



Topic
Better Living

Subtopic
Health & Wellness

How to Make Stress Work for You

Course Guidebook

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Dr. Bonura has a line of instructional yoga and fitness DVDs that focus on older adult and adapted fitness programs. She has been published in local, national, and international magazines and journals in the areas of yoga, health, wellness, fitness, stress management, and performance enhancement. Dr. Bonura has developed specialized programs in seated/ chair yoga for older adults; pelvic yoga for pre- and postpregnancy, pre- and postmenopause, incontinence prevention, and sexual enhancement; yoga for empowerment, designed to encourage self-esteem in teenagers and young adults; and partner yoga for family and marital enhancement. She has consulted with individuals and organizations, including elite athletes, higher education institutions, nonprofit community organizations, and corporations.

Dr. Bonura has taught two other Great Courses: *How to Boost Your Physical and Mental Energy* and *How to Stay Fit as You Age*. ■

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How to Make Stress Work for You

If you put stress on one end of a continuum, what do you think would be at the other end? The opposite of stress is not relaxation but, rather, a lack of caring or concern. Stress is something we feel in response to our environment when something happens to someone or something that we care about. It is accompanied by physical symptoms, such as a racing heart or a churning stomach, and by psychological symptoms, such as worry. Stress occurs when we have something at stake, which means that stress is a sign that we are engaged with life. For this reason, we don't want to eliminate stress. Instead, we want to leverage stress to make it work for us. Fundamentally, we are not looking for stress-free lives. We are not looking for stress reduction, stress management, or stress freedom. We just want to feel as if the stress we experience leads to something we truly care about. That is when we are champions of our own stress, becoming partners with stress in pursuit of outcomes we care about, in support of people we care about.

This course is intended to help you do just that: to become a champion of your own life, to help make you good at stress. In particular, this course will address the “what” of stress management—how to make stress work for you. This will help you to understand that stress is not inherently bad. Rather, how we frame and handle stress can be good or bad. We will consider psychological theories and frameworks of stress and learn that what matters most is the mindset we have about stress. The course will also address the “why” of stress management to help you understand stress and its influences, why we need to manage our stress, and why being afraid of the bad effects of stress can actually make stress worse. The majority of the course will focus on the “how” of stress management.

The course includes a wide variety of activities and practical exercises to help you improve your relationship with stress.

First, we'll consider the mindset you have concerning stress. We'll review strategies for helping you change your relationship with stress. Stress will no longer be an enemy to avoid. Instead, you'll learn to see stress as a friend and mentor who helps you learn and grow. Next, we'll explore arousal and how our perceptions create stress. We'll discuss the differences between the positive arousal of excitement and the negatively charged arousal of fear and distress—and how you can shift your perspective to shift your arousal state. We'll consider the role of emotions in stress, in particular, anger and happiness. Just as we have to shift our mindset about anger, we need to reevaluate the role of anger in our lives and move past Freudian conceptions that make us think we need to vent.

We'll also consider the complex and multifaceted picture of happiness. On the one hand, the pursuit of happiness is an impossible goal that actually leads to stress and unhappiness. On the other hand, people who are optimistic, positive, and happy generally lead healthier, longer, and less-stressed lives. The key is to understand how happiness is more authentically achieved. We'll consider the importance of choice in stress and mental well-being and the fact that both too much and too little stress can create stress in our lives. We'll also consider the importance of other people and learn that although relationships may create stress, connection is ultimately our greatest strategy for stress management.

We'll spend a large portion of the course reviewing a wide variety of strategies for stress management, including psychological strategies, such as cognitive restructuring, new and emerging strategies from the psychological sciences, complementary and alternative therapies, and mindfulness strategies. We'll review how learning to manage stress makes you better at stress through the cultivation of stress resilience and the importance of rest, relaxation, and recovery in the development of stress resilience. We'll also discuss strategies for using stress to your advantage, including through the cultivation of expertise and through strategies that allow you to channel the arousal of stress into the arousal of excitement and peak performance.

Overall, this course will help you understand how to leverage stress to your advantage. You'll come to completely rethink your relationship with stress, with yourself, and with the people around you. Ultimately, you will become a stress champion, able to live an authentic life, built on your values, with stress as a friend and teacher. You'll come away with an understanding of how to make stress work for you. ■



A New Mindset about Stress

In many ways, stress management is like a toll road. There is an initial cost to get on, but the toll is worth it in terms of the time and money saved. In the same way, the strategies and techniques necessary to help you become a master at stress management will take some initial work to learn and some ongoing work to practice, but that investment—that toll—will save you time, energy, and even money in the long run.

Defining Stress

- The dictionary has at least 15 definitions for stress. But the 2 we're using when we say we feel "stressed" are probably best reflected by the mechanical definition of stress as a physical pressure, pull, or other force exerted on one thing by another or stress as the importance attached to a thing. Stanford health psychologist Kelly McGonigal has said, "Stress is what arises when something you care about is at stake."
- In other words, stress is something we feel, in response to the environment, when something happens to someone or something that we care about. It is accompanied by physical symptoms, such as a racing heart or a churning stomach, and by psychological symptoms, such as worry.

- The opposite of stress is not fun or relaxation; it's apathy. The emotional opposite of stress is depression. If stress is caring so much about an outcome that you get yourself riled up, then depression is losing your will to care so that you can't get riled up.
- We think of stress as a bad thing. But actually, being stressed is correlated with having a sense of meaning in your life.
- Instead of ridding your life of stress, your goal should be to manage stress effectively, using it to your advantage to support you in building a life of meaningful things worth caring about.

Improving Your Mindset about Stress

- Dr. Greg Walton, a psychologist at Stanford University, conducts research on how brief, one-dose interventions can change your mind in a major way. In one study, he spent one hour with freshman at an Ivy League university. He wanted to address the fact that most new students feel they don't belong, help students



Research has shown that brief training about stress management can yield positive long-term outcomes.

understand that this is a normal feeling in a new environment, and help them understand that it can change.

- Participating students wrote about and listened to others on the topics of feeling out of place and fitting in.
- Walton tracked the students throughout their educational experience and found that those who participated had better physical health, better academic performance, and increased happiness throughout college.
- The bottom line is that what you think about something has powerful effects on how you feel, behave, and think. And often, your core belief about something may be something you have never even thought about.
- According to psychologist Alia Crum, there are essentially two mindsets about stress. The first is that stress is harmful and you should avoid it. The second is that stress enhances performance and productivity, facilitates learning and positive growth, and has positive effects that you can channel.

Understanding Stress

- As an exercise, write down everything that is stressful in your life. When you're finished, think about four categories across a continuum.
 - On the far left are things that are fundamentally stressful, such as the death of a loved one, the end of a marriage, the loss of a job, or the diagnosis of a major illness for you or a loved one. Such major events require support, coping, and time to truly allow yourself to grieve and recover. They are fundamentally stressful because something you care about is at stake. They may be completely unmanageable, such as a hurricane destroying your house, or very complex, with

multiple aspects that are outside your control, such as a chronic health condition. Let's call these traumas.

- In the middle are moderate stressors, such as a deadline at work, your child doing poorly in class, or a minor illness. These events are difficult, requiring some support and coping, but they are more contained and manageable, you have a greater capacity for control, and they affect more discrete areas of your life for a more specific period of time. Let's call these stressors of daily living.
- A little farther right are activities that are involved in daily living: laundry, dinner, the dishes. One survey used in research about stress is called the Daily Hassles and Uplifts Scale. It asks subjects to rate how much of a hassle or uplift each of 53 items was on any given day. Essentially, as McGonigal explains it, the survey asks, "whether you view the roles, relationships, and activities of your life as irritating experiences or meaningful experiences." When people view these basic activities of life as irritations, they find their lives more stressful. Let's call these activities of daily living.
- On the far right are stressors that, for some reason, get you all worked up: bad traffic, a rude barista, and so on. These are small things, but for some reason, we often react strongly to them. Let's call these events irritants.
- It's important to separate these four categories: trauma, stressors of daily living, activities of daily living, and irritants. We do ourselves a disservice when we lump them all together as if they're all just stress, because they're not. When we experience true trauma, we need and deserve space to heal. At the other end of the spectrum, when we're dealing with an irritant, we need to take a deep breath and just let it go.
- It's helpful to identify your personal stressors so that you can approach them with a clear head and a clear perspective about

what you're dealing with. Go back to your list and label each of the stressors you wrote down as an irritant, an activity of daily living, a stressor of daily living, or a true trauma.

The Stress of Stress

- Sometimes, what we are most stressed about is stress itself. When you are in the midst of trauma, the scariest part is thinking that it will never end. But the truth is that everything comes to an end. Learning such strategies as deep breathing, mindfulness, and cognitive reframing can help you learn how to release your fear of fear itself.
- In modern American society, we have a great deal of fear about negativity. We live with a perpetual social media stream of other people's glossy lives; thus, we think that if we are sad, mad, or hurt, there is something wrong with us. We want an instant fix, and we exacerbate our stress by being stressed about stress itself. But no emotions are negative; even grief and the pain of loss serve a function: to help us learn and grow.
- Some of what we think are bad reactions to stress are actually ways that we cope with stress effectively. When a stressful or traumatic event happens, many people ruminate on it, which can seem counterproductive. If you're in the middle of stewing, you may feel as if you should be able to let go and move on.
 - But stewing may actually serve a productive purpose. In a pilot research program on post-traumatic stress disorder (PTSD), when patients came into the emergency room following a major trauma, such as a rape, gunshot wound, or car crash, some were given *imaginal exposure therapy*. In this therapy, they were asked to describe, as vividly as possible, what had happened to them.
 - Three months later, the people who participated in this therapy were half as likely to have developed PTSD as patients who

did not go through the experimental therapy. Immediately reliving a trauma through talking may make us better able to process the trauma at a neurological level.

- One of the things that can make emotional and psychological stress so stressful is that we identify ourselves so closely with our minds. Neuroscientist Alex Korb points out that if we break an arm, we would never say, “I am broken.” Instead, we say, “I have a broken arm.” Yet we associate so closely with our thoughts that if we feel angry, instead of saying, “I am feeling angry,” we say, “I am angry.”
 - To see how our thoughts define us, try this exercise: First, for 90 seconds, sit in silence and think. Try to keep track of all the things that run through your mind. When 90 seconds is up, briefly jot down what you thought about.
 - Most people will have a list of several things, such as laundry and other things you have to do, things someone else did to you, things you should have done for someone else, and so on. Your mind can travel many miles in a short time.
 - That’s a problem both because it’s mentally exhausting, and because we allow our thoughts to define us. Our thoughts are always changing, but when we identify with them, we accept them as unchanging, as permanently defining who we are. Our thoughts reflect this moment and this context; thus, when we accept them as unchanging, particularly when we are experiencing stressful thoughts, we become fearful of who we are.
 - According to the philosophy of mindfulness, we need to understand that our thoughts are a reflection of this moment and that the sum of who we are is more complex and greater than our thoughts in this moment. In fact, our worst stress often occurs when our thoughts wander away from this moment—

in other words, when our thoughts become mindless instead of mindful.

