

Brain Rules for Baby

John Medina—2010

INTRODUCTION

- If you want her to do well in math in her later years, the greatest thing you can do is to teach her impulse control in her early years (see “Self-control,” page 105).
- Truth: The greatest pediatric brain-boosting technology in the world is probably a plain cardboard box, a fresh box of crayons, and two hours. The worst is probably your new flat-screen TV. (See “Hurray for play,” page 132.)
- Truth: They’ll become less willing to work on challenging problems (see “What happens when you say, ‘You’re so smart,’” page 140). If you want your baby to get into a great college, praise his or her effort instead.
- Truth: The greatest predictor of happiness is having friends. How do you make and keep friends? By being good at deciphering nonverbal communication. (See “How to make friends,” page 167.) This skill can be honed. Learning a musical instrument (page 209) boosts the ability by 50 percent. Text messaging (page 151) may destroy it.
- Can brain science weigh in on this situation? Not really. Research tells us that parents must have clear rules and swift consequences for rule violations.
- The kids in the program (head start) academically outperformed the controls in virtually every way you can measure performance, from IQ and language tests in the early years to standardized achievement assessments and literacy exams in the later years. More graduated from high school (84 percent vs. 32 percent for the girls). Not surprisingly. They were more likely to attend college. The kids who were not in the program were four times more likely to require treatment for a mental-health problem (36 percent vs. 8 percent). They were twice as likely to repeat a grade (41 percent vs. 21 percent).

Pregnancy

- Babies develop an active mental life in the womb Stressed mom, stressed baby Eat right, stay fit, get lots of pedicures
- If I were to give a single sentence of advice based on what we know about in utero development during the first half of pregnancy, it would be this: The baby wants to be left alone.
- No commercial product has ever been shown to do anything to improve the brain performance of a developing fetus.
- Women who take it around conception and during the first few weeks of pregnancy are 76 percent less likely to create a fetus with neural tube defects than those who don’t take the supplement.
- This is the basis for an odd “piece of advice: Immediately after your baby is born, rub her with her own amniotic fluid before washing her with soap and water. It will calm her down, studies show
- The effect is so powerful that what you eat during the last stages of pregnancy can influence the food preferences of your baby.

- This is called flavor programming, and you can do it soon after your baby is born, too. Lactating mothers who eat green beans and peaches while nursing produce weaned toddlers with the same preferences.
- You're pregnant, so you need to eat more food. And if you don't overdo it, you will grow a smarter baby. Why? Your baby's IQ is a function of her brain volume. Brain size predicts about 20 percent of the variance in her IQ scores (her prefrontal cortex, just behind her forehead, is particularly prescient). Brain volume is related to birth height, which means that, to a point, larger babies are smarter babies. The fuel of food helps grow a larger baby.
- The other: omega-3 fatty acids
- The result is scary. By the time these "ice storm" children were 5, their behaviors differed markedly from children whose mothers hadn't experienced the storm. Their verbal IQs and language development appeared stunted, even when the parents' education, occupation, and income were taken into account. Was the mother's stress the culprit? The answer turned out to be yes.

RELATIONSHIP

- The baby had remembered! She'd had only a single exposure to this event, but she had recalled it perfectly a week later. Babies can do this all over the world.
- It may be a bit disconcerting to realize, but infants have their parents' behaviors in their slights virtually from the moment they come into this world.
- If we take the end point of this instability—divorce is a convenient target—we observe that kids are still paying for it years later. Children from divorced households are 25 percent more likely to abuse drugs by the time they are 14. They are more likely to get pregnant out of wedlock. They are twice as likely to get divorced themselves. In school, they get worse grades than children in stable households. And they are much less likely to receive support for college. When marriages stay together, 88 percent of college-bound kids will receive consistent support for their college education. When marriages fall apart, that figure shrinks to 29 percent.
- Even after a year, 50 percent still require some form of nighttime parental intervention.
- After the birth of a child, couples have only about one-third as much time alone together as they had when they were childless.
- Household duties increase three times as much for women as for men when the baby comes home
- And 99 percent of them earn less than \$117,000 per year
- Choosing to empathize—at its heart it is simply a choice—is so powerful it can change the developing nervous systems of infants whose parents regularly practice it.
- **What must you do** to get the kind of marital successes Gottman reported? You need to close that gap I described, the imbalance between what you know about your inner feelings and what you deduce about your spouse's. The way to do that is to create an 'empathy reflex"—your first response to any emotional situation. Researchers defined the empathy reflex while attempting to socialize high-functioning autistic children. It's surprisingly simple and surprisingly effective, something akin to the little boy crawling up onto the old man's lap. When you first encounter somebody's "hot" feelings, execute two simple steps:
 - 1. Describe the emotional changes you think you see.
 - 2. Make a guess as to where those emotional changes came from.

