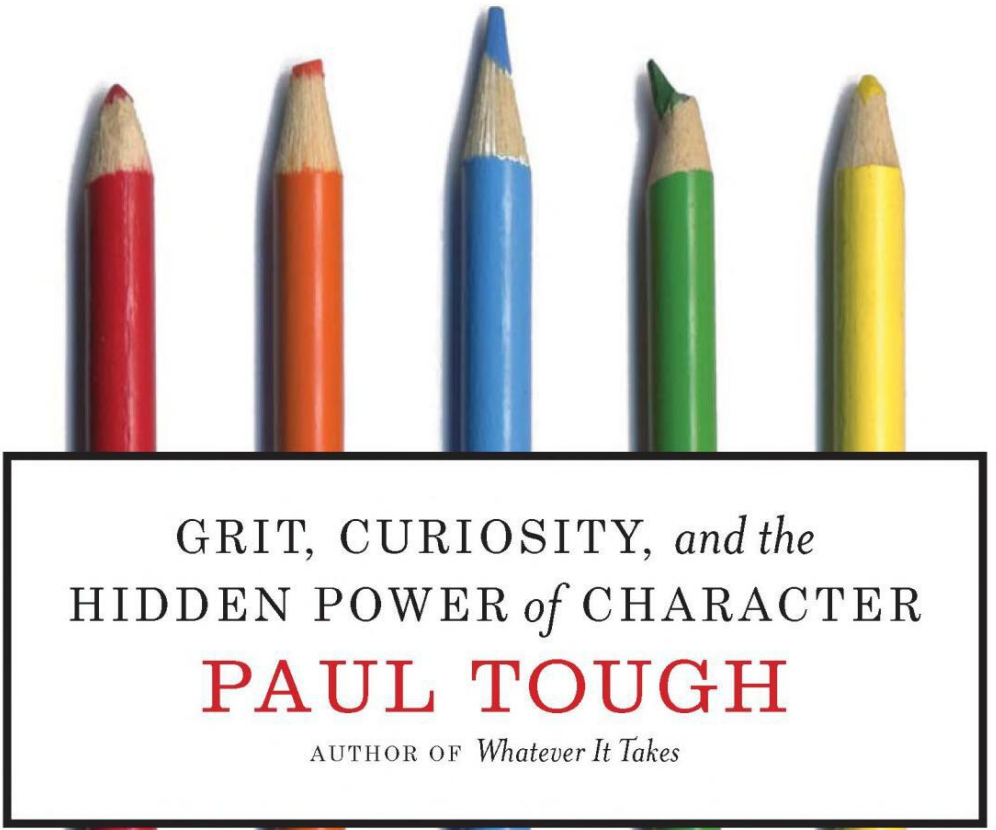
How CHILDREN SUCCEED



GRIT, CURIOSITY, *and the* HIDDEN POWER *of* CHARACTER

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How Children SUCCEED

Grit, Curiosity, and the Hidden Power of Character

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HOW CHILDREN SUCCEED

Introduction

In the summer of 2009, a couple of weeks after my son, Ellington, was born, I spent the day in a prekindergarten classroom in a small town in New Jersey. The two events were unrelated—I was visiting room 140 at the Red Bank Primary School not to scope out the class as a new parent but to try to understand it as a journalist. At first glance, the classroom seemed entirely ordinary. The cinder-block walls were painted a cheery yellow; an American flag stood next to the white-board. Around the room, four-year-olds were happily engaged in the customary diversions of pre-K students: building towers of Legos and driving trucks through sand tables and piecing together jigsaw puzzles. But as the day progressed, I realized that what was going on in room 140 was in fact quite unusual, in ways both self-evident and subtle. To begin with, the students were remarkably calm and orderly. There were no tears that day, no meltdowns, no tantrums, no fights. Oddly, though, the teacher, a young, dark-haired woman named Ms. Leonardo, didn't seem to be going out of her way to maintain order, or even to guide the children's conduct in any overt fashion. There were no admonitions, no gold stars, no time-outs, no "I like the way Kellianne is paying attention!"—indeed, no rewards for good behavior or punishments for bad at all.

The students in room 140 were enrolled in a program called Tools of the Mind, a relatively new kindergarten and prekindergarten curriculum that was created by two educators in Denver and based on an unorthodox theory of child development. Most early-childhood classrooms in the United States today are designed to develop in children a set of specific pre-academic skills, mostly related to deciphering text and manipulating numbers. Tools of the Mind, by contrast, doesn't focus much on reading and math abilities. Instead, all of its interventions are intended to help children learn a different kind of skill: controlling their impulses, staying focused on the task at hand, avoiding distractions and mental traps, managing their emotions, organizing their thoughts. The founders of Tools of the Mind believe that these skills, which they group together under the rubric *self-regulation,* will do more to lead to positive outcomes for their students, in first grade and beyond, than the traditional menu of pre-academic skills.

Tools of the Mind students are taught a variety of strategies, tricks, and habits that they can deploy to keep their minds on track. They learn to use "private speech": talking to themselves as they do a difficult task (like, say, forming the letter *W*), to help them remember what step comes next (*down, up, down, up*). They use "mediators": physical objects that remind them how to complete a particular activity (for instance, the two cards, one with a pair of lips and one with an ear, that signify whose turn it is to read aloud in buddy reading and whose turn it is to listen). Every morning, they fill out "play plans," forms on which they write or draw descriptions of that day's play: *I am going to drive the train; I am going to take the dollies to the beach.* And they spend long hours engaged in "mature dramatic play": extended, complex make-believe scenarios that the designers of Tools of the Mind believe naturally teach children how to follow rules and regulate impulses.