- Research from Harvard University happiness expert Daniel Gilbert has shown that mind-wandering is a good predictor of unhappiness. According to Gilbert, it's not that when we are unhappy that our minds wander; it's that when our minds wander, we often become unhappy. How often people's minds wander away from what they are doing is a better predictor of whether or not people are unhappy than what they are actually doing. In many ways, what is going on in your head is far more important to how happy or how stressed you feel than what's actually going on around you.
 - As a final exercise, for the next week, deliberately work on being mindful. If you're out for a walk and your thoughts run off to the fight you had with your boss last week, bring your mind back to the present. Focus on what is actually present; feel the gravel under your shoes, smell the air in your neighborhood, or admire the color of the leaves on the trees. Challenge yourself to really be where you are and to think about all the things you normally do while you are doing them.
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Suggested Readings

Gilbert, *Stumbling on Happiness*.

McGonigal, *The Upside of Stress*.

Activities and Questions

1. Grab paper and a pen and write down everything that is stressful in your life. Take a good 10 or 20 minutes to record everything that bothers you, worries you, and keeps you up at night. Label each of the

stressors you wrote down as follows: irritants, activities of daily living, stressors of daily living, and traumas.

- 2.** Take the mindfulness challenge. For one week, challenge yourself to keep your thoughts and focus wherever you are, doing whatever you are actually doing. When your mind wanders to the past or the future, make an effort to bring your thoughts back to the activity you are performing at the moment.



Happiness: A Fickle Queen

Happiness is a beautiful yet fickle queen. We want her, we crave her, we pursue her, we wring our hands with the stress of trying to catch her—yet our efforts to actually be with her seem plagued by bad luck and perpetually challenged. In fact, the more we seek her, the more she may evade us.

Why Does Seeking Happiness Make Us Unhappy?

- Research by professor Iris Mauss and colleagues has found that people who report a higher value for happiness tend to be lonelier. According to Mauss, this is because happiness in our Western context is usually conceived as a personal gain and may, therefore, be related to behaviors and attitudes that damage our connections with others. In a follow-up study, these researchers concluded that wanting to be happy actually makes people lonely, which of course, makes people feel unhappy.
- Other researchers have identified other reasons that seeking happiness makes us unhappy. Adam Grant of the Wharton School of Business cites the importance of *flow*.

- As he points out, decades of research on the concept of flow show that our best moments often occur when we are fully absorbed in an activity. Research also shows that when we look back on flow experiences, we report being happy, but in the moment, we're too busy in the flow of the activity to actually think about being happy.
- As Grant puts it, when we think about whether or not we're happy, our own rumination and self-reflection blocks our ability to become immersed in the moment. We block our happiness by focusing our energy on the question of whether or not we are happy.
- Mauss frames this as the paradoxical effects of pursuing positive emotion. As she points out, our high expectations for happiness make us less likely to be happy. However, if we stop seeking happiness and, instead, immerse ourselves in the moment, we just might achieve it.

Simple childhood play has been jeopardized because children have more scheduled activities and less time to just explore the world.



Play

- Play is vital for all of us, whatever our age. It is fundamental to health, wellness, and stress management. Research shows that adults who play are better able to cope with stress and that shared play with others boosts social connections.
- Play is also a great strategy for stress management. In one research study, participants were exposed to a stressful experience. Then, they were either given blank paper or coloring sheets with designs to color. The participants with coloring sheets showed greater reductions in stress and anxiety than the people with the blank paper. It may be that blank sheets of paper make us feel pressured to create or design, whereas the coloring sheets minimize the decision down to what colors to use and whether or not to stay inside the lines.
- We may feel guilty about taking time to play. Emma Seppala, science director of the Stanford University Center for Compassion and Altruism Research and Education, says that part of the problem is that we have embraced myths of success that make it hard for us to be happy. According to Seppala, our myths of success make us think that we must persevere at all costs and that success requires stress.
- Even forcing yourself to move as if you're playing can make you feel playful. A research study from the University of Michigan found that when people were skipping, galloping, jumping, and standing in wide, open postures, they felt better. If you move your body in a light, happy way, your mind will feel lighter.

Recognizing Happiness

- Unfortunately, it is remarkably difficult for us to notice happiness when we experience it. Thanks to evolution, we have a negativity bias. Staying on the lookout for everything that could go wrong kept early humans safe and alive. But we can, in fact, train our

brains to shift their patterns. Neurological patterns are built from the habits we keep, and what we look for, we see more of. When we consciously make the effort to look on the bright side, over time, doing so will come more naturally.

- Research with gratitude lists shows that when people count their blessings at the end of each day, they become happier.
 - One study tracked people for 10 weeks and found that taking just a few minutes each night to jot down five good things from the day helped participants feel 25% happier by the end of the study. Perspective shifts over time because the brain actually changes as a result of the exercise.
 - Research in the journal *NeuroImage* reports that brain scans of people who were trained with gratitude exercises show increased activity in areas of the brain related to gratitude. This activity was apparent even months after the gratitude training was completed. Amazingly, this study was conducted with individuals entering psychotherapy for anxiety and depression.
- Rick Hanson, a neuropsychologist, explains that where we focus our attention determines the kinds of neural pathways we reinforce. We use different neural pathways via different synapses for positive experiences, such as gratitude and appreciation, than for negative experiences, such as anger and resentment. And what we use, we strengthen.
 - Hanson points out that this isn't just putting a Band-Aid on the negative and ignoring it. Rather, this is about realizing that our brains may be, through evolution, focused on survival and more adept at noticing the bad; thus, we must consciously work to pay attention to the good.
 - Having a realistic perception of the world allows you to see all the good that is present and to distinguish between things that truly are threats and things that are false alarms and not really

worth your energy. Focusing on the good and on your ability to cope with and be resilient in the face of the bad strengthens the neural pathways in your brain that help you to recognize the good and remember your resilience in the future.

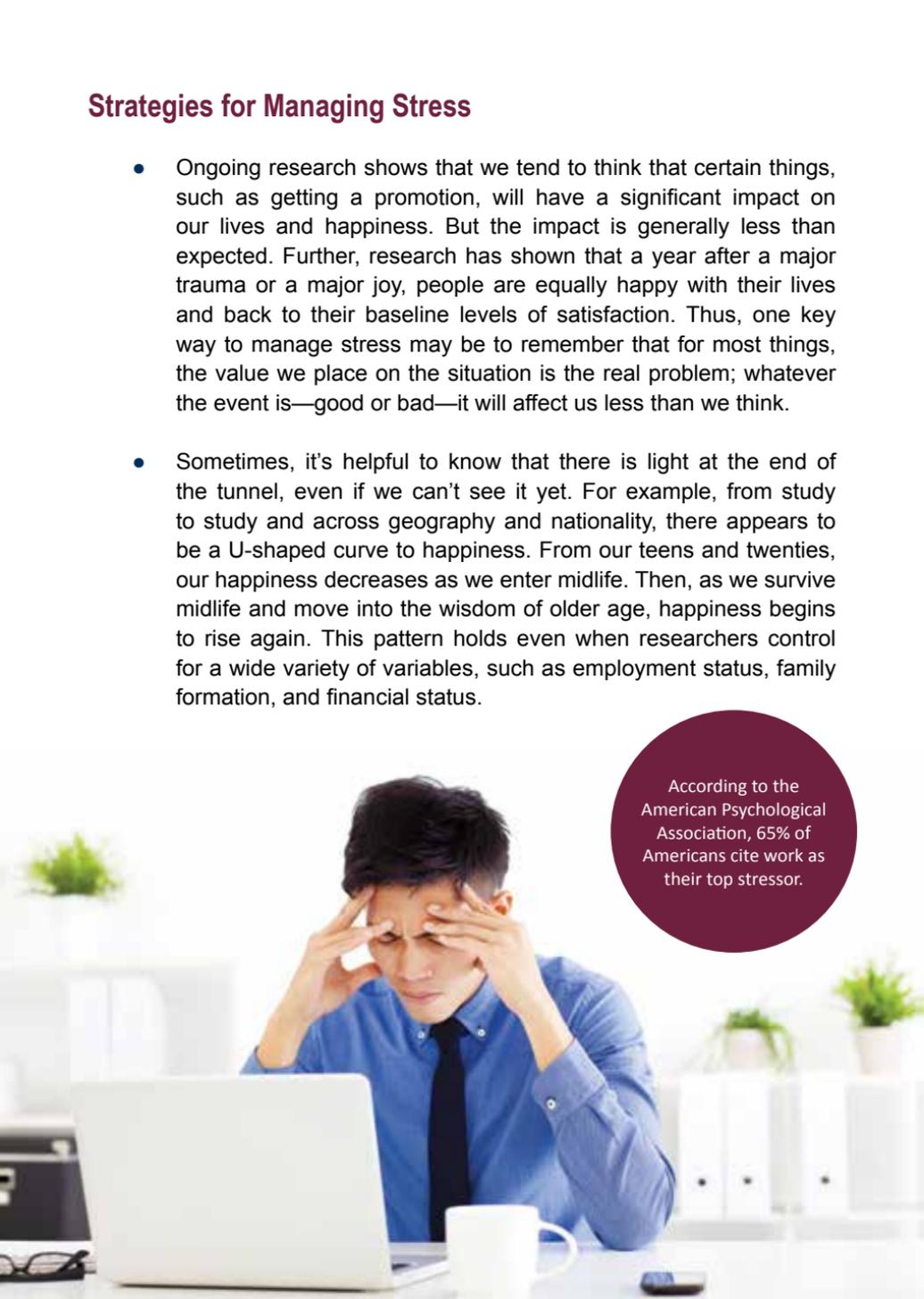
- Research shows that about 50% of your happiness is genetically determined, while 10% comes from your context and circumstances. The remaining 40% of your happiness is within your control, and purposeful strategies, such as cultivating happiness, help you improve your level of life satisfaction.