- Beginning with a simple affective description, she comes “You look scared out of your mind.” The teenager paused, nodded slightly. “You not only look scared.” She continued, “You look upset. Really upset. In fact, you look humiliated.” The teenager paused again. This was not what she was expecting. The mom then deployed step 2, guessing at the origin. “You had a bad time tonight, didn’t you?” The daughter grew wide-eyed. A tough night indeed. Tears suddenly sprang into her eyes. Mom guessed what probably occurred, and her voice softened. “You had a fight with your boyfriend.” The teenager burst out crying. “He broke up with me! I had to get another ride home! That’s why I was late!” The daughter collapsed into her mother’s loving arms, and both of them cried. There would be no smack down that evening. There seldom is in the arms of an empathy reflex—whether in parenting or in marriage.

SMART BABY: SEEDS

- If cells and genes aren’t any help, what about behaviors. -^ Here, researchers have struck gold. We now have in hand a series of tests for infants that can predict their IQs as adults. In one test, preverbal infants are allowed to feel an object hidden from their view (it’s in a box). If the infants can then correctly identify the object by sight—called cross-modal transfer—they will score higher on later IQ tests than infants who can’t. In another test, measuring something researchers call visual recognition memory, infants are set in front of a checkerboard square. This is an oversimplification, but the longer they stare, the higher their IQ is likely to be. Sound unlikely? These measurements, taken between 2 and 8 months of age, correctly predicted IQ scores at age 18!
- Take 1000 and add 40 to it. Now add another 1000. Now add 30. And another 1000. Now add 20. Now add another 1000. Now add 10. What is the total?
 - Did you say 5,000? If so, you’re in good company. Research shows that 98 percent of people who tackle this question get that answer. But it is wrong. The correct answer is 4,100.
- Contemplate your child’s intellectual gifts. They are:
 - The desire to explore
 - Self-control
 - Creativity
 - Verbal communication
 - Decoding nonverbal communication
- An ability to associate creatively. They could see connections between seemingly unrelated concepts, problems or questions.
- An annoying habit of consistently asking “what if.” And “why not” and “how come you’re doing it this way.” These visionaries scoured out the limits of the status quo, poking it, prodding it, shooting upward to the 40,000-foot view of something to see if it made any sense and then plummeting back to earth with suggestions.
- An unquenchable desire to tinker and experiment. The entrepreneurs might land on an idea, but their first inclination would be to tear it apart, even if self-generated. They displayed an incessant need to test things: to find the ceiling of things, the basement of things, the surface area, the tolerance, and the perimeters of ideas—theirs, yours, mine, and anybody’s. They were on a mission, and the mission was discovery.

- “If you look at 4-year-olds, they are constantly asking questions. But by the time they are 6 years old, they stop asking questions because they quickly learn that teachers value the right answers more than provocative questions
- But there are things that you, as a parent, can do to encourage your child’s natural desire to explore—starting with understanding how inquisitiveness contributes to your child’s intellectual success.
- A healthy, well-adjusted preschooler sits down at a table in front of two giant, freshly baked chocolate chip cookies. It’s not a kitchen table—it’s Walter Michael’s Stanford lab during the late 1960s. The smell is heavenly. “You see these cookies?” Michael says. “You can eat just one of them right now if you want, but if you wait, you can eat both. I have to go away for five minutes. If I return and you have not eaten anything, I will let you have both cookies. If you eat one while I’m gone, the bargain is off and you don’t get the second one. Do we have a deal?” The child nods. The researcher leaves.
- Come to the interesting world of impulse control. It is part of a suite of behaviors under the collective term executive function. Executive function controls planning, foresight, problem solving, and goal setting. It engages many parts of the brain, including a short-term form of memory called working memory. Mischel and his many colleagues discovered that a child’s executive function is a critical component of intellectual prowess.
- We now know that it is actually a better predictor of academic success than IQ. It’s not a small difference, either: Mischel found that children who could delay gratification for 15 minutes scored 210 points higher on their SATs than children who lasted one minute
- Mom, to whom I owe every atom of curiosity I possess, reacted with her typical parental insight and grace: She set aside her own preferences and followed my curiosity. She brought home two pictures wrapped in brown paper and sat me down. “Imagine,” she began, with just a hint of eye-rolling, “that you tried to express in two dimensions all the information of a three-dimensional object. How would you do it?” I stumbled around trying to get the right answer. Or any answer, but made no progress. Mom interrupted. “Perhaps you would come up with something like this!” With the flourish of an actress, which she briefly was. Mom ripped open the bag, revealing prints of Picasso masterpieces: Three Musicians and Violin and Guitar. It was love at first cube.
- The test has been translated into 50 languages and taken by millions of people. It is the go-to standard for evaluating creativity in children
- Only thing keeps that door open to another language. You have to deliver the words through a social interaction. A real live person has to come into the room and speak the language directly to the child.
- They were great at a specific kind of networking. Successful entrepreneurs were attracted to smart people whose educational backgrounds were very different from their own. This allowed them to acquire knowledge about things they would not otherwise learn. From a social perspective, this behavioral pirouette is not easy to execute. How did they manage to do it consistently? Using insights generated by the final common trait.
- They closely observed the details of other people’s behaviors. The entrepreneurs were natural experts in the art of interpreting extrospective cues: gestures and facial expressions. Consistently and accurately interpreting these nonverbal signals is probably how they were able to extract information from sources whose academic resources were so different from their own.

