***The Upside of Stress*- Kelly McGonigal, Ph.D.**

**Introduction**

If you had to sum up how you feel about stress, which statement would be more accurate?

1. Stress is harmful and should be avoided, reduced, and managed.
2. Stress is helpful and should be accepted, utilized, and embraced.

Ten years ago, I would have chosen A without a moment’s hesitation. I’m a health psychologist and through all my training in psychology and medicine, I got one message loud and clear: Stress is toxic. I told people that stress makes you sick; that it increases your risk of everything from the common cold to heart disease, depression, and addiction; and that it kills brain cells, damages your DNA, and makes you age faster. I turned stress into the enemy, and I wasn’t alone. I was just one of many psychologists, doctors, and scientists crusading against stress. Like them, I believed that it was a dangerous epidemic that had to be stopped. But I’ve changed my mind about stress and I want to change yours.

Let me start by telling you about the shocking scientific finding that first made me rethink stress. In 1998, thirty thousand adults in the United States were asked how much stress they had experienced in the past year. They were also asked, do you believe stress is harmful to your health?

Eight years later, the researchers scoured public records to find out who among the thirty thousand participants had died. Let me deliver the bad news first: High levels of stress increased the risk of dying by 43 percent. But- and this is what got my attention- that increased risk applied only to people who also believed that stress was harming their health. People who reported high levels of stress who did not view their stress as harmful were not more likely to die. In fact, they had the lowest risk of death of anyone in the study, even lower than those who reported experiencing very little stress. The researchers concluded that it wasn’t stress alone that was killing people. It was the combination of stress and the beliefs that stress is harmful.

Even if the techniques I was teaching for stress reduction- such as physical exercise, meditation, and social connection- were truly helpful, was I undermining their benefit by delivering them alongside the message that stress is toxic? Was it possible that in the name of stress management, I had been doing more harm than good?

I’d always told my psychology students at Stanford University that the most exciting kind of scientific finding is the one that challenges you how to think about yourself and the world. But then I found the tables were turned. Was I ready to have my own beliefs challenged?

Two things in my training as a health psychologist made me open to the idea that how you think about stress matters- and to the possibility that telling people “Stress will kill you!” could have unintended consequences. First, I was already aware that some beliefs can influence longevity. For example, people with a positive view about aging live longer than those who hold negative stereotypes about getting older. One classic study by researchers at Yale University followed middle-aged adults for twenty years. Those who had a positive view of aging in midlife lived an average of 7.6 years longer than those who had a negative view.

Another example of a belief with a belief with long-reaching impact has to do with trust. Those who believe that most people can be trusted tend to live longer. In a fifteen-year study by Duke University researchers, 60 percent of adults over the age of fifty-five who viewed others as trustworthy were still alive at the end of the study. In contrast, 60 percent of those with a more cynical view of human nature had died.

The second thing that made me willing to admit I might be wrong about stress was what I know about the history of health promotion. If telling people that stress is killing them is a bad strategy for public health, it wouldn’t be the first time a popular health promotion strategy backfired. Some of the most commonly used strategies to encourage healthy behavior have been found to do exactly the opposite of what health professionals hope.

For example, when I speak with physicians, I sometimes ask them to predict the effects of showing smokers graphic warnings on cigarette packs. In general, they believe that the images will decrease smokers’ desire for a cigarette and motivate them to quit. But studies show that the warning often have the reverse effect. The most threatening images (say, a lung cancer patient dying in a hospital bed) actually i*ncrease* smokers’ positive attitudes toward smoking. The reason? The images trigger fear, and what better way to calm down than to smoke a cigarette? The doctors assumed that the fear would inspire behavior change, but instead it just motivates a desire to escape feeling bad.

Well intended doctors and psychologists convey a message they think will help; instead, the recipients end up overwhelmed, depressed, and driven to self-destructive coping strategies.

The latest science reveals that stress can make you smarter, stronger, and more successful. It helps you learn and grow. It can even inspire courage and compassion. The new science also shows that changing your mind about stress can make you healthier and happier. How you think about stress affects everything from your cardiovascular health to your ability to find meaning in life. The best way to manage stress isn’t to reduce or avoid it, but rather to rethink and even embrace it.

Embracing stress can make you feel more empowered I the face of challenges. It can enable you to better use the energy of stress without burning out. It can help you turn stressful experiences into a source of social connection rather than isolation. And finally, it can lead you to find new ways of finding meaning in suffering.

Focusing on the upside of stress is not about deciding whether stress is either good or bad. It’s about how choosing to see the good in stress can help you meet the challenges in your life.

**Part 1: Rethink Stress**

**Chapter 1: How to Change Your Mind About Stress**

Mindsets are beliefs that shape your reality. A mindset is a belief that biases how you think, feel, and act. It’s like a filter that you see everything through. Mindsets are core beliefs that reflect your philosophy of life. These beliefs have the potential to shape how you interpret experiences and make decisions. The new field of mindset science shows that a single brief intervention, designed to change how you think about something, can improve your health, happiness, and success, even years into the future.

People with a negative view of aging are more likely to view poor health as inevitable. Because they feel less capable of maintaining or improving their health as they age, they invest less time and energy in their future well-being. In contrast, people with a positive attitude toward growing older engage in more health-promoting behaviors, like exercising regularly and following their doctor’s advice. Changing a person’s mind about aging can even promote healthy behaviors. It turns out that how you think about stress is also one of those core beliefs that can affect your health, happiness, and success.

Small shifts in mindset can trigger a cascade of changes so profound that they test the limits of what seems possible. We are used to believing that we need to change everything about our lives first, and then we will be happy, or healthy, or whatever it is we think we want to experience. The science of mindset says we have it backward. Changing our minds can be a catalyst for all the other changes we want to make in our lives.

