BRAIN WASH

Detox Your Mind for Clearer Thinking, Deeper Relationships, and Lasting Happiness

DAVID PERLMUTTER, MD,
and
AUSTIN PERLMUTTER, MD
WITH KRISTIN LOBERG

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LITTLE,
BROWN
SPARK

Preface

The first edition of this book was published in the United States just days before a new and deadly coronavirus swept the globe. The collective anxiety, panic, and stress that descended on society—on top of what people were already shouldering—has only made our message all the more relevant, potent, and needed today. It is a message that focuses on distancing ourselves from fear, enhancing our ability to make good decisions, finding stability in our thought patterns and actions, engaging in behaviors that build physical and mental resiliency, and recognizing the healing power of empathy. As we describe in *Brain Wash,* when we come from a place of empathy, everyone wins.

The Covid-19 pandemic raises an untold number of questions for which we don't have full or satisfactory answers yet. We are only beginning to understand this virus's biology and personality. Its rapid spread has exposed wide gaps in our knowledge and medical infrastructure, disparities among our communities, and the staggering impact of one person's decisions on the health of many. At the same time, the pandemic has sparked worldwide solidarity and scientific collaboration.

Though the focus has primarily been on the direct physical consequences of the virus, it's also clear that navigating this new landscape is causing widespread psychological distress. A March 2020 survey revealed that 36 percent of American adults were already experiencing a serious impact on their mental health due to the virus. When 1,210 Chinese respondents were polled on their mental health in early 2020, over half reported the psychological impact of Covid-19 as moderate to severe. Another survey done by the Harris Poll revealed that loneliness is rising sharply; 44 percent of Americans are lonelier now than ever before as a direct result of the coronavirus pandemic. And more than half of Americans (52 percent) wish they had tips on how to better take care of their mental health during this time. Given the degree to which lives have been changed to date, it's likely we'll experience

psychological—and economic—aftershocks of Covid-19 for decades to come.

The truth is, we may have to learn to live with the physical and mental consequences of Covid-19 for a while. The good news is that we each can take action today to address the challenge, thrive despite unpredictability, and preserve our health, safety, and wellness—especially mental well-being. This starts with optimizing the brain for clear, conscientious thinking. As a result of this process, we can allay fears and fortify our resistance to all manner of disease. The science-backed interventions we describe and show you how to apply to your everyday life—limiting news exposure, developing mindful practices, leveraging social media's beneficial sources of authentic connection, creating healthier sleep and dietary habits, and spending more time with nature—will serve to renovate your body and rewire your brain for navigating this new normal as effortlessly and fearlessly as possible.

We have temporarily given up some freedom in our fight against this invisible enemy. But we retain the ability to choose how we show up in the world. Yes, we should acknowledge the struggles of the moment. But we should also look for opportunities for growth. When we invest in our thinking and our health, we bring the best versions of ourselves to all we do and can more easily face the challenges ahead. We hope this book provides you with wellness and strength as we navigate this period together.

—Drs. David and Austin Perlmutter, April 2020

Introduction

A New Reality

If you want to be happy, be.

—Leo Tolstoy

When was the last time you felt truly happy, fulfilled, clear-minded, well rested, and deeply connected not only to yourself but also to the people and world around you? If it's been a while, this book is for you. You're far from alone in this feeling. Millions of people are suffering today and either don't realize it or don't know what to do about it. Some have given up and are going through the daily motions as best they can. It doesn't have to be this way.

You can wake up from this state of monotony and start pursuing lasting joy and a deeply meaningful existence—even as you move through struggles, disappointments, and challenges. Those are inevitable. What is not inevitable is feeling chronically untethered, foggy-minded, anxious about an uncertain future, and frustrated—maybe even shattered—by life itself. The thing is, there are very real ways to avoid many of these feelings and, even more important, create ongoing happiness in your life. Some of the strategies shared in the pages ahead will be easier than others, but all will be doable and accessible.

Let us confess from the get-go: we haven't attained a perfect realization of this goal. We're on this journey with you. Our belief is that we've found a powerful way to reframe and reclaim our potential for exceptional mental and physical health, and we can't wait for you to implement this in your own life.

