FREAKONOMICS

A Rogue Economist Explores the Hidden Side of Everything

Revised and Expanded Edition

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What Makes a Perfect Parent?

Has there ever been another art so devoutly converted into a science as the art of parenting?

Over the recent decades, a vast and diverse flock of parenting experts has arisen. Anyone who tries even casually to follow their advice may be stymied, for the conventional wisdom on parenting seems to shift by the hour. Sometimes it is a case of one expert differing from another. At other times the most vocal experts suddenly agree en masse that the old wisdom was wrong and that the new wisdom is, for a little while at least, irrefutably right. Breast feeding, for example, is the only way to guarantee a healthy and intellectually advanced child—unless bottle feeding is the answer. A baby should always be put to sleep on her back—until it is decreed that she should only be put to sleep on her stomach. Eating liver is either a) toxic or b) imperative for brain development. Spare the rod and spoil the child; spank the child and go to jail.

In her book *Raising America: Experts, Parents, and a Century of Ad-*

vice About Children, Ann Hulbert documented how parenting experts contradict one another and even themselves. Their banter might be hilarious were it not so confounding and, often, scary. Gary Ezzo, who in the *Babywise* book series endorses an "infant-management strategy" for moms and dads trying to "achieve excellence in parenting," stresses how important it is to train a baby, early on, to sleep alone through the night. Otherwise, Ezzo warns, sleep deprivation might "negatively impact an infant's developing central nervous system" and lead to learning disabilities. Advocates of "co-sleeping," meanwhile, warn that sleeping alone is harmful to a baby's psyche and that he should be brought into the "family bed." What about stimulation? In 1983 T. Berry Brazelton wrote that a baby arrives in the world "beautifully prepared for the role of learning about him- or herself and the world all around." Brazelton favored early, ardent stimulation—an "interactive" child. One hundred years earlier, however, L. Emmett Holt cautioned that a baby is not a "plaything." There should be "no forcing, no pressure, no undue stimulation" during the first two years of a child's life, Holt believed; the brain is growing so much during that time that overstimulation might cause "a great deal of harm." He also believed that a crying baby should never be picked up unless it is in pain. As Holt explained, a baby should be left to cry for fifteen to thirty minutes a day: "It is the baby's exercise."

The typical parenting expert, like experts in other fields, is prone to sound exceedingly sure of himself. An expert doesn't so much argue the various sides of an issue as plant his flag firmly on one side. That's because an expert whose argument reeks of restraint or nuance often doesn't get much attention. An expert must be bold if he hopes to alchemize his homespun theory into conventional wisdom. His best chance of doing so is to engage the public's emotions, for emotion is the enemy of rational argument. And as emotions go, one of them—fear—is more potent than the rest. The superpredator, Iraqi weapons

of mass destruction, mad-cow disease, crib death: how can we fail to heed the expert's advice on these horrors when, like that mean uncle telling too-scary stories to too-young children, he has reduced us to quivers?

No one is more susceptible to an expert's fearmongering than a parent. Fear is in fact a major component of the act of parenting. A parent, after all, is the steward of another creature's life, a creature who in the beginning is more helpless than the newborn of nearly any other species. This leads a lot of parents to spend a lot of their parenting energy simply being scared.

The problem is that they are often scared of the wrong things. It's not their fault, really. Separating facts from rumors is always hard work, especially for a busy parent. And the white noise generated by the experts—to say nothing of the pressure exerted by fellow parents—is so overwhelming that they can barely think for themselves. The facts they do manage to glean have usually been varnished or exaggerated or otherwise taken out of context to serve an agenda that isn't their own.

Consider the parents of an eight-year-old girl named, say, Molly. Her two best friends, Amy and Imani, each live nearby. Molly's parents know that Amy's parents keep a gun in their house, so they have forbidden Molly to play there. Instead, Molly spends a lot of time at Imani's house, which has a swimming pool in the backyard. Molly's parents feel good about having made such a smart choice to protect their daughter.

But according to the data, their choice isn't smart at all. In a given year, there is one drowning of a child for every 11,000 residential pools in the United States. (In a country with 6 million pools, this means that roughly 550 children under the age of ten drown each year.) Meanwhile, there is 1 child killed by a gun for every 1 million-plus guns. (In a country with an estimated 200 million guns, this

means that roughly 175 children under ten die each year from guns.) The likelihood of death by pool (1 in 11,000) versus death by gun (1 in 1 million-plus) isn't even close: Molly is far more likely to die in a swimming accident at Imani's house than in gunplay at Amy's.

But most of us are, like Molly's parents, terrible risk assessors. Peter Sandman, a self-described "risk communications consultant" in Princeton, New Jersey, made this point in early 2004 after a single case of mad-cow disease in the United States prompted an antibeef frenzy. "The basic reality," Sandman told the *New York Times*, "is that the risks that scare people and the risks that kill people are very different."

Sandman offered a comparison between mad-cow disease (a superscary but exceedingly rare threat) and the spread of food-borne pathogens in the average home kitchen (exceedingly common but somehow not very scary). "Risks that you control are much less a source of outrage than risks that are out of your control," Sandman said. "In the case of mad-cow, it feels like it's beyond my control. I can't tell if my meat has prions in it or not. I can't see it, I can't smell it. Whereas dirt in my own kitchen is very much in my own control. I can clean my sponges. I can clean the floor."