Types of Happiness

- According to Dan Gilbert at Harvard, there are two types of happiness: “Natural happiness is what we get when we get what we wanted, and synthetic happiness is what we make when we don’t get what we wanted.” According to Gilbert’s research, in our society, we highly value natural happiness and view synthetic happiness with skepticism.
- However, Gilbert’s empirical research shows that synthetic happiness is, in fact, real. The brain literally reorganizes itself to be happy with what you’ve gotten.
 - In one study, participants ranked six paintings in order of preference and were then offered a poster of the painting they ranked either 3 or 4. People tended to pick the print they ranked third.
 - Later, participants were asked to re-rank the six paintings, and without fail, the picture they had previously ranked as number 3 had moved to number 2, and the number 4 painting had moved to number 5. The brain reorganized itself and people changed the pattern of what they liked and disliked based on their previous choices; they synthesized happiness.

Strategies for Managing Stress

- Ongoing research shows that we tend to think that certain things, such as getting a promotion, will have a significant impact on our lives and happiness. But the impact is generally less than expected. Further, research has shown that a year after a major trauma or a major joy, people are equally happy with their lives and back to their baseline levels of satisfaction. Thus, one key way to manage stress may be to remember that for most things, the value we place on the situation is the real problem; whatever the event is—good or bad—it will affect us less than we think.
- Sometimes, it's helpful to know that there is light at the end of the tunnel, even if we can't see it yet. For example, from study to study and across geography and nationality, there appears to be a U-shaped curve to happiness. From our teens and twenties, our happiness decreases as we enter midlife. Then, as we survive midlife and move into the wisdom of older age, happiness begins to rise again. This pattern holds even when researchers control for a wide variety of variables, such as employment status, family formation, and financial status.



According to the American Psychological Association, 65% of Americans cite work as their top stressor.

- Ultimately, if we want to be happy, we must choose to be happy. According to leading stress and happiness research Amit Sood, we are not naturally equipped for happiness and peace of mind. The human condition, by nature, pulls us to look for the negative. Sood's approach is that we have to choose happiness; it won't just come to us.
 - The first step in Sood's plan to achieve happiness is to train your attention. When you wake up in the morning, spend a few minutes thinking about people who make you happy. At the end of the day, when you come home, spend three minutes focusing on your family and resolve to greet them as they are, without trying to improve anyone.
 - If you try both of these practices, you will spend five minutes per day training your attention—teaching your mind to focus on what you want to focus on.
- We can also improve our choice for happiness by choosing the right kind of happiness. Martin Seligman, one of the pioneers of the positive psychology movement, has broken the pursuit of happiness into three distinct life tracks: the pleasant life, the good life, and the meaningful life.
 - Seligman summed up the pleasant life as essentially a Doris Day movie. In the good life, we discover our internal strengths and abilities and use them to enhance our lives. In the meaningful life, we have the fulfillment of a life well-lived by serving others.
 - The meaningful life is the most fulfilling one, but it isn't necessarily the easiest. Seligman's research over the past decade has continued to hone in on the meaningful life, and he outlines the five key elements that lead to well-being: positive emotion, engagement in life, meaning, positive relationships, and accomplishment.

- Ultimately, the key to a happy life is to cultivate a life of meaning. In addition, rather than seeking happiness, we should seek gratitude for the happiness we already have. Changing our perception about happiness can help us let go of the stress of seeking it. Rather than piling more obligations onto our to-do list, we can, instead, stop and cultivate gratitude for what we already have, who we already are, and what we've already done.
-

Suggested Readings

Graham, *Happiness around the World*.

Hanson, *Hardwiring Happiness*.

Lyubomirsky, *The How of Happiness*.

Positive Emotions and Psychophysiology Laboratory at the University of North Carolina at Chapel Hill, www.PositiveEmotions.org.

The Science of Happiness Online Course, offered by the University of California, Berkeley, Greater Good Science Center, greatergood.berkeley.edu/news_events/event/the_science_of_happiness.

Seppala, *The Happiness Track*.

Sood, *The Mayo Clinic Handbook for Happiness*.

Activities and Questions

1. Consider play in your life. How do you currently play, that is, engage in activities just for the fun of the experience? How can you bring more play into your life?
2. Practice the gratitude meditation once per day for two weeks and see if it makes it easier for you to notice the good in your life.



Anger: A Tyrannical King

As a culture, we've accepted what Brad Bushman, professor at Ohio State University, calls the myth of catharsis—the idea that when anger stays inside, it bottles up and becomes bad for us and the people around us. Rather than bottling it up, then, we should get it out. This is not a new notion. Freud proposed that we needed to express anger and that repressed negative emotions were the source of psychological issues. But even though this idea—that we have to get our anger out to be healthy—has become a common part of the cultural consciousness, evidence to the contrary has been around for a long time. In this lecture, we'll explore some of this evidence.

Cognitive Neoassociation Theory

- An opposing theory to catharsis theory is *cognitive neoassociation theory*, which addresses underlying networks of affect. As professor Brad Bushman explains it, in cognitive neoassociation theory, aversive events lead to negative affect; negative affect then stimulates the stress response at a neurological and physiological level. If the aversive event makes us angry, our aggressive thoughts and actions trigger a domino effect in our neural pathways, activating an aggressive pattern.

- Thus, according to this theory, feeling angry and expressing or acting out on anger actually activates the neural pathway for anger.
- Even if we're venting against something safe—hitting a pillow or yelling at the wind—we are still ruminating on the thing that made us mad and, therefore, keeping those angry feelings active in short-term memory.

Research on Catharsis Theory

- In one study, Bushman set out to better understand if there was any benefit to catharsis in anger. In his study, 600 college students were asked to write an essay. They would then trade essays with another student and evaluate each other's work, with scores ranging from -10 (very bad) to +10 (very good). But the essays were actually graded by a research confederate, who gave every student in the experiment a score of -10, -9, or -8, along with negative handwritten comments.
 - Then, two-thirds of the students were given the opportunity to hit a punching bag. Those working with the punching bag were randomly divided into two groups. The first group was instructed to ruminate about the "student partner" who had graded their papers. The other students were given distraction instructions. They were told that as they punched the bag, they should think about becoming physically fit. The participants in the control group sat quietly for two minutes, with no instructions or activity.
 - The experimenters then used two tests to determine the students' level of anger and to compare the effects of venting, distracting, and doing nothing on subsequent anger.
 - If catharsis works, then the people in the venting group should have the lowest level of anger because they thought about it and got it out, people in the distraction group should have the next lower level of anger because they physically got it

out of their system even if they weren't thinking of it, and the people who did nothing should have the most anger because they are pressure cookers, ready to explode. But in fact, the rumination group was angrier than both the distraction group and the do-nothing group, and the distraction group was more aggressive than the control group.

- Bushman and Roy Baumeister, the preeminent researcher in the understanding of self-regulation and willpower, point out that anger always dissipates; thus, when we consistently vent our anger, we may mistakenly believe that the anger is dissipating because of the venting. However, as Bushman's studies have consistently shown, doing nothing allows anger to dissipate faster and more effectively and leaves us less likely to behave with aggression toward others.
- Just as catharsis makes you more aggressive to others, it also harms you. Using catharsis as your dominant style for anger actually increases your risk of cardiovascular disease. One study of more than 1,300 men from the Harvard School of Public Health found that, over a seven-year period, the men with the highest levels of anger were three times more likely to develop heart disease than the men with the lowest levels of anger.

Physical Exercise

- The exercise and anger relationship is complex, but research suggests that when you're angry, engaging in high-intensity exercise may help you deal with the physiological aspects of that stress, such as the surge of adrenaline and racing heart, to discharge those physical symptoms. However, exercise keeps you in an aroused state, and physical arousal may keep you in a high-arousal emotional state of anger, too. You have the same surge of heart rate and blood pressure when you exercise as when you're angry, and at a physiological level, arousal is still arousal.

Regular exercise
reduces your trait
anger, that is, your
overall level of anger.



- But as anyone who works out regularly knows, if you work out long enough and hard enough, at the end, you are exhausted and have little physical arousal. Once you're exhausted, you are too physically tired to be aggressive. Thus, running a mile when you're mad may keep you aroused and angry, but swimming laps until you're exhausted may help you work through the physiological and cardiovascular effects of stress and allow enough time for your anger to dissipate.
- If you know you're going into a situation that makes you angry, you may be better off if you exercise first. One study looked at young men with high levels of trait anger (hair-trigger tempers). They were exposed to a variety of photographs designed to spark anger at injustice, while the researchers tracked brain-wave electric activity and asked them to report anger levels. Sometimes, the men exercised on a stationary bike before seeing the photos, and when they exercised first, they were less angry. The researchers proposed that regular exercise can be a prophylactic toward the stress of anger.

Eliminating Anger

- As Bushman says, the problem with either stuffing down or venting your anger is that, in both cases, you're still angry. The only way to truly stop being affected by anger is to eliminate it. Bushman gives us the pressure-cooker analogy. When you stuff your anger, you keep the steam inside—and risk exploding. When you vent the anger, you occasionally open a valve and let steam out but risk burning someone else as the steam releases. A third approach is to just turn down the heat. To achieve that, we need to take a solution-oriented approach.
- In seeking solutions, let's consider the difference between what psychology professor Robin Kowalski calls *instrumental complaints* and *expressive complaints*.

- Instrumental complaints are goal oriented. They are efforts to seek solutions to the current problem by letting the relevant individual know what needs to be done—and this can be done in a calm, kind, collaborative voice.
- Kowalski points out that other people's reactions to complaints often vary based on the complainer's affect. When complaints are expressed in an angry or aggressive way, they receive more negative responses. In contrast, when complaints are offered in a neutral, nonthreatening manner, they are more likely to be positively received.
- Kailash Satyarthi received the 2014 Nobel Peace Prize for his work as a children's rights activist. In his TED Talk, "How to Make Peace? Get Angry," he makes the point that anger is a type of energy. As energy, it can't be created or destroyed, but we can harness and translate it. The formula he uses is anger, idea, action.
 - He provides examples from his own life, when he was cast out and imprisoned in India for his human rights efforts. And each time he was wronged or harmed, first he was angry, but then he used that anger to identify an idea to change the situation. Finally, he put his idea into action to help others.
 - Satyarthi says that when we use our anger in this way, we can connect with others and change the world. Consider how different that approach to anger is to the catharsis notion that we have to get our anger out to feel better. This is a concept of anger that recognizes something is wrong and that we are responsible for fixing it.
- Sometimes, we can't change external circumstance. Sometimes, we are hurt or angry, and we simply have to move forward.
 - First, we consider our hurt feelings. How do we work through things when we have been hurt, angered, or wronged? In his book *A Complaint Free World*, Will Bowen makes the point that

processing and complaining are not the same thing. When we complain, we rehash the experience with someone, and we keep those angry, negative emotions bubbling and active.