SMART BABY: SOIL

- At every precious point, Dad would encourage Teddy to try hard. Then harder. Then hardest. Said the president in a diary decades later:
- Brain research tells us there are also several toxins: pushing your child to perform tasks his brain is not developmentally ready to take on; stressing her to the point of a psychological state termed ‘learned helplessness’ and, for the under-2 set, television.
- Open-ended play? Not “open-ended purchase of electronic educational toys”? Not French lessons, followed by hours of militant drilling? Actually, I do believe in a form of disciplined repetition as children begin formal schooling. But many parents are so preoccupied with their young child’s future that they transform every step of the journey into a type of ended anything. From 1981 to 1997, the amount of free time parents gave their kids dropped by about a quarter. The making-baby-smart product industry—fashioning toys that are the opposite of open-ended (what could possibly be more claustrophobic than a DVD for infants?)—is a multibillion-dollar industry.
- No, the type of play that gives all the cognitive benefits is a type that focuses on impulse control and self-regulation—those executive-function behaviors we discussed in the previous chapter as an ingredient of intelligence, revealed by the cookie experiment.
- The cascade of confirmatory research that followed these findings led directly to the Tools of the Mind program. It has a number of moving parts, but the three most relevant to our discussion involve planning play, direct instruction on pretending, and the type of environment in which the instruction takes place. Here’s what happens in a Tools of the Mind classroom:
- These data radiate a light that can hurt unaccustomed eyes. They challenge the notion that rote-drilled learning atmospheres always equal better performance. These data flatly state that emotional regulation—reining in impulses—predicts better cognitive performance.
- From a psychological perspective, effort is in part the willingness to focus one’s attention and then sustain that focus. Effort also involves impulse control and a persistent ability to delay gratification. Sounds like executive function, spiced with a few I unique ingredients.
- What to say instead: ‘You really worked hard’
 - **What should** Ethan’s parents have done? Research shows a simple solution. Rather than praising him for being smart, they should have praised him for working hard. On the successful completion of a test. They should not have said, “I’m so proud of you. You’re so smart.” They should have said, “I’m so proud of you. You must have really studied hard.” This appeals to controllable effort rather than to unchangeable talent. It’s called “growth mindset” praise.
- The first is that kids are really good at imitation. (Remember the light box and the baby touching her forehead to it?) This ability to reproduce a behavior, after witnessing it only once, is called deferred imitation.
- What he found was extraordinary. Those students who had been exposed to an “elderly” mix of words took almost 40 percent longer to walk down the hall than those who had been exposed to “random” words. Some students even stooped and shuffled as they left. As if they were 50 years older than they actually were. To cite Bargh’s clinical observation, these words “activated the elderly stereotype in memory, and participants acted in ways consistent with that activated stereotype.