Sandman's "control" principle might also explain why most people are more scared of flying in an airplane than driving a car. Their thinking goes like this: since I control the car, I am the one keeping myself safe; since I have no control of the airplane, I am at the mercy of myriad external factors.

So which should we actually fear more, flying or driving?

It might first help to ask a more basic question: what, exactly, are we afraid of? Death, presumably. But the fear of death needs to be narrowed down. Of course we all know that we are bound to die, and we might worry about it casually. But if you are told that you have a 10 percent chance of dying within the next year, you might worry a lot

more, perhaps even choosing to live your life differently. And if you are told that you have 10 percent chance of dying within the next minute, you'll probably panic. So it's the *imminent* possibility of death that drives the fear—which means that the most sensible way to calculate fear of death would be to think about it on a per-hour basis.

If you are taking a trip and have the choice of driving or flying, you might wish to consider the per-hour death rate of driving versus flying. It is true that many more people die in the United States each year in motor vehicle accidents (roughly forty thousand) than in airplane crashes (fewer than one thousand). But it's also true that most people spend a lot more time in cars than in airplanes. (More people die even in boating accidents each year than in airplane crashes; as we saw with swimming pools versus guns, water is a lot more dangerous than most people think.) The per-*hour* death rate of driving versus flying, however, is about equal. The two contraptions are equally likely (or, in truth, unlikely) to lead to death.

But fear best thrives in the present tense. That is why experts rely on it; in a world that is increasingly impatient with long-term processes, fear is a potent short-term play. Imagine that you are a government official charged with procuring the funds to fight one of two proven killers: terrorist attacks and heart disease. Which cause do you think the members of Congress will open up the coffers for? The likelihood of any given person being killed in a terrorist attack is far smaller than the likelihood that the same person will clog up his arteries with fatty food and die of heart disease. But a terrorist attack happens *now;* death by heart disease is some distant, quiet catastrophe. Terrorist acts lie beyond our control; french fries do not. Just as important as the control factor is what Peter Sandman calls the dread factor. Death by terrorist attack (or mad-cow disease) is considered wholly dreadful; death by heart disease is, for some reason, not.

Sandman is an expert who works both sides of the aisle. One day

he might help a group of environmentalists expose a public health hazard. His client the next day could be a fast-food CEO trying to deal with an *E. coli* outbreak. Sandman has reduced his expertise to a tidy equation: Risk = hazard + outrage. For the CEO with the bad hamburger meat, Sandman engages in "outrage reduction"; for the environmentalists, it's "outrage increase."

Note that Sandman addresses the outrage but not the hazard itself. He concedes that outrage and hazard do not carry equal weight in his risk equation. "When hazard is high and outrage is low, people underreact," he says. "And when hazard is low and outrage is high, they overreact."

So why is a swimming pool less frightening than a gun? The thought of a child being shot through the chest with a neighbor's gun is gruesome, dramatic, horrifying—in a word, outrageous. Swimming pools do not inspire outrage. This is due in part to the familiarity factor. Just as most people spend more time in cars than in airplanes, most of us have a lot more experience swimming in pools than shooting guns. But it takes only about thirty seconds for a child to drown, and it often happens noiselessly. An infant can drown in water as shallow as a few inches. The steps to prevent drowning, meanwhile, are pretty straightforward: a watchful adult, a fence around the pool, a locked back door so a toddler doesn't slip outside unnoticed.

If every parent followed these precautions, the lives of perhaps four hundred young children could be saved each year. That would outnumber the lives saved by two of the most widely promoted inventions in recent memory: safer cribs and child car seats. The data show that car seats are, at best, nominally helpful. It is certainly safer to keep a child in the rear seat than sitting on a lap in the front seat, where in the event of an accident he essentially becomes a projectile. But the safety to be gained here is from preventing the kids from rid-

ing shotgun, not from strapping them into a $200 car seat. Nevertheless, many parents so magnify the benefit of a car seat that they trek to the local police station or firehouse to have it installed just right. Theirs is a gesture of love, surely, but also a gesture of what might be called obsessive parenting. (Obsessive parents know who they are and are generally proud of the fact; non-obsessive parents also know who the obsessives are and tend to snicker at them.)

Most innovations in the field of child safety are affiliated with—shock of shocks—a new product to be marketed. (Nearly five million car seats are sold each year.) These products are often a response to some growing scare in which, as Peter Sandman might put it, the outrage outweighs the hazard. Compare the four hundred lives that a few swimming pool precautions might save to the number of lives saved by far noisier crusades: child-resistant packaging (an estimated fifty lives a year), flame-retardant pajamas (ten lives), keeping children away from airbags in cars (fewer than five young children a year have been killed by airbags since their introduction), and safety drawstrings on children's clothing (two lives).

Hold on a minute, you say. What does it matter if parents are manipulated by experts and marketers? Shouldn't we applaud any effort, regardless of how minor or manipulative, that makes even one child safer? Don't parents already have enough to worry about? After all, parents are responsible for one of the most awesomely important feats we know: the very shaping of a child's character. Aren't they?

The most radical shift of late in the conventional wisdom on parenting has been provoked by one simple question: how much do parents really matter?

