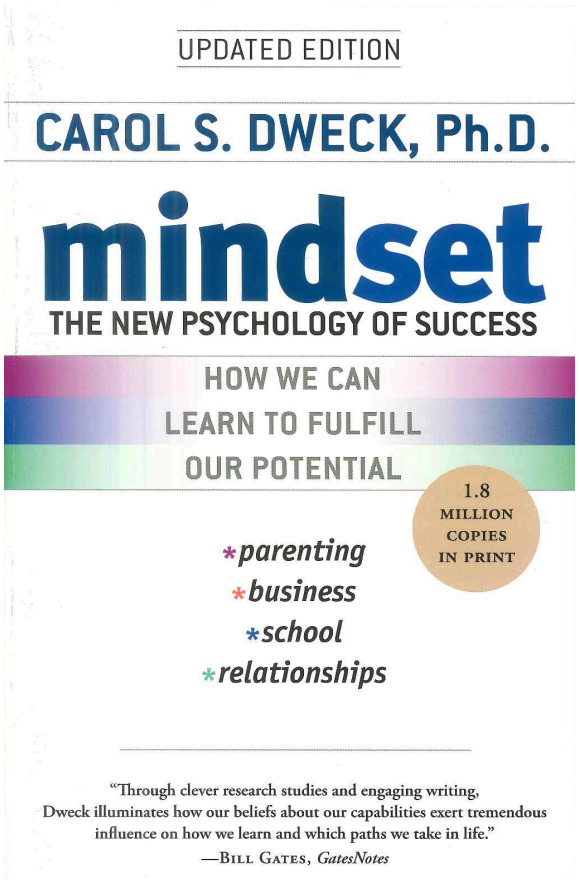


Chapter 1

THE MINDSETS

When I was a young researcher, just starting out, something happened that changed my life. I was obsessed with understanding how people cope with failures, and I decided to study it by watching how students grapple with hard problems. So I brought children one at a time to a room in their school, made them comfortable, and then gave them a series of puzzles to solve. The first ones were fairly easy, but the next ones were hard. As the students grunted, perspired, and toiled, I watched their strategies and probed what they were thinking and feeling. I expected differences among children in how they coped with the difficulty, but I saw something I never expected.

Confronted with the hard puzzles, one ten-year-old boy pulled up his chair, rubbed his hands together, smacked his lips, and cried out, "I love a challenge!" Another, sweating away on these puzzles, looked up with a pleased expression and said with authority, "You know, I was *hoping* this would be informative!"

What's wrong with them? I wondered. I always thought you coped with failure or you didn't cope with failure. I never thought anyone *loved* failure. Were these alien children or were they on to something?

Everyone has a role model, someone who pointed the way at a critical moment in their lives. These children were my role models. They obviously knew something I didn't and I was determined to figure it out—to understand the kind of mindset that could turn a failure into a gift.

What did they know? They knew that human qualities, such as intellectual skills, could be cultivated. And that's what they were doing—getting smarter. Not only weren't they discouraged by failure, they didn't even think they were failing. They thought they were learning.

I, on the other hand, thought human qualities were carved in stone. You were smart or you weren't, and failure meant you weren't. It was that simple. If you could arrange successes and avoid failures (at all costs), you could stay smart. Struggles, mistakes, perseverance were just no part of this picture.

Whether human qualities are things that can be cultivated or things that are carved in stone is an old issue. What these beliefs mean for you is a new one: What are the consequences of thinking that your intelligence or personality is something you can develop, as opposed to something that is a fixed, deep-seated trait? Let's first look in on the age-old, fiercely waged debate about human nature and then return to the question of what these beliefs mean for you.

WHY DO PEOPLE DIFFER?

Since the dawn of time, people have thought differently, acted differently, and fared differently from each other. It was guaranteed that someone would ask the question of why people differed—why some people are smarter or more moral—and whether there was something that made them permanently different. Experts lined up on both sides. Some claimed that there was a strong physical basis for these differences, making them unavoidable and unalterable. Through the ages, these alleged physical differences have included bumps on the skull (phrenology), the size and shape of the skull (craniology), and, today, genes.

Others pointed to the strong differences in people's backgrounds, experiences, training, or ways of learning. It may surprise you to know that a big champion of this view was Alfred Binet, the inventor of the IQ test. Wasn't the IQ test meant to summarize children's unchangeable intelligent? In fact, no. Binet, a Frenchman working in Paris in the early twentieth century, designed this test to identify children who were not profiting from the Paris public schools, *so that new educational programs could be designed to get them back on track.* Without denying individual differences in children's intellects, he believed that education and practice could bring about fundamental changes in intelligence. Here is a quote from one of his major books, *Modern Ideas About Children,* in which he summarizes his work with hundreds of children with learning difficulties:

> A few modern philosophers... assert that an individual's intelligence is a fixed quantity, a quantity which cannot be increased. We must protest and react against this brutal pessimism... . With practice, training, and above all, method, we manage to increase our attention, our memory, our judgment and literally to become more intelligent than we were before.

Who's right? Today most experts agree that it's not either–or. I t's not nature *or* nurture, genes *or* environment. From conception on, there's a constant give-and-take between the two. In fact, as Gilbert Gottlieb, an eminent neuroscientist, put it, not only do genes and environment cooperate as we develop, but genes *require* input from the environment to work properly.

At the same time, scientists are learning that people have more capacity for lifelong learning and brain development than they ever thought. Of course, each person has a unique genetic endowment. People may start with different temperaments and different aptitudes, but it is clear that experience, training, and personal effort take them the rest of the way. Robert Sternberg, the present-day guru of intelligence, writes that the major factor in whether people achieve expertise "is not some fixed prior ability, but purposeful engagement." Or, as his forerunner Binet recognized, it's not always the people who start out the smartest who end up the smartest.

WHAT DOES ALL THIS MEAN FOR YOU? THE TWO MINDSETS

It's one thing to have pundits spouting their opinions about scientific issues. It's another thing to understand how these views apply to you. For thirty years, my research has shown that *the view you adopt for yourself* profoundly affects the way you lead your life. It can determine whether you become the person you want to be and whether you accomplish the things you

value. How does this happen? How can a simple belief have the power to transform your psychology and, as a result, your life?

Believing that your qualities are carved in stone—the *fixed mindset*—creates an urgency to prove yourself over and over. If you have only a certain amount of intelligence, a certain personality, and a certain moral character-well, then you'd better prove that you have a healthy dose of them. It simply wouldn't do to look or feel deficient in these most basic characteristics.

Some of us are trained in this mindset from an early age. Even as a child, I was focused on being smart, but the fixed mindset was really stamped in by Mrs.Wilson, my sixth-grade teacher. Unlike Alfred Binet, she believed that people's IQ scores told the whole story of who they were. We were seated around the room in IQ order, and only the highest-IQ students could be trusted to carry the flag, clap the erasers, or take a note to the principal. Aside from the daily stomachaches she provoked with her judgmental stance, she was creating a mindset in which everyone in the class hid one consuming goal—look smart, don't look dumb. Who cared about or enjoyed learning when our whole being was at stake every time she gave us a test or called on us in class?

I've seen so many people with this one consuming goal of proving themselves—in the classroom, in their careers, and in their relationships. Every situation calls for a confirmation of their intelligence, personality, or character. Every situation is evaluated: *Will I succeed or fail? Will I look smart or dumb? Will I be accepted or rejected? Will I feel like a winner or a loser?*

But doesn't our society value intelligence, personality, and character? Isn't it normal to want these traits? Yes, but...

There's another mindset in which these traits are not simply a hand you're dealt and have to live with, always trying to convince yourself and others that you have a royal flush when you're secretly worried it's a pair of tens. In this mindset, the hand you're dealt is just the starting point for development. This *growth mindset* is based on the belief that your basic qualities are things you can cultivate through your efforts, your strategies, and help from others. Although people may differ in every which way—in their initial talents and aptitudes, interests, or temperaments —everyone can change and grow through application and experience.

Do people with this mindset believe that anyone can be anything, that anyone with proper motivation or education can become Einstein or Beethoven? No, but they believe that a person's true potential is unknown (and unknowable); that it's impossible to foresee what can be accomplished with years of passion, toil, and training.

Did you know that Darwin and Tolstoy were considered ordinary children? That Ben Hogan, one of the greatest golfers of all time, was completely uncoordinated and graceless as a child? That the photographer Cindy Sherman, who has been on virtually every list of the most important artists of the twentieth century, *failed* her first photography course? That Geraldine Page, one of our greatest actresses, was advised to give it up for lack of talent?

You can see how the belief that cherished qualities can be developed creates a passion for learning. Why waste time proving over and over how great you are, when you could be getting better? Why hide deficiencies instead of overcoming them? Why look for friends or partners who will just shore up your self-esteem instead of ones who will also challenge you to grow? And why seek out the tried and true, instead of experiences that will stretch you? The passion for stretching yourself and sticking to it, even (or especially) when it's not going well, is the hallmark of the growth mindset. This is the mindset that allows people to thrive during some of the most challenging times in their lives.

A VIEW FROM THE TWO MINDSETS

To give you a better sense of how the two mindsets work, imagine-as vividly as you can-that you are a young adult having a really bad day:

> One day, you go to a class that is really important to you and that you like a lot. The professor returns the midterm papers to the class. You got a C+. You're very disappointed. That evening on the way back to your home, you find that you've gotten a parking ticket. Being really frustrated, you call your best friend to share your experience but are sort of brushed off.

What would you think? What would you feel? What would you do?

When I asked people with the fixed mindset, this is what they said: "I'd feel like a reject." "I'm a total failure." "I'm an idiot." "I'm a loser." "I'd feel worthless and dumb—everyone's better than me." "I'm slime." In other words, they'd see what happened as a direct measure of their competence and worth.

This is what they'd think about their lives: "My life is pitiful." "I have no life." "Somebody upstairs doesn't like me." "The world is out to get me." "Someone is out to destroy me." "Nobody loves me, everybody hates me." "Life is unfair and all efforts are useless." "Life stinks. I'm stupid. Nothing good ever happens to me." "I'm the most unlucky person on this earth."

Excuse me, was there death and destruction, or just a grade, a ticket, and a bad phone call?

Are these just people with low self-esteem? Or card-carrying pessimists? No. When they aren't coping with failure, they feel just as worthy and optimistic—and bright and attractive—as people with the growth mindset.

So how would they cope? "I wouldn't bother to put so much time and effort into doing well in anything." (In other words, don't let anyone measure you again.) "Do nothing." "Stay in bed." "Get drunk." "Eat." "Yell at someone if I get a chance to." "Eat chocolate." "Listen to music and pout." "Go into my closet and sit there." "Pick a fight with somebody." "Cry." "Break something." "What is there to do?"

What is there to do! You know, when I wrote the vignette, I intentionally made the grade a C+, not an F. It was a midterm rather than a final. It was a parking ticket, not a car wreck. They were "sort of brushed off," not rejected outright. Nothing catastrophic or irreversible happened. Yet from this raw material the fixed mindset created the feeling of utter failure and paralysis.

When I gave people with the growth mindset the same vignette, here's what they said. They'd think:

"I need to try harder in class, be more careful when parking the car, and wonder if my friend had a bad day."

"The C+ would tell me that I'd have to work a lot harder in the class, but I have the rest of the semester to pull up my grade."

There were many, many more like this, but I think you get the idea. Now, how would they cope? Directly.

"I'd start thinking about studying harder (or studying in a different way) for my next test in that class, I'd pay the ticket, and I'd work things out with my best friend the next time we speak."

"I'd look at what was wrong on my exam, resolve to do better, pay my parking ticket, and call my friend to tell her I was upset the day before."

"Work hard on my next paper, speak to the teacher, be more careful where I park or contest the ticket, and find out what's wrong with my friend."

You don't have to have one mindset or the other to be upset. Who wouldn't be? Things like a poor grade or a rebuff from a friend or loved one—these are not fun events. No one was smacking their lips with relish. Yet those people with the growth mindset were not labeling themselves and throwing up their hands. Even though they felt distressed, they were ready to take the risks, confront the challenges, and keep working at them.

SO, WHAT'S NEW?

ls this such a novel idea? We have lots of sayings that stress the importance of risk and the power of persistence, such as "Nothing ventured, nothing gained" and "If at first you don't succeed, try, try again'" or "Rome wasn't built in a day." (By the way, I was delighted to learn that the Italians have the same expression.) What is truly amazing is that people with the fixed mindset would not agree. For them, it's "Nothing ventured, nothing lost." "If at first you don't succeed, you probably don't have the ability." "If Rome wasn't built in a day, maybe it wasn't meant to be." In other words, risk and effort are two things that might reveal your inadequacies and show that you were not up to the task. In fact, it's startling to see the degree to which people with the fixed mindset do not believe in putting in effort or getting help.

What's also new is that people's ideas about risk and effort grow out of their more basic mindset. It's not just that some people happen to recognize the value of challenging themselves and the importance of effort. Our research has shown that this *comes directly* from the growth mindset. When we teach people the growth mindset, with its focus on development, these ideas about challenge and effort follow. Similarly, it's not just that some people happen to dislike challenge and effort. When we (temporarily) put people in a fixed mindset, with its focus on permanent traits, they quickly fear challenge and devalue effort.

We often see books with titles like *The Ten Secrets of the World's Most Successful People* crowding the shelves of bookstores, and these books may give many useful tips. But they're usually a list of unconnected pointers, like "Take more risks!" or "Believe in yourself!" While you're left admiring people who can do that, it's never clear how these things fit together or how you could ever become that way. So you're inspired for a few days, but basically the world's most successful people still have their secrets.

Instead, as you begin to understand the fixed and growth mindsets, you will see exactly how one thing leads to another—how a belief that your qualities are carved in stone leads to a host of thoughts and actions, and how a belief that your qualities can be cultivated leads to a host of different thoughts and actions, taking you down an entirely different road. It's what we psychologists call an *Aha!* experience. Not only have I seen this in my research when we teach people a new mindset, but I get letters all the time from people who have read my work.

They recognize themselves: "As I read your article I literally found myself saying over and over again, 'This is me, this is me!'" They see the connections: "Your article completely blew me away. I felt I had discovered the secret of the universe!" They feel their mindsets reorienting: "I can certainly report a kind of personal revolution happening in my own thinking, and this is an exciting feeling." And they can put this new thinking into practice for themselves

and others: "Your work has allowed me to transform my work with children and see education through a different lens," or "I just wanted to let you know what an impact—on a personal and practical level—your outstanding research has had for hundreds of students." I get lots of these letters from coaches and business leaders, too.

SELF-INSIGHT: WHO HAS ACCURATE VIEWS OF THEIR ASSETS AND LIMITATIONS?

Well, maybe the people with the growth mindset don't think they're Einstein or Beethoven, but aren't they more likely to have inflated views of their abilities and try for things they're not capable of? In fact, studies show that people are terrible at estimating their abilities. Recently, we set out to see who is most likely to do this. Sure, we found that people greatly misestimated their performance and their ability. *But it was those with the fixed mindset who accounted for almost all the inaccuracy.* The people with the growth mindset were amazingly accurate.

