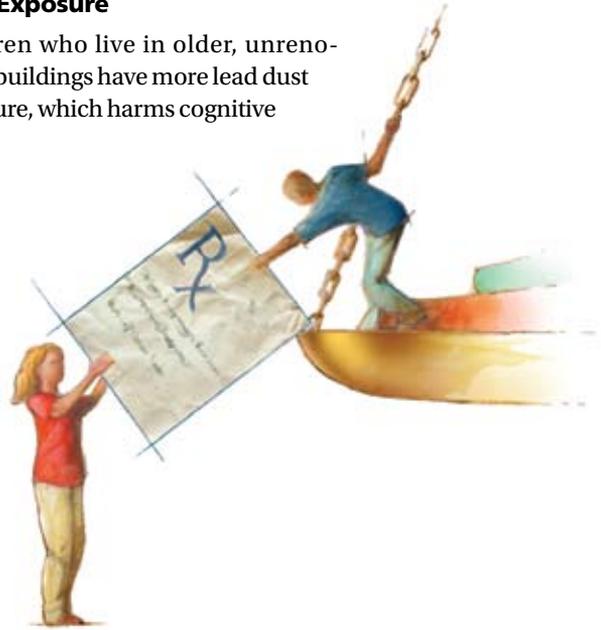
Lower-class children also have more hearing problems.¹⁹ These may result from more ear infections that occur in children whose overall health is less robust. If poor children simply had as much medical treatment for ear infections as middle-class children, they could pay better attention and the achievement gap would narrow a bit.²⁰

Oral Health

Children without dental care are more likely to have toothaches; untreated cavities are nearly three times as prevalent among poor children as among middle-class children.²¹ Although not every dental cavity leads to a toothache, some do. Children with toothaches, even minor ones, pay less attention in class and are more distracted during tests, on average, than children with healthy teeth.

Lead Exposure

Children who live in older, unrenovated buildings have more lead dust exposure, which harms cognitive



functioning and behavior.²² High lead levels also contribute to hearing loss.²³ Low-income children have dangerously high blood lead levels at five times the rate of middle-class children.²⁴ 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.²⁵

Asthma

Lower-class children, particularly those who live in densely populated city neighborhoods, are also more likely to develop asthma.²⁶ 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.²⁷ A Chicago survey found a nearly identical rate for black children and a rate of one in three for Puerto Ricans.²⁸ 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.²⁹

Asthma keeps children up at night; 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.³⁰ Low-

(Continued on page 45)

Equalizing Opportunity

(Continued from page 7)

income children with asthma are about 80 percent more likely than middle-class children with asthma to miss more than seven days of school a year from the disease.³¹ 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.³²

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.³³ Many eligible families are not enrolled because of ignorance, fear, or lack of belief in the importance of medical care.

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.

Use of Alcohol

Youngsters whose mothers drank during pregnancy have more difficulty with academic subjects, less ability to focus attention, poorer memory skills, less ability to reason, lower IQs, less social competence, and more aggression in the classroom.³⁴ On into adolescence, these children continue to have difficulty learning.³⁵ 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 among low-income black children than middle-class white children.³⁶

Smoking

Children of mothers who smoked while pregnant do worse on cognitive tests and their language develops less well. They have more serious behavioral problems, are more hyperactive, and commit more juvenile crime.³⁷ Because secondhand smoke causes asthma, children whose mothers smoke after pregnancy also are more likely to have low achievement.

Birth Weight

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 IQ scores and are more likely to have mild learning disabilities and attention disorders.³⁸ Thirteen percent of black children are born with low birth weight, double the rate for whites.³⁹ Even if all children benefited from equally high-quality instruction, this difference alone would ensure lower average achievement for blacks.

Nutrition

Poor nutrition also directly contributes to an achievement gap

Poor nutrition directly contributes to the achievement gap. Iron deficiency anemia also affects cognitive ability; 8 percent of all children suffer from anemia, but 20 percent of black children are anemic.

between lower- and middle-class children. Low-income kindergartners whose height and weight are below normal for children their age tend to have lower test scores.⁴⁰ Iron deficiency anemia also affects cognitive ability; 8 percent of all children suffer from anemia, but 20 percent of black children are anemic.⁴¹ Anemia also makes it more probable that children will absorb lead to which they have been exposed.⁴² Compared with middle-class children, the poor also have deficiencies of other vitamins and minerals.⁴³ In experiments where pupils received inexpensive vitamin and mineral supplements, test scores rose from that treatment alone.⁴⁴

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

To make significant progress in narrowing the achievement gap, three tracks should be pursued vigorously and simultaneously. First, school improvement efforts that raise the quality of instruction in elementary and secondary schools are essential. Second, comprehensive early childhood, afterschool, and summer programs must be implemented, so that lower-class children can have the same enriching experiences as their middle-class peers. And third, we must change our social and economic policies—and especially our approach to health care—so that all children can attend school more equally ready

to learn.