Clearly, *bad* parenting matters a great deal. As the link between abortion and crime makes clear, unwanted children—who are dispro-

portionately subject to neglect and abuse—have worse outcomes than children who were eagerly welcomed by their parents. But how much can those eager parents actually accomplish for their children's sake?

This question represents a crescendo of decades' worth of research. A long line of studies, including research into twins who were separated at birth, had already concluded that genes alone are responsible for perhaps 50 percent of a child's personality and abilities.

So if nature accounts for half of a child's destiny, what accounts for the other half? Surely it must be the nurturing—the Baby Mozart tapes, the church sermons, the museum trips, the French lessons, the bargaining and hugging and quarreling and punishing that, in toto, constitute the act of parenting. But how then to explain another famous study, the Colorado Adoption Project, which followed the lives of 245 babies put up for adoption and found virtually *no* correlation between the child's personality traits and those of his adopted parents? Or the other studies showing that a child's character wasn't much affected whether or not he was sent to day care, whether he had one parent or two, whether his mother worked or didn't, whether he had two mommies or two daddies or one of each?

These nature-nurture discrepancies were addressed in a 1998 book by a little-known textbook author named Judith Rich Harris. *The Nurture Assumption* was in effect an attack on obsessive parenting, a book so provocative that it required two subtitles: *Why Children Turn Out the Way They Do* and *Parents Matter Less than You Think and Peers Matter More*. Harris argued, albeit gently, that parents are wrong to think they contribute so mightily to their child's personality. This belief, she wrote, was a "cultural myth." Harris argued that the top-down influence of parents is overwhelmed by the grassroots effect of peer pressure, the blunt force applied each day by friends and schoolmates.

The unlikeliness of Harris's bombshell—she was a grandmother,

no less, without PhD or academic affiliation—prompted both wonder and chagrin. "The public may be forgiven for saying, 'Here we go again,' " wrote one reviewer. "One year we're told bonding is the key, the next that it's birth order. Wait, what really matters is stimulation. The first five years of life are the most important; no, the first three years; no, it's all over by the first year. Forget that: It's all genetics!"

But Harris's theory was duly endorsed by a slate of heavyweights. Among them was Steven Pinker, the cognitive psychologist and best-selling author, who in his own book *Blank Slate* called Harris's views "mind-boggling" (in a good way). "Patients in traditional forms of psychotherapy while away their fifty minutes reliving childhood conflicts and learning to blame their unhappiness on how their parents treated them," Pinker wrote. "Many biographies scavenge through the subject's childhood for the roots of the grown-up's tragedies and triumphs. 'Parenting experts' make women feel like ogres if they slip out of the house to work or skip a reading of *Goodnight Moon*. All these deeply held beliefs will have to be rethought."

Or will they? Parents *must* matter, you tell yourself. Besides, even if peers exert so much influence on a child, isn't it the parents who essentially choose a child's peers? Isn't that why parents agonize over the right neighborhood, the right school, the right circle of friends?

Still, the question of how much parents matter is a good one. It is also terribly complicated. In determining a parent's influence, which dimension of the child are we measuring: his personality? his school grades? his moral behavior? his creative abilities? his salary as an adult? And what weight should we assign each of the many inputs that affect a child's outcome: genes, family environment, socioeconomic level, schooling, discrimination, luck, illness, and so on?

For the sake of argument, let's consider the story of two boys, one white and one black.

The white boy is raised in a Chicago suburb by parents who read widely and involve themselves in school reform. His father, who has a

decent manufacturing job, often takes the boy on nature hikes. His mother is a housewife who will eventually go back to college and earn a bachelor's degree in education. The boy is happy and performs very well in school. His teachers think he may be a bona fide math genius. His parents encourage him and are terribly proud when he skips a grade. He has an adoring younger brother who is also very bright. The family even holds literary salons in their home.

The black boy is born in Daytona Beach, Florida, and his mother abandons him at the age of two. His father has a good job in sales but is a heavy drinker. He often beats the little boy with the metal end of a garden hose. One night when the boy is eleven, he is decorating a tabletop Christmas tree—the first one he has ever had—when his father starts beating up a lady friend in the kitchen. He hits her so hard that some teeth fly out of her mouth and land at the base of the boy's Christmas tree, but the boy knows better than to speak up. At school he makes no effort whatsoever. Before long he is selling drugs, mugging suburbanites, carrying a gun. He makes sure to be asleep by the time his father comes home from drinking, and to be out of the house before his father awakes. The father eventually goes to jail for sexual assault. By the age of twelve, the boy is essentially fending for himself.

You don't have to believe in obsessive parenting to think that the second boy doesn't stand a chance and that the first boy has it made. What are the odds that the second boy, with the added handicap of racial discrimination, will turn out to lead a productive life? What are the odds that the first boy, so deftly primed for success, will somehow fail? And how much of his fate should each boy attribute to his parents?

One could theorize forever about what makes the perfect parent. For two reasons, the authors of this book will not do so. The first is that

neither of us professes to be a parenting expert (although between us we do have six children under the age of five). The second is that we are less persuaded by parenting theory than by what the data have to say.