**Get to Know Your Stress Mindset**

The first step toward changing your mind about stress is to notice how your current mindset shows up in everyday life. We usually don’t see the effect of a mindset because we are too identified with the beliefs behind it. The mindset doesn’t feel like a choice that we make; it feels like an accurate assessment of how the world works. Even if you are fully aware of what you think about stress, you probably don’t realize how that belief affects your thoughts, emotions, and actions. I call this “mindset blindness.” The solution is to practice mindset mindfulness- by paying attention to how your current stress mindset operates in your life.

To get to know your stress mindset, start to notice how you think and talk about stress. Because a mindset is like a filter that colors every experience, you’ll probably discover that you have a standard way of thinking and talking about stress. What do you say out loud or think to yourself? Notice how thinking about stress in your habitual way makes you feel. Does it motivate you? Inspire you? Exhaust you? Paralyze you? How does it make you feel about yourself or your life?

The most helpful mindset toward stress is one that is flexible, not black or white: to be able to see both sides of stress but choose to see the upside; to feel your own distress and yet also decide to focus on how that stress connects to what you care about. Making a deliberate shift in mindset when you’re feeling stressed is even more empowering than having an automatically positive view.

Seeing the good in stress doesn’t require abandoning the awareness that, in some cases, stress is harmful. The mindset shift that matters is one that allows you to hold a more balanced view of stress- to fear it less, to trust yourself to handle it, and to use it as a resource for engaging with life.

**Chapter 2: Beyond Fight-or-Flight**

As Stanford neuroscientist Robert Sapolsky explains in the documentary *Stress: Portrait of a Killer* (how’s that for a mindset message?), “You turn the stress response on because a lion has mauled you; you turn the stress response on because you’re thinking about taxes.” If you think that the body’s response to stress is always fight-or-flight, then the stress response begins to look like evolutionary baggage. This is what many scientists argue.

So what’s wrong with this point of view? Let’s be clear: A stress response that supported only two survival strategies- throw a punch or run like hell- would truly be a mismatch for modern life. But the full picture of the human stress response turns out to be much more complex. Fleeing and fighting are not the only strategies that your body supports. As with humans themselves, the stress response has evolved, adapting over time to better fit the world we live in now. It can activate multiple biological systems, each supporting a different coping strategy. Your stress response won’t just help you get out of a burning building; it will also help you engage with challenges, connect with social support, and learn from experience.

**Stress Gives You Energy to Help You Rise to the Challenge**

A fight-or-flight response starts when your sympathetic nervous system kicks in. Your stress response gets you ready to face whatever challenges lie in front of you. This part of the stress response gives you extraordinary physical abilities. The energy you get from stress doesn’t just help your body act; it also fired up your brain. Adrenaline wakes up your senses. Your pupils dilate to let in more light, and your hearing sharpens. The brain processes what you perceive more quickly.

You also get a motivation boost from a chemical cocktail of endorphins, adrenaline, testosterone, and dopamine. This side of the stress response is one reason some people enjoy stress- it provides a bit of a rush. Together, these chemicals increase your sense of confidence and power. They make you more willing to pursue your goals and to approach whatever is triggering the flood of feel-good chemicals. Some scientists call this the “excite and delight” side of stress.

When your survival is on the line, these biological changes come on strong, and you may find yourself having a classic fight-or-flight response. But when the stressful situation is less threatening, the brain and body shift into a different state: the *challenge response*. Like a fight-or-flight response, a challenge response gives you energy and helps you perform under pressure. Your heart rate still rises, your adrenaline spikes, your muscles and brain get more fuel, and the feel-good chemicals surge. But it differs from a fight-or-flight response in a few important ways: You feel focused but not fearful. You also release a different ratio of stress hormones, including higher levels of DHEA, which helps you recover and learn from stress. This raises the growth index of your stress response, the beneficial ratio of stress hormones that can determine, in part, whether a stressful experience is strengthening or harmful.

People who report being in a flow state- a highly enjoyable state of being completely absorbed in what you are doing- display clear signs of a challenge response. Artists, athletes, surgeons, video gamers, and musicians all show this kind of stress response when they’re engaged in their craft or skill. Contrary to what many people expect, top performers in these fields aren’t physiologically calm under pressure; rather, they have strong challenge responses. The stress response gives them access to their mental and physical resources, and the result is increased confidence, enhanced concentration, and peak performance.

**Stress Makes You Social to Encourage Connection**

Your stress response doesn’t just give you energy. In many circumstances, it also motivates you to connect with others. This side of stress is primarily driven by the hormone oxytocin. Oxytocin is referred to as the “cuddle hormone” because it is released in the pituitary gland when you hug someone. But oxytocin is a much more complex neurohormone that fine tunes your brain’s social instincts. Its primary function is to build and strengthen social bonds, which is why it is released during those hugs, as well as sex and breastfeeding. Elevated levels of oxytocin make you want to connect with others. Oxytocin also makes your brain better able to notice and understand what other people are thinking and feeling. It enhances your empathy and your intuition. When your oxytocin levels are high, you’re more likely to trust and help the people you care about. Oxytocin amplifies the warm glow you get from caring from others.

But oxytocin is about more than social connection. It’s also a chemical of courage. Oxytocin also dampens the fear response in your brain, suppressing the instinct to freeze or flee. This hormone doesn’t just make you want a hug; it also makes you brave.

When oxytocin is released as part of the stress response, it’s encouraging you to connect with your social support network. It also strengthens your most important relationships by making you more responsive to others. Scientists refer to this as *tend-and-befriend response*. Unlike the fight-or-flight response, which is primarily about self-survival, the tend-and-befriend response motivates you to protect the people and communities you care about. And, importantly, it gives you the courage to do so.