Here's the paradox that persecutes us today: modernity provides us with infinite opportunities. We can eat whatever we want whenever we want. We can completely immerse ourselves in the vast, enticing world of digital media. We can buy goods and

services and even find potential mates with the touch of a button or swipe of a finger. We can live around the clock in a virtual world where everything about us is public, from our thoughts and perspectives to our purchases, photos, browsing habits, likes and dislikes, and location. We think this 24-7 "new reality" should make us healthy and happy. But it doesn't. The systems in place to meet—and exceed in many regards—all our basic needs do not create Utopia. Quite the opposite. We struggle with soaring rates of largely preventable illnesses, and many of us are more lonely, depressed, and anxious than ever before. Genuine joy remains elusive.

The crazy thing is, despite what the incessant news cycle would have us believe, our modern world is relatively peaceful. Yet poll a large, diverse group of people and the vast majority of them will say they think we live in perilous times. They are fearful, uneasy, and nervous. They feel trapped. Life, overall, is just not a pleasant experience. What's more, distrust in one another has reached a new high. A 2014 survey of ten thousand Americans revealed the biggest division in political ideologies in decades, and since 2004, the percentage of people with negative views of the opposing party has more than doubled.[1] For anyone keeping abreast of the news, this finding is probably not surprising.

We promise to bring you a new framework for living your life. Together we are going to find a way to cultivate and maintain a more fulfilling existence beyond robust health and psychological well-being. It's time for a brain wash of an entirely different kind.

THE PROMISE… AND THE PROBLEM

Imagine for a moment that you're not particularly concerned about anything. You feel grounded and energetic, not the least bit worn, weighed down, burned out, or dead inside. You trust your body's innate physiology to take care of you and heal on its own. You're not overly stressed because you have confidence that any challenges you have will work themselves out. You're comfortable not knowing what tomorrow will bring, though you have a sense of positive agency over the possibilities. And you are okay with the past, however traumatic it was. You're even okay with friends who have completely different viewpoints from yours. Everything feels

right. Your private self-talk is hopeful, relaxed, and open. The sound track of your life is a song you want to play over and over again.

It's hard to consider this level of calmness and contentment when the obligations of the modern world feel more inescapable and crushing with each passing day. But this can be your reality. The secret is knowing what's going on in your head and then changing the circuitry that leads you down destructive paths. This book builds from a simple premise:

> *Our brain's performance is being gravely manipulated, resulting in behaviors that leave us more lonely, anxious, depressed, distrustful, illness-prone, and overweight than ever before. At the same time, we feel disconnected from ourselves, from others, and from the world at large.*

Few people would debate the fact that poor choices in our day-to-day activities influence our health. For example, we know that junk foods are bad for us and, over time, can lead to all manner of diseases. So why is it that we persist in eating these foods? Why do we consistently choose to consume the wrong things? The answer is complicated, but part of the solution is to understand a basic truth: we are being programmed to ingest these poisons.

Our dietary choices are among many lifestyle habits that can lead to either wellness or chronic disease. Chronic disease accounts for 70 percent of American deaths: half of Americans are suffering from at least one chronic illness, including diabetes, heart disease, cancer, and Alzheimer's disease.[2] And while we continue to argue over how to change our health-care system, we forget that we spend 75 percent of our health-care dollars on preventable diseases.[3] The World Health Organization now ranks chronic degenerative diseases such as the illnesses we just mentioned as collectively the number one cause of death on the planet, ahead of famine, infectious diseases, and wars.[4]

That may not be news to you if you are aware of the critical link between poor diet and disease. But what you may not realize is that **the food you eat and the beverages you drink change your emotions, your thoughts, and the way you perceive the world.** Just as important, your mood and perceptions also directly

and powerfully influence your dietary choices. This fact is exploited by the food-production industry and creates a vicious cycle that will destroy your health—and your mind. We will show you how to break it. But this is so much bigger than just our food choices.

Through incessant exposure to advertisements, you are being reminded thousands of times a day that instant gratification is the way to happiness. The message comes in subliminally. Billions of dollars are spent to persuade you to keep pursuing happiness the wrong way, by literally rewiring your brain so that you crave the things that bring you further from your goal. You might think that you are doing everything you are supposed to do in order to succeed at life, but still, things are not wonderful. Social media tells you that everyone else is having a great time. Ads tell you that buying something will change your life or that a diet pill will instantly fix your love handles. Your attempts at eating healthfully are thwarted by a limitless supply of delicious and cheap calories. You feel like being unhealthy is *your fault.* This depressing scenario is now the norm, fueling a culture of chronic stress. Unfortunately, this type of stress is toxic to the brain, damaging the very parts of it that help you have a sense of agency—to feel in control of your life. And in your attempts to cope, you again turn to instant gratification, making it harder to break the neural circuits that trigger and reinforce this behavior. The escape hatch moves further away. In the chapters ahead, you'll discover exactly how this happens and what you can do about it. **You can be better.** Your body and mind want to improve, they just need to know how.