- Another example comes from a study that looked at bullying. For each hour of TV watched daily by children under age 4, the risk increased 9 percent that they would engage in bullying behavior by the time they started school.
- For each additional hour of TV watched by a child under the age of 3, the likelihood of an attentional problem by age 7 increased by about 10 percent. So, a preschooler who watches three hours of TV per day is 30 percent more likely to have attentional problems than a child who watches no TV.
- Just having the TV on while no one is watching—secondhand exposure—seemed to do damage, too, possibly because of distraction. In test laboratories, flashing images and a booming sound track continually diverted children from any activity in which they were otherwise engaged, including that marvelous brain-boosting imaginative play we discussed. The effects were so toxic for kids in diapers that the American Association of Pediatrics issued a recommendation that still stands today:
 - Pediatricians should urge parents to avoid television viewing for children under the age of 2 years. Although certain television programs may be promoted to this age group, research on early brain development shows that babies and toddlers have a critical need for direct interactions with parents and other significant caregivers (e.g., child care providers) for healthy brain growth and the development of appropriate social, emotional, and cognitive skills.
- Before age 2, TV is best avoided completely. But after age 5, the jury is out on this harsh verdict—way out, in fact. Some television shows improve brain performance at this age. Not surprisingly, these shows tend to be the interactive types.
- **Here are a** few recommendations for TV viewing the data suggest:
 - 1. Keep the TV off before the child turns 2. I know this is tough to hear for parents who need a break. If you can't turn it off—if you haven't created those social networks that can allow you a rest—at least limit your child's exposure to TV. We live in the real world, after all, and an irritated, overextended parent can be just as harmful to a child's development as an annoying purple dinosaur.
 - 2. After age 2, help your children choose the shows (and other screen based exposures) they will experience. Pay special attention to any media that allow intelligent interaction.
 - 3- Watch the chosen TV show with your kids, interacting with the media, helping them to analyze and think critically about what they just experienced. And rethink putting a TV in the kids' room: Kids with their own TVs score an average of 8 points lower on math and language-arts tests than those in households with TVs in the family room.
- Unless all of their digital interactions involve a video camera, kids won't get much practice interpreting nonverbal cues. That's the world autistic kids live in, by the way
- Pushy parents often become disappointed, displeased, or angry when their kids don't perform—reactions children can detect at an astonishingly young age and want desperately to avoid.
- This loss of control is toxic. It can create a psychological state called learned helplessness, which can physically damage a child's brain

HAPPY BABY: SEEDS

- These findings about the importance of human relationships—in all their messy glory—greatly simplify our question about how to raise happy kids. You will need to teach your children how to socialize effectively—how to make friends, how to keep friends—if you want them to be happy.
 - Emotional regulation
 - Our old friend, empathy
- This overruling is emotional regulation. There is nothing wrong with crying, or any other number of expressions, but you realize that there are social contexts where the behavior is appropriate and social contexts where it is not. People who do this well generally have lots of friends. If you want your kids to be happy, you will spend lots of time teaching them how and when this filtering should occur.
- Along with the ability to regulate emotions, the ability to perceive the needs of another person and respond with empathy plays a huge role in your child’s social competence. It’s big enough to be a Brain Rule

HAPPY BABY: SOIL

- I start with Tyler’s tantrum because of a startling fact: how Rachel responds to Tyler’s intense emotions profoundly matters to his future happiness. In fact, response is one of the greatest predictors of how he will turn out as a young man. It affects his ability to regularly empathize with people and thus maintain friendships—big factors in human happiness.
- Starting with the process of bonding with baby, parents who pay close attention to the emotional lives of their children, in a very particular manner, have the best shot at making them happy. The point of this chapter is to explain what “very particular manner” means.
- The infant abruptly turns away from his mother as the game reaches its peak of intensity and begins to suck on his thumb and stare into space with a dull facial expression. The mother stops playing and sits back, watching. ...After a few seconds, the infant turns back to her with an inviting expression. The mother moves closer, smiles, and says in a high-pitched, exaggerated voice, “Oh, now you’re back!” He smiles in response and vocalizes. As they finish crowing together, the infant reinserts his thumb and looks away. The mother again waits ... the infant turns ...to her, and they greet each other with big smiles.”
- For our purposes, the chicken is your child’s emotional life. The spices, six of them, are your parenting behaviors. When parents properly spice this chicken on a regular basis, they increase their probability to raising a happy kid.
- There is one that does. How you deal with the emotional lives of your children—your ability to detect, react to, promote, and provide instruction about emotional regulation—has the greatest predictive power over your baby’s future happiness.
- Here are the six spices that go into this parental dry rub:
 - A demanding but warm parenting style
 - Comfort with your own emotions
 - Tracking your child’s emotions
 - Verbalizing emotions
 - Running toward emotions
 - Two tons of empathy