Certain facets of a child's outcome—personality, for instance, or creativity—are not easily measured by data. But school performance is. And since most parents would agree that education lies at the core of a child's formation, it would make sense to begin by examining a telling set of school data.

These data concern school choice, an issue that most people feel strongly about in one direction or another. True believers of school choice argue that their tax dollars buy them the right to send their children to the best school possible. Critics worry that school choice will leave behind the worst students in the worst schools. Still, just about every parent seems to believe that her child will thrive if only he can attend the *right* school, the one with an appropriate blend of academics, extracurriculars, friendliness, and safety.

School choice came early to the Chicago Public School system. That's because the CPS, like most urban school districts, had a disproportionate number of minority students. Despite the U.S. Supreme Court's 1954 ruling in *Brown v. Board of Education of Topeka*, which dictated that schools be desegregated, many black CPS students continued to attend schools that were nearly all-black. So in 1980 the U.S. Department of Justice and the Chicago Board of Education teamed up to try to better integrate the city's schools. It was decreed that incoming freshmen could apply to virtually any high school in the district.

Aside from its longevity, there are several reasons the CPS school-choice program is a good one to study. It offers a huge data set—Chicago has the third-largest school system in the country, after New York and Los Angeles—as well as an enormous amount of choice

(more than sixty high schools) and flexibility. Its take-up rates are accordingly very high, with roughly half of the CPS students opting out of their neighborhood school. But the most serendipitous aspect of the CPS program—for the sake of a study, at least—is how the school-choice game was played.

As might be expected, throwing open the doors of any school to every freshman in Chicago threatened to create bedlam. The schools with good test scores and high graduation rates would be rabidly oversubscribed, making it impossible to satisfy every student's request.

In the interest of fairness, the CPS resorted to a lottery. For a researcher, this is a remarkable boon. A behavioral scientist could hardly design a better experiment in his laboratory. Just as the scientist might randomly assign one mouse to a treatment group and another to a control group, the Chicago school board effectively did the same. Imagine two students, statistically identical, each of whom wants to attend a new, better school. Thanks to how the ball bounces in the hopper, one student goes to the new school and the other stays behind. Now imagine multiplying those students by the thousands. The result is a natural experiment on a grand scale. This was hardly the goal in the mind of the Chicago school officials who conceived the lottery. But when viewed in this way, the lottery offers a wonderful means of measuring just how much school choice—or, really, a better school—truly matters.

So what do the data reveal?

The answer will not be heartening to obsessive parents: in this case, school choice barely mattered at all. It is true that the Chicago students who *entered* the school-choice lottery were more likely to graduate than the students who didn't—which seems to suggest that school choice does make a difference. But that's an illusion. The proof is in this comparison: the students who won the lottery and went to a "better" school did no better than equivalent students who lost the

lottery and were left behind. That is, a student who opted out of his neighborhood school was more likely to graduate whether or not he actually won the opportunity to go to a new school. What appears to be an advantage gained by going to a new school isn't connected to the new school at all. What this means is that the students—and parents—who choose to opt out tend to be smarter and more academically motivated to begin with. But statistically, they gained no academic benefit by changing schools.

And is it true that the students left behind in neighborhood schools suffered? No: they continued to test at about the same levels as before the supposed brain drain.

There was, however, one group of students in Chicago who did see a dramatic change: those who entered a technical school or career academy. These students performed substantially better than they did in their old academic settings and graduated at a much higher rate than their past performance would have predicted. So the CPS school-choice program did help prepare a small segment of otherwise struggling students for solid careers by giving them practical skills. But it doesn't appear that it made anyone much smarter.

Could it really be that school choice doesn't much matter? No self-respecting parent, obsessive or otherwise, is ready to believe that. But wait: maybe it's because the CPS study measures high-school students; maybe by then the die has already been cast. "There are too many students who arrive at high school not prepared to do high school work," Richard P. Mills, the education commissioner of New York State, noted recently, "too many students who arrive at high school reading, writing, and doing math at the elementary level. We have to correct the problem in the earlier grades."

Indeed, academic studies have substantiated Mills's anxiety. In examining the income gap between black and white adults—it is well established that blacks earn significantly less—scholars have found

that the gap is virtually eradicated if the blacks' lower eighth-grade test scores are taken into account. In other words, the black-white income gap is largely a product of a black-white education gap that could have been observed many years earlier. "Reducing the black-white test score gap," wrote the authors of one study, "would do more to promote racial equality than any other strategy that commands broad political support."

So where does that black-white test gap come from? Many theories have been put forth over the years: poverty, genetic makeup, the "summer setback" phenomenon (blacks are thought to lose more ground than whites when school is out of session), racial bias in testing or in teachers' perceptions, and a black backlash against "acting white."

In a paper called "The Economics of 'Acting White,' " the young black Harvard economist Roland G. Fryer Jr. argues that some black students "have tremendous disincentives to invest in particular behaviors (i.e., education, ballet, etc.) due to the fact that they may be deemed a person who is trying to act like a white person (a.k.a. 'selling-out'). Such a label, in some neighborhoods, can carry penalties that range from being deemed a social outcast, to being beaten or killed." Fryer cites the recollections of a young Kareem Abdul-Jabbar, known then as Lew Alcindor, who had just entered the fourth grade in a new school and discovered that he was a better reader than even the seventh graders: "When the kids found this out, I became a target. . . . It was my first time away from home, my first experience in an all-black situation, and I found myself being punished for everything I'd ever been taught was right. I got all A's and was hated for it; I spoke correctly and was called a punk. I had to learn a new language simply to be able to deal with the threats. I had good manners and was a good little boy and paid for it with my hide."