As I watched the kids in room 140, I found myself thinking, inevitably, about Ellington, the tiny life form cooing and burping and wailing away thirty miles to the north, in our studio apartment in

Manhattan. I knew I wanted him to have a happy, successful life, but I didn't really know what, exactly, I meant by that, or just what my wife and I were supposed to be doing to help guide him there. I wasn't alone in my confusion. Ellington was born into a particularly anxious moment in the history of American parenting. And that anxiety had grown especially keen in cities like New York, where the competition over slots in favored preschools verged on the gladiatorial. A pair of economists from the University of California recently dubbed this nationwide contest for early academic achievement the Rug Rat Race, and each year, the race seems to be starting earlier and growing more intense. Two years before Ellington's birth, the Kumon chain of tutoring centers opened New York City's first Junior Kumon franchise, where children as young as two spent their mornings filling out worksheets and completing drills on letter and number recognition. "Age 3 is the sweet spot," Kumon's chief financial officer told a reporter for the *New York Times*. "But if they're out of a diaper and can sit still with a Kumon instructor for 15 minutes, we will take them."

Ellington would be growing up in a culture saturated with an idea you might call the cognitive hypothesis: the belief, rarely expressed aloud but commonly held nonetheless, that success today depends primarily on cognitive skills—the kind of intelligence that gets measured on IQ tests, including the abilities to recognize letters and words, to calculate, to detect patterns—and that the best way to develop these skills is to practice them as much as possible, beginning as early as possible. The cognitive hypothesis has become so universally accepted that it is easy to forget that it is actually a relatively new invention. You can trace its contemporary rise, in fact, to 1994, when the Carnegie Corporation published *Starting Points: Meeting the Needs of Our Youngest Children,* a report that sounded an alarm about the cognitive development of our nation's children. The problem, according to the report, was that children were no longer receiving enough cognitive stimulation in the first three years of life, in part because of the increasing number of single-parent families and working mothers—and so they were arriving in kindergarten

unready to learn. The report launched an entire industry of brain-building "zero-to-three" products for worried parents. Billions of dollars' worth of books and activity gyms and Baby Einstein videos and DVDs were sold.

The Carnegie findings and the studies that followed in their wake had a powerful effect on public policy, too, as legislators and philanthropists concluded that disadvantaged children were falling behind early on because of insufficient cognitive training. Psychologists and sociologists produced evidence linking the academic underperformance of poor children to a lack of verbal and mathematical stimulation at home and at school. One of the most famous of these studies (which I wrote about in my first book, *Whatever It Takes*) was conducted by Betty Hart and Todd R. Risley, two child psychologists who, beginning in the 1980s, intensively studied a group of forty-two children from professional, working-class, and welfare families in Kansas City. Hart and Risley found that the crucial difference in the children's upbringings, and the reason for the divergence in their later outcomes, boiled down to one thing: the number of words that the children heard from their parents early in life. By age three, Hart and Risley determined, the children raised by professional parents had heard thirty million words spoken to them; the children with parents on welfare had heard just ten million. That shortfall, they concluded, was at the root of the poorer kids' later failures in school and in life.

There is something undeniably compelling about the cognitive hypothesis. The world it describes is so neat, so reassuringly linear, such a clear case of inputs *here* leading to outputs *there*. Fewer books in the home means less reading ability; fewer words spoken by parents means a smaller vocabulary for their kids; more math worksheets at Junior Kumon means better math scores. The correlations at times seemed almost comically exact: Hart and Risley calculated that a child who grew up on welfare would need precisely forty-one hours of language-intensive intervention each week in order to close the vocabulary gap with a working-class child.

But in the past decade, and especially in the past few years, a dis-

parate congregation of economists, educators, psychologists, and neuroscientists have begun to produce evidence that calls into question many of the assumptions behind the cognitive hypothesis. What matters most in a child's development, they say, is not how much information we can stuff into her brain in the first few years. What matters, instead, is whether we are able to help her develop a very different set of qualities, a list that includes persistence, self-control, curiosity, conscientiousness, grit, and self-confidence. Economists refer to these as noncognitive skills, psychologists call them personality traits, and the rest of us sometimes think of them as character.

For certain skills, the stark calculus behind the cognitive hypothesis—that what matters in developing a skill is starting *earlier* and practicing *more*—is entirely valid. If you want to perfect your foul shot, shooting two hundred free throws every afternoon is indeed going to be more helpful than shooting twenty free throws every afternoon. If you're in fourth grade, reading forty books over the summer is going to improve your reading ability more than reading four books. Some skills really are pretty mechanical. But when it comes to developing the more subtle elements of the human personality, things aren't so simple. We can't get better at overcoming disappointment just by working harder at it for more hours. And children don't lag behind in curiosity simply because they didn't start doing curiosity drills at an early enough age. The pathways through which we acquire and lose these skills are certainly not random—psychologists and neuroscientists have learned a lot in the past few decades about where these skills come from and how they are developed—but they are complex, unfamiliar, and often quite mysterious.