- Expressive complaining—complaining about something with no intention of finding a solution—has been identified as another form of catharsis, and according to Kowalski is the most common reason people complain.
- In contrast, when we process, we share our feelings about what has happened, work through how it made us feel, and consider how we can approach a similar situation differently in the future. Then, we move on and let go with our new understanding of who we are and how we feel. Still, although processing can be helpful in bringing new insights, we should use it purposefully, and we shouldn't linger in the pain. Kowalski has found that complaining about problems can increase our awareness of their prevalence; as she puts it, symptoms increase with symptom reporting.
- As part of working through our feelings, we can seek to let go of our anger, both from a physiological perspective and from a psychological perspective.
 - Physiologically, we seek to reduce our arousal, to calm our bodies. We can use such strategies as counting to 10, meditating, practicing yoga or tai chi, listening to relaxing music, or taking a bath.
 - We can also use psychological strategies to shift our perspective, such as reframing the problem, choosing not to take comments or situations personally, distancing ourselves, or distracting ourselves.
- Even if you can't solve the problem, it's in your best interest to let it go. You only have so much attentional capacity and only so much time in your life. Hanging on to pain and anger means hanging

on to things you don't like or that hurt you. We've already talked about how value judgment colors your arousal, and rage is the most potent of value judgments. When we put anger and arousal together, we create a tremendous experience of stress. But letting go of anger means letting go of that major source of stress in your life and creating space in your attentional capacity for the things you value.

Suggested Readings

Bradshaw, *Healing the Shame That Binds You*.

Hightower, *Anger Busting 101*.

Kowalski, *Complaining, Teasing, and Other Annoying Behaviors*.

Activities and Questions

1. Try the count-to-10 breathing activity several times. Try it one time while trying to stay angry, then repeat several times while deliberately trying to calm down. Feel the difference between using 10 seconds to better make your point (staying angry) versus using 10 seconds to better control and calm yourself (dissolve your anger). Practice calming down in a 10-count breath several times a day for one week to improve your ability to quickly calm yourself when you need to.
2. Reflect on a situation in which you experience recurrent anger. Consider the solution-oriented approach; is there something in the situation you can change? If so, outline the strategies you can use to change the situation. If not, what can you change about how you perceive the situation? Become Samantha-on-the-wall and consider what you would see if viewing the situation from a detached, external perspective. What might you notice differently that could change how you engage in the situation?



Swimming in an Ocean of Sorrow

Sometimes, there is no silver lining. Sometimes, the worst thing really does happen: The love of your life leaves. A child gets sick and dies. The doctor comes into the room and gives truly bad news. Sometimes, we hit the bottom of the pit, and the best we can do is to survive, muddle through, and survey the damage that surrounds us. This lecture discusses those times that are deeply, fundamentally stressful—those moments where we go beyond stress and encounter trauma, suffering, grief, and pain.

Fearing Sadness

- In our darkest moments, we may notice that we are most afraid of our own sadness. Sadness is, of course, less desirable than happiness, but we also find it less desirable than anger.
- James Baldwin once wrote that “one of the reasons people cling to their hates so stubbornly is because they sense once hate is gone, they will be forced to deal with their own pain.” Anger feels strong. Sadness, grief, and sorrow feel weak. And above all, we are afraid of being vulnerable.

- One strategy we use to manage the stress of loss is to hide from our deeper, darker emotions. Sometimes we use the armor of anger to protect ourselves against the pain and stress of sorrow.
- Just as we avoid the sadness in ourselves to minimize the stress, in our relationships we may sometimes avoid those who are suffering. Perhaps we fear that suffering, deep, painful, suffering, is contagious. Perhaps it reminds us too much of our own unintended wounds.

Perceptions of Trauma

- The power of our mindset matters even in the midst of trauma because how we perceive the world helps us to face our emotions and to move forward. Even the grief of profound loss involves perception.
- The American psychologist and spiritual teacher Ram Dass suffered a stroke in the late 1990s. After a year of rehabilitation, he gave a speech at a spiritual conference about how life changes. He made the point that if he thought of himself based on what he used to do, then he'd think of himself as a guy who could no longer do those things, and he'd feel sorry for himself. He said, "During the stroke, I died ... and now I have a new life in a disabled body. This is where I am. You've got to be here now."
- Why? Why do you have to be here now, in this frightening place that hurts so badly? The reason why is because this is where you are. You don't have a choice to be somewhere else. And as long as you keep avoiding that reality that doesn't go away no matter how hard you try to not believe in it, you will be stuck here, in this painful, frightening place.
- One strategy that is helpful to remember is that even when nothing around us feels good, we can still *be* good, and we can still find the good in our life in the midst of trauma.

- Stanford health psychologist Dr. Kelly McGonigal talks about this as a benefit-finding approach to stress management. Research shows that people who have a tendency to seek the good in even the most difficult of circumstances tend to have better outcomes. For instance, you could find joy when the person bringing you a meal in the hospital smiles at you. Perhaps the doctor tells you something funny. Perhaps the sunlight is beautiful.
- People with life-threatening experiences and acute health scares who are able to see the benefits they gain from the experience are more likely to experience personal and relationship growth than people who only see the trauma in their experiences. The same is true for the family caregivers of the people who suffer acute illness.
- Research with soldiers finds that those who see the benefits in their deployment to a war zone are less likely to develop post-traumatic stress disorder (PTSD) or depression later. This protective effect is most profound for the soldiers who were exposed to the most combat and trauma.

Beyond Stress to Growth

- There are strategies for facing our fears and finding meaning in trauma that can help us to go beyond stress resilience and discover stress transformation. Dr. Lawrence Calhoun of the University of North Carolina at Charlotte has coined the term *post-traumatic growth* to describe the way some people react to trauma.
- Here is what that means: Some people who experience trauma develop PTSD and become psychologically locked in the experience of the trauma. A hallmark of PTSD is that the individual continues to relive the experience over and over. Others who experience stress are stress resilient: They get punched, stagger, and jump back up and get back to their normal selves.
- A third experiences post-traumatic growth: They get punched, they recover, and when they stand back up, they are transformed.

One consistent finding about when and why post-traumatic growth occurs is that it seems to happen when people experience a major trauma and then confront their understanding of the world. They make an attempt to make sense of what happened and to find meaning. That meaning making after trauma can lead to post-traumatic growth.

- Cultivating forgiveness is an important part of the healing process, particularly for those who have experienced trauma by or from other people. As long as you hold on to anger and resentment at the one who hurt you, you hold onto the wound. The author Robert Brault has said, “Life becomes a lot easier when you learn to accept the apology you never got.”
- Similarly, if you feel that you have traumatized others, forgiveness of yourself is necessary to promote healing. Research suggests that for women, feeling unforgiven by others is related to an increased risk of depression, but forgiving others and a sense of self-forgiveness are protective of well-being.
- Another angle of forgiveness: When you lose someone you love, the profound grief of loss can include anger. But this anger isn’t rational, so people often compound the anger with guilt. This cocktail of anger and guilt is tremendously stressful.
- Dr. Brené Brown suggests that whenever we find stress, fear, and worry overtaking us, we should stop and acknowledge the core emotion. The core emotion is the deep feeling at the center of the trauma. Often what we are really feeling is vulnerability.
- If you are grieving, the acknowledgement of vulnerability can help you begin to heal. The reason that you are mad at your loved one for dying, and the reason you feel so terribly guilty about your anger, is because you deeply miss them, and you are scared and vulnerable of a future without that person in it.

- The simple act of acknowledging your vulnerability can help you make a conscious choice to get out of ruminating about a frightening unknown and come back to this moment.

The Body

- Stress and anxiety are rooted in the physical experience of the body. PTSD has much to teach us about the mind-body connection. Neurological research has shown that fear is centered in the amygdalae, a pair of almond-sized regions in the brain. The amygdalae interpret sensory perceptions like smells and sounds and filter them out to other parts of the brain.
- In a person who does not suffer from PTSD, the amygdalae can filter out dangerous perceptions from benign ones. But in an individual with PTSD, the filter is broken. Anything that reminds a PTSD sufferer of the trauma puts the body into the stress response, and they experience the physiological symptoms of panic: increased heart rate and a surge of adrenaline. Research from Harvard Medical School has shown that there are actual blood marker differences that occur in individuals with PTSD.
- Another example is the metaphor of a broken heart. Apical ballooning syndrome is a condition where a distinctive ballooning of the left ventricle of the heart occurs after an extremely stressful event. It's actually called *broken heart syndrome*. The individual doesn't have the clogging in the heart that occurs in a heart attack, but physically experiences chest pain and difficulty breathing due to a change in the heart muscle caused by stress hormones, including adrenaline.
- Death or serious injury and the resulting grief are exhausting. Sleeping more is part of the body's coping strategy to help heal. So consider how intertwined your mind and body truly are: Emotional trauma can lead to physical damage in the heart; physical recovery can help you cope with emotional pain.

Growth

- Reflection on why we are stressed can help us regain our sense of self and move forward. Research published in the journal *Social and Psychological and Personality Science* found that a brief reflection after a relationship ends can help you feel less lonely and heartbroken. You don't want to dwell and get stuck in the pain, but you want to take time to identify the issue, acknowledge the need, and make the change.
- Sometimes stress occurs because we have a fear of negative emotions, so when we feel pain or loss or anger, we feel stressed that we aren't perpetually happy and sunny. Remember in those moments the concept of emodiversity: Just as we need a diverse ecosystem in the world, we need a diverse emotional system in our internal worlds.
- Remember that a self-aware and authentic life requires that we feel the full range of human emotions. Emotional self-awareness



and authenticity have been repeatedly linked to health and well-being. Denying our experience of a particular emotion locks us up in the fear that we fear most.

- Mindfulness training can be part of how we face that vulnerability and part of how we heal. Mindfulness training is an effective strategy for healing that can help us cultivate a sense of both self-forgiveness and forgiveness for others.
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Suggested Readings

Brown, *Daring Greatly*.

Calhoun and Richard. *Posttraumatic Growth in Clinical Practice*.

Gruber and Moskowitz, eds., *Positive Emotion*.

Activities and Questions

1. Identify a recurrent stressor or trauma in your life: perhaps an ongoing relationship that is challenging, or a conflict with yourself that you continue to have, or a trauma or wound which has not healed. Consider: What is the core emotion at the center of your experience? What are you feeling deep inside? How can you move past any defense mechanisms, such as anger, and address the core need?
2. Try the meditation on grief from the video or audio lecture. Consider a major stress, trauma, or loss in your life, which still impacts your well-being. Practice the meditation on grief several times as you work to make sense, make meaning, and experience posttraumatic growth of the experience.