Fryer is also one of the authors of "Understanding the Black-White Test Score Gap in the First Two Years of School." This paper

takes advantage of a new trove of government data that helps reliably address the black-white gap. Perhaps more interestingly, the data do a nice job of answering the question that every parent—black, white, and otherwise—wants to ask: what are the factors that do and do not affect a child's performance in the early school years?

In the late 1990s, the U.S. Department of Education undertook a monumental project called the Early Childhood Longitudinal Study. The ECLS sought to measure the academic progress of more than twenty thousand children from kindergarten through the fifth grade. The subjects were chosen from across the country to represent an accurate cross section of American schoolchildren.

The ECLS measured the students' academic performance and gathered typical survey information about each child: his or her race, gender, family structure, socioeconomic status, the level of his or her parents' education, and so on. But the study went well beyond these basics. It also included interviews with the students' parents (and teachers and school administrators), posing a long list of questions more intimate than those in the typical government interview: whether the parents spanked their children, and how often; whether they took them to libraries or museums; how much television the children watched.

The result is an incredibly rich set of data—which, if the right questions are asked of it, tells some surprising stories.

How can this type of data be made to tell a reliable story? By subjecting it to the economist's favorite trick: regression analysis. No, regression analysis is not some forgotten form of psychiatric treatment. It is a powerful—if limited—tool that uses statistical techniques to identify otherwise elusive correlations.

Correlation is nothing more than a statistical term that indicates

whether two variables move together. It tends to be cold outside when it snows; those two factors are positively correlated. Sunshine and rain, meanwhile, are negatively correlated. Easy enough—as long as there are only a couple of variables. But with a couple of *hundred* variables, things get harder. Regression analysis is the tool that enables an economist to sort out these huge piles of data. It does so by artificially holding constant every variable except the two he wishes to focus on, and then showing how those two co-vary.

In a perfect world, an economist could run a controlled experiment just as a physicist or a biologist does: setting up two samples, randomly manipulating one of them, and measuring the effect. But an economist rarely has the luxury of such pure experimentation. (That's why the school-choice lottery in Chicago was such a happy accident.) What an economist typically has is a data set with a great many variables, none of them randomly generated, some related and others not. From this jumble, he must determine which factors are correlated and which are not.

In the case of the ECLS data, it might help to think of regression analysis as performing the following task: converting each of those twenty thousand schoolchildren into a sort of circuit board with an identical number of switches. Each switch represents a single category of the child's data: his first-grade math score, his third-grade math score, his first-grade reading score, his third-grade reading score, his mother's education level, his father's income, the number of books in his home, the relative affluence of his neighborhood, and so on.

Now a researcher is able to tease some insights from this very complicated set of data. He can line up all the children who share many characteristics—all the circuit boards that have their switches flipped the same direction—and then pinpoint the single characteristic they *don't* share. This is how he isolates the true impact of that single switch on the sprawling circuit board. This is how the effect of that switch—and, eventually, of every switch—becomes manifest.

Let's say that we want to ask the ECLS data a fundamental question about parenting and education: does having a lot of books in your home lead your child to do well in school? Regression analysis can't quite answer that question, but it can answer a subtly different one: does a child with a lot of books in his home tend to do better than a child with no books? The difference between the first and second questions is the difference between causality (question 1) and correlation (question 2). A regression analysis can demonstrate correlation, but it doesn't prove cause. After all, there are several ways in which two variables can be correlated. X can cause Y; Y can cause X; or it may be that some other factor is causing both X and Y. A regression alone can't tell you whether it snows because it's cold, whether it's cold because it snows, or if the two just happen to go together.

The ECLS data do show, for instance, that a child with a lot of books in his home tends to test higher than a child with no books. So those factors are correlated, and that's nice to know. But higher test scores are correlated with many other factors as well. If you simply measure children with a lot of books against children with no books, the answer may not be very meaningful. Perhaps the number of books in a child's home merely indicates how much money his parents make. What we really want to do is measure two children who are alike in every way except one—in this case, the number of books in their homes—and see if that one factor makes a difference in their school performance.

It should be said that regression analysis is more art than science. (In this regard, it has a great deal in common with parenting itself.) But a skilled practitioner can use it to tell how meaningful a correlation is—and maybe even tell whether that correlation does indicate a causal relationship.

So what does an analysis of the ECLS data tell us about schoolchildren's performance? A number of things. The first one concerns the black-white test score gap.

It has long been observed that black children, even before they set foot in a classroom, underperform their white counterparts. Moreover, black children didn't measure up even when controlling for a wide array of variables. (To control for a variable is essentially to eliminate its influence, much as one golfer uses a handicap against another. In the case of an academic study such as the ECLS, a researcher might control for any number of disadvantages that one student might carry when measured against the average student.) But this new data set tells a different story. After controlling for just a few variables—including the income and education level of the child's parents and the mother's age at the birth of her first child—the gap between black and white children is virtually eliminated at the time the children enter school.