This book is about an idea, one that is growing clearer and gathering momentum in classrooms and clinics and labs and lecture halls across the country and around the world. According to this new way of thinking, the conventional wisdom about child development over the past few decades has been misguided. We have been focusing on the wrong skills and abilities in our children, and we have been using the wrong strategies to help nurture and teach those skills. To call

this a new school of thought is probably premature. In many cases the researchers adding to this growing store of knowledge are working in isolation. But increasingly, these scientists and educators are finding one another and making connections across the boundaries of academic disciplines. The argument they are piecing together has the potential to change how we raise our children, how we run our schools, and how we construct our social safety net.

If there is one person at the hub of this new interdisciplinary network, it is James Heckman, an economist at the University of Chicago. Heckman might seem an unlikely figure to be leading a challenge to the supremacy of cognitive skill. He is a classic academic intellectual, his glasses thick, his IQ stratospheric, his shirt pocket bristling with mechanical pencils. He grew up in Chicago in the 1940s and 1950s, the son of a middle manager at a meatpacking company. Neither of his parents was college educated, but they both recognized early on that their son possessed a precocious mind. At the age of eight, Heckman devoured his father's copy of the popular self-help book *30 Days to a More Powerful Vocabulary,* and at nine, he saved up his pennies and ordered *Mathematics for the Practical Man* from the back of a comic book. Heckman turned out to be a natural at math, more at home with equations than with anything or anyone else. As a teenager, for fun, he made a habit of taking long numbers and dividing them in his head into the prime numbers that made up their smallest factors—what mathematicians call resolving into primes. At age sixteen, he told me, when his Social Security number arrived in the mail, the first thing he did was resolve it into primes.

Heckman became a professor of economics, first at Columbia University and then at the University of Chicago, and in 2000 he won the Nobel Prize in Economics for a complex statistical method he had invented in the 1970s. Among economists, Heckman is known for his skill in econometrics, a particularly arcane type of statistical analysis that is generally incomprehensible to anyone except other econometricians. I sat in on several of Heckman's graduate classes, and though I did my best to keep up, most of the lectures were, for a layman like

me, all but impossible to follow, thick with bewildering equations and phrases like *generalized Leontief functions* and *Hicks-Slutsky substitution elasticity* that made me want to put my head down on my desk and just close my eyes.

Although Heckman's techniques may seem impenetrable, the subjects he has chosen to focus on are anything but obscure. In the years since winning the Nobel, Heckman has used the clout and cachet the honor brought him not to cement his reputation within his field but to expand his pursuits, and his influence, into new areas of study that he previously knew little or nothing about, including personality psychology, medicine, and genetics. (He actually has a copy of *Genetics for Dummies* on his overstuffed office bookshelves, wedged in between two thick texts of economic history.) Since 2008, Heckman has been convening regular invitation-only conferences populated by equal numbers of economists and psychologists, all engaged in one way or another with the same questions: Which skills and traits lead to success? How do they develop in childhood? And what kind of interventions might help children do better?

Heckman oversees a group of two dozen mostly foreign-born graduate students and researchers scattered across a couple of buildings on the Chicago campus; they refer to their tribe, only half jokingly, as Heckmanland. Together, they're always working on several projects at once, and when Heckman talks about his work, he jumps from one topic to another, equally excited by the monkey study in Maryland, the twin study in China, and his collaboration with a philosopher down the hall on the true nature of virtue. (In one conversation with Heckman, I asked him to explain how the various strands of his research fit together. Afterward, as his assistant was walking me out, she turned to me and said, "If you find out, let us know.")

The transformation of Heckman's career has its roots in a study he undertook in the late 1990s on the General Educational Development program, better known as the GED program, which was at the time becoming an increasingly popular way for high-school dropouts to earn the equivalent of high-school diplomas. In many quar-

ters, it was seen as a tool to level the academic playing field, to give low-income and minority students, who were more likely to drop out of high school, an alternative route to college.

The GED's growth was founded on a version of the cognitive hypothesis: the belief that what schools develop, and what a high-school degree certifies, is cognitive skill. If a teenager already has the knowledge and the smarts to graduate from high school, he doesn't need to waste his time actually *finishing* high school. He can just take a test that measures that knowledge and those skills, and the state will certify that he is, legally, a high-school graduate, as well prepared as any other high-school graduate to go on to college or other post-secondary pursuits. It is an attractive notion, especially to young people who can't stand high school, and the program has expanded rapidly since its introduction, in the 1950s. At the high-water mark, in 2001, more than a million young people took the test, and nearly one in every five new high-school "graduates" was actually a GED holder. (The figure is now about one in seven.)

Heckman wanted to examine more closely the idea that young people with GEDs were just as well prepared for further academic pursuits as high-school graduates. He analyzed a few large national databases, and he found that in many important ways, the premise was entirely valid. According to their scores on achievement tests, which correlate closely with IQ, GED recipients were every bit as smart as high-school graduates. But when Heckman looked at their path through higher education, he discovered that GED recipients weren't *anything* like high-school graduates. At age twenty-two, Heckman found, just 3 percent of GED recipients were enrolled in a four-year university or had completed some kind of post-secondary degree, compared to 46 percent of high-school graduates. In fact, Heckman discovered that when you consider all kinds of important future outcomes—annual income, unemployment rate, divorce rate, use of illegal drugs—GED recipients look exactly like high-school dropouts, despite the fact that they have earned this supposedly valuable extra credential, and despite the fact that they are, on average, considerably more intelligent than high-school dropouts.