Why You Stress: Arousal and Value Judgment

Your arousal level combined with your emotional state determines your stress level. Specifically, high arousal plus negative affect equals stress. The arousal here is physiological arousal—how your body is feeling. With high arousal, your heart rate is high, your body is flooded with hormones, and your breath is rushed. This can be either the negative experience of stress or the positive experience of excitement, depending on the emotional feeling you bring to the situation. Cultural and familial influences also play a role in how you experience stress.

The Continuum of Stress

- Let's begin by considering a continuum of stress. On one end, we have *eustress*—the high arousal of positive experience. On the other end, we have *distress*—the high arousal of negative experience, which we normally just call stress. In the middle, we have what stress researcher Brian Luke Seaward calls *neustress*, which is the experience of sensory stimuli that have no consequential effect. This is simply noticing what is and not feeling any emotional response to it.

- Within the category of distress are acute stress and chronic stress. Acute stress is intense and disappears quickly. Chronic stress may be mild to moderate, but it lingers over a prolonged period of time.
- According to the Yerkes-Dodson curve, when stress is too low, we are bored and have poor performance, but when stress is too high, we are overwhelmed and have poor performance. In the middle is the amount of stress where we feel optimally aroused and perform at our best. Of course, each person's curve will be different, based on your own history, perceptions, and physiological preferences.
- Researchers now understand that the body knows the difference between good stress and bad stress. Your brain, immune system, and hormones all reflect differences based on the emotional experience of your arousal. Seaward now defines stress as "the inability to cope with a perceived real or imagined threat to one's mental, physical, emotional, and spiritual wellbeing which results in a series of physiological responses and adaptations." Seaward points out the importance of the word *perceived* because a stressor to one person may not be a stressor to another.

Value Judgment

- Stress is a simple equation of arousal plus value judgment. But value judgment is an extremely complicated equation in and of itself. Cultural values shape personal values, and your personal values will affect your perception, which creates your experience of stress.
- Perception is created from a variety of inputs, including your personal history and memory, your cultural context, and the specific environmental context of your work, your family, and your neighborhood.
- New ideas about stress management take into account the fact that we never directly experience any stimuli. Any time you

perceive a stimulus in the environment, information is sent to the brain where you experience the process of interpretation.

- In phase one, the raw input occurs: inputs like sights, sounds, or tastes. In phase two, processing occurs. This is where your interpretation combines your memory, your analysis, your reasoning, and your conscious interpretation to create your perception of those stimuli. In phase three, the output occurs: your speech or action.
- According to this model, when you speak and act, you are not responding to the raw stimuli but to your perception of those stimuli. A first step in stress management is to realize and accept that what we are responding to in life are our own perceptions, not the raw stimuli that we experience.
- Here's an exercise that can help: Think about a stressor which you experience every day, perhaps traffic or a certain person. Once you've thought of something, consider that the thing itself is just a raw stressor. It is only a stressor because of your perception.
- Yes, it may be something that would cause most people stress. But when you take away the value judgment, it becomes a raw stressor: simply a stimulus in the environment. The way you process and interpret this stimulus is what causes your stress. Your perception is the source of your stress.
- That doesn't diminish or devalue your feeling of stress and upset. In fact, if the stress is in your perception, it becomes critical that you should become aware of the role of perception in your experience, because although you cannot control the raw stressor, you can do something about your perception.
- Consider anxiety, which is a normal, healthy part of our functioning: It's what alerts us to get out of way of a moving car. Similarly, if you have a presentation coming up at work or another high-stakes situation, anxiety provides the impetus to prepare.

- Sometimes, though, anxiety reflects stress gone awry. You stress too often and too much, and about things that shouldn't elicit stress. Think of the analogy of an alarm clock going off at the wrong time. The alarm clock is supposed to go off when you set it, but if it starts going off at random times, you need to repair the alarm clock.

Tendencies and Predispositions

- Each of us has our own set of genetic, personal, historical, and environmental factors that, combined, created our tendency for stress. We can see from the early days of infancy that some babies are more prone to stress and anxiety than others. Some children are, from birth, naturally calm. Other babies are fussy, colicky, and difficult, as if they are sensitive and uncomfortable in their own skin.
- The majority of babies fall in the broad middle, where parental intervention matters a great deal. Early childhood interactions may set up patterns and tendencies of stress reactivity that the child will play out throughout their lifespan.
- The clinical psychologist Dr. Marvin Zuckerman proposed the diathesis-stress model of psychopathology, which holds that we have a certain constitutional predisposition to certain psychological or mental conditions.
- However, the diathesis (or predisposition) is not sufficient to produce a disorder but requires other factors in order to occur. These factors are environmental stressors. How much of the environmental stressor it takes for the psychopathology to occur depends on our personal predisposition and, therefore, our genetic vulnerability.
- For a person with a high amount of genetic vulnerability to anxiety or depression, mild or moderate stressors may lead to the experience of anxiety or depression. Someone with a low level of

genetic vulnerability may not experience anxiety or depression unless they experience a much higher level of stress.

- When looking at how we respond to stress, we should consider our own predisposition to stress reactivity. It's important to consider how we respond to stress and to proactively address our stressors through effective coping strategies and the developing of stress resilience.
- Think of your past experiences with stress and the experiences of your family members, particularly parents and siblings: Are they typically calm or are they highly reactive? Even regardless of that answer, you should be mindful of the more severe or chronic stressors in your life and develop strategies to help you to continue to cope effectively.
- Parental influence and childhood experiences within the nuclear family are particularly influential in developing our psychological health because of the interplay of genetics and parental influence. Anxiety disorders run in families, and if you have a parent with an anxiety disorder, you are more likely to have anxiety yourself. Twin research shows that some portion of that tendency is due to genetics and some portion is due to family environment and learned behavior.

Familial Strategies

- One study from Johns Hopkins University looked at whether it is possible to mitigate familial influence through early intervention. The researchers looked at families where at least one parent had an anxiety diagnosis but a child between the ages of 6 and 13 did not yet have an anxiety diagnosis.
- In half of the families, they conducted an active preventative intervention, with eight weeks of family therapy. The other half served as a control group and simply received a handout about

anxiety disorders without any training or information about specific strategies to address anxiety.

- After a year, only 5 percent of the children in the therapy group had developed anxiety, compared with 31 percent in the control group. These one-year results suggest that an effective way to address the development of anxiety is through early prevention.
- One key preventative strategy from the Johns Hopkins study was teaching parents more productive ways to protect their children from situations that make them anxious. Parents often want to protect their children, and when a child expresses anxiety, the parent may shield the child from that situation or scenario.
- It isn't that you should force the child into a situation that makes him or her anxious, but rather that you can work through the anxiety with the child and help the child understand his own competence rather than shielding him or her.
- Kids don't need shielding from their fears. They need loving support and help to face them, and to develop a sense of self that they are capable of facing them. It's still protecting your child, but protecting them by giving them the opportunity to learn how to manage their anxiety.

Pain as a Stressor

- Some occurrences, such as pain, are inherently stressful.
 - In acute pain—when you've had surgery, cut yourself, or broken a bone—a physical stimulus affects the body, and the nervous system sends signals up the spinal cord to the brain to let your brain know that you have been injured.
 - Sometimes, the nerve cells become overactive. When this happens, weak or non-sensitive stimuli, such as touch, fire the nerve cells, which then indicate pain to the brain. Pain experts

believe that this hypersensitivity of the nervous system is involved in chronic pain.

- Doctors know that chronic pain physically occurs in the structure of the body; it's not just in your head. But doctors also know that what is in your head can make pain worse. The fear of chronic pain, especially when it flares, and the worry that it will never go away can make both the intensity and duration of the pain worse.
- Research on mindfulness strategies, such as meditation, and cognitive behavioral strategies, such as reframing and distraction, show that helping people with chronic pain gain a sense of control can help reduce both the intensity and duration of the pain.
- Chronic pain exacerbates stress, and chronic stress exacerbates pain. Mindful awareness may be the best strategy to break the cycle.
 - For instance, tension headaches can be a side effect of stress. When you get stressed, sleep-deprived, hungry, or strained from excessive screen time, physical tension builds up in the muscles in the scalp.
 - Consistency and stress management are the best treatments for tension headaches, including regular, moderate exercise; a regular sleep schedule; and regular meals so that you don't experience roller-coaster blood sugar. Further, research published in *The Journal of Neuroscience* has documented the benefits of meditation for tension headaches.
- Research shows that chronic pain reduces your memory and attention, willpower, and resilience to stress. Other chronic stressors, such as debt and poverty, have similar effects; for instance, research shows that when people live with financial scarcity, they have less cognitive capacity and less willpower.



- Brené Brown suggests that whenever we find the stress of fear and worry overtaking us, we should acknowledge our core emotion. Often, what we are really feeling is vulnerability. We are afraid of the unknown, of the stress that never stops and continues to get worse, or of being unable to cope. Brown suggests that we face the monster by saying out loud: “I am feeling vulnerable.” We can then acknowledge that we’ve gotten locked in our fear brain and make a conscious choice to come back to this moment.
- In moments of stress, remember to stop and acknowledge: “I am feeling vulnerable.” Stress is, at its core, how we communicate with ourselves. Instead of being afraid of stress, learn to listen to it and use it as a tool that facilitates self-awareness and self-understanding. Don’t try to reduce or eliminate stress. Instead, learn to make stress work for you.

Suggested Readings

Brown, *Daring Greatly*.

Gruber and Moskowitz, eds., *Positive Emotion*.

Lazarus, *Stress and Emotion*.

Seaward, *Managing Stress Principles and Strategies for Health and Well-Being*.

Selye, *The Stress of Life*.

Activities and Questions

1. Consider your personal predisposition to stress. What is your tendency, based on past experience, with regard to stress reactivity? What about the tendency of your close family members, such as parents and siblings? Based on this information, what information should you consider about your own potential for stress reactivity?
2. How does your environment influence the values you have in ways that create stress? Consider the cultural, environmental, corporate, and familial values that you may have adopted. What are the stressors that you can mitigate or eliminate by reorganizing and making new choices? What are the stressors that you can reframe as just the ants at the picnic?



