



WHY WE NEED TO REFRAME FAILURE

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On April 6, 1951, forty-one-year-old cardiac surgeon Dr. Clarence Dennis was operating on five-year-old Patty Anderson in a state-of-the-art operating room. It wasn't going well.

Dennis's desire to save the child, who had been diagnosed with a rare congenital heart defect, was intense and urgent. On the observation deck, several of his colleagues at University Hospital in Minnesota watched as Dennis connected his new heart-lung bypass machine to the little girl.

Designed to function as the patient's lungs and heart during surgery, the machine had thus far only been tested on dogs in a laboratory. Extremely complicated, the machine required the assistance of sixteen people during the procedure; its rotating disks served as lungs; a pump performed the heart functions; and its many tubes acted as vessels moving blood throughout the body. Dennis was among a handful of pioneering surgeons in the 1950s determined to discover a way to successfully operate on the heart of a living patient.

Back then, one of the seemingly insurmountable hurdles had been containing the blood that spurted furiously out after cutting into a patient's heart. The heart's function, after all, is to pump blood, and it does it well. Another challenge lay in conducting the delicate surgical repairs on a beating heart. Stitching an organ that lay perfectly still was challenging enough. Yet, stopping the heart to facilitate the procedure would arrest the flow of blood through the body, without which the patient could not survive. Dennis's complicated machine was trying to solve these seemingly intractable problems.

At 1:22 p.m., Dennis ordered his team to tie off Patty's heart and start the pump. It's easy to imagine the entire team holding its collective breath as the first incision was made. Then the unexpected.

As the surgeon cut into the small heart's upper right-hand chamber, blood—way too much blood—flooded into the area surrounding the heart, and the team could not suction fast enough. Something was very wrong.

The incision had revealed that the original diagnosis was incorrect. After forty minutes, they disconnected the little girl from the machine, but it took another forty-three minutes until Dennis admitted defeat. Patty died a day before her sixth birthday.

Devastating failures are difficult for most of us to contemplate. We might even find ourselves feeling outraged by the idea of experiments that have life-and-death implications. Yet for these patients, their only hope was a surgical repair.

Stepping back, we can appreciate that most of today's taken-for-granted medical miracles—including open heart surgery on diseased vessels and valves—were once the impossible dream of medical pioneers.

As cardiologist Dr. James Forrester wrote, "In medicine, we learn more from our mistakes than from our successes. Error exposes truth." But the truth of Forrester's statement does little on its own to make it easy for the rest of us to navigate failure's painful side effects. We need a little more help to overcome the emotional, cognitive, and social barriers to failing well.

WHY IS IT SO HARD TO FAIL WELL?

Failing well is hard for three reasons: aversion, confusion, and fear. Aversion refers to an instinctive emotional response to failure. Confusion arises when we lack access to a simple, practical framework for distinguishing failure types. Fear comes from the social stigma of failure.

In our day-to-day lives, most of us will never face the kinds of high-stakes failures Clarence Dennis experienced, but, still, learning from elite failure practitioners such as Dennis can be illuminating—just as watching professional sports teams can help and inspire the weekend athlete. Even if you're not a medical pioneer or a professional athlete, it's helpful to understand what they confront and overcome to advance their craft. If Robert F. Kennedy was right in claiming that great achievement requires great failure, most of us have work to do.

Although the first successful open-heart surgery did not occur that April day in Minneapolis, today ten thousand surgeons in six thousand centers around the globe perform more than 2 million of these life-saving medical procedures each year—typically using a sophisticated, streamlined descendent of Dennis's heart-lung bypass machine.

It would take another four years for Dennis and his team to perform their first successful operation with the machine, and it would take place at SUNY Downstate Medical Center in New York. During those four years not only did Dennis and other surgeons continue to experience failures in these early machines, but their attempts at other innovative ways to solve the vexing problems of cardiac surgery also met with varying degrees of failure (along with some small successes).

Failure is never fun, and nowhere is that more starkly true than in hospitals, where life and death are at stake. But even our ordinary failures—our mistakes, the unimportant things we do wrong, the small defeats when we hoped for victory—can be surprisingly painful and difficult to come to terms with. You trip on the sidewalk; a comment in a meeting falls flat; you're the last kid selected for the team in an impromptu soccer game. Small failures, to be sure, but for many of us the sting is real.