This is an encouraging finding on two fronts. It means that young black children have continued to make gains relative to their white counterparts. It also means that whatever gap remains can be linked to a handful of readily identifiable factors. The data reveal that black children who perform poorly in school do so not because they are black but because a black child is more likely to come from a low-income, low-education household. A typical black child and white child from the same socioeconomic background, however, have the same abilities in math and reading upon entering kindergarten.

Great news, right? Well, not so fast. First of all, because the average black child *is* more likely to come from a low-income, low-education household, the gap is very real: on average, black children still *are* scoring worse. Worse yet, even when the parents' income and education are controlled for, the black-white gap reappears within just two years of a child's entering school. By the end of first grade, a black child is underperforming a statistically equivalent white child. And the gap steadily grows over the second and third grades.

Why does this happen? That's a hard, complicated question. But

one answer may lie in the fact that the school attended by the typical black child is not the same school attended by the typical white child, and the typical black child goes to a school that is simply . . . bad. Even fifty years after *Brown v. Board*, many American schools are virtually segregated. The ECLS project surveyed roughly one thousand schools, taking samples of twenty children from each. In 35 percent of those schools, not a single black child was included in the sample. The typical white child in the ECLS study attends a school that is only 6 percent black; the typical black child, meanwhile, attends a school that is about 60 percent black.

Just how are the black schools bad? Not, interestingly, in the ways that schools are traditionally measured. In terms of class size, teachers' education, and computer-to-student ratio, the schools attended by blacks and whites are similar. But the typical black student's school has a far higher rate of troublesome indicators, such as gang problems, nonstudents loitering in front of the school, and lack of PTA funding. These schools offer an environment that is simply not conducive to learning.

Black students are hardly the only ones who suffer in bad schools. White children in these schools also perform poorly. In fact, there is essentially no black-white test score gap *within* a bad school in the early years once you control for students' backgrounds. But all students in a bad school, black and white, *do* lose ground to students in good schools. Perhaps educators and researchers are wrong to be so hung up on the black-white test score gap; the bad-school/good-school gap may be the more salient issue. Consider this fact: the ECLS data reveal that black students in good schools *don't* lose ground to their white counterparts, and black students in good schools outperform whites in poor schools.

So according to these data, a child's school does seem to have a clear impact on his academic progress, at least in the early years. Can

the same be said for parenting? Did all those Baby Mozart tapes pay off? What about those marathon readings of *Goodnight Moon*? Was the move to the suburbs worthwhile? Do the kids with PTA parents do better than the kids whose parents have never heard of the PTA?

The wide-ranging ECLS data offer a number of compelling correlations between a child's personal circumstances and his school performance. For instance, once all other factors are controlled for, it is clear that students from rural areas tend to do worse than average. Suburban children, meanwhile, are in the middle of the curve, while urban children tend to score higher than average. (It may be that cities attract a more educated workforce and, therefore, parents with smarter children.) On average, girls test higher than boys, and Asians test higher than whites—although blacks, as we have already established, test similarly to whites from comparable backgrounds and in comparable schools.

Knowing what you now know about regression analysis, conventional wisdom, and the art of parenting, consider the following list of sixteen factors. According to the ECLS data, eight of the factors show a strong correlation—positive or negative—with test scores. The other eight don't seem to matter. Feel free to guess which are which. Keep in mind that these results reflect only a child's early test scores, a useful but fairly narrow measurement; poor testing in early childhood isn't necessarily a great harbinger of future earnings, creativity, or happiness.

The child has highly educated parents.
The child's family is intact.
The child's parents have high socioeconomic status.

The child's parents recently moved into a better neighborhood.
The child's mother was thirty or older at the time of her first child's birth.
The child's mother didn't work between birth and kindergarten.
The child had low birthweight.
The child attended Head Start.
The child's parents speak English in the home.
The child's parents regularly take him to museums.
The child is adopted.
The child is regularly spanked.
The child's parents are involved in the PTA.
The child frequently watches television.
The child has many books in his home.
The child's parents read to him nearly every day.

Here now are the eight factors that *are* strongly correlated with test scores:

The child has highly educated parents.
The child's parents have high socioeconomic status.
The child's mother was thirty or older at the time of her first child's birth.
The child had low birthweight.
The child's parents speak English in the home.
The child is adopted.
The child's parents are involved in the PTA.
The child has many books in his home.

And the eight that aren't:

The child's family is intact.
The child's parents recently moved into a better neighborhood.
The child's mother didn't work between birth and kindergarten.
The child attended Head Start.
The child's parents regularly take him to museums.
The child is regularly spanked.
The child frequently watches television.
The child's parents read to him nearly every day.

Now, two by two:

Matters: The child has highly educated parents.
Doesn't: The child's family is intact.

A child whose parents are highly educated typically does well in school; not much surprise there. A family with a lot of schooling tends to value schooling. Perhaps more important, parents with higher IQs tend to get more education, and IQ is strongly hereditary. But whether a child's family is intact doesn't seem to matter. Just as the earlier-cited studies show that family structure has little impact on a child's personality, it does not seem to affect his academic abilities either, at least in the early years. This is not to say that families ought to go around splitting up willy-nilly. It should, however, offer encouragement to the roughly twenty million American schoolchildren being raised by a single parent.