When you think about it, this makes sense. If, like those with the growth mindset, you believe you can develop yourself, then you're open to accurate information about your current abilities, even if it's unflattering. What's more, if you're oriented toward learning, as they are, you *need* accurate information about your current abilities in order to learn effectively. However, if everything is either good news or bad news about your precious traits—as it is with fixed-mindset people—distortion almost inevitably enters the picture. Some outcomes are magnified, others are explained away, and before you know it you don't know yourself at all.

Howard Gardner, in his book *Extraordinary Minds,* concluded that exceptional individuals have "a special talent for identifying their own strengths and weaknesses." It's interesting that those with the growth mindset seem to have that talent.

WHAT'S IN STORE

The other thing exceptional people seem to have is a special talent for converting life's setbacks into future successes. Creativity researchers concur. In a poll of 143 creativity researchers, there was wide agreement about the number one ingredient in creative achievement. And it was exactly the kind of perseverance and resilience produced by the growth mindset.

You may be asking again, *How can one belief lead to all this—the love of challenge, belief in effort, resilience in the face of setbacks, and greater (more creative!) success?* In the chapters that follow, you'll see exactly how this happens: how the mindsets change what people strive for and what they see as success. How they change the definition, significance, and impact of failure. And how they change the deepest meaning of effort. You'll see how these mindsets play out in school, in sports, in the workplace, and in relationships. You'll see where they come from and how they can be changed.

Grow Your Mindset

Which mindset do you have? Answer these questions about intelligence. Read each statement and decide whether you mostly agree with it or disagree with it.

1. Your intelligence is something very basic about you that you can't change very much.
2. You can learn new things, but you can't really change how intelligent you are.
3. No matter how much intelligence you have, you can always change it quite a bit.
4. You can always substantially change how intelligent you are.

Questions 1 and 2 are the fixed-mindset questions. Questions 3 and 4 reflect the growth mindset. Which mindset did you agree with more? You can be a mixture, but most people lean toward one or the other.

You also have beliefs about other abilities. You could substitute "artistic talent," "sports ability," or "business skill" for "intelligence." Try it.

It's not only your abilities; it's your personal qualities too. Look at these statements about personality and character and decide whether you mostly agree or mostly disagree with each one.

1. You are a certain kind of person, and there is not much that can be done to really change that.
2. No matter what kind of person you are, you can always change substantially.
3. You can do things differently, but the important parts of who you are can't really be changed.
4. You can always change basic things about the kind of person you are.

Here, questions 1 and 3 are the fixed-mindset questions and questions 2 and 4 reflect the growth mindset. Which did you agree with more?

Did it differ from your intelligence mindset? It can. Your "intelligence mindset" comes into play when situations involve mental ability.

Your "personality mindset" comes into play in situations that involve your personal qualities—for example, how dependable, cooperative, caring, or socially skilled you are. The fixed mindset makes you concerned with how you'll be judged; the growth mindset makes you concerned with improving.

Here are some more ways to think about mindsets:

- Think about someone you know who is steeped in the fixed mindset. Think about how they're always trying to prove themselves and how they're supersensitive about being wrong or making mistakes. Did you ever wonder why they were this way? (Are you this way?) Now you can begin to understand why.
- Think about someone you know who is skilled in the growth mindset—someone who understands that important qualities can be cultivated. Think about the ways they confront obstacles. Think about the things they do to stretch themselves. What are some ways you might like to change or stretch yourself?

- Okay, now imagine you've decided to learn a new language and you've signed up for a class. A few sessions into the course, the instructor calls you to the front of the room and starts throwing questions at you one after another.

  Put yourself in a fixed mindset. Your ability is on the line. Can you feel everyone's eyes on you? Can you see the instructor's face evaluating you? Feel the tension, feel your ego bristle and waver. What else are you thinking and feeling?

  Now put yourself in a growth mindset. You're a novice—that's why you're here. You're here to learn. The teacher is a resource for learning. Feel the tension leave you; feel your mind open up.

  The message is: You can change your mindset.

Chapter 2

INSIDE THE MINDSETS

When I was a young woman, I wanted a prince-like mate. Very handsome, very successful. A big cheese. I wanted a glamorous career, but nothing too hard or risky. And I wanted it all to come to me as validation of who I was.

It would be many years before I was satisfied. I got a great guy, but he was a work in progress. I have a great career, but boy, is it a constant challenge. Nothing was easy. So why am I satisfied? I changed my mindset.

I changed it because of my work. One day my doctoral student, Mary Bandura, and I were trying to understand why some students were so caught up in proving their ability, while others could just let go and learn. Suddenly we realized that there were two meanings to ability, not one: a fixed ability that needs to be proven, and a changeable ability that can be developed through learning.

That's how the mindsets were born. I knew instantly which one I had. I realized why I'd always been so concerned about mistakes and failures. And I recognized for the first time that I had a choice.

When you enter a mindset, you enter a new world. In one world—the world of fixed traits—success is about proving you're smart or talented. Validating yourself. In the other—the world of changing qualities—it's about stretching yourself to learn something new. Developing yourself.

In one world, failure is about having a setback. Getting a bad grade. Losing a tournament. Getting fired. Getting rejected. It means you're not smart or talented. In the other world, failure is about not growing. Not reaching for the things you value. It means you're not fulfilling your potential.

In one world, effort is a bad thing. It, like failure, means you're not smart or talented. If you were, you wouldn't need effort. In the other world, effort is what *makes* you smart or talented.

You have a choice. Mindsets are just beliefs. They're powerful beliefs, but they're just something in your mind, and you can change your mind. As you read, think about where you'd like to go and which mindset will take you there.

IS SUCCESS ABOUT LEARNING – OR PROVING YOU'RE SMART?

Benjamin Barber, an eminent political theorist, once said, "I don't divide the world into the weak and the strong, or the successes and the failures... . *I divide the world into the learners and nonlearners.*"

What on earth would make someone a nonlearner? Everyone is born with an intense drive to learn. Infants stretch their skills daily. Not just ordinary skills, but the most difficult tasks of a lifetime, like learning to walk and talk. They never decide it's too hard or not worth the effort.

Babies don't worry about making mistakes or humiliating themselves. They walk, they fall, they get up. They just barge forward.

What could put an end to this exuberant learning? The fixed mindset. As soon as children become able to evaluate themselves, some of them become afraid of challenges. They become afraid of not being smart. I have studied thousands of people from preschoolers on, and it's breathtaking how many reject an opportunity to learn.

We offered four-year-olds a choice: They could redo an easy jigsaw puzzle or they could try a harder one. Even at this tender age, children with the fixed mindset—the ones who believed in fixed traits—stuck with the safe one. Kids who are born smart "don't do mistakes," they told us.

Children with the growth mindset—the ones who believed you could get smarter—thought it was a strange choice. *Why are you asking me this, lady? Why would anyone want to keep doing the same puzzle over and over?* They chose one hard one after another. "I'm *dying* to figure them out!" exclaimed one little girl.

So children with the fixed mindset want to make sure they succeed. Smart people should always succeed. But for children with the growth mindset, success is about stretching themselves. It's about becoming smarter.

One seventh-grade girl summed it up. "I think intelligence is something you have to work for ... it isn't just given to you... . Most kids, if they're not sure of an answer, will not raise their hand to answer the question. But what I usually do is raise my hand, because if I'm wrong, then my mistake will be corrected. Or I will raise my hand and say, 'How would this be solved?' or 'I don't get this. Can you help me?' Just by doing that I'm increasing my intelligence."

Beyond Puzzles

It's one thing to pass up a puzzle. It's another to pass up an opportunity that's important to your future. To see if this would happen, we took advantage of an unusual situation. At the University of Hong Kong, everything is in English. Classes are in English, textbooks are in English, and exams are in English. But some students who enter the university are not fluent in English, so it would make sense for them to do something about it in a hurry.

As students arrived to register for their freshman year, we knew which ones were not skilled in English. And we asked them a key question: If the faculty offered a course for students who need to improve their English skills, would you take it?

We also measured their mindset. We did this by asking them how much they agreed with statements like this: "You have a certain amount of intelligence, and you can't really do much to change it." People who agree with this kind of statement lean toward a fixed mindset.

Those who lean toward a growth mindset agree that: "You can always substantially change how intelligent you are."

Later, we looked at who said yes to the English course. Students with the growth mindset said an emphatic yes. But those with the fixed mindset were not very interested.

Believing that success is about learning, students with the growth mindset seized the chance. But those with the fixed mindset didn't want to expose their deficiencies. Instead, to feel smart in the short run, they were willing to put their college careers at risk.

This is how the fixed mindset makes people into nonlearners.

Brain Waves Tell the Story

You can even see the difference in people's brain waves. People with both mindsets came into our brain-wave lab at Columbia. As they answered hard questions and got feedback, we were curious about when their brain waves would show them to be interested and attentive.

People with a fixed mindset were only interested when the feedback reflected on their ability. Their brain waves showed them paying close attention when they were told whether their answers were right or wrong.

But when they were presented with information that could help them learn, there was no sign of interest. Even when they'd gotten an answer wrong, they were not interested in learning what the right answer was.

Only people with a growth mindset paid close attention to information that could stretch their knowledge. Only for them was learning a priority.

What's Your Priority?

If you had to choose, which would it be? Loads of success and validation or lots of challenge?

It's not just on intellectual tasks that people have to make these choices. People also have to decide what kinds of relationships they want: ones that bolster their egos or ones that challenge them to grow? Who is your ideal mate? We put this question to young adults, and here's what they told us.

People with the fixed mindset said the ideal mate would:

Put them on a pedestal.

Make them feel perfect.

Worship them.

In other words, the perfect mate would enshrine their fixed qualities. My husband says that he used to feel this way, that he wanted to be the god of a one-person (his partner's) religion. Fortunately, he chucked this idea before he met me.

People with the growth mindset hoped for a different kind of partner. They said their ideal mate was someone who would:

See their faults and help them to work on them.

Challenge them to become a better person.

Encourage them to learn new things.

Certainly, they didn't want people who would pick on them or undermine their self-esteem, but they did want people who would foster their development. They didn't assume they were fully evolved, flawless beings who had nothing more to learn.

Are you already thinking, *Uh-oh, what if two people with different mindsets get together?* A growth-mindset woman tells about her marriage to a fixed-mindset man:

> I had barely gotten all the rice out of my hair when I began to realize I made a big mistake. Every time I said something like "Why don't we try to go out a little more?" or "I'd like it if you consulted me before making decisions," he was devastated. Then instead of talking about the issue I raised, I'd have to spend literally an hour repairing the damage and making him feel good again. Plus he would then run to the phone to call his

mother, who always showered him with the constant adoration he seemed to need. We were both young and new at marriage. I just wanted to communicate.

So the husband's idea of a successful relationship—total, uncritical acceptance—was not the wife's. And the wife's idea of a successful relationship—confronting problems—was not the husband's. One person's growth was the other person's nightmare.

CEO Disease

Speaking of reigning from atop a pedestal and wanting to be seen as perfect, you won't be surprised that this is often called "CEO disease." Lee Iacocca had a bad case of it. After his initial success as head of Chrysler Motors, Iacocca looked remarkably like our four-year-olds with the fixed mindset. He kept bringing out the same car models over and over with only superficial changes. Unfortunately, they were models no one wanted anymore.

Meanwhile, Japanese companies were completely rethinking what cars should look like and how they should run. We know how this turned out. The Japanese cars rapidly swept the market.

CEOs face this choice all the time. Should they confront their shortcomings or should they create a world where they have none? Lee Iacocca chose the latter. He surrounded himself with worshipers, exiled the critics—and quickly lost touch with where his field was going. Lee Iacocca had become a nonlearner.

But not everyone catches CEO disease. Many great leaders confront their shortcomings on a regular basis. Darwin Smith, looking back on his extraordinary performance at Kimberly-Clark, declared, "I never stopped trying to be qualified for the job." These men, like the Hong Kong students with the growth mindset, never stopped taking the remedial course.

CEOs face another dilemma. They can choose short-term strategies that boost the company's stock and make themselves look like heroes. Or they can work for long-term improvement—risking Wall Street's disapproval as they lay the foundation for the health and growth of the company over the longer haul.

Albert Dunlap, a self-professed fixed mindsetter, was brought in to turn around Sunbeam. He chose the short-term strategy of looking like a hero to Wall Street. The stock soared but the company fell apart.

Lou Gerstner, an avowed growth mindsetter, was called in to turn around IBM. As he set about the enormous task of overhauling IBM culture and policies, stock prices were stagnant and Wall Street sneered. They called him a failure. A few years later, however, IBM was leading its field again.

Stretching

People in a growth mindset don't just seek challenge, they thrive on it. The bigger the challenge, the more they stretch. And nowhere can it be seen more clearly than in the world of sports. You can just watch people stretch and grow.

Mia Hamm, the greatest female soccer star of her time, says it straight out. "All my life I've been playing up, meaning I've challenged myself with players older, bigger, more skillful, more

experienced—in short, better than me." First she played with her older brother. Then at ten, she joined the eleven-year-old boys' team. Then she threw herself into the number one college team in the United States. "Each day I attempted to play up to their level ... and I was improving faster than I ever dreamed possible."

Patricia Miranda was a chubby, unathletic high school kid who wanted to wrestle. After a bad beating on the mat, she was told, "You're a joke." First she cried, then she felt: "That really set my resolve ... I had to keep going and had to know if effort and focus and belief and training could somehow legitimize me as a wrestler." Where did she get this resolve?

Miranda was raised in a life devoid of challenge. But when her mother died of an aneurysm at age forty, ten-year-old Miranda came up with a principle. "When you're lying on your deathbed, one of the cool things to say is, 'I really explored myself.' This sense of urgency was instilled when my mom died. If you only go through life doing stuff that's easy, shame on you." So when wrestling presented a challenge, she was ready to take it on.

Her effort paid off. At twenty-four, Miranda was having the last laugh. She won the spot for her weight group on the U.S. Olympic team and came home from Athens with a bronze medal. And what was next? Yale Law School. People urged her to stay where she was already on top, but Miranda felt it was more exciting to start at the bottom again and see what she could grow into this time.

Stretching Beyond the Possible

Sometimes people with the growth mindset stretch themselves so far that they do the impossible. In 1995, Christopher Reeve, the actor, was thrown from a horse. His neck was broken, his spinal cord was severed from his brain, and he was completely paralyzed below the neck. Medical science said, *So sorry. Come to terms with it.*

Reeve, however, started a demanding exercise program that involved moving all parts of his paralyzed body with the help of electrical stimulation. Why *couldn't* he learn to move again? Why couldn't his brain once again give commands that his body would obey? Doctors warned that he was in denial and was setting himself up for disappointment. They had seen this before and it was a bad sign for his adjustment. But, really, what else was Reeve doing with his time? Was there a better project?

Five years later, Reeve started to regain movement. First it happened in his hands, then his arms, then legs, and then torso. He was far from cured, but brain scans showed that his brain was once more sending signals to his body that the body was responding to. Not only did Reeve stretch his abilities, he changed the entire way science thinks about the nervous system and its potential for recovery. In doing so, he opened a whole new vista for research and a whole new avenue of hope for people with spinal cord injuries.

Thriving on the Sure Thing

Clearly, people with the growth mindset thrive when they're stretching themselves. When do people with the fixed mindset thrive? When things are safely within their grasp. If things get too challenging—when they're not feeling smart or talented—they lose interest.