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Rationally, we know that failure is an unavoidable part of life, certainly a source of learning, and even a requirement for progress. But, as research in psychology and neuroscience has shown, our emotions don't always keep up with our clear-eyed, rational understanding.

Numerous studies show that we process negative and positive information differently. You might say we're saddled with a "negativity bias." We take in "bad" information, including small mistakes and failures, more readily than "good" information. We have more trouble letting go of bad compared to good thoughts. We remember the negative things that happen to us more vividly and for longer than we do the positive ones. We pay more attention to negative than positive feedback. People interpret negative facial expressions more quickly than positive ones. Bad, simply put, is stronger than good. This is not to say we agree with or value it more but rather that we notice it more.

Why are we so sensitive to negative information and criticism? Well, it seems to have offered a survival advantage for early humans, when the threat of rejection from the tribe could mean death. This left us disproportionately sensitive to threats, even the merely interpersonal threat of looking bad in the eyes of others. Today, many of the interpersonal threats we detect in our day-to-day lives are not truly harmful, but we're hardwired to react, even overreact, to them.

We also suffer from what celebrated psychologist Daniel Kahneman called "loss aversion"—a tendency to overweigh losses (of money, possessions, or even social status) compared to equivalent wins. In one study, participants were given a coffee mug and later offered the chance to sell it. To part with their mug, participants had to be given twice as much in compensation as the amount they were willing to pay to acquire the mug.

Irrational, yes. And profoundly human. We don't want to lose; we don't want to fail. The pain of failing, even in simple activities, is more emotionally salient than the pleasure of succeeding.

Aversion to failure is real. Rationally, we know that everyone makes mistakes; we know we live in a complex world where things will go wrong even when we do our best; we know we should forgive ourselves (and others) when we fall short. But failure and fault are inextricably linked in most households, organizations, and cultures.

Ironically, our aversion to failures makes experiencing them more likely. When we don't admit or point out small failures, we allow them to turn into larger ones. When you put off telling your boss about a problem that could derail a critical project—and perhaps miss an important deadline for the customer—you convert a potentially solvable small issue into a larger, more consequential failure.

Similarly, in our lives, when we won't admit that we're struggling, we don't get the help we need. Our aversion to our failures also leaves us vulnerable to feelings of relief when someone else fails. We're instantly glad it's not us. We may experience an automatic, if fleeting, feeling of superiority.

Worse, we can be quick to judge others' failures. When I teach extended case studies of significant failures in the Harvard Business School classroom—for example, one of NASA's two failed shuttle missions—a third of the students express anger, sometimes even outrage, that NASA could have allowed these failures to occur.

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It's human to feel anger and blame, but it's not a strategy for helping us avoid and learn from failure. The complex failures in NASA's Space Shuttle program are fascinating to me and my students. I try to put them to good use to help those of us who are not rocket scientists—or managers of large, complex, high-stakes operations—to learn vicariously (with an open mind and immense humility about the challenges NASA faced) about how to avoid certain kinds of failures in our own lives.

One of the most important strategies for avoiding complex failures is emphasizing a preference for speaking up openly and quickly in your family, team, or organization. In other words, make it psychologically safe to be honest about a small thing before it snowballs into a larger failure. Too many of the large organizational failures I've studied could have been prevented if people had felt able to speak up earlier with their tentative concerns.

Oddly, our aversion holds for both little failures and big ones. We want to feel good about ourselves (not incidentally an important element of mental health), and we want to accomplish things. It's not only surgeons pursuing ambitious dreams of saving lives who hold such hopes. We want our children to go to college and for holidays to always be joyous. Yet in reality we say things we regret, companies and products fail, children struggle, and holidays include conflict and disappointment.

Examining our failures carefully is emotionally unpleasant and chips away at our self-esteem. Left to our own devices, we will speed through or avoid failure analysis altogether.

REFRAMING FAILURE

Athletes in general possess a relatively enlightened understanding of failure's relationship to success. As Canadian ice hockey superstar Wayne Gretzky famously said, "You miss one hundred percent of the shots you don't take."