- Responsiveness. This is the degree to which parents respond to their kids with support, warmth and acceptance. Warm parents mostly communicate their affection for their kids. Hostile parents mostly communicate their rejection of their kids.
- Demandingness. This is the degree to which a parent attempts to exert behavioral control. Restrictive parents tend to make and enforce rules mercilessly. Permissive parents don't make any rules at all.
- Unresponsive plus demanding. Exerting power over their kids is very important to these parents, and their kids are often afraid of them. They do not try to explain their rules and do not project any warmth.
- Responsive plus undemanding. These parents truly love their kids but have little ability to make and enforce rules. They subsequently avoid confrontation and seldom demand compliance with family rules. These parents are often bewildered by the task of raising kids.
- Responsive plus demanding. Probably the best of the lot. These parents are demanding, but they care a great deal about their kids. They explain their rules and encourage their children to state their reactions to them. They encourage high levels of independence, yet see that children comply with family values. These parents tend to have terrific communication skills with their children.
- Some people welcome emotional experiences, considering them an important and enriching part of life's journey. Others think that emotions make people weak and embarrassed and that emotions should be suppressed.
- Earlier I mentioned parents paying close attention to the emotional lives of their children in a particular manner. You could see it with the mom and baby playing peekaboo in Tronick's laboratory:
 - The mother stops playing and sits back, watching.... After a few seconds, the infant turns back to her with an inviting expression. The mother moves closer, smiles, and says in a high-pitched, exaggerated voice, "Oh, now you're back!" He smiles in response and vocalizes.
- The mom was extraordinarily attuned to her child's emotional cues. She knew that her baby's turning away probably meant he needed a break from the sensory flood he was receiving. Mom withdrew, waited patiently, and did not resume until baby signaled he was no longer flooding. He could then be delighted when mom returned. Smiling, rather than staying over stimulated by her persistence and probably crying. The total elapsed time was less than 5 seconds, but. Stretched over years, this emotional sensitivity can make all the difference between a productive kid and a juvenile delinquent.
- Emotional surveillance comes with a caveat, however, for it is possible to give too much of a good thing. In the late 1980s, researchers were somewhat startled to find that when parents paid too much attention to their kids' cues—responding to every gurgle, burp, and cough—the kids actually became less securely attached.
- You seem sad. Are you sad?" is what the girl's dad said. The little girl nodded, still angry, too. The dad continued. "I think I know why. You're sad because Ally's gotten all the presents. You only got one!" The little girl nodded again. "You want the same number and you can't have it, and that's unfair and that makes you sad." The dad seemed to be pouring it on. "Whenever somebody gets something I want and I don't, I get sad, too." Silence.
- Then the dad said the line most characteristic of a verbalizing parent. "We have a word for that feeling, honey," he said. "Do you want to know what that word is?" She whimpered, "OK. He

held her in his arms. “We call it being jealous. You wanted Ally’s presents, and you couldn’t have them. You were jealous.” She cried softly but was beginning to calm down. “Jealous,” she whispered. “Yep,” Dad replied, ‘and it’s an icky feeling.” “I been jealous all day,” she replied, nestling into her daddy’s big strong arms.

- This big-hearted father is good at a) labeling his feelings and b) teaching his daughter to label hers. He knows what sadness in his own heart feels like and announces it easily.
- Research shows that this labeling habit is a dominant behavior for all parents who raise happy children.
- Notice in the story that as the dad addressed his daughter’s feelings directly, the little girl began to calm down. This is a common finding; you can measure it in the laboratory. Verbalizing has a soothing effect on the nervous system of children. (Adults, too.) Thus, the Brain Rule: Labeling emotions calms big feelings.
- I knew from’ the research literature that occasional tantrums are normal for kids in the first couple of years
- One day, as he was subsiding from a particularly fierce temblor, I looked at him squarely and said, “You know, son. We have a word for this feeling. I would like to tell you that word. Is that OK?” He nodded, still crying. “It is called being ‘frustrated.’ You are feeling frustrated. Can you say ‘frustrated?’” He suddenly looked at me as if he had been hit by a train.
- There’s another powerful way to fine-tune a child’s hearing for the emotional aspects of speech: musical training.
- Fireman Don Lopez did not scream or hesitate. He immediately lowered himself into the raging, frigid waters and began trying to ^attach a safety harness to the young girl. He failed, once, twice ... several times. The girl’s strength was nearly exhausted when Lopez, at the last second, finally got her attached. Photo journalist Annie Wells was on the scene working for the Santa Rosa Press Democrat, and she captured that moment (and a Pulitzer Prize). It is an incredible photo to see, the weakened teenager nearly letting go of the branch, the muscular fireman saving her life. Like first responders everywhere, then everyone else was either screaming, sitting on the sidelines, or running away, Lopez ran toward trouble.
- Parents who raise kids like my friend Doug, the valedictorian, have this type of courage in spades. They are fearless in the face of raging floods of emotions from their child. They don’t try to shoot down emotions, ignore them, or let them have free reign over the welfare of the family. Instead, these parents get involved in their kids’ strong feelings. They have four attitudes toward emotions (yes, their meta-emotions):
 - They do not judge emotions.
 - They acknowledge the reflexive nature of emotions.
 - They know that behavior is a choice, even though an emotion is not.
 - They see a crisis as a teachable moment.
- One response might be: “Kyle, I’m sorry your fish is dead, but it’s really no big deal. He’s just a fish. Death is part of life, and you need to learn that. You wipe those tears away, son, and go outside and play.” Another might be: “That’s OK, honey. You know, the fish was already old when you were born. We’ll go to the store tomorrow and get you another one. Now put on that happy face, outside and play.” Both responses completely ignore how Kyle is feeling at the moment. One seems to actively disapprove of Kyle’s grief; the other is trying to anesthetize it. Neither deals with his intense emotions. They give him no tools that might help him navigate

through his grief. Know what Kyle might be thinking? “If this is not supposed to matter. Why do I still have this big feeling? What I am supposed to do with it? There must be something really wrong with me.