From a policy point of view, this was a useful finding, if a depressing one: In the long run, it seemed, as a way to improve your life, the GED was essentially worthless. If anything, it might be having a *negative* overall effect by inducing young people to drop out of high school. But for Heckman, the results also posed a confounding intellectual puzzle. Like most economists, Heckman had believed that cognitive ability was the single most reliable determinant of how a person's life would turn out. Now he had discovered a group — GED holders — whose good test scores didn't seem to have any positive effect on their lives.

What was missing from the equation, Heckman concluded, were the psychological traits that had allowed the high-school graduates to make it through school. Those traits — an inclination to persist at a boring and often unrewarding task; the ability to delay gratification; the tendency to follow through on a plan — also turned out to be valuable in college, in the workplace, and in life generally. As Heckman explained in one paper: "Inadvertently, the GED has become a test that separates bright but nonpersistent and undisciplined dropouts from other dropouts." GED holders, he wrote, "are 'wise guys' who lack the ability to think ahead, persist in tasks, or to adapt to their environments."

What the GED study didn't give Heckman was any indication of whether it was possible to help children develop those so-called soft skills. His search for an answer to that question led him, almost a decade ago, to Ypsilanti, Michigan, an old industrial town west of Detroit. In the mid-1960s, in the early days of the War on Poverty, a group of child psychologists and education researchers undertook an experiment there, recruiting low-income, low-IQ parents from the town's black neighborhoods to sign up their three- and four-year-old kids for the Perry Preschool. The recruited children were divided randomly into a treatment group and a control group. Children in the treatment group were admitted to Perry, a high-quality, two-year preschool program, and kids in the control group were left to fend for themselves. And then the children were tracked — not just for a year or two, but for decades, in an ongoing study that is intended to follow

them for the rest of their lives. The subjects are now in their forties, which means that researchers have been able to trace the effects of the Perry intervention well into adulthood.

The Perry Preschool Project is famous in social science circles, and Heckman had encountered it, glancingly, several times before in his career. As a case for early-childhood intervention, the experiment had always been considered something of a failure. The treatment children did do significantly better on cognitive tests while attending the preschool and for a year or two afterward, but the gains did not last, and by the time the treatment children were in the third grade, their IQ scores were no better than the control group's. But when Heckman and other researchers looked at the long-term results of Perry, the data appeared more promising. It was true that the Perry kids hadn't experienced lasting IQ benefits. But *something* important had happened to them in preschool, and whatever it was, the positive effects resonated for decades. Compared to the control group, the Perry students were more likely to graduate from high school, more likely to be employed at age twenty-seven, more likely to be earning more than twenty-five thousand dollars a year at age forty, less likely ever to have been arrested, and less likely to have spent time on welfare.

Heckman began to rummage more deeply into the Perry study, and he learned that in the 1960s and 1970s, researchers had collected some data on the students that had never been analyzed: reports from teachers in elementary school rating both the treatment and the control children on "personal behavior" and "social development." The first term tracked how often each student swore, lied, stole, or was absent or late; the second one rated each student's level of curiosity as well as his or her relationships with classmates and teachers. Heckman labeled these *noncognitive skills,* because they were entirely distinct from IQ. And after three years of careful analysis, Heckman and his researchers were able to ascertain that those noncognitive factors, such as curiosity, self-control, and social fluidity, were responsible for as much as two-thirds of the total benefit that Perry gave its students.

The Perry Preschool Project, in other words, worked entirely differently than everyone had believed. The goodhearted educators who set it up in the sixties thought that they were creating a program to raise the intelligence of low-income children; they, like everyone else, believed that was the way to help poor kids get ahead in America. Surprise number one was that they created a program that didn't do much in the long term for IQ but did improve behavior and social skills. Surprise number two was that it helped anyway—for the kids in Ypsilanti, those skills and the underlying traits they reflected turned out to be very valuable indeed.

In the course of reporting this book, I spent a lot of time discussing success and skills with a variety of economists, psychologists, and neuroscientists, many of whom were linked to James Heckman by one or two degrees of separation. But what grounded their research for me, what brought it to life and gave it meaning, was a different kind of reporting that I was doing at the same time, in public schools and pediatric clinics and fast-food restaurants, where I was talking with young people whose lives embodied and illustrated, in one way or another, the complex question of which children succeed and how.

Take Kewauna Lerma. When I met her, in the winter of 2010, she was living on the South Side of Chicago—not too far, as it turned out, from the University of Chicago campus where Heckman spent his days. Kewauna had been born on the South Side, into poverty, seventeen years earlier, the second daughter of a mother who had her first child, Kewauna's older sister, when she was still a teenager. Kewauna had a rootless, unsettled childhood. When she was a baby, her mother moved the family to Mississippi, then to Minnesota, then back to Chicago as she drifted in and out of relationships and in and out of trouble. When things were bad, the family spent periods in shelters or bouncing from one friend's couch to another's. Sometimes Kewauna's great-grandmother would take the kids for a while and let Kewauna's mother try to sort out her life on her own.