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. □

Endnotes

1. Meredith Phillips, "Understanding Ethnic Differences in Academic Achievement: Empirical Lessons from National Data," in *Analytic Issues in the Assessment of Student Achievement*, NCEs 2000-050, ed. David W. Grissmer and J. Michael Ross (Washington, DC: U.S. Department of Education, National Center for Education Statistics, 2000); Richard L. Allington and Anne McGill-Franzen, "The Impact of Summer Setback on the Reading Achievement Gap," *Phi Delta Kappan* 85, no. 1 (2003): 68-75; and Doris R. Entwisle and Karl L. Alexander, "Summer Setback: Race, Poverty, School Composition, and Mathematics Achievement in the First Two Years of School," *American Sociological Review* 57 (1992): 72-84. One study (Roland G. Fryer Jr. and Steven D. Levitt, "Understanding the Black-White Test Score Gap in the First Two Years of School," NBER Working Paper 8975 [Cambridge, MA: National Bureau of Economic Research, 2002]) found no growth of the achievement gap during the summer, but this claim is at odds with most of the research literature.
2. Suzanne M. Bianchi and John Robinson, "What Did You Do Today? Children's Use of Time, Family Composition, and the Acquisition of Social Capital," *Journal of Marriage and the Family* 59, no. 2 (1997): 332-344; and Sandra L. Hofferth and John F. Sandberg, "How American Children Spend Their Time," *Journal of Marriage and the Family* 63, no. 2 (2001): 295-308.
3. Larry Mikulecky, "Family Literacy: Parent and Child Interactions," in *Family Literacy: Directions in Research and Implications for Practice*, ed. L. Ann Benjamin and Jerome Lord (Washington, DC: U.S. Department of Education, Office of Educational Research and Improvement, 1996), www.ed.gov/pubs/FamLit/parent.html.
4. See also Pia Rebello Britto and Jeanne Brooks-Gunn, "Concluding Comments," *New Directions for Child and Adolescent Development* 92 (2001): 91-98. Britto and Brooks-Gunn report on a survey that included only poorly educated single African American mothers. Within this group, more expressive language use during book reading predicted children's achievement, but the survey does not lead to any reliable conclusions regarding whether the use of expressive language is related to social class.
5. Mikulecky, "Family Literacy."
6. Mikulecky, "Family Literacy."
7. Catherine Snow and Patton Tabors, "Intergenerational Transfer of Literacy," in *Family Literacy: Directions in Research and Implications for Practice*, ed. L. Ann Benjamin and Jerome Lord (Washington, DC: U.S. Department of Education, Office of Educational Research and Improvement, 1996), www.ed.gov/pubs/FamLit/transfer.html.
8. See Annette Lareau, *Unequal Childhoods: Class, Race, and Family Life* (Berkeley: University of California Press, 2003) for a general discussion of these childrearing pattern differences.
9. Shirley Brice Heath, *Ways with Words: Language, Life, and Work in Communities and Classrooms* (Cambridge, MA: Cambridge University Press, 1983).
10. Betty Hart and Todd R. Risley, *Meaningful Differences in the Everyday Experience of Young American Children* (Baltimore: Brookes Publishing, 1995); and Betty Hart and Todd R. Risley, "The Early Catastrophe: The 30 Million Word Gap by Age 3," *American Educator* 27, no. 1 (2003). The Hart-Risley findings have sometimes been misreported as meaning that the vocabularies of children of professionals were larger than the vocabularies of adults on welfare (not than the much smaller vocabularies that adults on welfare use when speaking to children). See Geoff Nunberg, "A Loss for Words," *Fresh Air* from WHYY, NPR, September 3, 2002, www-csli.stanford.edu/~nunberg/vocabulary.html; and Gerald W. Bracey, "The 13th Bracey Report on the Condition of Public Education," *Phi Delta Kappan* 85, no. 2 (2003): 148-164.
11. Lisa Egbuonu and Barbara Starfield, "Child Health and Social Status," *Pediatrics* 69, no. 5 (1982): 550-557; and Barbara Starfield, "Child Health and Socioeconomic Status," *American Journal of Public Health* 72, no. 6 (1982): 532-534.