From a biological perspective, many factors lead us into the trap of instant gratification. We'll explain these factors over the course of the book. For example, you may already know that chronic inflammation is closely linked to many of the diseases that afflict us today. But you may not know that chronic inflammation also influences the brain—leading you to make poor decisions and act impulsively.

In part 1, "Living Under the Influence," we'll reveal the mental hijacking that undermines each and every one of us in our search for meaning, joy, and lasting wellness. In part 2, "Breaking the Spell," we'll present the tools necessary to think more clearly, strengthen bonds with others, and develop healthful habits. For

those of you who need a structural blueprint, we've got a practical ten-day program that puts all the strategies together. Indeed, you can begin to change the trajectory of your health and life in ten days.

WHERE WE COME FROM

It's not every day that you read a book written by a father and son. We joined forces from two completely different generations sharing one question: What makes health and happiness so elusive? Below, we talk about where we're coming from in our own individual words.

Austin: While completing my residency in internal medicine, I followed the traditional approach to health, which emphasizes the diagnosis and treatment of individual diseases. I did my best to properly identify and manage my patients' many problems. Yet despite my efforts, most of my patients seemed less than interested in adhering to my carefully crafted plans. Why would they decide against taking life-prolonging medications or eating a diet that would, in theory, protect them from developing heart failure or diabetes?

I mistakenly believed that my interests and those of my patients were the same. This failure of reasoning was resolved when I started asking my patients one question: What do you really care about? I expected my patients to tell me that their health was paramount, but I was shocked by how wrong my assumption turned out to be. Very few people told me that their health was their priority, at least not in the way I expected. Instead, what they valued most were their families, friends, and, surprisingly, even their hobbies. It became clear that these were the things that brought them meaning and joy. What they really cared about was *connection*. Good health was simply a tool to get them there.

I realized I needed to reframe my perspective on how to help others. If I truly wanted to assist my patients in the best way possible, I needed to start with connection.

This led me to deepen my understanding of how we interact with ourselves, with others, and with our environment. I saw that meaningful connection was not found by buying new things or

engaging in quick digital interactions. And yet our culture seems increasingly set on directing us to pursue these endeavors. Worrisome data show that we spend an increasing amount of time each day focused on the short-term fix and miss out on the very moments that consistently improve the quality of our lives. I now understand that the question is not just how to foster connection but also how to identify and remove the aspects of life that keep us from experiencing it. I started by looking at how to improve connection and found that escaping from disconnection may be even more important. The chance to explore this critical topic with my father and to bring these findings to the world has been one of the most gratifying experiences of my life.

David: My mission over the past four decades has been to do my very best to empower through knowledge. The way in which lifestyle—including diet and physical activity—relates to health and longevity has always been a central theme in my books and lectures. I've been presenting this information because it might not otherwise be obvious in the face of rampant advertising. It has become clear to me that disconnection is at the core of what's keeping us from truly embracing health, longevity, happiness, and contentment. These goals are attainable.

This book has been a labor of love. What an honor it is to have been given the opportunity to connect with my son on this project and learn from his perspective as an individual as well as a representative of his generation. This gives me great hope in looking to the future.

UNWIRE AND REWIRE YOUR BRAIN FOR THE BETTER

When we began to research this book, we could not have predicted what we would find. Within the first month, both of us felt at once alarmed and transformed as we embraced the importance of our task. The further we dug into the research, the more we knew we were onto something *big*—something that had the potential to affect not only individuals (including us) but also the planet and its societies as a whole. This is not a trivial point. The destiny of Earth is at stake here. That may sound like an overstatement, but we will make our case. Happy, connected people make for a happy planet, both in the context of individual health and the environment's

health. When you look around you and consider the state of our planet, you know that things are currently not sustainable. **We need you.** And we need one another.