"I didn't really have a *family* family," Kewauna told me the first

time we spoke. We were sitting in a coffee shop in the Kenwood neighborhood. It was the middle of a harsh Chicago winter, and the windows were fogged over. Kewauna has dark skin, big, sympathetic eyes, and straight, dark hair, and she sat forward, warming her hands on a foam-topped mug of hot chocolate. "I was scattered all over the place, no father, with my grandma sometimes. It was all messed up. Jacked up."

Growing up, Kewauna said, she hated school. She never learned to read well, and in elementary school she fell farther and farther behind each year, getting in trouble, skipping class, and talking back to teachers. When she was in sixth grade, living outside of Minneapolis, she collected seventy-two referrals for poor behavior by the middle of the year, and so she was assigned to the slow class. She hated that too. A few weeks before the end of the year, she was kicked out of school for fighting.

When I met Kewauna, I had been reporting for several years on children growing up in poverty, and I had heard plenty of stories like hers. Every unhappy family may be unhappy in its own way, but in families that stay trapped in poverty for generations, the patterns can become depressingly familiar, a seemingly endless cycle of absent or neglectful parents, malfunctioning schools, and bad decisions. I knew how stories like Kewauna's generally turned out. Girls with her history, whatever their good intentions, usually drop out of high school. They get pregnant while they are still teenagers. Then they struggle to raise families on their own, and before long, their own children are sliding down the same slope to failure.

But somewhere along the way, Kewauna's life took a different turn. Just before her sophomore year of high school, a few weeks after Kewauna was arrested for the first time, for scuffling with a police officer, Kewauna's mother told her that she wanted to have a talk. Kewauna knew it was serious, because her great-grandmother was there, too, the one member of her family Kewauna had always respected. The two women sat Kewauna down, and her mother uttered one of the hardest sentences for any parent to say: "I don't want you to end up like me." The three of them talked for hours, discussing the

past and the future, digging up some long-buried secrets. Kewauna's mother said she recognized the path that Kewauna was on: She also had been kicked out of school as a teenager; she, too, had been arrested for fighting with the police. But the next chapter of Kewauna's story, her mom said, could be a different one. She could avoid unplanned pregnancies, unlike her mother. She could go to college, unlike her mother. She could have a career, unlike her mother.

Kewauna's mom cried through practically the whole conversation, but Kewauna herself never shed a tear. She just listened. She wasn't sure what to think. She didn't know if she could change, and she didn't know if she wanted to. When she got back to school, though, she started to pay more attention in class. In freshman year, she had run around with a rough crowd, girls into gangs and boys into drugs and everyone into skipping school. Now she pulled herself away from those friends, spending more time alone, doing homework and thinking about her future. At the end of her freshman year, her GPA was a miserable 1.8. By the middle of her sophomore year, it had climbed to 3.4.

That February, her English teacher encouraged her to apply for an intensive three-year college-prep program that had recently been introduced at the school. Kewauna applied, and she was accepted, and the support the program gave her made her work even harder. When I met her, she was in the middle of her junior year. Her GPA was 4.2, and she was preoccupied with the question of which colleges to apply to.

So what happened? If you had met Kewauna on the first day of her sophomore year, you could have been forgiven for thinking that she had virtually no chance to succeed. Her destiny seemed sealed. But something in her changed. Was it really just one stern talk with her mom? Was that all it took? Was it her great-grandmother's positive influence? The intervention of her English teacher? Or was there something deep within her own character that inclined her toward the idea of hard work and success, despite all the obstacles she had faced and the mistakes she had made?

• • •

How do our experiences in childhood make us the adults we become? It is one of the great human questions, the theme of countless novels, biographies, and memoirs; the subject of several centuries' worth of philosophical and psychological treatises. This process — the experience of growing up — can appear at times to be predictable, even mechanical, and at other times to be arbitrary and capricious; we've all encountered grown men and women who seem trapped in a destiny preordained by their childhoods, and we've all met people who seem to have almost miraculously transcended harsh beginnings.

Until recently, though, there has never been a serious attempt to use the tools of science to peel back the mysteries of childhood, to trace, through experiment and analysis, how the experiences of our early years connect to outcomes in adulthood. That is changing, with the efforts of this new generation of researchers. The premise behind the work is simple, if radical: We haven't managed to solve these problems because we've been looking for solutions in the wrong places. If we want to improve the odds for children in general, and for poor children in particular, we need to approach childhood anew, to start over with some fundamental questions about how parents affect their children; how human skills develop; how character is formed.

At its core, this book is about an ambitious and far-reaching campaign to solve some of the most pervasive mysteries of life: Who succeeds and who fails? Why do some children thrive while others lose their way? And what can any of us do to steer an individual child — or a whole generation of children — away from failure and toward success?

1

HOW TO FAIL (AND HOW NOT TO)

1. Fenger High School

Nadine Burke Harris grew up surrounded by privilege in Palo Alto, California, the daughter of educated, professional Jamaican immigrants who had moved the family from Kingston to Silicon Valley when Burke Harris was four. As a girl, she often felt like an outsider, one of the only black students at her Palo Alto high school, where the kids were mostly white and well-off, and where the girls cried in the cafeteria if they didn't get the right kind of car for their sixteenth birthdays.

Elizabeth Dozier grew up just outside Chicago in far more modest circumstances, the product of an unlikely and illicit romance between her father, an inmate at the state prison in Joliet, Illinois, and her mother, a nun who was assigned to visit prisoners as part of her religious duty and who wound up falling in love. After Dozier was born, her mother raised her alone, teaching at the local Catholic school and working summers as a motel maid to supplement her meager income.