When all you want is to talk to a friend or a loved one, that’s the stress response encouraging you to seek support. When something bad happens and you think about your kids, your pets, your family, or your friends, that’s the stress response encouraging you to protect your tribe. When somebody does something unfair and you want to defend your team, your company, or your community, that’s all part of this prosocial stress response.

Oxytocin has one more surprise benefit: This so-called love hormone is actually good for cardiovascular health. Your heart has special receptors for oxytocin, which helps heart cells regenerate and repair from any micro-damage. When your stress response includes oxytocin, stress can literally strengthen your heart. This is quite different from the message we usually hear- that stress will give you a heart attack! There *is* such a thing as a stress induced heart attack, typically triggered by a massive adrenaline surge, but not every stress response damages your heart. Your stress response has a built-in mechanism for resilience- one that motivates you to care for others while also strengthening your physical heart.

**Stress Helps You Learn and Grow**

The stress recovery process isn’t instantaneous. For several hours after you have a strong stress response, the brain is rewiring itself to remember and learn from the experience. During this time, stress hormones increase activity in brain regions that support learning and memory. As your brain tries to process your experience, you may find yourself unable to stop thinking about what happened. You might find an impulse to talk with someone about it, or to pray about it. If things went well, you might replay the experience in your mind, remembering everything you did and how it worked out. If things went poorly, you might try to understand what happened, imagine what you could have done differently, and play out other possible outcomes.

Emptions often run high during the recovery process. You may find yourself too energized or agitated to calm down. It’s not uncommon to feel fear, anger, shock, guilt, or sadness as you recover from a stressful experience. You may also feel relief, joy, or gratitude. These emotions often coexist during the recovery period and are part of how the brain makes sense of the experience. They encourage you to reflect on what happened and to extract lessons to help you deal with future stress. They also make the experience more memorable.

This is all part of how past stress teaches the brain and body how to handle future stress. Stress leaves an imprint on your brain that prepares you to deal with similar stress the next time you encounter it. Not every minor irritation will trigger this process, but when you go through a seriously challenging experience, your body and brain learn from it. Psychologists call this *stress inoculation*. It’s like a stress vaccine for your brain. That’s why putting people through practice stress is key training technique for NASA astronauts, emergency responders, elite athletes, and others who have to thrive in highly stressful environments.

Once you appreciate that going through stress makes you better at it, you may find it easier to face each new challenge. In fact, research shows that expecting to learn from a stressful experience can shift your stress response to support stress inoculation. Studies show that viewing a stressful situation as an opportunity to improve your skills, knowledge, or strengths makes it more likely that you will have a challenge response instead of a flight-or-flight response. This, in turn, increase the chances that you will learn from the experience.

**Choose Your Own Stress Response**

The latest science shows that there is more than one way to experience stress. But what determines which kind of stress response you have in any given moment?

Different types of stressful situations typically provoke different responses. For example, social stress usually increases oxytocin more than other kinds of stress. That’s good, because it motivates social connection. In contrast, performance stress is more likely to increase adrenaline and other hormones that give you energy and focus. That’s also good, because it’s what you need to do your best. Ideally, your responses will be flexible and fine-tuned, and your body will respond to each stressful situation in a way that best uses your resources. A trial lawyer about to give summary statements should have a challenge response. When she gets home, if her kids are fighting over her attention, a tend-and-befriend response will soothe them and herself. And if the fire alarm goes off in the middle of the night, a fight-or-flight response will get her and the rest of the family out of the home safely.

The stress response system is adaptive, constantly trying to figure out how to best handle whatever challenges you face. For example, becoming a parent can change your stress tendencies. Men who were once die-hard fight-or-flighters experience a drop in testosterone that suddenly unleashes their tend-and-befriend side when they become fathers. Your brain and body continue to reshape themselves to help you face the most important challenges in your life. Even changes induced by traumatic events can be reversed through life experiences and relationships.

You have a say in how your body responds to stress. Stress is a biological state designed to help you learn from experience. That means your stress response is extremely receptive to the effects of deliberate practice. If you want to respond to stress differently- to face challenges confidently, to stand up for yourself, to seek social support instead of withdrawing, to find meaning in your suffering- there is no better way to change your habits than to practice this new response during stress. Every moment of stress is an opportunity to transform your stress instincts.

When you feel your body responding to stress, ask yourself which part of the stress response you need most. Even if it feels like your stress response is pushing in one direction, focusing on how you *want* to respond can shift your biology to support you. If there is a side of the stress response you would like to develop, consider what it would look like in any stressful situation you are dealing with now. What would someone who is good at that side of stress think, feel, or do? Is there any way to *choose* that response to stress right now?

One of the main arguments of the mismatch theory of the stress response- which says that the body’s response to stress is an outdated survival instinct- is that you should not have a stress response to anything that isn’t a life-threatening emergency. Getting stressed is seen as a psychological flaw, a weakness to be corrected. This stems from the mistaken belief that every stress response is a full-throttle fight-or-flight response. A more complete picture of the biology of stress helps us understand why we have these responses throughout the day, and why they are not signs of a flaw at all. Rushing to get your kids ready for school, dealing with a difficult coworker, thinking about criticism you received, worrying about a friend’s health- we have stress responses to all these things because we get stressed when something important is at stake. And most important, *we have stress responses to help us do something about it.*

We get stressed when our goals are on the line, so we take action. We get stressed when our values are threatened, so we defend them. We get stressed when we need courage. We get stressed so we can connect with others. We get stressed so that we will learn from our mistakes.