12. Antonia Orfield, Frank Basa, and John Yun, "Vision Problems of Children in Poverty in an Urban School Clinic: Their Epidemic Numbers, Impact on Learning, and Approaches to Remediation," *Journal of Optometric Vision Development* 32 (2001): 114-141.
13. Trudy Festinger and Robert Duckman, "Seeing and Hearing: Vision and Audiology Status of Foster Children in New York City," *Journal of Behavioral Optometry* 11, no. 3 (2000): 59-67.
14. The normal incidence of vision problems in children is about 25 percent. Clinicians and researchers have found incidences of more than 50 percent in some communities, although there has been no systematic nationwide survey of vision problems by race or social class. See Marge Christensen Gould and Herman Gould, "A Clear Vision for Equity and Opportunity," *Phi Delta Kappan* 85, no. 4 (2003): 324-328; Antonia Orfield, interview with author, November 11, 2003; Orfield, Basa, and Yun, "Vision Problems"; Robert Duckman (College of Optometry, State University of New York), interview with author, December 29, 2003; Paul Harris, interview with author, December 12, 2003; and Paul Harris, "Learning-Related Visual Problems in Baltimore City: A Long-Term Program," *Journal of Optometric Vision Development* 33, no. 2 (2002): 75-115.
15. Harris, "Learning-Related Visual Problems."
16. Surprisingly, there is no experimental evidence on the relationship between prenatal care and vision, and little good research evidence generally on the relationship between socioeconomic conditions and children's vision. In the following discussions, I was guided by personal correspondence and conversations with academic and clinical optometrists, including Professor Robert Duckman (State University of New York), Dr. Paul Harris, Dr. Antonia Orfield, and Professor Harold Solan (State University of New York). I also relied on the advice of Dr. Barbara Starfield at Johns Hopkins University. Sara Mosle, a former teacher in a low-income school (and now a journalist and historian), stimulated this line of inquiry for me when she showed me her unpublished article, "They Can't Read Because They Can't See." See also Festinger and Duckman, "Seeing and Hearing"; Harris, "Learning-Related Visual Problems"; Orfield, Basa, and Yun, "Vision Problems"; and Harold A. Solan et al., "Effect of Attention Therapy on Reading Comprehension," *Journal of Learning Disabilities* 36, no. 6 (2003): 556.
17. National Center for Education Statistics, *Digest of Education Statistics, 2002*, NCEs 2003-060 (Washington, DC: U.S. Department of Education, Office of Educational Research and Improvement, 2003), table 117.
18. Orfield, interview with author.
19. Egbuonu and Starfield, "Child Health."
20. Some medical authorities state that antibiotics have been overprescribed for young children's ear infections and that painkillers alone sometimes may suffice. However, without good access to personal pediatricians who know a child's history, parents themselves cannot determine whether antibiotics or painkillers are the proper treatment in any particular case. See Lawrence K. Altman, "Doctors and Patients Start to Curb Use of Antibiotics," *New York Times*, March 4, 2004.
21. U.S. General Accounting Office, *Oral Health: Dental Disease Is a Chronic Problem Among Low-Income Populations*, GAO/HEHS-00-72 (Washington, DC: GAO, 2000), 8, figure 1.
22. Egbuonu and Starfield, "Child Health"; U.S. General Accounting Office, *Lead Poisoning: Federal Health Care Programs Are Not Effectively Reaching At-Risk Children*, GAO/HEHS-99-18 (Washington, DC: GAO, 1999); Ulric Neisser et al., "Intelligence: Knowns and Unknowns," *American Psychologist* 51, no. 2 (1996): 77-101; and Ulric Neisser, "Never a Dull Moment," *American Psychologist* 52, no. 1 (1997): 79-81. There is scientific controversy regarding how much lead exposure is harmful to children.