Burke Harris and Dozier emerged from these very different childhoods with the same goal: to help young people succeed, especially young people in trouble. Burke Harris went to medical school, be-

came a pediatrician, and opened a clinic in the poorest part of San Francisco. Dozier became a teacher, and then a principal, in schools in some of the poorest neighborhoods in Chicago. When I met them both, separately, a couple of years ago, what drew me to them was not just their similar sense of mission but a deeper frustration they seemed to share. Both women had recently come to the conclusion that the best tools available to them in their chosen professions were simply not up to the challenges they faced. And so they were both at turning points in their careers and their lives. They were looking for new strategies: in fact, they were looking for a whole new playbook.

In August of 2009, when Dozier was named the principal of Christian Fenger High School, the school was in a moment of crisis—though if you looked back at its history over the previous twenty years, it was hard to find a moment when Fenger was *not* in crisis. The school had stood for more than eighty years in the heart of Roseland, on Chicago's South Side, a once-prosperous area that is now one of the worst-off neighborhoods in the city by just about every measure you can find—poverty rate, unemployment rate, crime rate, or even just the barren, empty feel of the streets. Where thriving businesses and homes once stood there are now vacant lots, overrun with weeds. Roseland is geographically isolated (close to Chicago's southern border, way down past the last stop on the El) and racially segregated: in a city where the total population is roughly evenly divided among whites, African Americans, and Latinos, Roseland is 98 percent black. And like most big public high schools in high-poverty neighborhoods, Fenger High School has always had a dismal record: consistently low test scores, poor attendance, chronic discipline problems, and a high dropout rate.

When you hear stories about schools like Fenger, they are often told in the language of neglect: a school on the margins, students who have been forgotten and ignored by the bureaucrats downtown and in Washington. But the strange thing about Fenger High School is that it *hasn't* been ignored. Not at all. Instead, over the course of the past two decades, it has been the focus of repeated ambitious and well-financed reforms by some of the most respected education

officials and philanthropists in the country. Just about every strategy anyone has come up with for improving failing public high schools has been tried, in some form or another, at Fenger.

Fenger's contemporary history begins in 1995, when Chicago's mayor, Richard M. Daley, was granted control of the city's schools by the Illinois state legislature. To reflect the businesslike approach he favored, Daley decided that the top official in the school system would no longer be called the superintendent; instead, he would be the CEO. For his first CEO, Daley selected his hard-charging budget director, Paul Vallas, who turned his attention immediately to improving Fenger and other underperforming city high schools. Vallas created a citywide evaluation system that ranked schools by how much help they needed, and he placed Fenger in the most dire category: probation. Vallas had been a student at Fenger for two years as a teenager, and perhaps that was why he focused his efforts so intently on the school. He introduced a restructuring plan for Fenger that included hiring an outside contractor to coach the school's teachers in reading and writing instruction. He created a freshman academy at the school, a separate, dedicated floor where incoming students would get special attention for their entire freshman year. In 1999, he created a math-and-science academy at the school, complete with a $525,000 NASA-sponsored science lab. Two years later, he made Fenger a magnet school, specializing in technology.

Each of Vallas's reform initiatives came and went, but things never seemed to improve much for the students at Fenger. And the same was true under Vallas's successor, Arne Duncan. In 2006, Duncan chose Fenger as one of the pilot schools for a large-scale collaboration between the Chicago school system and the Bill and Melinda Gates Foundation, an undertaking called High School Transformation, which the foundation initially financed with a twenty-one-million-dollar grant. (After three years, the total bill for the citywide project had grown to eighty million.) When the initiative was announced, Duncan said it was "a truly historic day, not just for the Chicago Public Schools and the city, but for the country." But a little more than two years later, with evidence mounting that High School

Transformation wasn't producing results, Fenger was switched over to Duncan's latest reform initiative: High School Turnaround. Under Turnaround, a school's principal and at least half its teachers were removed, and a whole new team was brought in. And when Turnaround arrived at Fenger, in 2009, the brand-new principal was Elizabeth Dozier.

Vallas and Duncan, it's important to note, are not garden-variety school-system bureaucrats; they are two of the most celebrated educational leaders in the country. After Vallas left Chicago, he ran the schools in Philadelphia, and then he gained national fame as the man responsible for rebuilding and transforming the New Orleans school system after it was washed away by Hurricane Katrina. Duncan's post-Chicago career is even more illustrious: President Obama chose him as his education secretary in 2009. But throughout all of the two men's well-intentioned and often quite expensive reforms in Chicago, the grim statistics from Fenger High School stayed more or less where they had been in 1995: Between half and two-thirds of each incoming freshman class dropped out before the end of senior year. The minority of students who did make it to graduation were only rarely academically successful: in 2008, Duncan's final year in Chicago, fewer than 4 percent of Fenger students met or exceeded standards on the statewide college-readiness tests given to juniors and seniors. During Duncan's tenure, the school never once made "adequate yearly progress" under the federal No Child Left Behind law. And Vallas's probation designation, originally intended to indicate a temporary state of emergency, became a fact of life at Fenger; in 2011, the school was placed on probation for the sixteenth year in a row.