I watched it happen as we followed pre-med students through their first semester of chemistry. For many students, this is what their lives have led up to: becoming a doctor. And this is the course that decides who gets to be one. It's one heck of a hard course, too. The average grade on each exam is C+, for students who've rarely seen anything less than an A.

Most students started out pretty interested in chemistry. Yet over the semester, something happened. Students with the fixed mindset stayed interested *only when they did well right away.* Those who found it difficult showed a big drop in their interest and enjoyment. If it wasn't a testimony to their intelligence, they couldn't enjoy it.

"The harder it gets," reported one student, "the more I have to force myself to read the book and study for the tests. I was excited about chemistry before, but now every time I think about it, I get a bad feeling in my stomach."

In contrast, students with the growth mindset continued to show the same high level of interest even when they found the work very challenging. "It's a lot more difficult for me than I thought it would be, but it's what I want to do, so that only makes me more determined. When they tell me I can't, it really gets me going." Challenge and interest went hand in hand.

We saw the same thing in younger students. We gave fifth graders intriguing puzzles, which they all loved. But when we made them harder, children with the fixed mindset showed a big plunge in enjoyment. They also changed their minds about taking some home to practice. "It's okay, you can keep them. I already have them," fibbed one child. In fact, they couldn't run from them fast enough.

This was just as true for children who were the best puzzle solvers. Having "puzzle talent" did not prevent the decline.

Children with the growth mindset, on the other hand, couldn't tear themselves away from the hard problems. These were their favorites and these were the ones they wanted to take home. "Could you write down the name of these puzzles," one child asked, "so my mom can buy me some more when these ones run out?"

Not long ago I was interested to read about Marina Semyonova, a great Russian dancer and teacher, who devised a novel way of selecting her students. It was a clever test for mindset. As a former student tells it, "Her students first have to survive a trial period while she watches to see how you react to praise and to correction. Those more responsive to the correction are deemed worthy."

In other words, she separates the ones who get their thrill from what's easy—what they've already mastered—from those who get their thrill from what's hard.

I'll never forget the first time I heard myself say, "This is hard. This is fun." That's the moment I knew I was changing mindsets.

When Do You Feel Smart: When You're Flawless or When You're Learning?

The plot is about to thicken, for in the fixed mindset it's not enough just to succeed. It's not enough just to look smart and talented. You have to be pretty much flawless. And you have to be flawless right away.

We asked people, ranging from grade schoolers to young adults, "When do you feel smart?" The differences were striking. People with the fixed mindset said:

"It's when I don't make any mistakes."

"When I finish something fast and it's perfect."

"When something is easy for me, but other people can't do it."

It's about being perfect right now. But people with the growth mindset said:

"When it's really hard, and I try really hard, and I can do something I couldn't do before."

Or "[When] I work on something a long time and I start to figure it out."

For them it's not about immediate perfection. It's about learning something over time: confronting a challenge and making progress.

If You Have Ability, Why Should You Need Learning?

Actually, people with the fixed mindset expect ability to show up on its own, before any learning takes place. After all, if you have it you have it, and if you don't you don't. I see this all the time.

Out of all the applicants from all over the world, my department at Columbia admitted six new graduate students a year. They all had amazing test scores, nearly perfect grades, and rave recommendations from eminent scholars. Moreover, they'd been courted by the top grad schools.

It took one day for some of them to feel like complete imposters. Yesterday they were hotshots; today they're failures. Here's what happens. They look at the faculty with our long list of publications. "Oh my God, I can't do that. "They look at the advanced students who are submitting articles for publication and writing grant proposals. "Oh my God, I can't do that." They know how to take tests and get As but they don't know how to do *this*—yet. They forget the *yet*.

Isn't that what school is for, to teach? They're there to learn how to do these things, not because they already know everything.

I wonder if this is what happened to Janet Cooke and Stephen Glass. They were both young reporters who skyrocketed to the top—on fabricated articles. Janet Cooke won a Pulitzer Prize for her *Washington Post* articles about an eight-year-old boy who was a drug addict. The boy did not exist, and she was later stripped of her prize. Stephen Glass was the whiz kid of *The New Republic,* who seemed to have stories and sources reporters only dream of. The sources did not exist and the stories were not true.

Did Janet Cooke and Stephen Glass need to be perfect right away? Did they feel that admitting ignorance would discredit them with their colleagues? Did they feel they should already be like the big-time reporters before they did the hard work of learning how? "We were stars—precocious stars," wrote Stephen Glass, "and that was what mattered." The public understands them as cheats, and cheat they did. But I understand them as talented young people—desperate young people—who succumbed to the pressures of the fixed mindset.

There was a saying in the 1960s that went: "Becoming is better than being." The fixed mindset does not allow people the luxury of becoming. They have to already be.

A Test Score Is Forever

Let's take a closer look at why, in the fixed mindset, it's so crucial to be perfect right now. It's because one test—or one evaluation—can measure you forever.

Twenty years ago, at the age of five, Loretta and her family came to the United States. A few days later, her mother took her to her new school, where they promptly gave her a test. The next thing she knew, she was in her kindergarten class—*but it was not the Eagles,* the elite kindergarten class.

As time passed, however, Loretta was transferred to the Eagles and she remained with that group of students until the end of high school, garnering a bundle of academic prizes along the way. Yet she never felt she belonged.

That first test, she was convinced, diagnosed her fixed ability and said that she was not a true Eagle. Never mind that she had been five years old and had just made a radical change to a new country. Or that maybe there hadn't been room in the Eagles for a while. Or that maybe the school decided she would have an easier transition in a more low-key class. There are so many ways to understand what happened and what it meant. Unfortunately, she chose the wrong one. For in the world of the fixed mindset, there is no way to *become* an Eagle. If you were a true Eagle, you would have aced the test and been hailed as an Eagle at once.

Is Loretta a rare case, or is this kind of thinking more common than we realize?

To find out, we showed fifth graders a closed cardboard box and told them it had a test inside. This test, we said, measured an important school ability. We told them nothing more. Then we asked them questions about the test. First, we wanted to make sure that they'd accepted our description, so we asked them: How much do you think this test measures an important school ability? All of them had taken our word for it.

Next we asked: Do you think this test measures *how smart you are?* And: Do you think this test measures *how smart you'll be when you grow up?*

Students with the growth mindset had taken our word that the test measured an important ability, but they didn't think it measured how *smart* they were. And they certainly didn't think it would tell them how smart they'd be when they grew up. In fact, one of them told us, "No way! Ain't no test can do that."

But the students with the fixed mindset didn't simply believe the test could measure an important ability. They also believed—just as strongly—that it could measure how smart they were. *And* how smart they'd be when they grew up.

They granted one test the power to measure their most basic intelligence now and forever. They gave this test the power to define them. That's why every success is so important.

Another Look at Potential

This leads us back to the idea of "potential" and to the question of whether tests or experts can tell us what our potential is, what we're capable of, what our future will be. The fixed mindset says yes. You can simply measure the fixed ability right now and project it into the future. Just give the test or ask the expert. No crystal ball needed.

So common is the belief that potential can be known right now that Joseph P. Kennedy felt confident in telling Morton Downey Jr. that he would be a failure. What had Downey—later a famous television personality and author—done? Why, he had worn red socks and brown shoes to the Stork Club, a fancy New York nightclub.

"Morton," Kennedy told him, "I don't know anybody I've ever met in my life wearing red socks and brown shoes who ever succeeded. Young man, let me tell you now, you do stand out, but you don't stand out in a way that people will ever admire you."

Many of the most accomplished people of our era were considered by experts to have no future. Jackson Pollock, Marcel Proust, Elvis Presley, Ray Charles, Lucille Ball, and Charles Darwin were all thought to have little potential for their chosen fields. And in some of these cases, it may well have been true that they did not stand out from the crowd early on.

But isn't potential someone's capacity to *develop* their skills with effort and coaching over time? And that's just the point. How can we know where effort, coaching, and time will take someone? Who knows—maybe the experts were right about Jackson, Marcel, Elvis, Ray, Lucille, and Charles—in terms of their skills at the time. Maybe they were not yet the people they were to become.

I once went to an exhibit in London of Paul Cézanne's early paintings. On my way there, I wondered who Cézanne was and what his paintings were like before he was the painter we know today. I was intensely curious because Cézanne is one of my favorite artists and the man who set the stage for much of modern art. Here's what I found: Some of the paintings were pretty bad. They were overwrought scenes, some violent, with amateurishly painted people. Although there were some paintings that foreshadowed the later Cézanne, many did not. Was the early Cézanne not talented? Or did it just take time for Cézanne to become Cézanne?

People with the growth mindset know that it takes time for potential to flower. Recently, I got an angry letter from a teacher who had taken one of our surveys. The survey portrays a hypothetical student, Jennifer, who had gotten 65 percent on a math exam. It then asks teachers to tell us how they would treat her.

Teachers with the fixed mindset were more than happy to answer our questions. They felt that by knowing Jennifer's score, they had a good sense of who she was and what she was capable of. Their recommendations abounded. Mr. Riordan, by contrast, was fuming. Here's what he wrote.

To Whom It May Concern:

> Having completed the educator's portion of your recent survey, I must request that my results be excluded from the study. I feel that the study itself is scientifically unsound... .
>
> Unfortunately, the test uses a faulty premise, asking teachers to make assumptions about a given student based on nothing more than a number on a page... . Performance cannot be based on one assessment. You cannot determine the slope of a line given only one point, as there is no line to begin with. A single point in time does not show trends, improvement, lack of effort, or mathematical ability... .
>
> Sincerely,
> Michael D. Riordan

I was delighted with Mr. Riordan's critique and couldn't have agreed with it more. An assessment at one point in time has little value for understanding someone's ability, let alone their potential to succeed in the future.

It was disturbing how many teachers thought otherwise, and that was the point of our study.

The idea that one evaluation can measure you forever is what creates the urgency for those with the fixed mindset. That's why they must succeed perfectly and immediately. Who can afford the luxury of trying to grow when everything is on the line right now?

Is there another way to judge potential? NASA thought so. When they were soliciting applications for astronauts, they rejected people with pure histories of success and instead selected people who had had significant failures and bounced back from them. Jack Welch, the celebrated CEO of General Electric, chose executives on the basis of "runway," their capacity for growth. And remember Marina Semyonova, the famed ballet teacher, who chose the students who were energized by criticism. They were all rejecting the idea of fixed ability and selecting instead for mindset.

Proving You're Special

When people with the fixed mindset opt for success over growth, what are they *really* trying to prove? That they're special. Even superior.

When we asked them, "When do you feel smart?" so many of them talked about times they felt like a special person, someone who was different from and better than other people.

Until I discovered the mindsets and how they work, I, too, thought of myself as more talented than others, maybe even more worthy than others because of my endowments. The scariest thought, which I rarely entertained, was the possibility of being ordinary. This kind of thinking led me to need constant validation. Every comment, every look was meaningful—it registered on my intelligence scorecard, my attractiveness scorecard, my likability scorecard. If a day went well, I could bask in my high numbers.

One bitter cold winter night, I went to the opera. That night, the opera was everything you hope for, and everyone stayed until the very end-not just the end of the opera, but through all the curtain calls. Then we all poured into the street, and we all wanted taxis. I remember it clearly. It was after midnight, it was seven degrees, there was a strong wind, and, as time went on, I became more and more miserable. There I was, part of an undifferentiated crowd. What chance did I have? Suddenly, a taxi pulled up right next to me. The handle of the back door lined up perfectly with my hand, and as I entered, the driver announced, "You were different." I lived for these moments. Not only was I special. It could be detected from a distance.

The self-esteem movement encourages this kind of thinking and has even invented devices to help you confirm your superiority. I recently came across an ad for such a product. Two of my friends send me an illustrated list each year of the top ten things they didn't get me for Christmas. From January through November, they clip candidate items from catalogs or download them from the Internet. In December, they select the winners. One of my all-time favorites is the pocket toilet, which you fold up and return to your pocket after using. This year my favorite was the I LOVE ME mirror, a mirror with I LOVE ME in huge capital letters written across the bottom half. By looking into it, you can administer the message to yourself and not wait for the outside world to announce your specialness.

Of course, the mirror is harmless enough. The problem is when special begins to mean better than others. A more valuable human being. A superior person. An entitled person.

John McEnroe had a fixed mindset: He believed that talent was all. He did not love to learn. He did not thrive on challenges; when the going got rough, he often folded. As a result, by his own admission, he did not fulfill his potential.

But his talent was so great that he was the number one tennis player in the world for four years. Here he tells us what it was like to be number one.

McEnroe used sawdust to absorb the sweat on his hands during a match. This time the sawdust was not to his liking, so he went over to the can of sawdust and knocked it over with his racket. His agent, Gary, came dashing over to find out what was wrong.

> "You call that sawdust?" I said. I was actually screaming at him: The sawdust was ground too fine! "This looks like rat poison. Can't you get anything right?" So Gary ran out and, twenty minutes later, came back with a fresh can of coarser sawdust ... and twenty dollars less in his pocket: He'd had to pay a union employee to grind up a two-by-four. This is what it was like to be number one.

He goes on to tell us about how he once threw up all over a dignified Japanese lady who was hosting him. The next day she bowed, apologized to him, and presented him with a gift. "This," McEnroe proclaims, "is also what it was like to be number one."

"Everything was about *you* ... 'Did you get everything you need? Is everything okay? We'll pay you this, we'll do that, we'll kiss your behind.' You only have to do what you want; your reaction to anything else is, 'Get the hell out of here.' For a long time I didn't mind it a bit. Would you?"

So let's see. If you're successful, you're better than other people. You get to abuse them and have them grovel. In the fixed mindset, this is what can pass for self-esteem.

As a contrast, let's look at Michael Jordan—growth-minded athlete par excellence—whose greatness is regularly proclaimed by the world: "Superman," "God in person," "Jesus in tennis shoes." If anyone has reason to think of himself as special, it's he. But here's what he said when his return to basketball caused a huge commotion: "I was shocked with the level of intensity my coming back to the game created... . People were praising me like I was a religious cult or something. That was very embarrassing. I'm a human being like everyone else."

Jordan knew how hard he had worked to develop his abilities. He was a person who had struggled and grown, not a person who was inherently better than others.

Tom Wolfe, in *The Right Stuff*, describes the elite military pilots who eagerly embrace the fixed mindset. Having passed one rigorous test after another, they think of themselves as special, as people who were born smarter and braver than other people. But Chuck Yeager, the hero of *The Right Stuff*, begged to differ. "There is no such thing as a natural-born pilot. Whatever my aptitude or talents, becoming a proficient pilot was hard work, really a lifetime's learning experience... . The best pilots fly more than the others; that's why they're the best." Like Michael Jordan, he was a human being. He just stretched himself farther than most.

In short, people who believe in fixed traits feel an urgency to succeed, and when they do, they may feel more than pride. They may feel a sense of superiority, since success means that their fixed traits are better than other people's.

However, lurking behind that self-esteem of the fixed mindset is a simple question: If you're somebody when you're successful, what are you when you're unsuccessful?