The stress response is more than a basic survival instinct. It is built into how humans operate, how we relate to one another, and how we navigate our place in the world. When you understand this, the stress response is no longer something to be feared. It is something to be appreciated, harnessed, and even trusted.

**Chapter 3: A Meaningful Life Is A Stressful Life**

From 2005 to 2006, researchers from the Gallop World Poll asked more than 125,000 people, ages fifteen and up, from 121 countries one question: Did you feel a great deal of stress yesterday? Then the researchers computed an index of national stress. What percentage of a country’s population said, yes, they felt stressed-out yesterday? Worldwide, the average was 33 percent. The United States came in high at 43 percent. The Philippines took the top spot at 67 percent. To the researchers’ surprise, the higher a nation’s stress index, the higher the nation’s well-being. The higher the percentage of people who said they had felt a great deal of stress the day before, the higher that nation’s life expectancy and GDP. A higher stress index also predicted higher national scores on measures of happiness and satisfaction with life. When it came to overall well-being, the happiest people in the poll weren’t the ones without stress. Instead, they were the people who were highly stressed but not depressed.

Importantly, happy lives are not stress-free, nor does a stress-free life guarantee happiness. Even though most people view stress as harmful, higher levels of stress seem to go along with things we love: love, health, and satisfaction with our lives.

How can something that we experience as distressing be associated with so many good outcomes? The best way to understand this is to look at the relationship between stress and meaning. It turns out that a meaningful life is also a stressful life.

**Is Your Life Meaningful?**

In 2013, researchers at Stanford and Florida State University asked a broad national sample of U.S. adults, ages eighteen through seventy-eight, to rate how much they agreed with the statement “Taking all things together, I feel my life is meaningful.” The researchers then looked at what distinguished people who strongly agreed with the statement from those who did not. What are the best predictors of a meaningful life?

Surprisingly, stress ranked high. In fact, every measure of stress that the researchers asked about predicted a greater sense of meaning in life. People who had experienced the highest number of stressful life events I the past were more likely to consider their lives as meaningful. People who said they were under a lot of stress right now also rated their lives as more meaningful. Even time spent worrying about the future was associated with meaning, as was time spent reflecting on past struggles and challenges. As the researchers conclude, “People with very meaningful lives worry more and have more stress than people with less meaningful lives.”

Why are stress and meaning so strongly linked? One reason is that stress seems to be an inevitable consequence of engaging in roles and pursuing goals that feed our sense of purpose. When people report the biggest sources of stress in their lives, topping the list are work, parenting, personal relationships, caregiving, and health.

Although most people predict they would be happier if they were less busy, the opposite turns out to be true. People are happier when they are busier, even when forced to take on more than they would choose. A dramatic *decrease* is busyness may explain why retirement can increase the risk of developing depression by 40 percent. A lack of meaningful stress may even be bad for your health. Many studies show that people who have a sense of purpose live longer.

Stress may be a natural byproduct of pursuing difficult but important goals, but that doesn’t mean every stressful moment is rich in meaning. And yet even when the stress we’re under doesn’t seem inherently meaningful, it can trigger the desire to *find* meaning. Far from being a luxury, the ability to find meaning in our lives helps us stay motivated in the face of great difficulties. Human beings have an innate instinct and capacity to make sense out of their suffering. This instinct is even part of the biological stress response, often experienced as rumination, spiritual inquiry, and soul-searching. Stressful circumstances awaken the process in us.

**Finding Meaning in Everyday Stress**

A classic study from the 1990’s points to one of the best ways to cultivate a mindset of meaning in everyday stress. A bunch of Stanford students agreed to keep journals over winter break. Some were asked to write about their most important values, and how the day’s activities related to those values. Others were asked to write about the good things that happened to them. After the three-week break was over, the researchers collected the students’ journals and asked them about their breaks. The students who had written about their values were in better health and better spirits. Over break, they had experienced fewer illnesses and health problems. Heading back to school, they were more confident about their abilities to handle stress. The positive effect about writing about values was greatest for those students who had experienced the most stress over break.

Since that first study, dozens of similar experiments have followed. It turns out that writing about your values is one of the more effective psychological interventions ever studied. In the short term, writing about personal values makes people feel more powerful, in control, proud, and strong. It also makes them feel more loving, connected, and empathetic toward others. It increases pain tolerance, enhances self-control, and reduces unhelpful rumination after a stressful experience.

In the long term, writing about values has been shown to boost GPA’s, reduce doctor visits, improve mental health, and help with everything from weight loss to quitting smoking and reducing problem drinking. In many cases, these benefits are a result of a onetime mindset intervention. People who write about their values once, for ten minutes, show benefits months or even years later.

When people are connected to their values, they are more likely to believe that they can improve their situation through effort and the support of others. They make them more likely to take positive action and less likely to use avoidant coping strategies like procrastination or denial. They are also more likely to view the adversity they are going through as temporary, and less likely to think that the problem reveals something unalterably screwed up about themselves or their lives.

Over time, this new mindset builds on itself, and people begin to see themselves as the kind of person who overcomes difficulties. In other words, when you reflect on your values, the story you tell yourself about stress shifts. You see yourself as strong and able to grow from adversity. You become more likely to approach challenges than to avoid them. And you are better able to see the meaning in difficult circumstances.

**How We Talk About Stress**

How we talk about stress matters. In most workplaces, families, and other communities, the way we talk about stress does little to support our well-being. We might complain casually about stress, reinforcing the fantasy of a stress-free life. Or we vent about our struggles instead of reflecting on what we can learn from them. Sometimes we choose to suffer in silence, preferring to avoid the vulnerability that comes with honest discussions about discussions about suffering. Hopefully, you have begun to pay attention to how you talk about stress as a way of practicing mindset mindfulness. Consider when and where there might be an opportunity to openly discuss the challenges you face, especially in the roles and relationships that are personal meaningful.