Matters: The child's parents have high socioeconomic status.
Doesn't: The child's parents recently moved into a better neighborhood.

A high socioeconomic status is strongly correlated to higher test scores, which seems sensible. Socioeconomic status is a strong indicator of success in general—it suggests a higher IQ and more education—and successful parents are more likely to have successful children. But moving to a better neighborhood doesn't improve a child's chances in school. It may be that moving itself is a disruptive force; more likely, it's because a nicer house doesn't improve math or reading scores any more than nicer sneakers make you jump higher.

Matters: The child's mother was thirty or older at the time of her first child's birth.
Doesn't: The child's mother didn't work between birth and kindergarten.

A woman who doesn't have her first child until she is at least thirty is likely to see that child do well in school. This mother tends to be a woman who wanted to get some advanced education or develop traction in her career. She is also likely to *want* a child more than a teenage mother wants a child. This doesn't mean that an older first-time mother is necessarily a better mother, but she has put herself—and her children—in a more advantageous position. (It is worth noting that this advantage is nonexistent for a teenage mother who waits until she is thirty to have her *second* child. The ECLS data show that her second child will perform no better than her first.) At the same time, a mother who stays home from work until her child goes to kindergarten does not seem to provide any advantage. Obsessive parents might find this lack of correlation bothersome—what was the point of all those Mommy and Me classes?—but that is what the data tell us.

Matters: The child had low birthweight.
Doesn't: The child attended Head Start.

A child who had a low birthweight tends to do poorly in school. It may be that being born prematurely is simply hurtful to a child's overall well-being. It may also be that low birthweight is a strong forecaster of poor parenting, since a mother who smokes or drinks or otherwise mistreats her baby in utero isn't likely to turn things around just because the baby is born. A low-birthweight child, in turn, is more likely to be a poor child—and, therefore, more likely to attend Head Start, the federal preschool program. But according to the ECLS data, Head Start does nothing for a child's future test scores. Despite a deep reservoir of appreciation for Head Start (one of this book's authors was a charter student), we must acknowledge that it has repeatedly been proven ineffectual in the long term. Here's a likely reason: instead of spending the day with his own undereducated, overworked mother, the typical Head Start child spends the day with someone else's undereducated, overworked mother. (And a whole roomful of similarly needy children.) As it happens, fewer than 30 percent of Head Start teachers have even a bachelor's degree. And the job pays so poorly—about $21,000 for a Head Start teacher versus $40,000 for the average public-school kindergarten teacher—that it is unlikely to attract better teachers any time soon.

Matters: The child's parents speak English in the home.
Doesn't: The child's parents regularly take him to museums.

A child with English-speaking parents does better in school than one whose parents don't speak English. Again, not much of a surprise. This correlation is further supported by the performance of Hispanic students in the ECLS study. As a group, Hispanic students test poorly; they are also disproportionately likely to have non-English-speaking parents. (They do, however, tend to catch up with their peers in later grades.) So how about the opposite case: what if a

mother and father are not only proficient in English but spend their weekends broadening their child's cultural horizons by taking him to museums? Sorry. Culture cramming may be a foundational belief of obsessive parenting, but the ECLS data show no correlation between museum visits and test scores.

Matters: The child is adopted.
Doesn't: The child is regularly spanked.

There is a strong correlation—a negative one—between adoption and school test scores. Why? Studies have shown that a child's academic abilities are far more influenced by the IQs of his biological parents than the IQs of his adoptive parents, and mothers who offer up their children for adoption tend to have significantly lower IQs than the people who are doing the adopting. There is another explanation for low-achieving adoptees which, though it may seem distasteful, jibes with the basic economic theory of self-interest: a woman who knows she will offer her baby for adoption may not take the same prenatal care as a woman who is keeping her baby. (Consider—at the risk of furthering the distasteful thinking—how you treat a car you own versus a car you are renting for the weekend.)

But if an adopted child is prone to lower test scores, a spanked child is not. This may seem surprising—not because spanking itself is necessarily detrimental but because, conventionally speaking, spanking is considered an unenlightened practice. We might therefore assume that parents who spank are unenlightened in other ways. Perhaps that isn't the case at all. Or perhaps there is a different spanking story to be told. Remember, the ECLS survey included direct interviews with the children's parents. So a parent would have to sit knee to knee with a government researcher and admit to spanking his child. This would suggest that a parent who does so is either unen-

lightened or—more interestingly—congenitally honest. It may be that honesty is more important to good parenting than spanking is to bad parenting.

Matters: The child's parents are involved in the PTA.
Doesn't: The child frequently watches television.

A child whose parents are involved in the PTA tends to do well in school—which probably indicates that parents with a strong relationship to education get involved in the PTA, not that their PTA involvement somehow makes their children smarter. The ECLS data show no correlation, meanwhile, between a child's test scores and the amount of television he watches. Despite the conventional wisdom, watching television apparently does not turn a child's brain to mush. (In Finland, whose education system has been ranked the world's best, most children do not begin school until age seven but have often learned to read on their own by watching American television with Finnish subtitles.) Nor, however, does using a computer at home turn a child into Einstein: the ECLS data show no correlation between computer use and school test scores.