Choose Your Adventure: Choose Your Stress

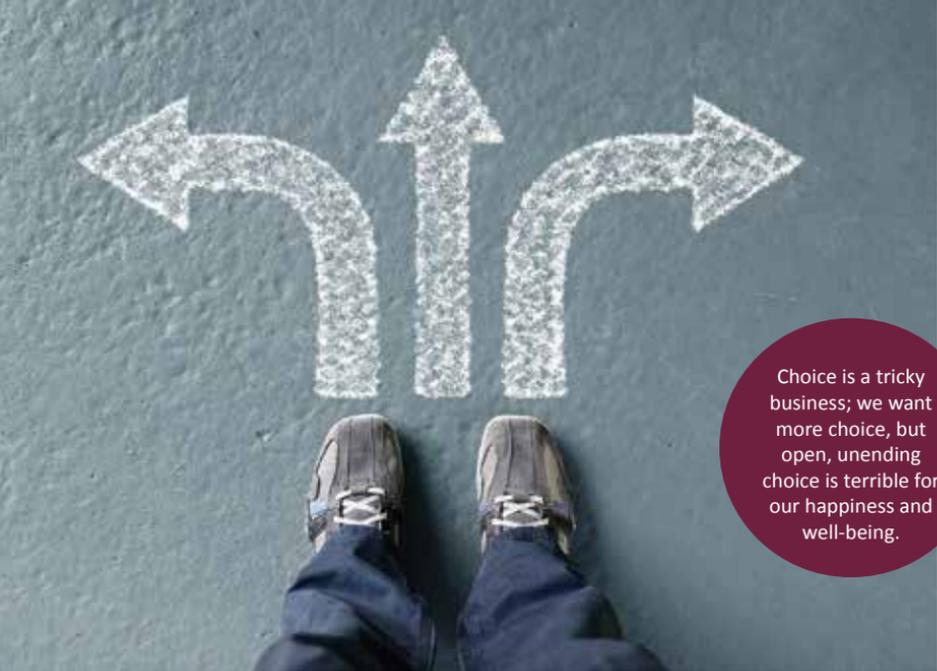
Stress and choice are fundamentally intertwined, and having too little choice is the greatest stressor there is. Professor Edward Deci and clinical psychologist Richard Ryan's self-determination theory helps us understand human motivation—both motivation as a specific construct for wanting to do something in particular and motivation for life in general. Deci and Ryan's premise is that human motivation comes from the intersection of three concepts: autonomy, competence, and relatedness. Essentially, we feel motivated when we have a sense of choice, when we feel as if we can be successful, and when the activity connects us to others. Thus, choice is vital to human wellness, and a lack of choice may be the most devastating situation possible.

Lack of Choice, Too Much Choice?

- Martin Seligman, the pioneer of positive psychology, started his work as a psychologist doing research on the learning process with dogs.
 - As part of the training protocol, the dogs were exposed to electrical shocks. The dogs were good at learning how to avoid the shocks; for instance, if touching a particular part of

the cage caused a shock, the dogs moved to another part of the cage.

- But some of the dogs were not able to avoid the shocks because of how the training process was set up; they hadn't learned the behavior to make the shock stop. Later, when those dogs had opportunities to avoid or escape shock, they didn't even try. Their prior experience with the shocks they couldn't avoid taught them that they could not control their environment.
- From this observation, Seligman developed the theory of *learned helplessness*—that our actions do not affect our environment, but that the things that occur to us will happen regardless of what we do. In other words, learned helplessness occurs when we have no sense of control about our environment or situation.
- Further, learning this sense of helplessness in one aspect of our lives can have an impact across other domains. In research with humans, Seligman exposed people to loud, obnoxious noises that they couldn't stop or escape. When people learned helplessness in this context, they performed at lower levels on problem solving and perseverance and reported negative mood states.
- After decades of understanding how our beliefs matter, this may seem like common sense. But when Seligman started his research, the dominant model in psychology and behaviorism was that everything we know is a result of conditioning. The idea that learning in one context could create a mental model that could shape how we perceived the world and how we learned anything else was revolutionary.
- The core of learned helplessness theory is that a sense of self-control matters tremendously. Fundamentally, a sense of control is a belief that our behavior has outcomes—that what we do affects



Choice is a tricky business; we want more choice, but open, unending choice is terrible for our happiness and well-being.

what we have, what we receive, and how others respond to us. We may not need many choices; we just need a sense of choice.

- On the other end of the spectrum, when we have too many options, we can become paralyzed by choice. Most experts estimate that we make thousands of decisions per day—perhaps up to 35,000 for a working professional—from the mundane to the life-changing. Such an array may well be a first-world problem, but it causes us a great deal of stress.

Approaching and Framing Choices

- How we approach these unending choices can make a difference in how satisfied we are with our decisions.
 - *Maximizers*—who strive for the best choice possible—always struggle more with their choices and are less satisfied with the choices they finally make.

- *Satisfiers*—who set criteria and standards for choices—are not concerned with getting the best possible choice, as long as those criteria and standards are met. Research consistently shows that a satisfier approach leads to more consistent happiness and fulfillment and less time questioning choices after the fact.
- Even how you frame the choice may affect how many choices you think you have. In one study, professor Sheena Iyengar studied choice decisions among older Eastern Europeans, individuals who'd grown up in Soviet-bloc countries in an era of limited, state-controlled choice.
 - As participants entered the lab, they were offered a variety of about seven soft drinks. Iyengar asked participants how many choices there were, and all of them, rather than seeing seven choices (seven types of soda), saw only two (soda or no soda).
 - When other types of beverages, including water and different juices, were added, the participants saw three choices, water, juice, or soda, not the individual number of specific options.
- For some choices, you may want every soda and can have only one, or perhaps you are trying to cut back on sugar and know you should have water, but you want soda. Choice can be difficult because it requires willpower and self-control. We have a limited capacity for self-control, and simple choices may feel difficult, simply because we're worn out.

Decision Fatigue

- Too much choice leads to *decision fatigue*, which leads us to make poor choices. Roy Baumeister has built his career on studying willpower. He concludes that being a good decision maker is not a trait that some people have and other people lack. Instead, the capacity to make good decisions is a state; it depends on your

energy, how many decisions you've already made that day, and at a core physiological level, your glucose level.

- In one study of judicial officials evaluating parole requests, researchers found that prisoners with similar circumstances in terms of crime, sentence, and portion of sentence served received radically different outcomes depending on whether or not the judicial board was recently rested and fed or tired and potentially hungry.
- Baumeister points out that the people who are best at decision making are those who structure their lives to make choice work for them. They don't schedule back-to-back meetings, they don't go to all-you-can-eat buffets, and they make plans to make the things they value easy, for example, setting up routines for exercise or family time.

Design Thinking

- One strategy used to make effective decisions is called *design thinking*. This process, invented by engineers to improve on specific products or technologies, can be applied to personal problems. The underlying principles include a bias toward action and a limited fear of failure. The point of design thinking is to challenge your assumptions through a five-step process, as follows:
 - Empathize: What are the real issues?
 - Define the problem: Which question or questions are you going to answer?
 - Ideate: Identify possible solutions.
 - Prototype: Find concrete ways to put your solution into action.
 - Test and get feedback: If your first decision doesn't work, go back and build another prototype.

- With this approach, language matters. For instance, Roth points out two word choices in particular: *but* versus *and*. *But* seems to exclude certain choices in favor of others, while *and* allows you to accept a number of options. Other powerful word choices include *have to* versus *want to* and *can't* versus *don't*.

Choosing to Be You

- Another key choice you must make is to choose to be you. Take time to know who you really are, then live for you. You may have to make many small choices every day to live and express yourself as you, but it all starts from a core choice to be yourself.
 - Consider, for instance, the increasing push toward collaboration in the business world. Business leaders have been inspired by research that bringing together people with different perspectives can yield new insights and may spark innovation. Thus, open office plans and meeting spaces have become the norm. This can yield new insights and perspective, but it can come at a cost.
 - Researchers at the University of Virginia have estimated that knowledge workers spend 70% to 85% of their time collaborating—time spent in meetings, on e-mail, and providing input and advice as requested. But others have pointed out that frequent collaboration makes “deep work” difficult; when you are constantly interrupted and multitasking, focusing can be difficult.
 - The key to managing your own stress in this environment is to know who you are and to make choices that work with your own strengths. You will have to do a certain amount of collaboration, but many events are optional. Those who are introverted and prone to deep thought need space and time to produce their best work. Your company and your boss may not automatically provide it for you, but you may have to be

your own advocate to get the support you need to do your best work.

- Stress often comes from the incongruence between what you have and what you want, and sometimes, it stems from the fact that what we value and where we spend our time don't match. At Harvard University, Dr. Richard Light leads freshman students in first-year experience seminars. As one activity in the seminar, he asks students to make two lists: "What Matters to Me" and "My Time over the Past Two Weeks." Let's try the same exercise.
 - For the first list, spend 15 or 20 minutes brainstorming how you want to spend your time and identifying the key activities and people in your life.
 - For the second list, jot down everything you've actually done over the last two weeks—what you have actually invested your time, energy, and money into.
 - Compare the two lists and ask yourself: How well does the time I've spent over the past two weeks match the things I value? Look for both congruence and incongruence.
 - You may find that you're one of the lucky few who spends time on things that matter to you. But many people, perhaps most, find that they spend precious little time on the things that are precious to them. Don't judge yourself with the exercise, but use it as a chance to reflect on the day-to-day choices you make and whether they reflect the long-term values you have chosen.
- Many people try to lose weight, and many fail. The people who succeed in losing weight and keeping it off are the people who give up on diets and commit to a new lifestyle. You don't lose weight by dieting; you lose weight by living as if you are a person of healthy weight. The same is true of stress. You won't lose your

stress by picking one tactic or even a group of tactics. You will lose stress by living as if you have a healthy relationship with it.

Suggested Readings

Baumeister and Tierney, *Willpower*.

Callahan, *Adrift*.

Iyengar, *The Art of Choosing*.

Roth, *The Achievement Habit*.

Self-Determination Theory, selfdeterminationtheory.org.

Sood, *The Mayo Clinic Guide to Stress-Free Living*.

Activities and Questions

1. Complete the “What Matters to Me” exercise: First, across the top of one sheet of paper, write, “What Matters to Me.” Spend 15 or 20 minutes and brainstorm how you want to spend your time. Identify the key people and activities in your life, such as work, recreation, and self-care. Next, label a second sheet of paper “My Time over the Past Two Weeks.” Spend 10 or 15 minutes to jot down everything you’ve actually done over the last two weeks—that is where you have invested your time, energy, and money. Compare the two lists and consider where you should make changes to bring congruence between how you spend your time and what you truly value.



Heaven and Hell Can Be Other People

According to the 2011 “Stress in America” survey, other people are one of our primary sources of stress. Fifty-eight percent of American adults say that relationships are a significant source of stress; 57% cite family responsibilities; and 53% cite family health problems. In addition, research consistently shows that being in a loving, supportive marriage promotes health and longevity. But the flip side is also true: Bad marriages are bad for our health. And for many people, particularly children, social interactions can be a constant source of stress. At the same time, good social relationships and strong connections make us happier, healthier, and more resilient to stress. How can we make the most of the relationships that help us and mitigate those that hurt us?