- Day-to-day, parents of happy kids do not allow bad behavior simply because they understand where it came from. A little girl might slap her baby brother because she feels threatened. That does not make slapping OK. These parents understand that kids have a choice in how they express emotions, reflexive though emotions can be.
- Parents who raise the happiest kids constantly rummage through their offspring’s intense feelings looking for stray teachable moments.
- Let’s say you are waiting in a long line at the post office with your restless 2-year-old, Emily. She announces, “I want a glass of water.” You calmly respond, “Honey, I can’t get you water right now. The drinking fountain is broken.” Emily starts to whine. “I want some water!” Her voice cracks. You anticipate what’s coming, and your blood pressure begins to rise. “We’ll have to wait until we get home. There’s no water here,” you say. She retorts, “I want water NOW!” The exchange escalates in intensity, in danger of erupting into a very public fight. What now? Here are three tactics you might take:
 - You acknowledge the child’s feelings and empathize. “You’re thirsty, aren’t you? Getting a big gulp of cold water would feel so good. I wish that drinking fountain was working so I could lift you up and let you drink as much as you wanted.”
 - Empathy reflexes and the coaching strategies that surround them are the only behaviors known consistently to defuse intense emotional situations over the short term—and reduce their frequency over the long.
 - If 30 percent of your interactions with your child are empathetic, Gottman contends, you’ll raise a happy kid. Does this mean 70 percent of the time you can cut yourself some slack? Perhaps. Really, the statistic points to the great power of paying attention to feelings.

MORAL BABY

- Harvard researchers developed a Moral Sense Test, which hundreds of thousands of people from more than 120 countries have taken. (You can take it, too, at <http://moral.wjh.harvard.edu>.) The data they’ve compiled appear to confirm a universal moral sense
- In the 1960s, Bandura showed preschoolers a film involving a Bobo doll, one of those inflatable plastic clowns weighted on the bottom. In the film, an adult named Susan kicks and punches the doll. Then repeatedly clobbers it with a hammer—buckets o’ violence. After the film, the preschoolers are taken into another room filled with toys, including (surprise) a Bobo doll and a toy hammer. What do the children do? It depends.
- If they saw a version of the film where Susan was praised for her violent actions, they hit the doll with great frequency. If they saw a version where Susan got punished, they hit Bobo with less frequency. But if Bandura then strides into the room and says, “I will give you a reward if you can repeat what you saw Susan do,” the children will pick up a hammer and start swinging at Bobo. Whether they saw the violence as rewarded or punished, they learned the behavior.
- Bandura calls this “observational learning.” He was able to show that kids (and adults) learn a lot by observing the behaviors of others. It can be positive, too. A Mexican soap opera in which the

characters celebrate books, and then ask viewers to sign up for reading classes, increased literacy rates across the country. Bandura's finding is an extraordinary weapon of mass instruction.

- “Families who raise moral kids follow very predictable patterns when it comes to rules and discipline. The patterns are not a behavioral insurance policy, but they are as close as research gets us right now.
- This well-balanced triad statistically provides children with the sturdiest seat—the most finely attuned moral reflexes. The three legs are:
 - Clear, consistent rules and rewards
 - Swift punishment
 - Explaining the rules
- Nanny's solution? Next day, she brings in a physical chart with rules and expectations written right on it—including a reasonably formulated time for bed—then mounts it where the entire family can see. The chart produces an objective authority where the rule is a) realistic, b) clearly stated, and c) visible to all.
- Scientists (and good parents) discovered long ago that you can increase the frequency of a desired behavior if you reinforce the behavior.
- Instead of waiting for your 3-year-old to get on the swings, you can reinforce his behavior every time he gets near the door.
- This process, called shaping, can take much patience, but it usually doesn't take much time. Famed behaviorist B.F. Skinner got a chicken to turn the pages of a book as if it were reading in less than 20 minutes using a shaping protocol. Humans are much easier to shape than chickens.
- Praising the absence of a bad behavior is just as important as praising the presence of a good one.
- Researchers distinguish between two discipline strategies: negative reinforcement and punishment. Both deal with aversive situations, but negative reinforcement tends to strengthen behaviors. Whereas punishment tends to weaken them.
- As a child you probably discovered that when you burn your finger, cold water provides immediate pain relief, removing the obnoxious experience. When a response pays off, it tends to get repeated. The next time you got a burn—an aversive stimulus—the probability multiplied of you running to the nearest sink. This is negative reinforcement, because your response was strengthened by the removal (or avoidance) of an aversive stimulus. It's different from positive reinforcement, which is when an action leads to such a wonderful experience, you want to repeat the action. Negative reinforcement can be as powerful, but it is also trickier to apply.
- I knew a preschool girl who craved her mom's attention. She started off her terrible twos by throwing her toys down the stairs on a regular basis, disrupting the entire family. The little girl seemed to enjoy misbehaving and was soon throwing lots of things down the stairs. Mom's books were a favorite target, which, this being Seattle, proved to be the last straw. Mom tried talking to her, reasoning with her, and, when these failed, yelling at her. She eventually brought out the heavy artillery—spanking—but nothing changed.
- Why were Mom's strategies failing? Because her punishments were actually providing the little girl what she desired most: Mom's undivided attention. As difficult as this might seem, Mom's best shot at breaking this cycle was to ignore her daughter when she misbehaved (after first locking away some of the books), destroying this unholy alliance between the stairs and attention. Instead, Mom would reinforce her daughter's desirable behaviors by paying rich, undivided attention only when she acted in accordance with the laws of the family. Mom tried it,