When Dozier first arrived at Fenger, an ambitious and determined thirty-one-year-old, she believed that the basic tool kit of the modern education reformer contained everything she needed to turn things around for the school's students. She had spent a year in a highly competitive principal-training program called New Leaders for New Schools, which emphasized to trainees that a dynamic leader could raise students' achievement to high levels, no matter what their so-

cioeconomic circumstances, as long as she had a committed staff. Dozier cleaned house at Fenger, replacing several administrators and most of the teachers; when I first sat down with her in her office at Fenger, a little more than a year after she took the job, her seventy-member staff included only three teachers from the school's pre-Turnaround days. Most of the new teachers were young, ambitious, and non-tenured, which meant they would be relatively easy for Dozier to replace if they didn't measure up to her standards.

When we spoke, though, Dozier said that her thinking about schools had been changed by her time at Fenger. "I used to always think that if a school wasn't performing, that it was strictly because there was a bad principal, or there were bad teachers," she explained. "But the reality is that at Fenger, we're a neighborhood school, so we're just a reflection of the community. And you can't expect to solve the problems of a school without taking into account what's happening in the community."

As Dozier got to know the students at Fenger, she found herself repeatedly taken aback by the severity of the problems they faced at home. "The majority of our students are living in poverty, from check to check," she told me. "A lot of them live in neighborhoods with gang problems. I can't think of a single kid at the school who doesn't face some kind of serious adversity." A quarter of the female students were either pregnant or already teenage mothers, she said. And when I asked her to estimate how many of her students lived with both biological parents, a quizzical look came over her face. "I can't think of one," she replied. "But I know we have them."

The threat of violence seemed always to be looming over Fenger's students as well. Chicago's murder rate is twice as high as the rate in Los Angeles and more than double the rate in New York City. Gangs have a bigger and more lethal presence in Chicago than in any other major American city, and when Dozier came to Fenger, there had been a recent spike in gun violence among young people: in 2008, eighty-three school-age teenagers were murdered in the city, and more than six hundred were shot but survived.

Though Dozier had been expecting the turnaround of Fenger to

be a challenge, nothing prepared her for what happened on her sixteenth day on the job. A major fight broke out a few blocks from the school, involving maybe fifty teenagers, mostly Fenger students. There were no guns or knives, but some kids picked up railroad ties and started using them as clubs. A sixteen-year-old Fenger student named Derrion Albert who had waded into the fight was hit on the head with a railroad tie and then punched in the face and knocked unconscious. While he was on the ground, a few other young men kicked him in the head, and the combined blunt-force trauma killed him.

In its most basic elements, Derrion Albert's death in September of 2009 was not all that different from any of the dozens of other violent deaths of Chicago high-school students that year. But the fight and Albert's killing were captured on video by a bystander, and that fall the video became first a YouTube sensation and then a cable-news fixture. Local and national media descended on Fenger. For weeks, the streets around the school were lined with TV satellite trucks, and prayer vigils and protests were held in front of the school. The U.S. attorney general, Eric Holder, came to meet with students. Then in October, Fenger made news again when three vicious gang fights broke out simultaneously on three separate floors of the school. Dozens of police cars arrived, five students were arrested, and the whole building was put on lockdown for three hours.

After the schoolwide brawl, Dozier instituted what she called a zero-tolerance policy for violent behavior and behavior that might lead to violence: If students threw up gang signs or exchanged gang handshakes in the hallway, Dozier gave them automatic ten-day suspensions. If they fought, she called the police and had them arrested, and then she did her best to expel them from Fenger permanently. When I started spending time at Fenger, more than a year after Albert's death, the halls were generally quite orderly, though they certainly didn't seem normal. There were always thick-armed security guards patrolling the hall; students couldn't go anywhere without their IDs on Fenger lanyards around their necks, and when a student needed to go to the bathroom in the middle of class, she had to carry

a giant hall pass, two feet long and bright yellow. Between classes, the synthesizer-laden theme from *Beverly Hills Cop* played on speakers in the hallways; students knew they had to make it to the next class before the last note sounded. Despite the firm rules, there were still disruptions; the first time I came to Fenger to interview Dozier, we were interrupted twice by shouts in the hallway, arguments that she had to rush off to help adjudicate.

Midway through her second year as principal, Dozier told me that she was beginning to feel that the most important tools at her disposal were ones that didn't have much to do with classroom instruction. In the wake of Derrion Albert's murder, Holder and Arne Duncan pledged $500,000 in federal money to set up afterschool programs in anger management and trauma counseling at Fenger, and the school began to refer to counseling not just students but their families as well. Dozier enrolled twenty-five of her most troubled students in an intensive mentoring program. She was looking for any kind of intervention that might address what now seemed to her to be the most pressing crisis at Fenger — not her students' academic deficits, though those remained acute and distressing, but a deeper set of problems, born out of her students' troubled and often traumatic home lives, that made it difficult for them to get through each day. "When I came into this job, I discounted questions like 'What families do kids come from?' and 'What effect does poverty have on children?'" Dozier said to me one morning. "But since I started working at Fenger, my thinking has evolved."