Sports training and competition naturally entail accepting and learning from multiple failures as part of gaining mastery. Soccer star and Olympic gold medalist Abby Wambach points out that failure means you are "in the game." In her 2018 commencement speech at Barnard College in New York, Wambach exhorted graduates to make failure their "fuel."

Failure, she explained, “is not something to be ashamed of, it’s something to be powered by. Failure is the highest-octane fuel your life can run on.”

Surprising—and revelatory—however, is the study that found athletes who placed third in an Olympic event, earning a bronze medal, appeared happier and less likely to feel the sting of failure than the athletes who finished second and received a silver medal.

Why did silver-medaling Olympic competitors in the study feel as if they’d failed, while their bronze-medaling counterparts felt a measure of success? Psychologists say it’s caused by “counterfactual thinking”—the human tendency to frame events in terms of “what if ” or “if only.”

The silver medalists, disappointed at not having won gold, framed their performance as a failure relative to winning gold. Those who came in third place framed the result as a success—they earned a medal at the Olympics! They were acutely aware of how easily they might have missed the chance to stand on the Olympic podium in glory and not come home with a medal at all.

The bronze medalists had reframed their result—from a loss to a gain. That simple—and scientifically valid—reframe gave them joy instead of regret. How we frame or reframe failure has a great deal to do with our capacity to fail well. Reframing failure is the life-enhancing skill that helps us overcome our spontaneous aversion to failure.

It starts with the willingness to look at yourself—not to engage in extensive self-criticism or to enumerate your personal flaws, but to become more aware of universal tendencies that stem from how we’re wired and are compounded by how we’re socialized. This is not about rumination—a repetitive negative thought process that isn’t productive—or self-flagellation.

But it may mean taking a look at some of your idiosyncratic habits. Without this, it's hard to experiment with practices that help us think and act differently.

Clinical psychology research shows that failures in our lives can trigger emotional distress, anxiety, and even depression. Yet, some people are more resilient than others. What makes them different?

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First, they are less prone to perfectionism, less likely to hold themselves to unrealistic standards. If you expect to do everything perfectly or to win every contest, you will be disappointed or even distressed when it doesn't happen. In contrast, if you expect to try your best, accepting that you might not achieve everything you want, you're likely to have a more balanced and healthy relationship with failure.

Second, resilient people make more positive attributions about events than those who become anxious or depressed. How they explain failures to themselves is balanced and realistic, rather than exaggerated and colored by shame. If you attribute not getting a job offer you wanted to a highly competitive applicant pool or to the company's idiosyncratic preferences, you're more likely to recover from the disappointment than if you think, "I'm just not good enough."

Attributional style has been studied at length by Martin Seligman, the University of Pennsylvania psychologist who launched a revolution in “positive psychology” in the 1990s. Seligman shifted from his field’s focus on pathology to instead study human strengths that enable individuals and communities to thrive. In particular, he studied how people develop positive or negative explanations of the events in their lives.

Fortunately, forming positive attributions is a learnable skill. For instance, when you weren’t selected for that job you wanted, maybe a good friend helped you reframe the situation to think constructively about it. If you bring that learning forward to your next experiences, you are on your way to a healthier relationship with failure.

Note that healthy attributions about failure not only stay balanced and rational, they also take account of the ways—small or large—that you may have contributed to what happened. Maybe you didn’t prepare sufficiently for the interview. This is not to beat yourself up or wallow in shame. Quite the contrary; it’s about developing the self-awareness and confidence to keep learning, making whatever changes you need so as to do better next time.

From the small setbacks we experience in our day-to-day lives to the tragic deaths that occurred in the early days of open heart surgery, failures are an unavoidable part of progress. This is as true for our personal lives as for the vital institutions that shape society.

This is why it’s so important—and ultimately so rewarding—to master the science of failure. 📖



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Named by Thinkers50 in 2021 as the #1 Management Thinker in the world, Edmondson's Ted Talk "How to Turn a Group of Strangers into a Team" has been viewed over three million times. She received her PhD, AM, and AB from Harvard University. She lives in Cambridge, Massachusetts, and is the author of *Right Kind of Wrong*, *The Fearless Organization*, and *Teaming*.



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