23. Jeanne Brooks-Gunn and Greg J. Duncan, "The Effects of Poverty on Children," *Children and Poverty* 7, no. 2 (1997): 55-71.
24. GAO, *Lead Poisoning*.
25. Paul Barton, *Parsing the Achievement Gap: Baselines for Tracking Progress* (Princeton, NJ: Educational Testing Service, Policy Information Center, 2003); and Justin Blum, "High Lead Levels Found in Water at 9 D.C. Schools," *Washington Post*, February 25, 2004.
26. Christopher B. Forrest et al., "The Impact of Asthma on the Health Status of Adolescents," *Pediatrics* 99, no. 2 (1997): e1; and Neal Halfon and Paul W. Newacheck, "Childhood Asthma and Poverty: Differential Impacts and Utilization of Health Services," *Pediatrics* 91, no. 1 (1993): 56-61.
27. Associated Press, "Study: 1 in 4 Harlem Children Has Asthma," *New York Times*, April 21, 2003; and Roger D. Vaughan (associate professor, Mailman School of Public Health, Columbia University), personal correspondence, April 22, 2003.
28. Steven Whitman, Cynthia Williams, and Ami Shah, *Sinai Health System's Improving Community Health Survey: Report 1* (Chicago: Sinai Health System, 2004); and Scott Ritter, "Asthma Hits Record Rate among Minority Kids," *Chicago Sun-Times*, January 8, 2004.
29. Halfon and Newacheck, "Childhood Asthma."
30. Philip J. Hilts, "Study Finds Most States Lack System for Monitoring Asthma," *New York Times*, May 22, 2000.
31. Halfon and Newacheck, "Childhood Asthma."
32. Forrest et al., "Impact of Asthma."
33. Robert J. Mills and Shailesh Bhandari, *Health Insurance Coverage in the United States: 2002*, U.S. Census Bureau: Current Population Reports (Washington, DC: Government Printing Office, 2003).
34. Susan Astley, "FAS/FAE: Their Impact on Psychosocial Child Development with a View to Diagnosis," in *Encyclopedia on Early Childhood Development*, ed. Richard E. Tremblay, Ronald G. Barr, and Ray DeV. Peters (Montreal, Quebec: Centre of Excellence for Early Childhood Development, 2003), www.child-encyclopedia.com/documents/AstleyANGxp.pdf; and Roger W. Simmons et al., "Fractionated Simple and Choice Reaction Time in Children with Prenatal Exposure to Alcohol," *Alcoholism: Clinical and Experimental Research* 26, no. 9 (2002): 1412-1419.
35. Gale A. Richardson et al., "Prenatal Alcohol and Marijuana Exposure: Effects on Neuropsychological Outcomes at 10 Years," *Neurotoxicology and Teratology* 24, no. 3 (2002): 309-320; and Ann P. Streissguth et al., "Maternal Drinking During Pregnancy: Attention and Short-Term Memory in 14-Year-Old Offspring—A Longitudinal Prospective Study," *Alcoholism: Clinical and Experimental Research* 18, no. 1 (1994): 202-218.
36. Ernest L. Abel, "An Update on Incidence of FAS: FAS Is Not an Equal Opportunity Birth Defect," *Neurotoxicology and Teratology* 174 (1995): 437-443.
37. Astley, "FAS/FAE."
38. Maureen Hack, Nancy K. Klein, and H. Gerry Taylor, "Long-Term Developmental Outcomes of Low Birth Weight Infants," *The Future of Children* 5, no. 1 (1995): 176-196.
39. Kathryn Hoffman, Charmaine Llagas, and Thomas Snyder, *Status and Trends in the Education of Blacks*, NCEs 2003-034 (Washington, DC: U.S. Department of Education, Office of Educational Research and Improvement, 2003), 15.
40. Robert Karp et al., "Growth and Academic Achievement in Inner-City Kindergarten Children," *Clinical Pediatrics* 31, no. 6 (1992): 336-340.
41. CDC (Centers for Disease Control and Prevention), *Pediatric Nutrition Surveillance 2001 Report* (Washington, DC: U.S. Department of Health and Human Services, 2002).
42. Larry J. Brown and Laura P. Sherman, "Policy Implications of New Scientific Knowledge," *Journal of Nutrition* 125 (1995): 2281S-2284S.
43. America's Second Harvest, *Differences in Nutrient Adequacy among Poor and Non-Poor Children* (Medford, MA: Center on Hunger, Poverty and Nutrition Policy, 2003), www.secondharvest.org; and Kathy Koch, "Hunger in America," *CQ Researcher* 10, no. 44 (2002): 1034-1055.
44. Neisser et al., "Intelligence: Knowns and Unknowns."