MINDSETS CHANGE THE MEANING OF FAILURE

The Martins worshiped their three-year-old Robert and always bragged about his feats. There had never been a child as bright and creative as theirs. Then Robert did something unforgivable—he didn't get into the number one preschool in New York. After that, the Martins cooled toward him. They didn't talk about him the same way, and they didn't treat him with the same pride and affection. He was no longer their brilliant little Robert. He was someone who had discredited himself and shamed them. At the tender age of three, he was a failure.

As a *New York Times* article points out, failure has been transformed from an action (I failed) to an identity (I am a failure). This is especially true in the fixed mindset.

When I was a child, I, too, worried about meeting Robert's fate. In sixth grade, I was the best speller in my school. The principal wanted me to go to a citywide competition, but I refused. In ninth grade, I excelled in French, and my teacher wanted me to enter a citywide competition. Again, I refused. Why would I risk turning from a success into a failure? From a winner into a loser?

Ernie Els, the great golfer, worried about this too. Els finally won a major tournament after a five-year dry spell, in which match after match slipped away from him. What if he had lost this tournament, too? "I would have been a different person," he tells us. He would have been a loser.

Each April when the skinny envelopes—the rejection letters—arrive from colleges, countless failures are created coast to coast. Thousands of brilliant young scholars become "The Girl Who Didn't Get into Princeton" or the "The Boy Who Didn't Get into Stanford."

Defining Moments

Even in the growth mindset, failure can be a painful experience. But it doesn't define you. It's a problem to be faced, dealt with, and learned from.

Jim Marshall, former defensive player for the Minnesota Vikings, relates what could easily have made him into a failure. In a game against the San Francisco 49ers, Marshall spotted the football on the ground. He scooped it up and ran for a touchdown as the crowd cheered. But he ran the wrong way. He scored for the wrong team and on national television.

It was the most devastating moment of his life. The shame was overpowering. But during halftime, he thought, "If you make a mistake, you got to make it right. I realized I had a choice. I could sit in my misery or I could do something about it." Pulling himself together for the second half, he played some of his best football ever and contributed to his team's victory.

Nor did he stop there. He spoke to groups. He answered letters that poured in from people who finally had the courage to admit their own shameful experiences. He heightened his concentration during games. Instead of letting the experience define him, he took control of it. He *used* it to become a better player and, he believes, a better person.

In the fixed mindset, however the loss of one's self to failure can be a permanent, haunting trauma. Bernard Loiseau was one of the top chefs in the world. Only a handful of restaurants in all of France receive the supreme rating of three stars from the *Guide Michelin*, the most respected restaurant guide in Europe. His was one of them. Around the publication of the 2003 *Guide Michelin*, however, Mr. Loiseau committed suicide. He had lost two points in another

guide, going from a nineteen (out of twenty) to a seventeen in the *GaultMillau*. And there were rampant rumors that he would lose one of his three stars in the new Guide. Although he did not, the idea of failure had possessed him.

Loiseau had been a pioneer. He was one of the first to advance the "nouvelle cuisine," trading the traditional butter and cream sauces of French cooking for the brighter flavors of the foods themselves. A man of tremendous energy, he was also an entrepreneur. Besides his three-star restaurant in Burgundy, he had created three eateries in Paris, numerous cookbooks, and a line of frozen foods. "I'm like Yves Saint Laurent," he told people. "I do both haute couture and ready to-wear."

A man of such talent and originality could easily have planned for a satisfying future, with or without the two points or the third star. In fact, the director of the *GaultMillau* said it was unimaginable that their rating could have taken his life. But in the fixed mindset, it *is* imaginable. Their lower rating gave him a new definition of himself: Failure. Has-been.

It's striking what counts as failure in the fixed mindset. So, on a lighter note ...

My Success Is Your Failure

Last summer my husband and I went to a dude ranch, something very novel since neither of us had ever made contact with a horse. One day, we signed up for a lesson in fly fishing. It was taught by a wonderful eighty-year-old cowboy-type fisherman who showed us how to cast the fishing line, and then turned us loose.

We soon realized that he had not taught us how to recognize when the trout bit the lure (they don't tug on the line; you have to watch for a bubble in the water), what to do when the trout bit the lure (tug up- ward), or how to reel the trout in if by some miracle we got that far (pull the fish along the water; do not hoist it into the air). Well, time passed, the mosquitoes bit, but not so the trout. None of the dozen or so of us made the slightest progress. Suddenly, I hit the jackpot. Some careless trout bit hard on my lure and the fisherman, who happened to be right there, talked me through the rest. I had me a rainbow trout.

Reaction #1: My husband, David, came running over beaming with pride and saying, "Life with you is so exciting!"

Reaction #2: That evening when we came into the dining room for dinner, two men came up to my husband and said, "David, how're you coping?" David looked at them blankly; he had no idea what they were talking about. Of course he didn't. He was the one who thought my catching the fish was exciting. But I knew exactly what they meant. They had expected him to feel diminished, and they went on to make it clear that that's exactly what my success had done to them.

Shirk, Cheat, Blame: Not a Recipe for Success

Beyond how traumatic a setback can be in the fixed mindset, this mindset gives you no good recipe for overcoming it. If failure means you lack competence or potential—that you *are* a failure—where do you go from there?

In one study, seventh graders told us how they would respond to an academic failure—a poor test grade in a new course. Those with the growth mindset, no big surprise, said they would

study harder for the next test. But those with the fixed mindset said they would study *less* for the next test. If you don't have the ability, why waste your time? And, they said, they would seriously consider cheating! If you don't have the ability, they thought, you just have to look for another way.

What's more, instead of trying to learn from and repair their failures, people with the fixed mindset may simply try to repair their self-esteem. For example, they may go looking for people who are even worse off than they are.

College students, after doing poorly on a test, were given a chance to look at tests of other students. Those in the growth mindset looked at the tests of people who had done far better than they had. As usual, they wanted to correct their deficiency. But students in the fixed mindset chose to look at the tests of people who had done *really* poorly. That was their way of feeling better about themselves.

Jim Collins tells in *Good to Great* of a similar thing in the corporate world. As Procter & Gamble surged into the paper goods business, Scott Paper—which was then the leader—just gave up. Instead of mobilizing themselves and putting up a fight, they said, "Oh, well ... at least there are people in the business worse off than we are."

Another way people with the fixed mindset try to repair their self-esteem after a failure is by assigning blame or making excuses. Let's return to John McEnroe.

It was never his fault. One time he lost a match because he had a fever. One time he had a backache. One time he fell victim to expectations, another time to the tabloids. One time he lost to a friend because the friend was in love and he wasn't. One time he ate too close to the match. One time he was too chunky, another time too thin. One time it was too cold, another time too hot. One time he was undertrained, another time overtrained.

His most agonizing loss, and the one that still keeps him up nights, was his loss in the 1984 French Open. Why did he lose after leading Ivan Lendl two sets to none? According to McEnroe, it wasn't his fault. An NBC cameraman had taken off his headset and a noise started coming from the side of the court.

Not his fault. So he didn't train to improve his ability to concentrate or his emotional control.

John Wooden, the legendary basketball coach, says you aren't a failure until you start to blame. What he means is that you can still be in the process of learning from your mistakes until you deny them.

When Enron, the energy giant, failed—toppled by a culture of arrogance—whose fault was it? Not mine, insisted Jeffrey Skilling, the CEO and resident genius. It was the world's fault. The world did not appreciate what Enron was trying to do. What about the Justice Department's investigation into massive corporate deception? A "witch hunt."

Jack Welch, the growth-minded CEO, had a completely different reaction to one of General Electric's fiascos. In 1986, General Electric bought Kidder, Peabody, a Wall Street investment banking firm. Soon after the deal closed, Kidder, Peabody was hit with a big insider trading scandal. A few years later, calamity struck again in the form of Joseph Jett, a trader who made a bunch of fictitious trades, to the tune of hundreds of millions, to pump up his bonus. Welch phoned fourteen of his top GE colleagues to tell them the bad news and to apologize personally. "I blamed myself for the disaster," Welch said.

Maybe Bernard Loiseau, the French chef, was just depressed. Were you thinking that?

As a psychologist and an educator, I am vitally interested in depression. It runs wild on college campuses, especially in February and March. The winter is not over, the summer is not in sight, work has piled up, and relationships are often frayed. Yet it's been clear to me for a long time that different students handle depression in dramatically different ways. Some let everything slide. Others, though feeling wretched, hang on. They drag themselves to class, keep up with their work, and take care of themselves—so that when they feel better, their lives are intact.

Not long ago, we decided to see whether mindsets play a role in this difference. To find out, we measured students' mindsets and then had them keep an online "diary" for three weeks in February and March. Every day they answered questions about their mood, their activities, and how they were coping with problems. Here's what we discovered.

First, the students with the fixed mindset had higher levels of depression. Our analyses showed that this was because they ruminated over their problems and setbacks, essentially tormenting themselves with the idea that the setbacks meant they were incompetent or unworthy: "It just kept circulating in my head: You're a dope." "I just couldn't let go of the thought that this made me less of a man." Again, failures labeled them and left them no route to success.

And the more depressed they felt, the more they let things go; the less they took action to solve their problems. For example, they didn't study what they needed to, they didn't hand in their assignments on time, and they didn't keep up with their chores.

Although students with the fixed mindset showed more depression, there were still plenty of people with the growth mindset who felt pretty miserable, this being peak season for depression. And here we saw something really amazing. The *more* depressed people with the growth mindset felt (short of severe depression), the *more* they took action to confront their problems, the *more* they made sure to keep up with their schoolwork, and the *more* they kept up with their lives. The worse they felt, the more determined they became!

In fact, from the way they acted, it might have been hard to know how despondent they were. Here is a story a young man told me.

> I was a freshman and it was the first time I had been away from home. Everyone was a stranger, the courses were hard, and as the year wore on I felt more and more depressed. Eventually, it reached a point where I could hardly get out of bed in the morning. But every day I forced myself to get up, shower, shave, and do whatever it was I needed to do. One day I really hit a low point and I decided to ask for help, so I went to the teaching assistant in my psychology course and asked for her advice.
>
> "Are you going to your classes?" she asked.
>
> "Yes," I replied.
>
> "Are you keeping up with your reading?"
>
> "Yes."
>
> "Are you doing okay on your exams?"
>
> "Yes."
>
> "Well," she informed me, "then you're not depressed."

Yes, he was depressed, but he was coping the way people in the growth mindset tend to cope—with determination.

Doesn't temperament have a lot to do with it? Aren't some people sensitive by nature, while others just let things roll off their backs? Temperament certainly plays a role, but mindset is an important part of the story. When we *taught* people the growth mindset, it changed the way they reacted to their depressed mood. The worse they felt, the more motivated they became and the more they confronted the problems that faced them.

In short, when people believe in fixed traits, they are always in danger of being measured by a failure. It can define them in a permanent way. Smart or talented as they may be, this mindset seems to rob them of their coping resources.

When people believe their basic qualities can be developed, failures may still hurt, but failures don't define them. And if abilities can be expanded—if change and growth are possible—then there are still many paths to success.

MINDSETS CHANGE THE MEANING OF EFFORT

As children, we were given a choice between the talented but erratic hare and the plodding but steady tortoise. The lesson was supposed to be that slow and steady wins the race. But, really, did any of us ever want to be the tortoise?

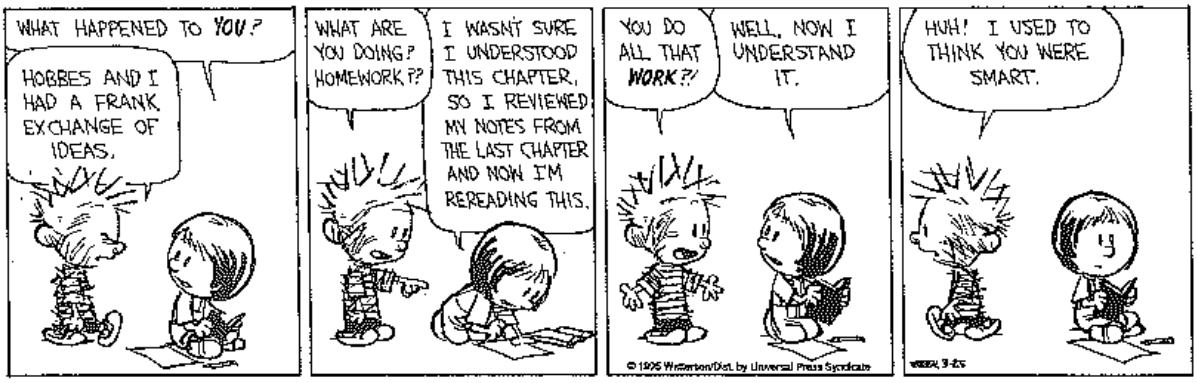
No, we just wanted to be a less foolish hare. We wanted to be swift as the wind and a bit more strategic—say, not taking quite so many snoozes before the finish line. After all, everyone knows you have to show up in order to win.

The story of the tortoise and the hare, in trying to put forward the power of effort, gave effort a bad name. It reinforced the image that effort is for the plodders and suggested that in rare instances, when talented people dropped the ball, the plodder could sneak through.

The little engine that could, the saggy, baggy elephant, and the scruffy tugboat—they were cute, they were often overmatched, and we were happy for them when they succeeded. In fact, to this day I remember how fond I was of those little creatures (or machines), but no way did I identify with them. The message was: If you're unfortunate enough to be the runt of the litter—if you lack endowment—you don't have to be an utter failure. You can be a sweet, adorable little slogger, and maybe (if you really work at it and withstand all the scornful onlookers) even a success.

Thank you very much, I'll take the endowment.

The problem was that these stories made it into an either-or. Either you have ability or you expend effort. And this is part of the fixed mindset. Effort is for those who don't have the ability. People with the fixed mindset tell us, "If you have to work at something, you must not be good at it." They add, "Things come easily to people who are true geniuses."



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I was a young professor in the psychology department at the University of Illinois. Late one night, I was passing the psychology building and noticed that the lights were on in some faculty offices. Some of my colleagues were working late. *They must not be as smart as I am*, I thought to myself.

It never occurred to me that they might be just as smart and more hardworking! For me it was either-or. And it was clear I valued the either over the or.

Malcolm Gladwell, the author and *New Yorker* writer, has suggested that as a society we value natural, effortless accomplishment over achievement through effort. We endow our heroes with superhuman abilities that led them inevitably toward their greatness. It's as if Midori popped out of the womb fiddling, Michael Jordan dribbling, and Picasso doodling. This captures the fixed mindset perfectly. And it's everywhere.

A report from researchers at Duke University sounds an alarm about the anxiety and depression among female undergraduates who aspire to "effortless perfection." They believe they should display perfect beauty, perfect womanhood, and perfect scholarship all without trying (or at least without appearing to try).

Americans aren't the only people who disdain effort. French executive Pierre Chevalier says, "We are not a nation of effort. After all, if you have savoir-faire [a mixture of know-how and cool], you do things effortlessly."

People with the growth mindset, however, believe something very different. For them, even geniuses have to work hard for their achievements. And what's so heroic, they would say, about having a gift? They may appreciate endowment, but they admire effort, for no matter what your ability is, effort is what ignites that ability and turns it into accomplishment.