Social Media

- In the era of social media, the question “How many friends do you have?” can be emotionally wrought. How many connections do you have on Facebook? Do you have fewer or more than average, and what does that say about you?
- Psychologist Robin Dunbar has studied the number of stable relationships people can maintain. In primates, he found that there is a relationship between the size of a species’ neocortex and the

size of its social groups. He predicted that based on the size of the average human neocortex, humans would have social circles of about 150 people. Based on historical and anthropological studies, he reported that over time, human beings have consistently organized into groups of 100 to 200 people.

- Recently, Dunbar asked whether or not social media changes that number. If our brains are meant to stay aware of and connected to a rough network of 100 to 200 people, can you really have the 5,000 friends that Facebook will allow you to make? Dunbar found that people had, on average, 155 connections on Facebook. They had a closer-knit group he called a *sympathy group* of about 15, and the average person had a *support clique* of about 5 people, whom they might actually call on when life got rough.
- Dunbar's work shows that we sometimes chase the easy and visible when we should focus on the deep and important. Those friend numbers on social media aren't the relationships that drive

Most people know that maintaining good relationships is a good stress-management strategy, but on the "Stress in America" survey, only 38% of respondents reported actually spending time with friends and family as a way to manage stress.



our health and happiness. What truly matters for well-being is nurturing the smaller number of your support group. Whether that is two or five people, you need to make sure that you are truly connecting with them.

- When we are perpetually on technology devices, we can actually damage our relationships with people in our daily lives. Seventy percent of women say that technology interferes in their relationships with their romantic partners sometimes or often, and a full 25% say that their partners actively texted other people during their face-to-face conversations.
 - Psychologist Sarah Coyne has called this *technoference*, which she and her colleagues have defined as “the everyday intrusions or interruptions in couple interactions or time spent together that occur due to technology.”
 - Coyne’s research reports that women who experience more technoference in their relationships also report higher levels of conflict about technology use, lower relationship satisfaction, more depressive symptoms, and lower levels of life satisfaction.
- The journal *Computers in Human Behavior* has reported that increased time on social media is related to lower reports of happiness. The source of the problem may be twofold.
 - On the one hand, social media is often a multitasking activity. We try to finish a project for work while keeping a social media feed in the background. But even that kind of low-level multitasking is stressful and can reduce your sense of happiness and satisfaction.
 - On the other hand, although social media is intended to be an easy way to stay connected to friends and family, it often becomes a primary source of social comparison. We forget that social media is an edited and curated stream

of a person's existence, not his or her genuine, authentic experience of life, yet we compare our genuine, authentic experience of life—bad hair days, sick days, and so on—to pictures and text posted online. That ongoing comparison can lead to decreased self-esteem and diminished happiness.

Understanding People

- Duke University professor Dan Ariely has built his career on the understanding that although research often assumes people make rational decisions, most people behave irrationally. For instance, telling your children the right thing to do will not necessarily motivate them to do it. Instead, you can help structure the environment in a way that supports your children to do the right thing, without you harping at them.
- For women in particular, the relationships of marriage and parenthood are complex dynamics. Although such relationships provide connection and purpose, they also bring raw stressors in terms of work and time commitments. Among Americans over the age of 15, women spend an average of 2 hours and 9 minutes per day on household activities, plus about 30 minutes per day caring for and helping members of their families; both of these numbers are twice as much as what men over the age of 15 spend.
 - Further, a longitudinal study by the National Science Foundation reports that when women get married, they take on an additional 7 hours per week of household chores, and when men get married, they save about an hour per week on chores. The fact that approximately 70% of mothers also hold jobs can lead to many opportunities for stress.
 - The American Psychological Association reports that married women have higher levels of stress than single women, and women are more likely than men to report that they feel the physical and emotional symptoms of stress, such as headaches, chronic pain, and digestive issues.



Berkeley psychologist Dacher Keltner encourages people to actively seek out awe—by engaging with nature, art, and inspirational people and by stopping to notice the moments of awe that are available in everyday life.

- However, most mothers report a high level of satisfaction with parenthood and say that the work is worth the connection and sense of purpose. Though the daily effort of being a working mom brings more raw stressors to life, it also brings more small moments of awe, and according to Berkeley psychologist Dacher Keltner, awe is a human experience uniquely equipped to connect us to other people.
- The physical touch that we get through relationships is also good for us. When we hug or hold hands, our bodies release oxytocin, a hormone that counters the negative effects of stress hormones. Oxytocin is released most intensely during orgasm and breastfeeding, but hugs also lead to oxytocin release; thus, you should hug your kids, grandkids, spouse, and good friends to help you both feel more connected and less stressed.
 - Frequent hugs also boost the immune system. One study tracked interpersonal relationships—both the frequency of conflict and tension and the frequency of social activities and physical contact. Despite exposure to live cold virus, people who had more social interaction and physical connection were less likely to become infected with colds than were people who had more tension and less connection.
 - Other research has found that holding hands when we experience pain reduces the neural activity associated with stress. Indeed, when a happily married woman holds her husband's hand during pain, the pain reduction is as significant as if she took pain medicine.
 - James Coan, a neuroscientist from the University of Virginia, says that physical, supportive affection in times of stress helps us better regulate our emotions. The other person regulates the negative emotion so that we don't have to generate as much activity in the prefrontal cortex to regulate ourselves.

- Sexual activity in a committed relationship has also been shown to improve health and wellness and serves as an effective stress-management strategy.
- Whatever the activity, research shows that spending time with others improves our moods and increases the enjoyment we experience. For instance, an outdoor walking intervention found that group walks improved emotional, mental, and social well-being. We can also purposefully work to experience good moods and to boost good moods in others by seeking opportunities to laugh together. According to research from George Mason University, laughter may be one of the best ways to build a new relationship or repair an existing one.

Stable Partnerships

- The stable partnership is, for many people, the most consistent source of both support and potential relationship stress—and the overall picture of that relationship has a profound impact on psychological and emotional health.
- A University of Utah study of married couples used CT scans to assess heart-attack risk based on the presence of calcium deposits in the coronary arteries. As the lead researcher, Dr. Timothy Smith explained that what mattered was the emotional tone of the relationship. The couples in the study were all relatively happy, generally healthy, and had longstanding marriages, but some had conflict styles that were doing damage to their hearts.
- Research consistently shows that how we communicate and how we manage conflict are the key factors in determining how positive or negative a relationship is overall. How we talk and how we listen matter. When your loved one is talking, are you listening or are you mentally preparing your response? Active listening can help you to better understand the perspectives of your loved ones and give you more space to understand and connect.

- Sometimes, our relationships touch old wounds, and we react not to the situation at hand but to history and prior trauma. Psychotherapist Charlotte Kasl says that part of growing in love is being mindful of our own internal journey. But she makes the critical distinction between our internal journey and the internal journeys of our loved ones. It is not our job to look at the weeds, shadows, and cobwebs of those with whom we're close.
- Sometimes, it's beneficial to realize that we are caught in conflict and agree to stop. Research has found that when couples argue, taking a 20-minute break to stop talking and just read a magazine helped both partners calm down. Their heart rates returned to normal. After the break, the tone of the discussion shifted, and the couples expressed higher levels of affection and humor.
- Often, relationships require our mindful awareness that the good outweighs the bad—that the stress is worth the connection. Meditation teacher Dean Sluyter suggests a type of meditation called *egg meditation* for when you need help and perspective to improve your relationship with someone you find difficult.
- Putting all the science together, our best strategy is to remember that our relationships provide connection and give us purpose, but they are not without challenges. We should seek to resolve conflicts where possible; to handle disagreements with kindness, patience, and acceptance; and perhaps most importantly, to always to seek out opportunities to hug, sing, laugh, and experience joy with others.

Suggested Readings

Gottman, *The Seven Principles for Making Marriage Work*.

Kasl, *If the Buddha Married*.

Keltner, *Born to be Good*.

Sluyter, *Natural Meditation*.

Activities and Questions

1. How can you build more opportunities for sharing awe with loved ones into your life?
2. How can you bring more positive physical affection, including hugging, holding hands, kissing, and making love, into your life? Think about all your primary relationships. Can you bring more shoulder rubs, hand squeezes, goodbye hugs, and kisses on the cheek into these relationships on a more regular basis to improve your affection and connection?
3. Try the egg meditation with someone who plays a significant role in your life but with whom you regularly experience conflict. Try this several times a week for several weeks to see if you can shift your perspective about this person and how you interact.



Our Overstressed, Overscheduled Kids

It can feel almost quaint and nostalgic to think about childhood in the 20th century, before smartphones and social media made everyone connected, all the time, and before the 24-hour-cable news cycle made parents terrified of the dangerous world out there that requires a constant helicopter-hovering parental presence to keep children safe. It can be helpful, especially for parents, to appreciate the contrast between childhood then and now, and to remember that our children are not growing up with the same kind of experiences that we did. In fact, in 2015, the then-president of the American Academy of Pediatrics, Dr. Sandra Hassink, said that the primary health issue facing children is stress. We'll explore childhood stress in this lecture.

Stress in Children

- Ironically, overstressed, overworked parents who are acutely aware of their own stress may fail to notice that their children are stressed out too. For instance, in 2015, *WebMD* completed a survey of parents about stress. More than half (57%) said that their own stress was at a 7 or higher on a 10-point scale, and almost 20% said that their stress was a full 10 out of 10.

- But these parents still thought their kids were living relatively low-stress lives. Sixty percent believed that their children had a stress level of 4 out of 10. According to Dr. Hassink, parents don't understand that their stressful lives may actually create stress for their children, even if the parents don't recognize the impact.
- Although most parents felt their children had low-stress lives, more than 70% reported that their children exhibited behaviors that are reflective of stress, such as headaches, stomachaches, nightmares and trouble sleeping, and changes in appetite and eating behaviors.
- Children may not talk about being stressed because they don't have the same language for their stress as adults, but they exhibit signs of stress that show that a hectic, modern lifestyle has a negative impact on their psychological well-being.
- Some of the pressure comes from an overpacked schedule. Research indicates that a small percentage of children (about 6%) do more than 20 hours of extracurricular activities per week, while between 40% and 50% have four to five hours of extracurricular activities per week. Parents may justify the work and drive time necessary to make this happen because of the benefits their children gain from the activities. But the schedule may not be yielding the results parents are looking for.
 - Consider physical activity. Parents who shuttle their daughters to different dance classes each day might justify the effort as a way to make sure that their daughters stay active. But according to research from James Sallis, at the University of California, San Diego, dance teachers spend a quarter of class time providing verbal instruction and demonstration and another quarter on breaks and stretching.