consistently lavishing praise and attention when the daughter opened one of the remaining books rather than tossing it. The throwing stopped within a few days.

- The first type is sometimes called punishment by application. It has a reflexive quality to it. You touch your hand to a stove, your hand gets burned immediately, and you learn not to touch the stove. This automaticity is very powerful. Research shows that children internalize behaviors best when they are allowed to make their own mistakes and feel the consequences. Here's one example:
 - The other day my son had a tantrum in the phone store and took his shoes and socks off. Instead of arguing with him to put them back on, I let him walk outside a few feet in the snow. It took about 2 seconds for him to say, "Mommy, want shoes on."
- In the second type of punishment, the parent is subtracting something. Appropriately, this is called punishment by removal. For example, your son hits his younger sister, and you do not allow him to go to a birthday party. Or you give him a timeout. (Jail time for crimes is the adult form of this category.) Here's how it worked for one mom:
- The punishment should be firm. This does NOT mean child abuse. But it also doesn't mean a watered-down version of the consequences. The aversive stimulus must in fact be aversive to be effective.
- The punishment must be administered consistently—every time the rule is broken. That is one of the reasons why hot stoves alter behavior so quickly: Every time you put your hand on it, you get burned. The same is true with punishment. The more exceptions you allow, the harder it will be to extinguish the behavior. This is the basis of a Brain Rule: Let your yes be yes and your no be no. Consistency must be there not only from one day to the next but from one caregiver to the next
- If you are trying to teach a pigeon to peck on a bar but delay the reinforcement by 10 seconds, you can do it all day and the pigeon won't get it. Shrink that delay to 1 second, and the bird learns to peck the bar in 15 minutes. We don't have the same brains as birds, but whether we are being punished or rewarded, we have remarkably similar reactions to delay. The closer the punishment is to the point of infraction, the faster the learning becomes. Researchers have actually measured this in real-world settings.
- The punishment must be administered in the warm atmosphere of emotional safety. When kids feel secure even in the raw presence of parental correction, punishment has the most robust effect. This evolutionary need for safety is so powerful, the presence of the rules themselves often communicates safety to children. "Oh, they actually care about me," is how the child (at almost any age in childhood) views it, even if he or she seems less than appreciative. If the kids don't feel safe, the previous three ingredients are useless. They may even be harmful.
- Want a simple way to make any form of punishment more effective, long-lasting, and internalized—everything a parent could ask for? It's / the third leg supporting our stool of moral awareness. It just takes one magic sentence, Parke found, added to any explicit command.
- The bottom line: Parents who provide clear, consistent boundaries whose reasons for existence are always explained generally produce moral kids.
- Overall, a clear picture emerges about how to raise well-adjusted, moral children. Parents whose rules issue from warm acceptance and whose rationales are consistently explained end up being perceived as reasonable and fair, rather than as capricious and dictatorial. They are most likely to evince from their kids committed compliance rather than committed defiance. Remind you

CONCLUSION

- The first theme is empathy. Empathy is enabled by the ability to understand someone else's motivations and behaviors, as this little girl did:
 - My preschooler was harassed by a class "mean girl." We explained that the mean girl was jealous of a pretty craft project that we had made at home that others were praising. Our dear daughter made another one at home and gave it to mean girl, who was so, so, so happy. I don't know that I have ever been prouder.
- The parents asked their daughter to make an effort to understand the psychological interiors of the bully. This compelled the girl to do a difficult thing: temporarily remove herself from her own experience and jump into somebody else's. Powerful idea. Hard idea. This skill. Theory of Mind, is the first step to empathy. It is a consistent willingness to turn down the volume of one's own priorities and experiences in favor of hearing another's. Theory of Mind is not the same thing as empathy. You can use your secret knowledge of someone else's motivations to be a dictator if you like. You need to add a certain measure of kindness to Theory of Mind skills to get empathy.
- What she chose to focus on once she got there was his emotional life. She empathized with his obvious feelings of rejection. Mom did not try to hide them, neutralize them, or throw stones at them. This consistent choice separates the superstar parents from the rest.
- Be willing to enter into your child's world on a regular basis and to empathize with what your child is feeling.