Seabiscuit

Here was a horse who was so broken, he was supposed to be put to sleep. In fact, here was a whole team of people—the jockey, the owner, the trainer—who were damaged in one way or another. Yet through their dogged determination and against all odds, they transformed themselves into winners. A down-and-out nation saw this horse and rider as a symbol of what could be accomplished through grit and spirit.

Equally moving is the parallel story about *Seabiscuit*'s author, Laura Hillenbrand. Felled in her college years by severe, recurrent chronic fatigue that never went away, she was often unable to function. Yet something in the story of the "horse who could" gripped and inspired her, so that she was able to write a heartfelt, magnificent story about the triumph of will. The book was a testament to Seabiscuit's triumph and her own, equally.

Seen through the lens of the growth mindset, these are stories about the transformative power of effort—the power of effort to change your ability and to change you as a person. But filtered through the fixed mindset, it's a great story about three men and a horse, all with deficiencies, who *had* to try very hard.

High Effort: The Big Risk

From the point of view of the fixed mindset, effort is only for people with deficiencies. And when people already know they're deficient, maybe they have nothing to lose by trying. But if your claim to fame is not having any deficiencies—if you're considered a genius, a talent, or a natural—then you have a lot to lose. Effort can *reduce* you.

Nadja Salerno-Sonnenberg made her violin debut at the age of ten with the Philadelphia Orchestra. Yet when she arrived at Juilliard to study with Dorothy DeLay, the great violin teacher, she had a repertoire of awful habits. Her fingerings and bowings were awkward and she held her violin in the wrong position, but she refused to change. After several years, she saw the other students catching up and even surpassing her, and by her late teens she had a crisis of confidence. "I was used to success, to the prodigy label in newspapers, and now I felt like a failure."

This prodigy was afraid of trying. "Everything I was going through boiled down to fear. Fear of trying and failing... . If you go to an audition and don't really try, if you're not really prepared, if you didn't work as hard as you could have and you don't win, you have an excuse... . Nothing is harder than saying, 'I gave it my all and it wasn't good enough.'"

The idea of trying and still failing—of leaving yourself without excuses—is the worst fear within the fixed mindset, and it haunted and paralyzed her. She had even stopped bringing her violin to her lesson!

Then, one day, after years of patience and understanding, DeLay told her, "Listen, if you don't bring your violin next week, I'm throwing you out of my class." Salerno-Sonnenberg thought she was joking, but DeLay rose from the couch and calmly informed her, I'm not kidding. If you are going to waste your talent, I don't want to be a part of it. This has gone on long enough."

Why is effort so terrifying?

There are two reasons. One is that in the fixed mindset, great geniuses are not supposed to need it. So just needing it casts a shadow on your ability. The second is that, as Nadja suggests, it robs you of all your excuses. Without effort, you can always say, "I could have been ____ [fill in the blank]." But once you try, you can't say that anymore. Someone once said to me, "I could have been Yo-Yo Ma." If she had really tried for it, she wouldn't have been able to say that.

Salerno-Sonnenberg was terrified of losing DeLay. She finally decided that trying and failing—an honest failure—was better than the course she had been on, and so she began training with DeLay for an upcoming competition. For the first time she went all out, and, by the way,

won. Now she says, "This is something I know for a fact: You have to work hardest for the things you love most. And when it's music you love, you're in for the fight of your life."

Fear of effort can happen in relationships, too, as it did with Amanda, a dynamic and attractive young woman.

> I had a lot of crazy boyfriends. A lot. They ranged from unreliable to inconsiderate. "How about a nice guy for once?" my best friend Carla always said. It was like, "You deserve better."
>
> So then Carla fixed me up with Rob, a guy from her office. He was great, and not just on day one. I loved it. It was like, "Oh, my God, a guy who actually shows up on time. "Then it became serious and I freaked. I mean, this guy really liked me, but I couldn't stop thinking about how, if he really knew me, he might get turned off. I mean, what if I really, really tried and it didn't work? I guess I couldn't take that risk.

Low Effort: The Big Risk

In the growth mindset, it's almost inconceivable to want something badly, to think you have a chance to achieve it, and then do nothing about it. When it happens, the *I could have been* is heartbreaking, not comforting.

There were few American women in the 1930s through 1950s who were more successful than Clare Boothe Luce. She was a famous author and playwright, she was elected to Congress twice, and she was ambassador to Italy. "I don't really understand the word 'success,'" she has said. "I know people use it about me, but I don't understand it." Her public life and private tragedies kept her from getting back to her greatest love: writing for the theater. She'd had great success with plays like *The Women*, but it just wouldn't do for a political figure to keep penning tart, sexy comedies.

For her, politics did not provide the personal creative effort she valued most, and looking back she couldn't forgive herself for not pursuing her passion for theater. "I often thought," she said, "that if l were to write an autobiography, my title would be *The Autobiography of a Failure*."

Billie Jean King says it's all about what you want to look back and say. I agree with her. You can look back and say, "I could have been ... ," polishing your unused endowments like trophies. Or you can look back and say, "I gave my all for the things I valued." Think about what you want to look back and say. Then choose your mindset.

Turning Knowledge into Action

Sure, people with the fixed mindset have read the books that say: Success is about being your best self, not about being better than others; failure is an opportunity, not a condemnation; effort is the key to success. But they can't put this into practice because their basic mindset—their belief in fixed traits—is telling them something entirely different: that success is about being more gifted than others, that failure does measure you, and that effort is for those who can't make it on talent.

QUESTIONS AND ANSWERS

At this point, you probably have questions. Let me see if I can answer some of them.

> *Question: If people believe their qualities are fixed, and they have shown themselves to be smart or talented, why do they have to keep proving it? After all, when the prince proved his bravery, he and the princess lived happily ever after. He didn't have to go out and slay a dragon every day. Why don't people with the fixed mindset prove themselves and then live happily ever after?*

Because every day new and larger dragons come along and, as things get harder, maybe the ability they proved yesterday is not up to today's task. Maybe they were smart enough for algebra but not calculus. Maybe they were a good enough pitcher for the minor leagues but not the majors. Maybe they were a good enough writer for their school newspaper but not *The New York Times*.

So they're racing to prove themselves over and over, but where are they going? To me they're often running in place, amassing countless affirmations, but not necessarily ending up where they want to be.

You know those movies where the main character wakes up one day and sees that his life has not been worthwhile—he has always been besting people, not growing, learning, or caring. My favorite is *Groundhog Day*, which I didn't see for a long time because I couldn't get past the name. At any rate, in *Groundhog Day*, Bill Murray doesn't just wake up one day and get the message; he has to repeat the same day over and over until he gets the message.

Phil Connors (Murray) is a weatherman for a local station in Pittsburgh who is dispatched to Punxsutawney, Pennsylvania, to cover the Groundhog Day ceremony. On February 2, a groundhog is taken out of his little house; if he is judged to have seen his shadow, there will be another six weeks of winter. If not, there will be an early spring.

Phil, considering himself to be a superior being, has complete contempt for the ceremony, the town, and the people ("hicks" and "morons"), and after making that perfectly clear, he plans to get out of Punxsutawney as quickly as possible. But this is not to be. A blizzard hits the town, he is forced to remain, and when he wakes up the next morning, it's Groundhog Day again. The same Sonny and Cher song, "I Got You Babe," wakes him up on the clock radio and the same groundhog festival is gearing up once again. And again. And again.

At first, he uses the knowledge to further his typical agenda, making fools out of other people. Since he is the only one reliving the day, he can talk to a woman on one day, and then use the information to deceive, impress, and seduce her the next. He is in fixed-mindset heaven. He can prove his superiority over and over.

But after countless such days, he realizes it's all going nowhere and he tries to kill himself. He crashes a car, he electrocutes himself, he jumps from a steeple, he walks in front of a truck. With no way out, it finally dawns on him. He could be using this time to learn. He goes for piano lessons. He reads voraciously. He learns ice sculpting. He finds out about people who need help that day (a boy who falls from a tree, a man who chokes on his steak) and starts to help them, and care about them. Pretty soon the day is not long enough! Only when this change of mindset is complete is he released from the spell.

Question: Are mindsets a permanent part of your makeup or can you change them?

Mindsets are an important part of your personality, but you can change them. Just by knowing about the two mindsets, you can start thinking and reacting in new ways. People tell me they start to catch themselves when they are in the throes of the fixed mindset—passing up a chance for learning, feeling labeled by a failure, or getting discouraged when something requires a lot of effort. And then they switch themselves into the growth mindset—making sure they take the challenge, learn from the failure, or continue their effort. When my graduate students and I first discovered the mindsets, they would catch me in the fixed mindset, smile kindly, and let me know it.

It's also important to realize that even if people have a fixed mindset, they're not always in that mindset. In fact, in many of our studies, we *put* people into a growth mindset. We tell them that an ability can be learned and that the task will give them a chance to do that. Or we have them read a scientific article that teaches them the growth mindset. The article describes people who did not have natural ability, but who developed exceptional skills. These experiences make our research participants into growth-minded thinkers, at least for the moment—and they act like growth-minded thinkers, too.

Later, there's a chapter all about change. There I describe people who have changed and programs we've developed to bring about change.

Question: Can I be half-and-half? I recognize both mindsets in myself.

All of us have elements of both-we're all a mixture of fixed and growth mindsets. I'm talking about it as a simple either-or right now for the sake of simplicity.

People can also have different mindsets in different areas. I might think that my artistic skills are fixed but that my intelligence can be developed. Or that my personality is fixed, but my creativity can be developed. We've found that whatever mindset people have in a particular area will guide them in that area.

Question: With all your belief in effort, are you saying that when people fail, it\ always their fault-they didn't try hard enough?

No! It's true that effort is crucial—no one can succeed for long without it—but it's certainly not the only thing. People have different resources and opportunities. For example, people with money (or rich parents) have a safety net. They can take more risks and keep going longer until they succeed. People with easy access to a good education, people with a network of influential friends, people who know how to be in the right place at the right time—all stand a better chance of having their effort pay off. Rich, educated, connected effort works better.

People with fewer resources, in spite of their best efforts, can be de-railed so much more easily. The hometown plant you've worked in all of your life suddenly shuts down. What now? Your child falls ill and plunges you into debt. There goes the house. Your spouse runs off with the nest egg and leaves you with the children and bills. Forget the night school classes.

Before we judge, let's remember that effort isn't quite everything and that all effort is not created equal.

Question: You keep talking about how the growth mindset makes people number one, the best, the most successful. Isn't the growth mindset about personal development, not besting others?

I use examples of people who made it to the top to show how far the growth mindset can take you: Believing talents can be developed allows people to fulfill their potential.

In addition, examples of laid-back people having a good time would not be as convincing to people with a fixed mindset. It doesn't provide a compelling alternative for them because it makes it look like a choice between fun and excellence.

However, this point is crucial: The growth mindset does allow people to love what they're doing—and to continue to love it in the face of difficulties. The growth-minded athletes, CEOs, musicians, or scientists all loved what they did, whereas many of the fixed-minded ones did not.

Many growth-minded people didn't even plan to go to the top. They got there as a result of doing what they love. It's ironic: The top is where the fixed-mindset people hunger to be, but it's where many growth-minded people arrive as a by-product of their enthusiasm for what they do.

This point is also crucial. In the fixed mindset, everything is about the outcome. If you fail—or if you're not the best—it's all been wasted. The growth mindset allows people to value what they're doing *regardless of the outcome*. They're tackling problems, charting new courses, working on important issues. Maybe they haven't found the cure for cancer, but the search was deeply meaningful.

A lawyer spent seven years fighting the biggest bank in his state on behalf of people who felt they'd been cheated. After he lost, he said, "Who am I to say that just because I spent seven years on something I am entitled to success? Did I do it for the success, or did I do it because I thought the effort itself was valid?

"I do not regret it. I had to do it. I would not do it differently."

Question: I know a lot of workaholics on the fast track who seem to have a fixed mindset. They're always trying to prove how smart they are, but they do work hard and they do take on challenges. How does this fit with your idea that people with a fixed mindset go in for low effort and easy tasks?

On the whole, people with a fixed mindset prefer effortless success, since that's the best way to prove their talent. But you're right, there are also plenty of high-powered people who think their traits are fixed and are looking for constant validation. These may be people whose life goal is to win a Nobel Prize or become the richest person on the planet—and they're willing to do what it takes. We'll meet people like this in the chapter on business and leadership.

These people may be free of the belief that high effort equals low ability, but they have the other parts of the fixed mindset. They may constantly put their talent on display. They may feel that their talent makes them superior to other people. And they may be intolerant of mistakes, criticism, or setbacks.

Incidentally, people with a growth mindset might also like a Nobel Prize or a lot of money. But they are not seeking it as a validation of their worth or as something that will make them better than others.

Question: What if I like my fixed mindset? If I know what my abilities and talents are, I know where I stand, and I know what to expect. Why should I give that up?

If you like it, by all means keep it. This book shows people they have a choice by spelling out the two mindsets and the worlds they create. The point is that people can choose which world they want to inhabit.

The fixed mindset creates the feeling that you can *really* know the permanent truth about yourself. And this can be comforting: You don't have to try for such-and-such because you don't have the talent. You will surely succeed at thus-and-such because you do have the talent.

It's just important to be aware of the drawbacks of this mindset. You may be robbing yourself of an opportunity by underestimating your talent in the first area. Or you may be undermining your chances of success in the second area by assuming that your talent alone will take you there. By the way, having a growth mindset doesn't force you to pursue something. It just tells you that you can develop your skills. It's still up to you whether you want to.

Question: Can everything about people be changed, and should people try to change everything they can?

The growth mindset is the belief that abilities can be cultivated. But it doesn't tell you how much change is possible or how long change will take. And it doesn't mean that *everything*, like preferences or values, can be changed.

I was once in a taxi, and the driver had an opera on the radio. Thinking to start a conversation, I said, "Do you like opera?" "No," he replied, "I hate it. I've always hated it." "I don't mean to pry," I said, "but why are you listening to it?" He then told me how his father had been an opera buff, listening to his vintage records at every opportunity. My cabdriver, now well into middle age, had tried for many years to cultivate a rapturous response to opera. He played the disks, he read the scores—all to no avail. "Give yourself a break," I advised him. "There are plenty of cultured and intelligent people who can't stand opera. Why don't you just consider yourself one of them?"

The growth mindset also doesn't mean everything that *can* be changed *should* be changed. We all need to accept some of our imperfections, especially the ones that don't really harm our lives or the lives of others.

The fixed mindset stands in the way of development and change. The growth mindset is a starting point for change, but people need to decide for themselves where their efforts toward change would be most valuable.

Question: Are people with the fixed mindset simply lacking in confidence?

No. People with the fixed mindset can have just as much confidence as people with the growth mindset—before anything happens, that is. But as you can imagine, their confidence is more fragile since setbacks and even effort can undermine it.

Joseph Martocchio conducted a study of employees who were taking a short computer training course. Half of the employees were put into a fixed mindset. He told them it was all a matter of how much ability they possessed. The other half were put in a growth mindset. He

told them that computer skills could be developed through practice. Everyone, steeped in these mindsets, then proceeded with the course.

Although the two groups started off with exactly equal confidence in their computer skills, by the end of the course they looked quite different. Those in the growth mindset gained considerable confidence in their computer skills as they learned, despite the many mistakes they inevitably made. But, because of those mistakes, those with the fixed mindset actually lost confidence in their computer skills as they learned!