**The Costs of Avoiding Stress**

When we reflect on our daily lives, we might look back at a day that was very stressful and think, “Well, that wasn’t my favorite day this week.” When you’re in the middle of one of those days, you might long for a day with less stress in it. But if you put a wider lens on your life and subtract *every* day that you have experienced as stressful, you won’t find yourself with an ideal life. Instead, you’ll find yourself also subtracting the experiences that have helped you grow, the challenges you are most proud of, and the relationships that define you. You may have spared yourself some discomfort, but you will also have robbed yourself of some meaning.

And yet, it’s not at all uncommon to wish for a life without stress. While this is a natural desire, pursuing it comes at a heavy cost. In fact, many of the negative outcomes we associate with stress may actually be the consequence of trying to avoid it. Psychologists have found that trying to avoid stress leads to a significantly reduced sense of well-being, life satisfaction, and happiness. Avoiding stress can also be isolating.

There is a consequence of trying to avoid stress: You end up creating more sources of stress while depleting the resources that should be supporting you. As the stress piles up, you become increasingly overwhelmed and isolated, and therefore even more likely to rely on avoidant coping strategies, like trying to steer clear of stressful situations or to escape your feelings with self-destructive distractions. The more firmly committed you are to avoiding stress, the more likely you are to find yourself in the downward spiral. The more directly one aims to maximize pleasure and avoid pain, the more likely one is to produce instead a life bereft of depth, meaning, and community.

**Part 2: Transform Stress**

**What Does It Mean to Be Good at Stress?**

A few things stand out about people who thrive under stress. They see it as a normal aspect of life, and they don’t believe that it is possible or even desirable to have an entirely comfortable, safe life. Instead, they view stress as an opportunity to grow. They are more likely to acknowledge their stress and less likely to view every struggle as a catastrophe headed toward a worst-case scenario. They believe that difficult times require staying engaged with life rather than giving up or isolating oneself. Finally, they believe that no matter what the circumstances, they must continue making choices- ones that could change the situation or, if that wasn’t possible, that could change how the situation affected them. People who hold these attitudes ware more likely to take action and connect with others during stress. They are less likely to turn hostile or self-defensive. They are more apt to take care of themselves physically, emotionally, and spiritually. Psychologist Salvatore Maddi named this collection of attitudes and coping strategies as “hardiness,” which he defined as *the courage to grow from stress*.

Psychologists have gone on to coin many phrases to describe what it is to be good at stress: grit, learned optimism, post-traumatic growth, shift-and-persist, having a growth mindset. We’ve also learned so much more about how to cultivate these attitudes. But Maddi’s definition of what it means to be good at stress- *the courage to grow from stress*- is still my favorite description of resilience. It reminds us that we cannot always control the stress in our lives, but we can choose our relationship to it. It acknowledges that embracing stress is an act of bravery, one that requires choosing meaning over discomfort.

*This* is what it means to be good at stress. It’s not about being untouched by adversity or unruffled by difficulties. It’s about allowing stress to awaken in you these core human strengths of courage, connection, and growth. People who are good at stress allow themselves to be changed by the experience of stress. They maintain a basic sense of trust in themselves and a connection to something bigger than themselves. They also find ways to make meaning out of suffering. To be good at stress is not to avoid stress, but to play an active role in how stress transforms you.

**Chapter 4: How Anxiety Helps You Rise to The Challenge**

Imagine that you work for an organization with hundreds of employees and you’re about to give a presentation to the entire group. The CEO and all the board members are in the audience. You’re been anxious about this talk all week, and now your heart is pounding. Your palms are sweating. Your mouth feels dry. What is the best thing to do in this moment: try to calm down, or try to feel excited? When Harvard Business School Professor Alison Wood Brooks asked hundreds of people this question, the response was nearly unanimous: 91 percent thought the best advice was to try to calm down.

You’ve probably told yourself or others in moments of stress that if you don’t calm down, you’ll blow it. This is what most people believe. But is it true? Is trying to relax the best strategy for performing under pressure? Or is it better to embrace the anxiety? Brooks designed an experiment to find out. She told some people who were about to give a speech to relax and calm their nerves by saying to themselves, “I am calm.” Others were told to embrace the anxiety and say to themselves, “I am excited.”

Neither strategy made the anxiety go away. Both groups still had nerves before their speech. However, the participants who had told themselves “I am excited” felt better able to handle the pressure. Despite feeling anxious, they were confident in their ability to give a good talk. Feeling confident is one thing, but did they deliver? Yes. People who watched the speeches rated the excited speakers more persuasive, confident, and competent than the participants who had tried to calm down. With one change in mindset, they had transformed their anxiety into energy that helped them perform under pressure.

We are bombarded with information about how bad stress is. But those beliefs don’t reflect the fact that in many cases, our stress response truly helps us. Even in situations where it seems obvious that calming down would help, being amped up can improve performance under pressure. For example, middle school, high school, and college students who have greater increases of adrenaline during exams outperform their more chilled-out peers. Green Berets, Rangers, and Marines who have the highest increases in the stress hormone cortisol while undergoing hostile interrogation are less likely to provide the enemy with useful information. And in a training exercise, federal law enforcement officers who showed the greatest increases in heart rate during a hostage negotiation were the least likely to accidentally shoot the hostage. Despite most people’s belief that some adrenaline improves performance, but too much impairs performance, the evidence suggests otherwise. When it comes to performing under pressure, being stressed is better than being relaxed.