2. Nadine Burke Harris

What effect does poverty have on children? Halfway across the country, this was the question Nadine Burke Harris was asking as well. But she was a doctor, not an educator, and so she approached the question from the perspective of her patients' physical health. Since 2007, Burke Harris had been the lead pediatrician of the Bayview Child Health Center in the Bayview–Hunters Point neighborhood of San Francisco, a bleak industrial area tucked away in the city's

southeast corner that is home to some of the city's biggest and most violent housing projects. When Burke Harris founded the clinic, she was a recent graduate of the Harvard School of Public Health, a fresh young idealist hired by the California Pacific Medical Center, a well-funded private hospital chain, to take on a vaguely defined but noble-sounding mission: to identify and address health disparities in the city of San Francisco. Those disparities were not hard to find, especially in Bayview–Hunters Point: the rate of hospitalization for congestive heart failure there was five times as high as it was in the Marina District, a few miles away. And before Burke Harris's clinic opened, there was only one pediatrician in private practice in a community with more than ten thousand children.

Burke Harris had studied health disparities at Harvard, and she knew what the public-health playbook said you should do to remediate them: improve access to health care, especially primary care, for low-income families. When the clinic opened its doors, Burke Harris targeted the low-hanging fruit of pediatrics, the health issues where the disparities between rich and poor children were most obvious and best understood: asthma management, nutrition, vaccinations for diphtheria and whooping cough and tetanus. And in just a few months, she made significant headway. "It turned out to be surprisingly easy to get our immunization rates way up and to get our asthma hospitalization rates way down," she told me when I first visited her clinic. And yet, she explained, "I felt like we weren't actually addressing the roots of the disparity here. I mean, as far as I know, no child in this community has died of tetanus in a very, very long time."

Burke Harris found herself in a situation much like Dozier's. Here she was, in her dream job. She had ample resources, she was well trained, she was working hard — and yet she didn't seem to be making much of a difference in the lives of the young people she was trying to help. They were still surrounded by violence and chaos, at home and in the streets, that was clearly taking a grave toll on them, both physically and emotionally. Many of the children she saw in the clinic seemed depressed or anxious, and some of them were downright traumatized, and the stress of their daily lives expressed itself in a va-

riety of symptoms, from panic attacks to eating disorders to suicidal behavior. She sometimes felt less like a primary-care pediatrician and more like a battlefield surgeon, patching up her patients and sending them back to war.

Burke Harris went looking for answers, and her quest took her into a new and unfamiliar conversation about poverty and adversity, one that was taking place not in public-policy magazines and at political science symposiums but in medical journals and at neuroscience conferences. Gradually, Burke Harris became convinced of what had at first seemed a radical idea: that in neighborhoods like Bayview–Hunters Point and Roseland, many of the problems we generally think of as social issues — the province of economists and sociologists — are actually best analyzed and addressed on the molecular level, down deep in the realm of human biology.

3. The ACE Study

Burke Harris's journey began with a medical-journal article that Whitney Clarke, a psychologist on the clinic's staff, dropped on her desk one day in 2008: "The Relationship of Adverse Childhood Experiences to Adult Health: Turning Gold into Lead." The author was Vincent Felitti, the head of the department of preventive medicine at Kaiser Permanente, the giant health maintenance organization based in California, and the article described the Adverse Childhood Experiences study, commonly called the ACE study, that Felitti had conducted in the 1990s with Robert Anda, an epidemiologist at the Centers for Disease Control in Atlanta. When Burke Harris read the paper, she told me, something clicked: "The clouds parted," she said with a smile. "Angels sang. It was like that scene at the end of *The Matrix* where Neo can see the whole universe bending and changing."

Beginning in 1995, patients enrolled in the Kaiser HMO who came in for comprehensive medical exams were mailed questionnaires asking them to relate their personal histories in ten different categories of adverse childhood experiences, including physical and sexual abuse,

physical and emotional neglect, and various measures of household dysfunction, such as having divorced or separated parents or family members who were incarcerated or mentally ill or addicted. Over the course of a few years, more than seventeen thousand patients completed and returned the questionnaires—a response rate of almost 70 percent. As a group, the respondents represented a very mainstream, middle- to upper-middle-class demographic: 75 percent were white; 75 percent had attended college; the average age was fifty-seven.

When Anda and Felitti tabulated the responses, they were surprised, first, by the sheer prevalence of childhood trauma among this generally well-off population. More than a quarter of the patients said they had grown up in a household with an alcoholic or a drug user; about the same fraction had been beaten as children. When the doctors used the data to assign each patient an ACE score, giving them one point for each category of trauma they had experienced, they found that two-thirds of the patients had experienced at least one ACE, and one in eight had an ACE score of 4 or more.

The second and more significant surprise came when Anda and Felitti compared the ACE scores with the voluminous medical histories that Kaiser had collected on all the patients. The correlations between adverse childhood experiences and negative adult outcomes were so powerful that they "stunned us," Anda later wrote. What's more, those correlations seemed to follow a surprisingly linear dose-response model: the higher the ACE score, the worse the outcome on almost every measure from addictive behavior to chronic disease. Anda and Felitti produced one bar chart after another from the data, and each one traced more or less the same shape. Along the bottom of each chart, the x-axis, the doctors plotted the number of ACEs that patients had experienced. Along the y-axis, they indicated the prevalence of a specific undesirable outcome: obesity, depression, early sexual activity, history of smoking, and so on. On each chart, the bars rose steadily and consistently from left (0 ACEs) to right (more than 7 ACEs). Compared to people with no history of ACEs, people with ACE scores of 4 or higher were twice as likely to smoke, seven times more likely to be alcoholics, and seven times more likely to have had