The same thing happened with Berkeley students. Richard Robins and Jennifer Pals tracked students at the University of California at Berkeley over their years of college. They found that when students had the growth mindset, they gained confidence in themselves as they repeatedly met and mastered the challenges of the university. However, when students had the fixed mindset, their confidence eroded in the face of those same challenges.

That's why people with the fixed mindset have to nurse their confidence and protect it. That's what John McEnroe's excuses were for: to protect his confidence.

Michelle Wie was a teenage golfer when she decided to go up against the big boys. She entered the Sony Open, a PGA tournament that features the best male players in the world. Coming from a fixed-mindset perspective, everyone rushed to warn her that she could do serious damage to her confidence if she did poorly—that "taking too many early lumps against superior competition could hurt her long-range development." "It's always negative when you don't win," warned Vijay Singh, a prominent golfer on the tour.

But Wie disagreed. She wasn't going there to groom her confidence. "Once you win junior tournaments, it's easy to win multiple times. What I'm doing now is to prepare for the future." It's the learning experience she was after—what it was like to play with the world's best players in the atmosphere of a tournament.

After the event, Wie's confidence had not suffered one bit. She had exactly what she wanted. "I think I learned that I can play here." It would be a long road to the winner's circle, but she now had a sense of what she was shooting for.

Some years ago, I got a letter from a world-class competitive swimmer.

Dear Professor Dweck:

> I've always had a problem with confidence. My coaches always told me to believe in myself 100%. They told me not to let any doubts enter my mind and to think about how I'm better than everyone else. I couldn't do it because I'm always so aware of my defects and the mistakes I make in every meet. Trying to think I was perfect made it even worse. Then I read your work and how it's so important to focus on learning and improving. It turned me around. My defects are things I can work on! Now a mistake doesn't seem so important. I wanted to write you this letter for teaching me how to have confidence. Thank you.
>
> Sincerely,
> Mary Williams

A remarkable thing I've learned from my research is that in the growth mindset, you don't always *need* confidence.

What I mean is that even when you think you're not good at something, you can still plunge into it wholeheartedly and stick to it. Actually, sometimes you plunge into something *because* you're not good at it. This is a wonderful feature of the growth mindset. You don't have to think you're already great at something to want to do it and to enjoy doing it.

This book is one of the hardest things I've ever done. I read endless books and articles. The information was overwhelming. I'd never written in a popular way. It was intimidating. Does it seem easy for me? Way back when, that's exactly what I would have wanted you to think. Now I want you to know the effort it took—and the joy it brought.

Grow Your Mindset

- People are all born with a love of learning, but the fixed mindset can undo it. Think of a time you were enjoying something—doing a crossword puzzle, playing a sport, learning a new dance. Then it became hard and you wanted out. Maybe you suddenly felt tired, dizzy, bored, or hungry. Next time this happens, don't fool yourself . It's the fixed mindset. Put yourself in a growth mindset. Picture your brain forming new connections as you meet the challenge and learn. Keep on going.
- It's tempting to create a world in which we're perfect. (Ah, I remember that feeling from grade school.) We can choose partners, make friends, hire people who make us feel faultless. But think about it—do you want to never grow? Next time you're tempted to surround yourself with worshipers, go to church. In the rest of your life, seek constructive criticism.
- Is there something in your past that you think measured you? A test score? A dishonest or callous action? Being fired from a job? Being rejected? Focus on that thing. Feel all the emotions that go with it. Now put it in a growth-mindset perspective. Look honestly at your role in it, but understand that it doesn't define your intelligence or personality. Instead, ask: *What did I (or can I) learn from that experience? How can I use it as a basis for growth?* Carry that with you instead.
- How do you act when you feel depressed? Do you work harder at things in your life or do you let them go? Next time you feel low, put yourself in a growth mindset—think about learning, challenge, confronting obstacles. Think about effort as a positive, constructive force, not as a big drag. Try it out.
- Is there something you've always wanted to do but were afraid you weren't good at? Make a plan to do it.

Chapter 3

THE TRUTH ABOUT ABILITY AND ACCOMPLISHMENT

Try to picture Thomas Edison as vividly as you can. Think about where he is and what he's doing. Is he alone? I asked people, and they always said things like this:

"He's in his workshop surrounded by equipment. He's working on the phonograph, trying things. He succeeds! [Is he alone?] Yes, he's doing this stuff alone because he's the only one who knows what he's after."

"He's in New Jersey. He's standing in a white coat in a lab-type room. He's leaning over a lightbulb. Suddenly, it works! [Is he alone?] Yes. He's kind of a reclusive guy who likes to tinker on his own."

In truth, the record shows quite a different fellow, working in quite a different way.

Edison was not a loner. For the invention of the lightbulb, he had thirty assistants, including well-trained scientists, often working around the clock in a corporate-funded state-of-the-art laboratory!

It did not happen suddenly. The lightbulb has become the symbol of that single moment when the brilliant solution strikes, but there was no single moment of invention. In fact, the lightbulb was not one invention, but a whole network of time-consuming inventions each requiring one or more chemists, mathematicians, physicists, engineers, and glass- blowers.

Edison was no naive tinkerer or unworldly egghead. The "Wizard of Menlo Park" was a savvy entrepreneur, fully aware of the commercial potential of his inventions. He also knew how to cozy up to the press—sometimes beating others out as *the* inventor of something because he knew how to publicize himself.

Yes, he was a genius. But he was not always one. His biographer, Paul Israel, sifting through all the available information, thinks he was more or less a regular boy of his time and place. Young Tom was taken with experiments and mechanical things (perhaps more avidly than most), but machines and technology were part of the ordinary midwestern boy's experience.

What eventually set him apart was his mindset and drive. He never stopped being the curious, tinkering boy looking for new challenges. Long after other young men had taken up their roles in society, he rode the rails from city to city learning everything he could about telegraphy, and working his way up the ladder of telegraphers through nonstop self-education and invention. And later, much to the disappointment of his wives, his consuming love remained self-improvement and invention, but only in his field.

There are many myths about ability and achievement, especially about the lone, brilliant person suddenly producing amazing things.

Yet Darwin's masterwork, *The Origin of Species*, took years of teamwork in the field, hundreds of discussions with colleagues and mentors, several preliminary drafts, and half a lifetime of dedication before it reached fruition.

Mozart labored for more than ten years until he produced any work that we admire today. Before then, his compositions were not that original or interesting. Actually, they were often patched-together chunks taken from other composers.

This chapter is about the real ingredients in achievement. It's about why some people achieve less than expected and why some people achieve more.

MINDSET AND SCHOOL ACHIEVEMENT

Let's step down from the celestial realm of Mozart and Darwin and come back to earth to see how mindsets create achievement in real life. It's funny, but seeing one student blossom under the growth mindset has a greater impact on me than all the stories about Mozarts and Darwins. Maybe because it's more about you and me—about what's happened to us and why we are where we are now. And about children and their potential.

Back on earth, we measured students' mindsets as they made the transition to junior high school: Did they believe their intelligence was a fixed trait or something they could develop? Then we followed them for the next two years.

The transition to junior high is a time of great challenge for many students. The work gets much harder, the grading policies toughen up, the teaching becomes less personalized. And all this happens while students are coping with their new adolescent bodies and roles. Grades suffer, but not everyone's grades suffer equally.

No. In our study, only the students with the fixed mindset showed the decline. The students with the growth mindset showed an *increase* in their grades over the two years.

When the two groups had entered junior high, their past records were indistinguishable. In the more benign environment of grade school, they'd earned the same grades and achievement test scores. Only when they hit the challenge of junior high did they begin to pull apart.

Here's how students with the fixed mindset explained their poor grades. Many maligned their abilities: "I am the stupidest" or "I suck in math." And many covered these feelings by blaming someone else: "[The math teacher] is a fat male slut ... and [the English teacher] is a slob with a pink ass." "Because the teacher is on crack." These interesting analyses of the problem hardly provide a road map to future success.

With the threat of failure looming, students with the growth mindset instead mobilized their resources for learning. They told us that they, too, sometimes felt overwhelmed, but their response was to dig in and do what it takes. They were like George Danzig. Who?

George Danzig was a graduate student in math at Berkeley. One day, as usual, he rushed in late to his math class and quickly copied the two homework problems from the blackboard. When he later went to do them, he found them very difficult, and it took him several days of hard work to crack them open and solve them. They turned out not to be homework problems at all. They were two famous math problems that had never been solved.

The Low-Effort Syndrome

Our students with the fixed mindset who were facing the hard transition saw it as a threat. It threatened to unmask their flaws and turn them from winners into losers. In fact, in the fixed

mindset, adolescence is one big test. *Am I smart or dumb? Am I good-looking or ugly? Am I cool or nerdy? Am I a winner or a loser?* And in the fixed mindset, a loser is forever.

It's no wonder that many adolescents mobilize their resources, not for learning, but to protect their egos. And one of the main ways they do this (aside from providing vivid portraits of their teachers) is by not trying. This is when some of the brightest students, just like Nadja Salerno-Sonnenberg, simply stop working. In fact, students with the fixed mindset tell us that their main goal in school—aside from looking smart—is to exert as little effort as possible. They heartily agree with statements like this:

"In school my main goal is to do things as easily as possible so I don't have to work very hard."

This low-effort syndrome is often seen as a way that adolescents assert their independence from adults, but it is also a way that students with the fixed mindset protect themselves. They view the adults as saying, "Now we will measure you and see what you've got." And they are answering, "No you won't."

John Holt, the great educator, says that these are the games all human beings play when others are sitting in judgment of them. "The worst student we had, the worst I have ever encountered, was in his life outside the classroom as mature, intelligent, and interesting a person as anyone at the school. What went wrong? ... Somewhere along the line, his intelligence became disconnected from his schooling."

For students with the growth mindset, it doesn't make sense to stop trying. For them, adolescence is a time of opportunity: a time to learn new subjects, a time to find out what they like and what they want to become in the future.

Later, I'll describe the project in which we taught junior high students the growth mindset. What I want to tell you now is how teaching them this mindset unleashed their effort. One day, we were introducing the growth mindset to a new group of students. All at once Jimmy—the most hard-core turned-off low-effort kid in the group—looked up with tears in his eyes and said, "You mean I don't have to be dumb?" From that day on, he worked. He started staying up late to do his homework, which he never used to bother with at all. He started handing in assignments early so he could get feedback and revise them. He now believed that working hard was not something that made you vulnerable, but something that made you smarter.

Finding Your Brain

A close friend of mine recently handed me something he'd written, a poem-story that reminded me of Jimmy and his unleashed effort. My friend's second-grade teacher, Mrs. Beer, had had each student draw and cut out a paper horse. She then lined up all the horses above the black-board and delivered her growth-mindset message: "Your horse is only as fast as your brain. Every time you learn something, your horse will move ahead."

My friend wasn't so sure about the "brain" thing. His father had always told him, "You have too much mouth and too little brains for your own good." Plus, his horse seemed to just sit at the starting gate while "everyone else's brain joined the learning chase," especially the brains of Hank and Billy, the class geniuses, whose horses jumped way ahead of everyone else's. But my friend kept at it. To improve his skills, he kept reading the comics with his mother and he kept adding up the points when he played gin rummy with his grandmother.

And soon my sleek stallion
bolted forward like Whirlaway,
and there was no one
who was going to stop him.
Over the weeks and months
he flew forward overtaking
the others one by one.
In the late spring homestretch
Hank's and Billy's mounts were ahead
by just a few subtraction exercises, and
when the last bell of school rang,
my horse won—"By a nose!"
Then I knew I had a brain:
I had the horse to prove it.

— PAUL WORTMAN

Of course, learning shouldn't really be a race. But this race helped my friend discover his brain and connect it up to his schooling.

The College Transition

Another transition, another crisis. College is when all the students who were the brains in high school are thrown together. Like our graduate students, yesterday they were king of the hill, but today who are they?

Nowhere is the anxiety of being dethroned more palpable than in pre-med classes. In the last chapter, I mentioned our study of tense but hopeful undergraduates taking their first college chemistry course. This is the course that would give them—or deny them—entree to the pre-med curriculum, and it's well known that students will go to almost any lengths to do well in this course.

At the beginning of the semester, we measured students' mindsets, and then we followed them through the course, watching their grades and asking about their study strategies. Once again we found that the students with the growth mindset earned better grades in the course. Even when they did poorly on a particular test, they bounced back on the next ones. When students with the fixed mindset did poorly, they often didn't make a comeback.

In this course, everybody studied. But there are different ways to study. Many students study like this: They read the textbook and their class notes. If the material is really hard, they read them again. Or they might try to memorize everything they can, like a vacuum cleaner. That's how the students with the fixed mindset studied. If they did poorly on the test, they concluded that chemistry was not their subject. After all, "I did everything possible, didn't I?"

Far from it. They would be shocked to find out what students with the growth mindset do. Even I find it remarkable.

The students with growth mindset completely took charge of their learning and motivation. Instead of plunging into unthinking memorization of the course material, they said: "I looked for

themes and underlying principles across lectures," and "I went over mistakes until I was certain I understood them." They were studying to learn, not just to ace the test. And, actually, this was why they got higher grades—not because they were smarter or had a better background in science.

Instead of losing their motivation when the course got dry or difficult, they said: "I maintained my interest in the material." "I stayed positive about taking chemistry." "I kept myself motivated to study." Even if they thought the textbook was boring or the instructor was a stiff, they didn't let their motivation evaporate. That just made it all the more important to motivate themselves.

I got an e-mail from one of my undergraduate students shortly after I had taught her the growth mindset. Here's how she used to study before: "When faced with really tough material I tend[ed] to read the material over and over." After learning the growth mindset, she started using better strategies—that worked:

> Professor Dweck:
>
> When Heidi [the teaching assistant] told me my exam results today I didn't know whether to cry or just sit down. Heidi will tell you, I looked like I won the lottery (and I feel that way, too)! I can't believe I did SO WELL. I expected to "scrape" by. The encouragement you have given me will serve me well in life... .
>
> I feel that I've earned a noble grade, but I didn't earn it alone. Prof Dweck, you not only teach [your] theory, you SHOW it. Thank you for the lesson. It is a valuable one, perhaps the most valuable I've learned at Columbia. And yeah, I'll be doing THAT [using these strategies] before EVERY exam!
>
> Thank you very, very much (and you TOO Heidi)!
>
> No longer helpless,
> June

Because they think in terms of learning, people with the growth mindset are clued in to all the different ways to create learning. It's odd. Our pre-med students with the fixed mindset would do almost anything for a good grade—except take charge of the process to make sure it happens.

Created Equal?

Does this mean that anyone with the right mindset can do well? Are all children created equal? Let's take the second question first. No, some children are different. In her book *Gifted Children*, Ellen Winner offers incredible descriptions of prodigies. These are children who seem to be born with heightened abilities and obsessive interests, and who, through relentless pursuit of these interests, become amazingly accomplished.