Now for the final pair of factors:

Matters: The child has many books in his home.
Doesn't: The child's parents read to him nearly every day.

As noted earlier, a child with many books in his home has indeed been found to do well on school tests. But regularly reading to a child *doesn't* affect early childhood test scores.

This would seem to present a riddle. It bounces us back to our

original question: just how much, and in what ways, do parents really matter?

Let's start with the positive correlation: books in the home equal higher test scores. Most people would look at this correlation and infer an obvious cause-and-effect relationship. To wit: a little boy named Isaiah has a lot of books at home; Isaiah does beautifully on his reading test at school; this must be because his mother or father regularly reads to him. But Isaiah's friend Emily, who also has a lot of books in her home, practically never touches them. She would rather dress up her Bratz or watch cartoons. And Emily tests just as well as Isaiah. Meanwhile, Isaiah and Emily's friend Ricky doesn't have *any* books at home. But Ricky goes to the library every day with his mother. And yet he does *worse* on his school tests than either Emily or Isaiah.

What are we to make of this? If reading books doesn't have an impact on early childhood test scores, could it be that the books' mere physical presence in the house makes the children smarter? Do books perform some kind of magical osmosis on a child's brain? If so, one might be tempted to simply deliver a truckload of books to every home that contains a preschooler.

That, in fact, is what the governor of Illinois tried to do. In early 2004, Governor Rod Blagojevich announced a plan to mail one book a month to every child in Illinois from the time they were born until they entered kindergarten. The plan would cost $26 million a year. But, Blagojevich argued, this was a vital intervention in a state where 40 percent of third graders read below their grade level. "When you own [books] and they're yours," he said, "and they just come as part of your life, all of that will contribute to a sense . . . that books should be part of your life."

So all children born in Illinois would end up with a sixty-volume library by the time they entered school. Does this mean they would all perform better on their reading tests?

Probably not. (Although we may never know for sure: in the end, the Illinois legislature rejected the book plan.) After all, the ECLS data don't say that books in the house *cause* high test scores; it says only that the two are correlated.

How should this correlation be interpreted? Here's a likely theory: most parents who buy a lot of children's books tend to be smart and well educated to begin with. (And they pass on their smarts and work ethic to their kids.) Or perhaps they care a great deal about education, and about their children in general. (Which means they create an environment that encourages and rewards learning.) Such parents may believe—as fervently as the governor of Illinois believed—that every children's book is a talisman that leads to unfettered intelligence. But they are probably wrong. A book is in fact less a cause of intelligence than an *indicator*.

So what does all this have to say about the importance of parents in general? Consider again the eight ECLS factors that are correlated with school test scores:

The child has highly educated parents.
The child's parents have high socioeconomic status.
The child's mother was thirty or older at the time of her first child's birth.
The child had low birthweight.
The child's parents speak English in the home.
The child is adopted.
The child's parents are involved in the PTA.
The child has many books in his home.

And the eight factors that are not:

The child's family is intact.
The child's parents recently moved into a better neighborhood.

The child's mother didn't work between birth and kindergarten.
The child attended Head Start.
The child's parents regularly take him to museums.
The child is regularly spanked.
The child frequently watches television.
The child's parents read to him nearly every day.

To overgeneralize a bit, the first list describes things that parents *are;* the second list describes things that parents *do*. Parents who are well educated, successful, and healthy tend to have children who test well in school; but it doesn't seem to much matter whether a child is trotted off to museums or spanked or sent to Head Start or frequently read to or plopped in front of the television.

For parents—and parenting experts—who are obsessed with child-rearing technique, this may be sobering news. The reality is that technique looks to be highly overrated.

But this is not to say that parents don't matter. Plainly they matter a great deal. Here is the conundrum: by the time most people pick up a parenting book, it is far too late. Most of the things that matter were decided long ago—who you are, whom you married, what kind of life you lead. If you are smart, hardworking, well educated, well paid, and married to someone equally fortunate, then your children are more likely to succeed. (Nor does it hurt, in all likelihood, to be honest, thoughtful, loving, and curious about the world.) But it isn't so much a matter of what you *do* as a parent; it's who you are. In this regard, an overbearing parent is a lot like a political candidate who believes that money wins elections—whereas in truth, all the money in the world can't get a candidate elected if the voters don't like him to start with.

In a paper titled "The Nature and Nurture of Economic Outcomes," the economist Bruce Sacerdote addressed the nature-nurture

debate by taking a long-term quantitative look at the effects of parenting. He used three adoption studies, two American and one British, each of them containing in-depth data about the adopted children, their adoptive parents, and their biological parents. Sacerdote found that parents who adopt children are typically smarter, better educated, and more highly paid than the baby's biological parents. But the adoptive parents' advantages had little bearing on the child's school performance. As also seen in the ECLS data, adopted children test relatively poorly in school; any influence the adoptive parents might exert is seemingly outweighed by the force of genetics. But, Sacerdote found, the parents were not powerless forever. By the time the adopted children became adults, they had veered sharply from the destiny that IQ alone might have predicted. Compared to similar children who were *not* put up for adoption, the adoptees were far more likely to attend college, to have a well-paid job, and to wait until they were out of their teens before getting married. It was the influence of the adoptive parents, Sacerdote concluded, that made the difference.