PRACTICAL TIPS

- This notion requires more research, but it is very possible that helping a child start a lifelong love affair with vegetables (or, more probably, a lifelong "I don't hate all vegetables" affair) may start with you eating lots of fruits and vegetables in the last trimester of pregnancy.
- The solution is obvious: Reconstitute a vigorous social structure using whatever tools you have at hand.
- My wife and I devoted nearly 600 square feet in our house to creating such an environment, filled with music stations, reading and drawing and painting and crafting areas, lots of Legos, and lots of cardboard boxes. There was a math and science station, including a toy microscope. We changed the contents of these stations on a regular basis, and we eventually turned the space into our kids' classroom.
- I would tell them that today was "opposite day." When I held up a drawn picture of the night, an inky black background sprinkled with stars, they were supposed to say "day." When I held up a picture with a big blue sky inhabited by a big yellow sun, they were supposed to say "night." I would alternate the pictures with increasing rapidity and check for their responses. They had a blast with this; for some reason we always ended up rolling on the floor laughing.
- The rule was that when I struck a pan with a spoon once, he had to do it twice. When I hit a pan twice, he had to strike it three times. Or once. (I changed it up quite a bit.) The idea for both exercises was to a) give the boys a rule and b) help them inhibit what they would do automatically in the face of this rule.
- See if elements of the Tools of the Mind program will fit in with your lifestyle. Here's one way this worked at my house: Our boys might decide that they wanted to make a construction site. (They had a 1 favorite video that featured various construction machines, which we watched ad

nauseam. We still take it out for birthdays, as a funny nostalgia piece.) We would sit down together and plan the elements of what would go into the construction site, what might occur there once it was built, and how cleanup should best be handled once finished. Our imaginations ran wild, but a linear list of goals would be created from the exercise. Then the boys would play. A full description of the Tools program is available here:

<http://www.mscd.edu/extendedcampus/toolsofthemind>

- **Step 1: Make** a list of all the behaviors—the actions and words—you regularly broadcast to the world. Do you laugh a lot? Swear on a regular basis? Exercise? Do you cry easily or have a hair-trigger temper? Do you spend hours on the Internet? Make this list. Have your spouse do this, too, and compare.
- Step 2: Rate them. There are probably things on this list of which you are justifiably proud. Others, not so much. Whether good or bad, these are the behaviors your children will encounter on a regular basis in your household. And they will imitate them, whether you want them to or not. Decide which behaviors you want your children to emulate and circle them. Decide which behaviors you'd rather have them not imitate at all and put an "X" through them.
- Step 3: Do something about this list. Engage regularly in the behaviors you love. It's as easy as telling your spouse on a regular basis how much you love her. Put on an extinction schedule the ones you don't want to have around. It's as easy (and as hard) as turning off the TV.
- Get into the habit of rewarding the intellectual exertion your child puts into a given task rather than his or her native intellectual resources.
- Recreational experiences—digital games, certain types of web surfing, and our Wii gaming system—we called Category I. They were off limits except under one condition. Our sons could "buy" a certain amount of Category I time. The currency? The time spent reading an actual book. Every hour spent reading could purchase a certain amount of Category I time. This was added up and could be "spent" on weekends after homework was done. This worked for us. The kids picked up a reading habit, could do the digital work necessary for their futures, and were not completely locked out of the fun stuff.
- That means arranging plenty of play dates. Let your children interact with multiple age groups, too, and a variety of people. But pay attention to how much your child can handle at one time. Social experiences must be tailored to individual temperaments.
- When faced with a strong emotion, turn to empathy first:
 - Describe the emotion you think you see.
 - Make a guess as to where it came from.
- What are your emotions about emotions? One particularly insightful test can be found in John Gottman's book *Raising an Emotionally Intelligent Child: The Heart of Parenting*.
- Instruments, singing, whatever—make music a consistent part of your child's experience. Long-term musical exposure has been shown to greatly aid a child's perception of others emotions, this in turn predicts your child's ability to establish and maintain friendships.
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