If you want to help people better cope with anxiety, a more useful strategy might be to simply tell them that you think they can handle it. Studies show that when people are told, “You’re the kind of person whose performance improves under pressure,” their actual performance actually improves by 33 percent. It doesn’t matter whether the feedback s completely random. What matters is that the message changes the meaning of those first signs of anxiety. Instead of signaling “you’re about to blow it,” the nerves are proof that you’re getting ready to excel. Telling people who are nervous that they need to calm down can convince them that they don’t have what it takes. Trusting them to handle the pressure can help them rise to the challenge.

The anxiety-avoidance cycle shows up with every conceivable kind of anxiety, from phobias, panic attacks, and social anxiety to PTSD. The desire to avoid feeling anxious overtakes other goals. In the worst cases, people organize their lives around avoiding anything that provokes anxiety. And while they hope that this will make them feel safe, it tends to have the opposite effect. Avoiding what makes them anxious only reinforces their fears and increases their worrying about future anxiety.

**How to Transform a Threat into a Challenge**

In a situation that requires us to perform under pressure- like an athletic competition, a public speech, or an exam- the ideal stress response is one that gives us energy, helps us focus, and encourages us to act: It gives us the motivation to approach the challenge head-on, and the mental and physical resources to succeed.

During a challenge response, your body responds more like how it does during physical exercise. Because you aren’t anticipating harm, the body feels safe maximizing blood flow to give you the most possible energy. Unlike a threat response, your blood vessels stay relaxed. Your heart also has a stronger beat- not just faster, but with greater force. Each time your heart contracts, it pumps out more blood. So, a challenge response gives you even more energy that a threat response.

The tendency to have a challenge response, rather than a threat response, is associated with superior aging, cardiovascular health, and brain health. Middle-aged and older men who have a challenge response to stress are less likely to be diagnosed with metabolic syndrome than those with a threat response.

Your stress response also affects how well you perform under pressure. During a threat response, your emotions will likely include fear, anger, self-doubt, or shame. Because your primary goal is to protect yourself, you become more vigilant to signs that things are going poorly. This can create a vicious cycle in which your heightened attention to what’s going wrong makes you even more fearful and self-doubting. In contrast, during a challenge response, you may feel a little anxious, but also feel excited, energized, enthusiastic, and confident. Your primary goal is not to avoid harm, but rather to go after what you want. Your attention is more open and ready to engage with your environment, and you’re prepared to put your resources to work.

**Is This A Challenge or a Threat?**

When you want to perform well, and aren’t danger, a challenge response is by far the most helpful stress response. It gives you more energy, improves performance, helps you learn from the experience, and is even healthier for you. But while a challenge response is ideal, a threat response is common in many situations that ask us to perform under pressure.

Psychologists found that the most important factor in determining your response to pressure is how you think about your ability to handle it. When faced with any stressful situation, you begin to evaluate both the situation and your resources. How hard is this going to be? Do I have the skills, the strength, and the courage? Is there anyone who could help me? This evaluation of demands and resources may not be conscious, but it’s happening under the surface. As you weigh the demands of the situation against the resources you bring to it, you make a rapid assessment of your ability to cope.

This evaluation is key to determining your stress response. If you believe that the demands of the situation exceed your resources, you will have a threat response. But if you believe you have the resources to succeed, you will have a challenge response.

University of Rochester stress researcher Jeremy Jamieson recognizes that people often fail to realize one resource that they have in every stressful situation: *their own stress response*. Because people view the stress response as harmful, it’s considered a barrier to performing well. Then it becomes a barrier to overcome. Jamieson, of course, has a very different view of the stress response’s role in performance: It’s not a barrier; it’s a resource.

Jamieson decided to conduct a study that would trigger a threat response in most participants without actually putting them in danger. For this, he turned to the Trier Social Stress Test, the most notorious and effective stress induction in human psychological research.

The laboratory assistant brings you into a room and introduces you to a man and woman seated behind a table. The assistant informs you that these two people are experts in communication and behavioral analysis. They will be assessing you today as you give a speech about your personal strengths and weaknesses. The experts will evaluate the content of your speech as well as your body language, voice, presence, and other nonverbal behaviors. You’re only had three minutes to prepare your speech, and you aren’t allowed to use notes, so you’re a little nervous.

Ever since the Trier Social Stress Test was developed at the University of Trier, Germany, it has become the most reliable and widely used protocol for stressing out any human- male or female, young or old- in psychological experiments. And what you don’t know is that these evaluators aren’t experts at all. They’ve been hired to make you sweat. The experimenter has carefully trained them to make you as uncomfortable as possible. No matter how well you’re doing, they will make you think you’re blowing it.

It starts simply enough, when you come into the lab and find out that you’re going to have to give a speech to a panel of experts. Public speaking is one of the most common fears, so this makes most people uneasy. When you meet the evaluators, they don’t smile. If you express some nerves, they don’t reassure you. As you begin your speech, the evaluators begin to give discouraging nonverbal feedback. These “experts” are also encouraged to torment the participants in other ways. Some repeatedly interrupt to tell participants how poorly they are doing.

The second part of the Social Stress Test is a times math test. You have to do the calculations in your head and answer out loud, as fast as you can. The math test, like the speech task and negative feedback, is carefully designed to stress participants out. The evaluators make the math test as miserable as possible. No matter how fast you go, they say you’re going too slow. If you make a single mistake, you have to start the test all over. If you’re doing well, they give you a harder task, to make sure you fail.

All this adds up to a thoroughly stressful experience. You have to perform under pressure, handle negative feedback, and navigate a confusing social interaction. All while doing two of the things that people fear most: public speaking and math. No wonder it’s been shown to increase people’s levels of stress hormone cortisol by up to 400 percent.