We fully appreciate the significant benefits that come from living in the modern world. And we're not advocating that you remove yourself from it. For example, when it comes to modern technology, we couldn't have written this book without online research databases and video conference calls. Instead, we are calling for a different approach to our digital world, one in which we are conscious users of our technology—not used by it. Our world provides incredible opportunities to learn from and connect with one another through digital networks, but it's imperative that we use these opportunities the right way. The world has so much to offer, and the tools to change your life—and health—are right in front of you. We can't wait to share them.

Despite the scope of this book, our strategy focuses on creating a practical framework that you can implement in your life right away. We live and work in the modern world and understand the limitations of what's possible and realistic. The good news is that so much of what's keeping us from achieving lasting health and happiness is within our power to change. We know you can get there—through an overhaul of your mind's operating system. We don't have to be victims of poor health, loneliness, and the constant urge to pursue the next short-term fix. This new framework—a reconnecting, life-changing "brain wash"—teaches you how to clean up your mind and activate the brain pathways that bring clear thinking, deep relationships, and mental well-being.

Ready? Let's get to work.

PART I

LIVING UNDER THE INFLUENCE

CHAPTER 1

Disconnection Syndrome

A Sad State of Affairs

In the materialistic way of life, there's no concept of friendship, no concept of love, just work, twenty-four hours a day, like a machine. So in modern society, we eventually also become part of that large moving machine.

—His Holiness the 14th Dalai Lama, *The Book of Joy*

When you woke up this morning, what was the first thing you did? What sequence of events describes your typical morning? Our bet is that your routine has shifted dramatically from what it was just ten or fifteen years ago. How many minutes go by before you check your cell phone or scroll through media, social or otherwise? How many swipes and clicks do you perform? What do you normally eat for breakfast? Cold cereal, a bagel, muffin, pastry, or a doughnut on the go? What kinds of personal interactions do you have with your loved ones before you leave the house?

As you drive to work on the same route you've always taken, are you tuned in to yourself and calmly focused on the day ahead? Or are you feeling anxious, scattered, and overwhelmed? Are you texting, checking your email, and talking on your cell phone while you should be concentrating on the traffic signals? When you arrive at work, do you find it hard to focus and concentrate for long stretches of time without the pull of digital distractions? Do you eat lunch at your desk? Do you multitask throughout the day with your phone always nearby? Do you connect with people mostly through emails, texts, and phone calls rather than in person?

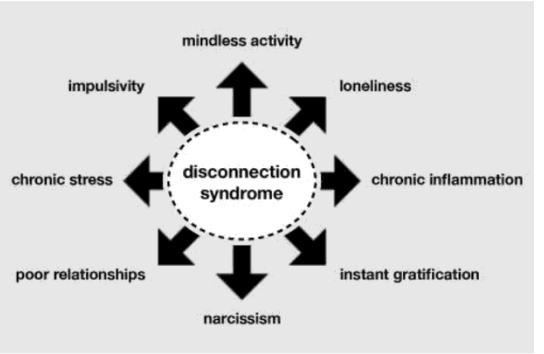
After work, do you make time for a refreshing outdoor walk or workout? Or do you get home, pour yourself a drink, and eat dinner—perhaps a meal consisting of processed or packaged food? Do you find yourself going to bed exhausted and spent from the day yet unable to sleep? Do you wake up intermittently throughout the night? And when you rise in the morning, do you wake up feeling down and out, only to go through the same monotonous routine again?

Our society has experienced a fundamental shift since the beginning of the twenty-first century, largely because of an explosion in the availability of personal technology that keeps us locked on the grid. It's estimated that 70 percent of humans on the planet now own a smartphone.[1] Data show that the average internet user spends more than two hours a day on social networking.[2] One survey found that 42 percent of the time Americans are awake, their eyes are fixated on a television, smartphone, computer, tablet, or other device.[3] Supposing the average American sleeps eight hours a night, that means people spend about six hours and forty-three minutes a day staring at a screen. Over the course of a typical life span, that's 7,956 days, or nearly twenty-two years.

This tectonic shift has led to a culture of disconnection all around us—we walk around with our heads down, fixated on our devices, avoiding ideas that differ from our own, while confronting constant messages telling us what to do (eat more, buy more, post more, be "liked" more). If we're really paying attention, we can feel it within us. A void. A sense of longing. Participating in our modern consumerist existence is physically changing our brains. How, exactly? It is cutting off access to the highly evolved part of the brain that lets us see the big picture and make well-thought-out decisions. Simultaneously, it is strengthening the pathways that make us impulsive, anxious, fearful, and constantly craving a quick fix. This rewiring leads us to spend our time and money on things that do not bring us long-term happiness. It leaves us constantly unsatisfied. And that's exactly where corporate interests want us to be, because it leads to higher profits. The frightening truth is this: our brains are increasingly running on a program controlled by others—namely, commercial interests hoping to capture the primitive brain's desire for instant

gratification.