Michael was one of the most precocious. He constantly played games involving letters and numbers, made his parents answer endless questions about letters and numbers, and spoke, read, and did math at an unbelievably early age. Michael's mother reports that at four months old, he

said, "Mom, Dad, what's for dinner?" At ten months, he astounded people in the supermarket by reading words from the signs. Everyone assumed his mother was doing some kind of ventriloquism thing. His father reports that at three, he was not only doing algebra, but discovering and proving algebraic rules. Each day, when his father got home from work, Michael would pull him toward math books and say, "Dad, let's go do work."

Michael must have started with a special ability, but, for me, the most outstanding feature is his extreme love of learning and challenge. His parents could not tear him away from his demanding activities. The same is true for every prodigy Winner describes. Most often people believe that the "gift" is the ability itself. Yet what feeds it is that constant, endless curiosity and challenge seeking.

Is it ability or mindset? Was it Mozart's musical ability or the fact that he worked till his hands were deformed? Was it Darwin's scientific ability or the fact that he collected specimens nonstop from early childhood?

Prodigies or not, we all have interests that can blossom into abilities. As a child, I was fascinated by people, especially adults. I wondered: *What makes them tick?* In fact, a few years back, one of my cousins reminded me of an episode that took place when we were five years old. We were at my grandmother's house, and he'd had a big fight with his mother over when he could eat his candy. Later, we were sitting outside on the front steps and I said to him: "Don't be so stupid. Adults like to think they're in charge. Just say yes, and then eat your candy when you want to."

Were those the words of a budding psychologist? All I know is that my cousin told me this advice served him well. (Interestingly, he became a dentist.)

Can Everyone Do Well?

Now back to the first question. Is everyone capable of great things with the right mindset? Could you march into the worst high school in your state and teach the students college calculus? If you could, then one thing would be clear: With the right mindset and the right teaching, people are capable of a lot more than we think.

Garfield High School was one of the worst schools in Los Angeles. To say that the students were turned off and the teachers burned out is an understatement. But without thinking twice, Jaime Escalante (of *Stand and Deliver* fame) taught these inner-city Hispanic students college-level calculus. With his growth mindset, he asked, "*How* can I teach them?" not "*Can* I teach them?" and "*How* will they learn best?" not "*Can* they learn?"

But not only did he teach them calculus, he (and his colleague, Benjamin Jimenez) took them to the top of the national charts in math. In 1987, only three other public schools in the country had more students taking the Advanced Placement Calculus test. Those three included Stuyvesant High School and the Bronx High School of Science, both elite math-and-science-oriented schools in New York.

What's more, most of the Garfield students earned test grades that were high enough to gain them college credits. In the whole country that year, only a few hundred Mexican American students passed the test at this level. This means there's a lot of intelligence out there being wasted by underestimating students' potential to develop.

Most often when kids are behind—say, when they're repeating a grade—they're given dumbed-down material on the assumption that they can't handle more. That idea comes from the fixed mindset: These students are dim-witted, so they need the same simple things drummed into them over and over. Well, the results are depressing. Students repeat the whole grade without learning any more than they knew before.

Instead, Marva Collins took inner-city Chicago kids who had failed in the public schools and treated them like geniuses. Many of them had been labeled "learning disabled," "retarded," or "emotionally disturbed." Virtually all of them were apathetic. No light in the eyes, no hope in the face.

Collins's second-grade public school class started out with the lowest-level reader there was. By June, they reached the middle of the fifth-grade reader, studying Aristotle, Aesop, Tolstoy, Shakespeare, Poe, Frost, and Dickinson along the way.

Later when she started her own school, *Chicago Sun-Times* columnist Zay Smith dropped in. He saw four-year-olds writing sentences like "See the physician'" and "Aesop wrote fables," and talking about "diphthongs" and "diacritical marks." He observed second graders reciting passages from Shakespeare, Longfellow, and Kipling. Shortly before, he had visited a rich suburban high school where many students had never heard of Shakespeare. "Shoot," said one of Collins's students, "you mean those rich high school kids don't know Shakespeare was born in 1564 and died in 1616?"

Students read huge amounts, even over the summer. One student, who had entered as a "retarded" six-year-old, now four years later had read twenty-three books over the summer, including *A Tale of Two Cities* and *Jane Eyre*. The students read deeply and thoughtfully. As the three- and four-year-olds were reading about Daedalus and Icarus, one four- year-old exclaimed, "Mrs. Collins, if we do not learn and work hard, we will take an Icarian flight to nowhere." Heated discussions of *Macbeth* were common.

Alfred Binet believed you could change the quality of someone's mind. Clearly you can. Whether you measure these children by the breadth of their knowledge or by their performance on standardized tests, their minds had been transformed.

Benjamin Bloom, an eminent educational researcher, studied 120 outstanding achievers. They were concert pianists, sculptors, Olympic swimmers, world-class tennis players, mathematicians, and research neurologists. Most were not that remarkable as children and didn't show clear talent before their training began in earnest. Even by early adolescence, you usually couldn't predict their future accomplishment from their current ability. Only their continued motivation and commitment, along with their network of support, took them to the top.

Bloom concludes, "After forty years of intensive research on school learning in the United States as well as abroad, my major conclusion is: What any person in the world can learn, *almost* all persons can learn, *if* provided with the appropriate prior and current conditions of learning." He's not counting the 2 to 3 percent of children who have severe impairments, and he's not counting the top 1 to 2 percent of children at the other extreme that include children like Michael. He *is* counting everybody else.

Ability Levels and Tracking

But aren't students sorted into different ability levels for a reason? Haven't their test scores and past achievement shown what their ability is? Remember, test scores and measures of achievement tell you where a student is, but they don't tell you where a student could end up.

Falko Rheinberg, a researcher in Germany, studied schoolteachers with different mindsets. Some of the teachers had the fixed mindset. They believed that students entering their class with different achievement levels were deeply and permanently different:

"According to my experience students' achievement mostly remains constant in the course of a year."

"If I know students' intelligence I can predict their school career quite well."

"As a teacher I have no influence on students' intellectual ability."

Like my sixth-grade teacher, Mrs. Wilson, these teachers preached and practiced the fixed mindset. In their classrooms, the students who started the year in the high-ability group ended the year there, and those who started the year in the low-ability group ended the year there.

But some teachers preached and practiced a growth mindset. They focused on the idea that all children could develop their skills, and in their classrooms a weird thing happened. It didn't matter whether students started the year in the high- or the low-ability group. Both groups ended the year way up high. It's a powerful experience to see these findings. The group differences had simply disappeared under the guidance of teachers who taught for improvement, for these teachers had found a way to reach their "low-ability" students.

How teachers put a growth mindset into practice is the topic of a later chapter, but here's a preview of how Marva Collins, the renowned teacher, did it. On the first day of class, she approached Freddie, a left-back second grader, who wanted no part of school. "Come on, peach," she said to him, cupping his face in her hands, "we have work to do. You can't just sit in a seat and grow smart... . I promise, you are going to *do*, and you are going to *produce*. I am not going to let you fail."

Summary

The fixed mindset limits achievement. It fills people's minds with interfering thoughts, it makes effort disagreeable, and it leads to inferior learning strategies. What's more, it makes other people into judges instead of allies. Whether we're talking about Darwin or college students, important achievements require a clear focus, all-out effort, and a bottomless trunk full of strategies. Plus allies in learning. This is what the growth mindset gives people, and that's why it helps their abilities grow and bear fruit.

IS ARTISTIC ABILITY A GIFT?

Despite the widespread belief that intelligence is born, not made, when we really think about it, it's not so hard to imagine that people can develop their intellectual abilities. The intellect is so multifaceted. You can develop verbal skills or mathematical-scientific skills or logical thinking skills, and so on. But when it comes to artistic ability, it seems more like a God-given gift. For example, people seem to naturally draw well or poorly.

Even I believed this. While some of my friends seemed to draw beautifully with no effort and no training, my drawing ability was arrested in early grade school. Try as I might, my attempts were primitive and disappointing. I was artistic in other ways. I can design, I'm great with colors, I have a subtle sense of composition. Plus I have really good eye-hand coordination. Why couldn't I draw? I must not have the gift.

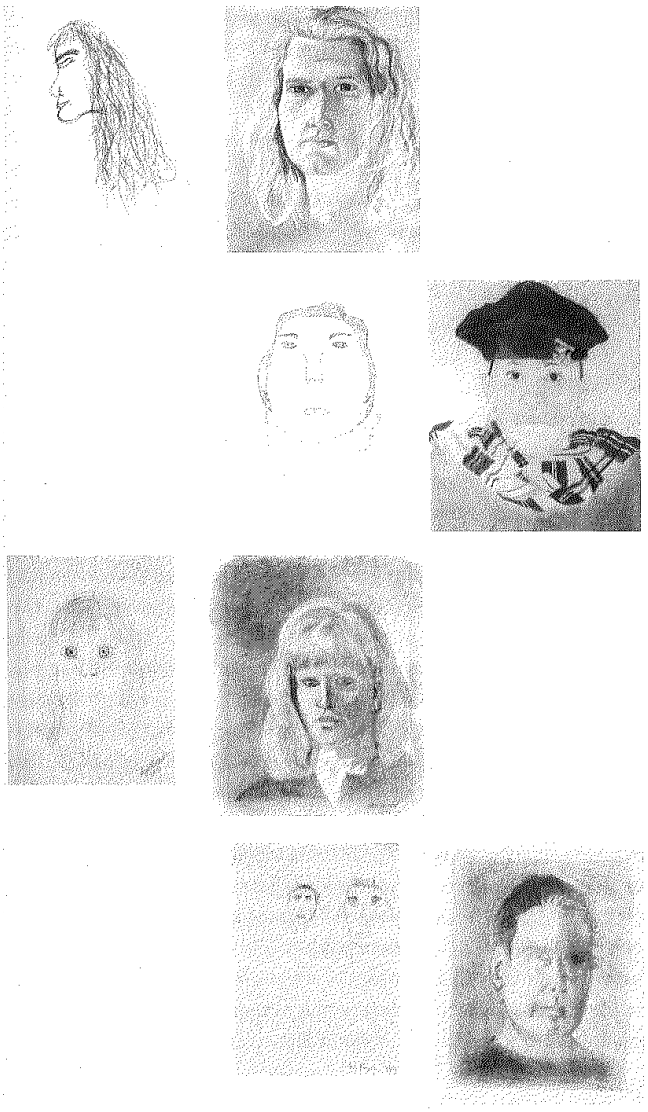
I have to admit that it didn't bother me all that much. After all, when do you really *have* to draw? I found out one evening as the dinner guest of a fascinating man. He was an older man, a psychiatrist, who had escaped from the Holocaust. As a ten-year-old child in Czechoslovakia, he and his younger brother came home from school one day to find their parents gone. They had been taken. Knowing there was an uncle in England, the two boys walked to London and found him.

A few years later, lying about his age, my host joined the Royal Air Force and fought for Britain in the war. When he was wounded, he married his nurse, went to medical school, and established a thriving practice in America.

Over the years, he developed a great interest in owls. He thought of them as embodying characteristics he admired, and he liked to think of himself as owlish. Besides the many owl statuettes that adorned his house, he had an owl-related guest book. It turned out that whenever he took a shine to someone, he asked them to draw an owl and write something to him in this book. As he extended this book to me and explained its significance, I felt both honored and horrified. Mostly horrified. All the more because my creation was not to be buried somewhere in the middle of the book, but was to adorn its very last page.

I won't dwell on the intensity of my discomfort or the poor quality of my artwork, although both were painfully clear. I tell this story as a prelude to the astonishment and joy I felt when I read *Drawing on the Right Side of the Brain*. On the opposite page are the before-and-after self-portraits of people who took a short course in drawing from the author, Betty Edwards. That is, they are the self-portraits drawn by the students when they entered her course and *five days later* when they had completed it.

Aren't they amazing? At the beginning, these people didn't look as though they had much artistic ability. Most of their pictures



reminded me of my owl. But only a few days later, everybody could really draw! And Edwards swears that this is a typical group. It seems impossible.

Edwards agrees that most people view drawing as a magical ability: that only a select few possess, and that only a select few will ever possess. But this is because people don't understand the components—the *learnable* components—of drawing. Actually, she informs us, they are; not drawing skills at all, but *seeing* skills. They are the ability to perceive edges, spaces, relationships, lights and shadows, and the whole. Drawing requires us to learn each component skill and then combine them into one process. Some people simply pick up these skills in the natural course of their lives, whereas others have to work to learn them and put them together. But as we can see from the "after" self-portraits, everyone can do it.

Here's what this means: *Just because some people can do something with little or no training, it doesn't mean that others can't do it (and sometimes do it even better) with training.* This is so important, because many, many people with the fixed mindset think that someone's early performance tells you all you need to know about their talent and their future.

Jackson Pollock

It would have been a real shame if people discouraged Jackson Pollock for that reason. Experts agree that Pollock had little native talent for art, and when you look at his early products, it showed. They also agree that he became one of the greatest American painters of the twentieth century and that he revolutionized modern art. How did he go from point A to point B?

Twyla Tharp, the world-famous choreographer and dancer, wrote a book called *The Creative Habit*. As you can guess from the title, she argues that creativity is not a magical act of inspiration. It's the result of hard work and dedication. *Even for Mozart*. Remember the movie *Amadeus*? Remember how it showed Mozart easily churning out one masterpiece after another while Salieri, his rival, is dying of envy? Well, Tharp worked on that movie and she says: Hogwash! Nonsense! "There are no 'natural' geniuses."

Dedication is how Jackson Pollock got from point A to point B. Pollock was wildly in love with the idea of being an artist. He thought about art all the time, and he did it all the time. Because he was so gung ho, he got others to take him seriously and mentor him until he mastered all there was to master and began to produce startlingly original works. His "poured" paintings, each completely unique, allowed him to draw from his unconscious mind and convey a huge range of feeling. Several years ago, I was privileged to see a show of these paintings at the Museum of Modern Art in New York. I was stunned by the power and beauty of each work.

Can anyone do *anything*? I don't really know. However, I think we can now agree that people can do a lot more than first meets the eye.

THE DANGER OF PRAISE AND POSITIVE LABELS

If people have such potential to achieve, how can they gain faith in their potential? How can we give them the confidence they need to go for it? How about praising their ability in order to convey that they have what it takes? In fact, more than 80 percent of parents told us it was necessary to praise children's ability so as to foster their confidence and achievement. You know, it makes a lot of sense.

But then we began to worry. We thought about how people with the fixed mindset already focus too much on their ability: "Is it high enough?" "Will it look good?" Wouldn't praising people's ability focus them on it even more? Wouldn't it be telling them that that's what we value and, even worse, that we can read their deep, underlying ability from their performance? Isn't that teaching them the fixed mindset?

Adam Guettel has been called the crown prince and savior of musical theater. He is the grandson of Richard Rodgers, the man who wrote the music to such classics as *Oklahoma!* and *Carousel*. Guettel's mother gushes about her son's genius. So does everyone else. "The talent is there and it's major," raved a review in *The New York Times*. The question is whether this kind of praise encourages people.

What's great about research is that you can ask these kinds of questions and then go get the answers. So we conducted studies with hundreds of students, mostly early adolescents. We first gave each student a set of ten fairly difficult problems from a nonverbal IQ test. They mostly did pretty well on these, and when they finished we praised them.

We praised some of the students for their ability. They were told: "Wow, you got [say] eight right. That's a really good score. You must be smart at this." They were in the Adam Guettel *you're-so-talented* position.