This- the Social Stress Test, in all its glory- was the setup for Jeremy Jamieson’s next mindset intervention study. Could rethinking stress transform how people responded to the most infamous stress induction in experimental psychology? Again, in particular, Jamieson was interested in whether rethinking stress could transform a threat response into a challenge response.

When each participant arrived for this study, he or she was randomly assigned to one of three conditions. The first group got a mindset intervention. To help these participants rethink stress, Jamieson put together a few slides explaining how the body’s stress response mobilizes energy to meet the demands of a situation. For example, when you feel your heart pounding, it’s because your heart is working harder to deliver more oxygen to your body and brain. He also put together excerpts of scientific articles discussing how people commonly misinterpret their stress response as harmful, such as how many people believe that feeling anxious is proof that they lack the ability to do something or believe that the physical symptoms of stress mean they are going to choke under pressure. The last part of the intervention was an explicit mindset suggestion. Jamieson told participants, “When you feel anxious or stressed, think about how your stress response can actually be helpful.”

Participants in the second group got a very different message about stress. They were told that the best way to reduce nerves and improve performance is to ignore stress. Those in the third group got to blow off steam before the stress test by playing video games they got no special stress instructions at all. After each participant went through whichever condition he or she had been assigned to- the mindset intervention, the instructions to ignore stress, or playing video games- the stress test began, and, with it, a test of Jamieson’s hunch: that viewing your stress response as a resource can turn a threat into a challenge.

Let’s get one finding out of the way: There were no differences in how those who were told to ignore stress or play video games performed in the social stress test. All the interesting effects were found in participants who had received the mindset intervention. For these participants, rethinking stress shifted their stress response from threat to challenge in every conceivable way.

The mindset intervention boosted participant’s perception of their resources to cope with stress. It shifted their cardiovascular stress response from threat to challenge, without calming them down. They showed greater confidence and engagement, and less anxiety, shame, and avoidance. Afterward, they were less distracted by thoughts of fear and failure. And the catalyst for this transformation? One simple shift in how they thought about the stress response. This new mindset turned the body’s stress response from a perceived barrier into a resource, tipping the balance from “I can’t handle this” to “I’ve got this.”

Imagine how this mindset shift could add up over time. The difference between a chronic threat response and a chronic challenge response isn’t just whether you can give a good speech or focus during an exam. It could mean the difference between feeling overwhelmed or feeling empowered by the stress in your life. It could mean the difference between having a heart attack at fifty or living into your nineties.

**Are There Limits to Embracing Anxiety?**

One of the questions I often get is, “This whole ‘embracing stress’ thing only works if you don’t have *real* anxiety, right?” Behind this question is a belief: Real anxiety is really, really bad. I really do need to get rid of it. If I embrace it, I’ll fall apart. I need to fight it or it will consume me.

Well, there’s something I haven’t mentioned about Jeremy Jamieson’s Social Stress Test study, the one that transformed threat responses into challenge responses. Half his participants had social anxiety disorder. The Social Stress Test was their worst nightmare. People with social anxiety believe they are not good in social situations, so they worry about them in advance. They fear that they’ll do something foolish and that others will judge them. Their anxiety about social performance becomes anxiety about anxiety. It’s a classic anxiety-avoidance cycle. Imagine what it would be like for someone with social anxiety disorder to go through the Social Stress Test.

The big surprise of the study was that embracing anxiety helped people with social anxiety disorder just as much as it helped people who didn’t struggle with anxiety. In fact, the mindset intervention actually made those with the disorder look more like those without it. They were rated by observers as showing less anxiety and shame, and showing more eye contact and confident body language, than socially anxious participants who did not receive the mindset intervention. Their physical stress response shifted to a challenge response. The mindset intervention did not calm them down; it changed the meaning, and then the consequences, of their anxiety. Think about this for a moment, especially if you have any experience with anxiety disorders or know someone who struggles with one: *Among people with an anxiety disorder who were encouraged to embrace their anxiety, a stronger physical stress response was associated with more confidence and better performance under pressure and social scrutiny.*

This is what shocks people the most. Even when anxiety really is a problem, embracing it helps. In fact, embracing the stress response may be even more important for those who suffer from anxiety. Here’s why: Although people who have an anxiety disorder perceive their physiology as out of control, it actually isn’t. In Jamieson’s study, as in many others, people with anxiety self-report higher physical activity than those without anxiety. They think their hearts are pounding precariously fast and their adrenaline is surging to dangerous levels. But objectively, their cardiovascular and autonomic responses look just like those of the non-anxious. *Everyone* experiences an increase in heart rate and adrenaline. People with anxiety disorders perceive those changes differently. They may be more aware of the sensations of their heart beating or the changes in their breathing. And they make more negative assumptions about those sensations, fearing a panic attack. But their physical response is not fundamentally different.

**Chapter 5: How Caring Creates Resilience**

**How Tending and Befriending Transform Stress**

From an evolutionary point of view, we have the tend-and-befriend response in our repertoire first and foremost to make sure we protect our offspring. Think of a mama grizzly protecting her cubs, or a father pulling his son from the wreckage of a burning car. The most important thing they need is the willingness to act even when their own lives are at risk.

Whether you are overwhelmed by your own stress or the suffering of others, the way to find hope is to connect, not to escape. People who operate from a bigger-than-self mindset end up building strong social support networks. Paradoxically, by focusing on helping others instead of proving themselves, they become more respected and better liked than people who spend more energy trying to impress others than they do supporting them.

**How Caring Creates Resilience**

The instinct to help others when you, yourself, are struggling has been dubbed “altruism born of suffering” by Ervin Staub, a professor of psychology at University of Massachusetts, Amherst. In his youth, Staub escaped Nazism and Communism in Hungary. As a researcher, he had intended to study the conditions that lead to violence and dehumanization, but along the way, he became fascinated by the stories of helping that kept surfacing- such as 82 percent of Holocaust survivors who said they went out of their way to help others while they were imprisoned, sharing the little food that they had even while starving.