Your attention and your decisions are sold to the highest bidder, to companies with the best understanding of how to manipulate your psychology and biology for their own profit. These companies understand how to tap into powerful neurological pathways, creating a nearly irresistible addiction to short-term pleasures and a commercialized illusion of sustainable joy. We call this state of separation from sustainable happiness *disconnection syndrome,* and it's time to take a stand against it. Below is a visual representation of the top eight characteristics of disconnection syndrome. We'll be exploring each of these in detail within the context of brain health and function.



A MODERN-DAY PARADOX

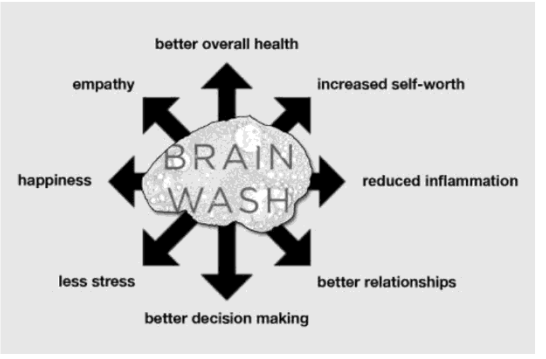
Step 1 in taking a stand against disconnection syndrome is to take a hard look at the difference between the world we're led to believe in and the actual facts. Looking behind the curtain at the reality we currently face can be daunting. But through this process comes true power. By appreciating things for the way they are, you begin to take back control of your life. With an understanding of how and why your brain has been hijacked, you can choose to change your life. Replacing choices that don't help you with those that do frees you to pursue long-term satisfaction and lasting fulfillment. And when you can take control of your brain's wiring, you can build a system that continues to make those good choices.

At first glance, it would seem we've never had more opportunities to pursue and achieve happiness than we do today.

past experience; and have social "control" (i.e., the ability to suppress urges that, if not contained, could lead to socially unacceptable outcomes). Scientific research on executive function is currently exploding and shows that, indeed, many environmental factors within our control can affect the health and functionality of the prefrontal cortex and ultimately our behavior and well-being.

Unfortunately, much of modern life conspires to keep our brains from taking full advantage of the prefrontal cortex. Instead, we find our actions driven by impulsivity, fear, and a need for instant gratification, which are triggered by overactivation of the *amygdala* (an emotional center of the brain) as well as by the constant stimulation of the brain's reward circuits (more on this shortly).

There is a way out of this mess. We'll reveal how improving your diet, sleep hygiene, exposure to nature, exercise habits, conscious consumption, mindful practices, and interpersonal interactions can affect your relationship with your own mind and help you reconnect to your prefrontal cortex, literally building a better brain, which leads to better decisions and, in the end, a better you. Here's a visual representation of what we'll be covering:



BIOLOGICAL WARFARE

> Inevitably, the manufacturers of processed food argue that they have allowed us to become the people we want to be, fast and busy, no longer slaves to the stove. But in their

> hands, the salt, sugar, and fat they have used to propel this social transformation are not nutrients as much as weapons—weapons they deploy, certainly, to defeat their competitors but also to keep us coming back for more.
>
> —Michael Moss, *Salt Sugar Fat*

The quickest way to grasp the depth of our addictions is to consider the biological warfare taking place on our plates. We readily accept the idea of "health food stores," but that certainly raises the question: What are the other food stores selling?

In the world of nutrition, we've become slaves to a perverted redefinition of what the word *food* actually means. Our diet has undergone a jaw-dropping transformation in the last ten thousand years. The idea of food as nutrition has become a vanishing concept. Instead, we consume energy-dense, nutrient-poor foods and beverages that wreak havoc on our health, especially on our brain health. A surplus of calories pushes our bodies into a downward spiral of chronic, preventable diseases—including obesity, hypertension, heart disease, diabetes, and cancer—and, ultimately, to an early death. Research conducted by the Friedman School of Nutrition Science and Policy at Tufts University suggests that poor eating causes nearly *one thousand deaths each day* in the United States from heart disease, stroke, or diabetes.[12] The worst part? Consuming nutrient-poor foods forces the body and brain into a perpetual loop that keeps us craving and coming back for more, restructuring the brain for the worse. And this is getting costly: in 2016, the direct and indirect costs of chronic diseases resulting from obesity were $1.72 trillion.[13] That's almost 10 percent of the nation's gross domestic product.