We praised other students for their effort: "Wow, you got [say] eight right. That's a really good score. You must have worked really hard." They were not made to feel that they had some special gift; they were praised for doing what it takes to succeed.

Both groups were exactly equal to begin with. But right after the praise, they began to differ. As we feared, the ability praise pushed students right into the fixed mindset, and they showed all the signs of it, too: When we gave them a choice, they rejected a challenging new task that they could learn from. They didn't want to do anything that could expose their flaws and call into question their talent.

When Guettel was thirteen, he was all set to star in a Metropolitan Opera broadcast and TV movie of *Amahl and the Night Visitors*. He bowed out, saying that his voice had broken. "I kind of faked that my voice was changing... . I didn't want to handle the pressure."

In contrast, when students were praised for effort, 90 percent of them wanted the challenging new task that they could learn from.

Then we gave students some hard new problems, which they didn't do so well on. The ability kids now thought they were not smart after all. If success had meant they were intelligent, then less-than-success meant they were deficient.

Guettel echoes this. "In my family, to be good is to fail. To be *very* good is to fail... . The only thing *not* a failure is to be great."

The effort kids simply thought the difficulty meant "Apply more effort or try new strategies." They didn't see it as a failure, and they didn't think it reflected on their intellect.

What about the students' enjoyment of the problems? After the success, everyone loved the problems, but after the difficult problems, the ability students said it wasn't fun anymore. It can't be fun when your claim to fame, your special talent, is in jeopardy.

Here's Adam Guettel: "I wish I could just have fun and relax and not have the responsibility of that potential to be some kind of *great man*." As with the kids in our study, the burden of talent was killing his enjoyment.

The effort-praised students still loved the problems, and many of them said that the hard problems were the most fun.

We then looked at the students' performance. After the experience with difficulty, the performance of the ability-praised students plummeted, even when we gave them some more of the easier problems. Losing faith in their ability, they were doing worse than when they started. The effort kids showed better and better performance. They had used the hard problems to sharpen their skills, so that when they returned to the easier ones, they were way ahead.

Since this was a kind of IQ test, you might say that praising ability lowered the students' IQs. And that praising their effort raised them.

Guettel was not thriving. He was riddled with obsessive-compulsive tics and bitten, bleeding fingers. "Spend a minute with him—it takes only one—and a picture of the terror behind the tics starts to emerge," says an interviewer. Guettel has also fought serious, recurrent drug problems. Rather than empowering him, the "gift" has filled him with fear and doubt. Rather than fulfilling his talent, this brilliant composer has spent most of his life running from it.

One thing is hopeful—his recognition that he has his own life course to follow that is not dictated by other people and their view of his talent. One night he had a dream about his grandfather. "I was walking him to an elevator. I asked him if I was any good. He said, rather kindly, 'You have your own voice.'"

Is that voice finally emerging? For the score of *The Light in the Piazza*, an intensely romantic musical, Guettel won the 2005 Tony Award. Will he take it as praise for talent or praise for effort? I hope it's the latter.

There was one more finding in our study that was striking and depressing at the same time. We said to each student: "You know, we're going to go to other schools, and I bet the kids in those schools would like to know about the problems." So we gave students a page to write out their thoughts, but we also left a space for them to write the scores they had received on the problems.

Would you believe that almost 40 percent of the ability-praised students *lied* about their scores? And always in one direction. In the fixed mindset, imperfections are shameful—especially if you're talented—so they lied them away.

What's so alarming is that we took ordinary children and made them into liars, simply by telling them they were smart.

Right after I wrote these paragraphs, I met with a young man who tutors students for their College Board exams. He had come to consult with me about one of his students. This student takes practice tests and then lies to him about her score. He is supposed to tutor her on what she doesn't know, but she can't tell him the truth about what she doesn't know! And she is paying money for this.

So telling children they're smart, in the end, made them feel dumber and act dumber, but claim they were smarter. I don't think this is what we're aiming for when we put positive labels—"gifted," "talented," "brilliant"—on people. We don't mean to rob them of their zest for challenge and their recipes for success. But that's the danger.

Here is a letter from a man who'd read some of my work:

Dear Dr. Dweck,

It was painful to read your chapter ... as I recognized myself therein.

As a child I was a member of The Gifted Child Society and continually praised for my intelligence. Now, after a lifetime of not living up to my potential (I'm 49), I'm

learning to apply myself to a task. And also to see failure not as a sign of stupidity but as lack of experience and skill. Your chapter helped see myself in a new light.

Seth Abrams

This is the danger of positive labels. There are alternatives, and I will return to them later in the chapter on parents, teachers, and coaches.

NEGATIVE LABELS AND HOW THEY WORK

I was once a math whiz. In high school, I got a 99 in algebra, a 99 in geometry, and a 99 in trigonometry, and I was on the math team. I scored up there with the boys on the air force test of visual-spatial ability, which is why I got recruiting brochures from the air force for many years to come.

Then I got a Mr. Hellman, a teacher who didn't believe girls could do math. My grades declined, and I never took math again.

I actually agreed with Mr. Hellman, but I didn't think it applied to *me*. *Other* girls couldn't do math. Mr. Hellman thought it applied to me, too, and I succumbed.

Everyone knows negative labels are bad, so you'd think this would be a short section. But it isn't a short section, because psychologists are learning *how* negative labels harm achievement.

No one knows about negative ability labels like members of stereotyped groups. For example, African Americans know about being stereotyped as lower in intelligence. And women know about being stereotyped as bad at math and science. But I'm not sure even they know how creepy these stereotypes are.

Research by Claude Steele and Joshua Aronson shows that even checking a box to indicate your race or sex can trigger the stereotype in your mind and lower your test score. Almost anything that reminds you that you're black or female before taking a test in the subject you're supposed to be bad at will lower your test score—a lot. In many of their studies, blacks are equal to whites in their performance, and females are equal to males, when no stereotype is evoked. But just put more males in the room with a female before a math test, and down goes the female's score.

This is why. When stereotypes are evoked, they fill people's minds with distracting thoughts—with secret worries about confirming the stereotype. People usually aren't even aware of it, but they don't have enough mental power left to do their best on the test.

This doesn't happen to everybody, however. It mainly happens to people who are in a fixed mindset. It's when people are thinking in terms of fixed traits that the stereotypes get to them. Negative stereotypes say: "You and your group are permanently inferior." Only people in the fixed mindset resonate to this message.

So in the fixed mindset, both positive and negative labels can mess with your mind. When you're given a positive label, you're afraid of losing it, and when you're hit with a negative label, you're afraid of deserving it.

When people are in a growth mindset, the stereotype doesn't disrupt their performance. The growth mindset takes the teeth out of the stereotype and makes people better able to fight back. They don't believe in permanent inferiority. And if they *are* behind—well, then they'll work harder, seek help, and try to catch up.

The growth mindset also makes people able to take what they can and what they need even from a threatening environment. We asked African American students to write an essay for a competition. They were told that when they finished, their essays would be evaluated by Edward Caldwell III, a distinguished professor with an Ivy League pedigree. That is, a representative of the white establishment.

Edward Caldwell Ill's feedback was quite critical, but also helpful—and students' reactions varied greatly. Those with a fixed mindset viewed it as a threat, an insult, or an attack. They rejected Caldwell and his feedback.

Here's what one student with the fixed mindset thought: "He's mean, he doesn't grade right, or he's obviously biased. He doesn't like me."

Said another: "He is a pompous asshole... . It appears that he was searching for anything to discredit the work."

And another, deflecting the feedback with blame: "He doesn't understand the conciseness of my points. He thought it was vague because he was impatient when he read it. He dislikes creativity."

None of them will learn anything from Edward Caldwell's feedback.

The students with the growth mindset may also have viewed him as a dinosaur, but he was a dinosaur who could teach them something.

"Before the evaluation, he came across as arrogant and overdemanding. [After the evaluation?] 'Fair' seems to be the first word that comes to mind... . It seems like a new challenge."

"He sounded like an arrogant, intimidating, and condescending man. [What are your feelings about the evaluation?] The evaluation was seemingly honest and specific. In this sense, the evaluation could be a stimulus ... to produce better work."

"He seems to be proud to the point of arrogance. [The evaluation?]. He was intensely critical... . His comments were helpful and clear, however. I feel I will learn much from him."

The growth mindset allowed African American students to recruit Edward Caldwell III for their own goals. They were in college to get an education and, pompous asshole or not, they were going to get it.

Do I Belong Here?

Aside from hijacking people's abilities, stereotypes also do damage by making people feel they don't belong. Many minorities drop out of college and many women drop out of math and science because they just don't feel they fit in.

To find out how this happens, we followed college women through their calculus course. This is often when students decide whether math, or careers involving math, are right for them. Over the semester, we asked the women to report their feelings about math and their sense of belonging in math. For example, when they thought about math, did they feel like a full-fledged member of the math community or did they feel like an outsider; did they feel comfortable or did they feel anxious; did they feel good or bad about their math skills?

The women with the growth mindset—those who thought math ability could be improved—felt a fairly strong and stable sense of belonging. And they were able to maintain this even when they thought there was a lot of negative stereotyping going around. One student described it this way: "In a math class, [female] students were told they were wrong when they were not (they

were in fact doing things in novel ways). It was absurd, and reflected poorly on the instructor not to 'see' the students' good reasoning. It was alright because we were working in groups and we were able to give & receive support among us students... . We discussed our interesting ideas among ourselves."

The stereotyping was disturbing to them (as it should be), but they could still feel comfortable with themselves and confident about themselves in a math setting. They could fight back.

But women with the fixed mindset, as the semester wore on, felt a shrinking sense of belonging. And the more they felt the presence of stereotyping in their class, the more their comfort with math withered. One student said that her sense of belonging fell because "I was disrespected by the professor with his comment, 'that was a good guess,' whenever I made a correct answer in class."

The stereotype of low ability was able to invade them—to define them—and take away their comfort and confidence. I'm not saying it's their fault by any means. Prejudice is a deeply ingrained societal problem, and I do not want to blame the victims of it. I am simply saying that a growth mindset helps people to see prejudice for what it is—someone else's view of them—and to confront it with their confidence and abilities intact.

Trusting People's Opinions

Many females have a problem not only with stereotypes, but with other people's opinions of them in general. They trust them too much.

One day, I went into a drugstore in Hawaii to buy dental floss and deodorant, and, after fetching my items, I went to wait in line. There were two women together in front of me waiting to pay. Since I am an incurable time stuffer, at some point I decided to get my money ready for when my turn came. So I walked up, put the items way on the side of the counter, and started to gather up the bills that were strewn throughout my purse. The two women went berserk. I explained that in no way was I trying to cut in front of them. I was just preparing for when my turn came. I thought the matter was resolved, but when I left the store, they were waiting for me. They got in my face and yelled, *"You're a bad-mannered person!"*

My husband, who had seen the whole thing from beginning to end, thought they were nuts. But they had a strange and disturbing effect on me, and I had a hard time shaking off their verdict.

This vulnerability afflicts many of the most able, high-achieving females. Why should this be? When they're little, these girls are often so; perfect, and they delight in everyone's telling them so. They're so well behaved, they're so cute, they're so helpful, and they're so precocious. Girls learn to trust people's estimates of them. "Gee, everyone's so nice to me; if they criticize me, it must be true." Even females at the top universities in the country say that other people's opinions are a good way to know their abilities.

Boys are constantly being scolded and punished. When we observed in grade school classrooms, we saw that boys got *eight* times more criticism than girls for their conduct. Boys are also constantly calling each other slobs and morons. The evaluations lose a lot of their power.

A male friend once called me a slob. He was over to dinner at my house and, while we were eating, I dripped some food on my blouse. "That's because you're such a slob," he said. I was shocked. It was then that I realized no one had ever said anything like that to me. Males say it to each other all the time. It may not be a kind thing to say, even in jest, but it certainly makes them think twice before buying into other people's evaluations.

Even when women reach the pinnacle of success, other people's attitudes can get them. Frances Conley is one of the most eminent neurosurgeons in the world. In fact, she was the first woman ever given tenure in neurosurgery at an American medical school. Yet careless comments from male colleagues—even assistants—could fill her with self-doubt. One day during surgery, a man condescendingly called her "honey." Instead of returning the compliment, she questioned herself. "Is a honey," she wondered, "especially this honey, good enough and talented enough to be doing this operation?"

The fixed mindset, plus stereotyping, plus women's trust in other people's assessments of them: All of these contribute to the gender gap in math and science.

That gap is painfully evident in the world of high tech. Julie Lynch, a budding techie, was already writing computer code when she was in junior high school. Her father and two brothers worked in technology, and she loved it, too. Then her computer programming teacher criticized her. She had written a computer program and the program ran just fine, but he didn't like a shortcut she had taken. Her interest evaporated. Instead, she went on to study recreation and public relations.

Math and science need to be made more hospitable places for women. And women need all the growth mindset they can get to take their rightful places in these fields.

When Things Go Right

But let's look at the times the process goes right.

The Polgar family has produced three of the most successful female chess players ever. How? Says Susan, one of the three, "My father believes that innate talent is nothing, that [success] is 99 percent hard work. I agree with him." The youngest daughter, Judit, is now considered the best woman chess player of all time. She was not the one with the most talent. Susan reports, "Judit was a slow starter, but very hardworking."

A colleague of mine has two daughters who are math whizzes. One is a graduate student in math at a top university. The other was the first girl to rank number one in the country on an elite math test, won a nationwide math contest, and is now a neuroscience major at a top university. What's their secret? Is it passed down in the genes? I believe it's passed down in the mindset. It's the most growth-mindset family I've ever seen.

In fact, their father applied the growth mindset to everything. I'll never forget a conversation we had some years ago. I was single at the time, and he asked me what my plan was for finding a partner. He was aghast when I said I didn't have a plan. "You wouldn't expect your work to get done by itself," he said. "Why is this any different?" It was inconceivable to him that you could have a goal and not take steps to make it happen.

In short, the growth mindset lets people—even those who are targets of negative labels-use and develop their minds fully. Their heads are not filled with limiting thoughts, a fragile sense of belonging, and a belief that other people can define them.

Grow Your Mindset

- Think about your hero. Do you think of this person as someone with extraordinary abilities who achieved with little effort? Now go find out the truth. Find out the tremendous effort that went into their accomplishment—and admire them more.
- Think of times other people outdid you and you just assumed they were smarter or more talented. Now consider the idea that they just used better strategies, taught themselves more, practiced harder, and worked their way through obstacles. You can do that, too, if you want to.
- Are there situations where you get stupid—where you disengage your intelligence? Next time you're in one of those situations, get yourself into a growth mindset—think about learning and improvement, not judgment—and hook it back up.
- Do you label your kids? This one is the artist and that one is the scientist. Next time, remember that you're not helping them—even though you may be praising them. Remember our study where praising kids' ability lowered their IQ scores. Find a growth-mindset way to compliment them.
- More than half of our society belongs to a negatively stereotyped group. First you have all the women, and then you have all the other groups who are not supposed to be good at something or other. Give them the gift of the growth mindset. Create an environment that teaches the growth mindset to the adults and children in your life, especially the ones who are targets of negative stereotypes. Even when the negative label comes along, they'll remain in charge of their learning.