Staub has documented an increase in altruism in the aftermath of community-wide traumas such as natural disasters, terrorist attacks, and war, and one thing stands out about altruism after such tragedies. People who have suffered the most also help the most. The instinct to help when we, ourselves, are struggling plays an important role in preventing a *defeat response*.

Research abounds with examples of how helping others reduces feelings of hopelessness after a personal crisis. Here are a few examples:

* People who volunteer after a natural disaster report feeling more optimistic and energized, and less anxious, angry, and overwhelmed, by the stress in their lives.
* After the death of a spouse, taking care of others reduces depression.
* Survivors of a natural disaster are less likely to develop post-traumatic stress disorder if they help others in the immediate aftermath.
* Among people living with chronic pain, becoming a peer counselor relieves pain, disability, and depression and increases sense of purpose.
* Victims of a terrorist attack feel less survivor guilt and find more meaning in life when they find a way to help others.
* After enduring a life-threatening health crisis, people who volunteer experience more hope, less depression, and a greater sense of purpose.

The act of helping others- whether through volunteering or simply connecting to your bigger-than-self goals- can unlock a biological potential for resilience.

**When You Feel Alone in Your Suffering**

The sense of being alone in our suffering is one of the biggest barriers to transforming stress. When we feel isolated and disconnected, it is more difficult to take action or see any good in our situation. It also can keep us from reaching out to others, either to get help we need or to benefit from being help to others.

People who feel alone in their stress are more likely to become depressed and to rely on avoidant coping strategies, including denial, giving up on their goals, and trying to avoid stressful experiences. They are less likely to tell others about their stress and suffering, and are less likely to receive the support they need.

In contrast, people who understand that suffering is part of everyone’s life are happier, more resilient, and more satisfied with life. They are more open about their struggles and more likely to receive support from others. They are also more likely to find meaning in adversity and less likely to experience burnout at work.

**Making the Invisible Visible**

One of the exercises I use with groups to increase a mindset of common humanity is something I call “making the invisible visible.” I ask everyone in the room to write on a slip of paper something they have struggles with and that continues to affect them now, *but that no one would know just looking at them*.

After everyone writes something down, I collect the slips and mix them in a bag. We then stand in a circle and pass the bag around. Each person pulls an anonymous slip out of the bag and reads it out loud, as if it was his or her own. “I am in so much physical pain right now it is hard for me to even stay in this room.” “My only daughter died ten years ago.” “I worry that I don’t belong here, and if I speak up, everyone will realize that.” “I am a recovering alcoholic and I still want a drink every day.”

Going through this exercise is profound on many levels. First, because the slips are anonymous, it is impossible to know whose statement is whose. And without fail, the statement that each person randomly draws seems as though it could truly be his or her own truth. Second, it makes visible so much of the suffering that was previously invisible. It was all already in the room, but because it was unspoken, it went unrecognized. In that invisibility, each person’s individual suffering can feel isolating, but once it is named, it becomes a reminder of common humanity. Whenever I find myself feeling alone in any particular struggle, I try to recall the feeling of standing in one of these circles and the awe that arises when the previously unseen pain and strength of others is made visible.

You don’t even need to do this formal exercise in a group to benefit from the idea behind it. Whenever you are in a group, you can simply think about what is invisible. Life isn’t easy for any of us. Each of us carries our private hardaches, is tormented by our personal demons, is overwhelmed by the demands of our day. One phrase I say to myself is, “Just like me, this person knows what suffering feels like.”

**Chapter 6: How Adversity Makes You Stronger**

Take a moment to identify a time in your life that was a period of significant personal growth- a turning point that led to positive changes on a newly found purpose. When you have a specific period of your life in mind, then consider this: Would you also describe this time as stressful. When I ask this question in workshops, almost everyone raises their hands to agree that, yes, the time that led to personal growth was also quite stressful. This is the paradox of stress on full display: Even if we would prefer to have less stress in our lives, it’s the difficult times that give rise to growth. Even the most unwelcome experiences can lead to positive change. Adversity can create resilience, and trauma often inspires personal growth.

Importantly, research shows that choosing to see this side of stress can help you learn and grow. To find the courage to grow from stress, you need to believe that something good can come from your suffering. You also need to be able to see and celebrate the positive changes in yourself as you grow from the experience. The good that comes from the difficult experience isn’t from the stressful or traumatic event itself; it comes from *you*- from the strengths that are awakened by adversity and from the natural human capacity to transform suffering into meaning. Part of embracing stress is to trust this capacity, even when the pain is fresh and the future uncertain.

Mark Seery is a psychologist at the University of Buffalo. The importance of a person’s past plays a central role in Seery’s research. He is best known for a controversial paper published in 2010 titled “Whatever Does Not Kill Us,” in which he challenged the widespread belief that traumatic events always increase the risk of depression, anxiety, and illness. Instead, he showed that a history of negative life events can actually protect against these outcomes. Adversity, he claimed, can create resilience.

Although many people idealize a life without adversity, those who actually have one are less happy and healthy than those who have faced some hardship. In fact, people with no trauma in their past are significantly less satisfied with their lives than people who have experienced the average number of traumatic events.

Rather than determining once and for all “Is stress bad?” or “Is stress good?”, I am now most interested in understanding how the stance we take toward stress matters. A better question for each of us to ask ourselves, as individuals trying to cope with stress, might be: *Do I believe I have the capacity to transform stress into something good?* Mindsets are not black-and-white truths about the world. They are based on evidence, but they are also stances we choose to take toward life.