Unfortunately, any person carrying around the extra weight caused by consuming empty calories is deemed a failure—rather than a victim of the toxic, addictive system that created this pathological state in the first place. If you're someone who has struggled with your weight, please understand that the deck has been and remains actively stacked against you and your willpower. *This is not your fault.* In chapter 7, we'll show how and why modern foods, which have been stripped of everything healthful, became so addictive and ever-enticing. The power of this addiction is not

having our meal, I grew increasingly uncomfortable and shortly thereafter developed incredible pain—specifically, in my testicles. This pain far exceeded anything I had ever experienced, including while playing contact sports, so my parents and I decided that I should go to an emergency room. It was there that I was diagnosed with mumps, a disease that could have made me sterile.

Looking back, I know that without question, my health was severely jeopardized by lack of sleep, chronic stress, poor dietary choices, and an almost total absence of exposure to nature. Although I didn't undergo any blood testing to evaluate the level of inflammation in my body, I have no doubt that my markers would have been extremely high. Fortunately, the change I needed to make was clear. I decided to switch from neurosurgery to neurology, a specialty in which I could have better control of my time (and life). I truly believe that that simple decision saved me. And while so many maladaptive lifestyle events have conspired to bring me down, I've learned over the years that not every lifestyle factor has to be compromised in order for a person to manifest illness. A bad diet, not enough restorative sleep, or unrelenting stress, individually, can be devastating.

Even on days when we're dealing with serious challenges or setbacks, or when we experience a disappointment or loss, we can still live with an undercurrent of optimism and contentment. Happiness and frustration are not mutually exclusive. But we cannot feel authentically joyful while being impetuous, lonely, narcissistic, indifferent, and dispassionate. Those descriptors cannot coexist. They keep us disconnected, and they keep us sick.

The health issues of the modern world are more than the list of individual conditions in a textbook. True health is a vibrant state of mental and physical well-being that transcends any specific diagnosis. This place of wellness is found through deep connection to ourselves, to others, and to the living space that we share with all humans. In order to get there, we need to take a close look at the central player: the brain.

responses to rewards such as food, sex, and social interactions. As we'll soon see, dopamine plays a central role in our incessant need for instant gratification and in the development of addiction. Pleasure-inducing chemicals like the feel-good endorphins, which act on the body's opiate receptors, are also involved. When we experience something that initiates the reward circuit, these brain chemicals influence the brain and body to continue seeking out whatever stimuli are generating the pleasurable sensation.

The limbic system is not a single structure. Scientists have debated the specific components of the limbic system, but most descriptions include the amygdala, hippocampus, thalamus, hypothalamus, and cingulate gyrus. All these components work together to control some of the brain's most important processes. You don't need to understand all this anatomy or even how these structures collaborate in scientific detail. We'll be simplifying what you need to know for the purposes of our discussion, and we'll be homing in on the area of the limbic brain that has received a substantial amount of attention: the *amygdala*.

The amygdala has been the subject of much study for several decades. When scientists intentionally damage the amygdala in research animals, they find the animals lose their aggressive behavior and their ability to react normally to fear. They become fearless. Although such studies in monkeys date back decades, only recently have we documented similar findings in humans. In 2010, an unusual human case allowed scientists to confirm that a missing amygdala has behavioral consequences.[5] A forty-four-year-old woman, code-named patient SM to protect her privacy, suffered a rare condition that led to an absence of brain tissue in the place where her amygdala would normally reside. Not only did she lack fear of creatures such as snakes and spiders, she would also put her life at risk without any apparent concern. In one instance, she walked through a park alone at night and was attacked by a man with a knife. The following day, she again walked through the same park. World-famous climber Alex Honnold, whose Academy Award–winning documentary, *Free Solo,* chronicles his climb up Yosemite National Park's Half Dome alone without a rope, owes some of his fearlessness to the way in which his brain fires. Turns out his amygdala doesn't activate normally.[6] It remains relatively quiet during his sensation-seeking

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Chapter 11