One of the easiest ways to get enough exercise may also be one of the best ways to reduce stress for both you and your child: simply go outside and play.

- Thus, in a one-hour dance class, your child may do only 30 minutes of moderate to vigorous activity—30 minutes less than what’s recommended by the World Health Organization. More than 70% of 11- to 17-year-olds in the United States fail to meet those minimum guidelines for physical activity per day.
- Overpacked schedules lead to physical stress. The American Academy of Pediatrics states that adolescents need 8 to 10 hours of sleep per night, but research from the National Sleep Foundation reports that two-thirds of 17-year-olds get less than seven hours of sleep per night. Brown University professor Mary Carskadon, who conducts research on adolescent sleep, found that 15-year-olds display sleep behaviors reflective of narcolepsy. Other research shows that children’s schedules are so busy, their homework loads are so heavy, and school starts so early, that they can’t keep up.

Modern Childhood Stressors

- Some of the modern stressors of childhood are caused by parents. For instance, according to the Centers for Disease Control and Prevention, evidence suggests that parental smartphone use may be responsible for a 10% increase in unintentional childhood injuries. In one study, researchers observing parents and children at playgrounds found that fully one-third of caregivers were distracted by the use of technology devices.
 - Similarly, researchers from Boston Medical Center observed families eating at fast-food restaurants and found that more than 70% of parents used a smartphone at some point during the meal. Of those, 40% focused on the phone for the entire meal.
 - Research shows the importance of family meals, but if a family meal means sitting together at the table with a parent



In research studies, some children report feeling as if they have to compete with technology devices for attention.

absorbed in a phone ignoring the child, then family meals are not positive experiences for kids.

- Sometimes, the school environment also creates stress. For instance, the effects of physical activity on supporting positive behavior in children are well-documented. When children get sufficient physical activity on a daily basis, they are better able to pay attention to their teachers and to complete their homework. Despite the fact that both exercise and breaks for self-directed play have positive influences on behavior, 20% of school districts have cut recess time by an average of 50 minutes per week, and almost 10% of elementary schools have no recess at all.
 - The American Academy of Pediatrics has released a policy statement noting that recess is a vital part of child development, offering cognitive, physical, social, and emotional benefits.
 - The LiINK Project, from Texas Christian University, is supporting schools in a positive trend of more recess, not less. Through this model, some elementary schools now offer recess breaks four times per day. Early results indicate that even though children spend less time in their seats, they are able to learn more because they are better able to focus and pay attention when they are at work.
- Gender also has an impact, and we need to be cognizant that boys and girls face different stressors. Research shows that gender support has improved the academic performance of girls, increased the focus on academic work and group work, and reduced PE and active time, but it is correlated with increased behavioral issues in boys. Though girls and young women are doing well academically, and outperform boys in university graduation, they are paying the consequences of pressure in their mental health.

- A study from the Substance Abuse and Mental Health Services Administration reported that between elementary school and high school, girls experience a drop in self-esteem that is 3.5 times more drastic than what boys feel.
- Adolescence is tough on all children, but it affects boys and girls differently, and they need different kinds of support from the adults in their lives.

Responsive Parenting

- Responsive parenting that meets a child's needs for support, relationship, and connection can yield a lifetime of benefits. For example, research from Dr. Darcia Narvaez, professor of psychology at the University of Notre Dame, found that adults who received more physical affection and cuddling in childhood had less depression and anxiety during adulthood and were more compassionate to others.
 - Narvaez's work also puts an end to the cry-it-out and teach babies to self-soothe perspective on parenting. According to her work, when babies are left to cry it out, neurologically, they develop pathways of stress.
 - In contrast, when babies are picked up, cuddled, and have help regulating their emotions, they develop neurological pathways of coping and being soothed. Those childhood lessons create lifetime patterns of managing stress.
- The media makes a great deal of noise about the negative effects of overinvolved parents—the helicopter parent and the tiger mom. The problem with those parents isn't that they are overinvolved with their children; it's that they are overly directive and protective with their children.

Activities for Parents and Children

Yoga

- Channel your inner child by trying some of these yoga postures:
 - Mooing Cow and Meowing Cat (back stretch)
 - Hissing Cobra (chest opener)
 - Get down Dog (with tail wagging, with barking, with urinating on the hydrant—hip stretch)
 - Ribbiting Frog Hop (hip opener)
 - Tea Pot Triangle (for hips and side opening)
 - Morning Sunflowers (to stretch the spine and open yourself tall)

Feather Blowing

- Get a small, fluffy feather from a craft store, and hold it in front of your face.
- Slowly and deliberately, breathe in for a count of five through your nose.
- Hold your breath for a count of two.
- Purse your lips and exhale through your mouth; watch as the feather dances and moves with your breath.

Puppet-Arm Breath

- Stand up and leave your arms relaxed at your sides.
- Imagine that you are a puppet and your breath is the puppet-master. Pretend that there are strings attached to your hands and elbows.
- When you inhale, you pull the puppet strings up, and your arms lift up. When you exhale, you slowly release the puppet strings, and your arms lower to your sides.

Cooked Like Spaghetti (from yoga teacher Shakta Khalsa)

- Lie down on the floor in a comfortable position. Feel free to use a pillow under your head and a bolster under your knees.
- At first, you are stiff spaghetti still in the box. Tense your whole body up to three times.
- Take some deep breaths; with each exhale, you will cook a little more. Your body will become soft, squishy, cooked spaghetti.
- When you think you're cooked, roll to the side and gently come up.

- When parents are hovering, driving, and directing their children, they're focused on what the children are doing and how parents are guiding their behavior. And it's true that parenthood is about guiding your child and teaching appropriate behavior.
 - But children also need authentic relationships with their parents; such relationships protect us from the negative effects of stress better than anything else, and that starts in childhood. Having an authentic relationship with your children means accepting them for who they are—truly listening when they talk and spending time with them on their terms.
 - According to Hassink, relationships are the best tool for helping children effectively manage stress. As we've discussed throughout the course, relationships help us live healthier, happier lives, starting in infancy. Quality time spent with parents and families offers children a protective space to feel safe from stress. Be sure to include downtime with no schedules, no electronics, and no rules—just space for parents and children to be together, talk, and play.
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Suggested Readings

Chansky, *Freeing Your Child from Anxiety*.

Cohen, *The Opposite of Worry*.

Harper, *Little Flower Yoga for Kids*.

Stiner-Adair, *The Big Disconnect*.

Activities and Questions

1. Consider the role of play and downtime in your life and the lives of your children or grandchildren. Do you make time for play and downtime? Do you need more unscheduled time? What can you let go of and eliminate to create more space for play?
2. Try the children's yoga activity at the end of this lecture.



Change Your Mind to Change Your Stress

Cognitive distortion occurs when perception makes a mole into a monster. This can happen with a specific issue or a cascade of issues. The situation may be unquestionably unpleasant, but our perception turns it from unpleasant into the “stress monster.” You may have heard the saying “perception is reality”—the notion that our perception of our experience is our truth. Although that concept is intended to reflect the idea that different people see different things, the problem is that it makes perception become fixed and unchanging. But we can change our perception, and doing so is the best way to change our relationship with stress.

Cognitive Restructuring

- The most effective strategy to battle stress is *cognitive restructuring*, that is, making a deliberate effort to change our way of thinking. When we are stressed, we can rationalize, but this is the opposite of cognitive restructuring. It’s a defense mechanism in which we accept that stress is inherent in the situation, and we fail to recognize or accept the role that our own perception plays in stress.
- In contrast, when we engage in cognitive restructuring, we assume responsibility, face the reality of the situation, and work to adopt a

positive framework that allows us to focus on solutions. It takes work in the moment to use cognitive restructuring, and it takes ongoing effort to adopt it as our consistent perspective. But the effort is worth it because the process allows us to approach each stressful situation as an opportunity to find a solution and to view life as a positive experience of learning and growth.

- Originally, cognitive theory was a reaction within psychology against behaviorism, the psychological school of thought that focuses on learning behavior through rewards and punishment. Behaviorists held that everything we do, we have learned through our interaction with the world and that everyone can be shaped by how the environment rewards and punishes behavior. Even though psychology has moved on from the behaviorist perspective and we understand that far more complex forces govern motivation and action, the basic premises of reward and punishment still shape many cultural beliefs.

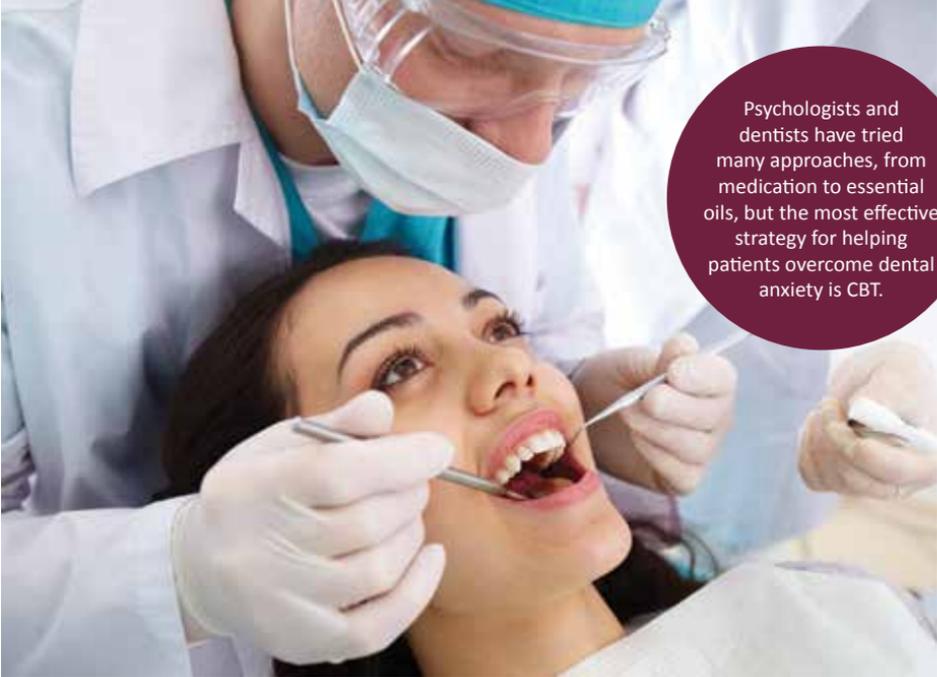
Reinforcement and Punishment

- *Reinforcement* takes place when we encourage behaviors to happen, by either adding a positive stimulus or removing a negative one. *Punishment* is the introduction of a negative stimulus or the removal of a positive stimulus to reduce the frequency of a behavior.
- Culturally, punishment and rewards are taken for granted as a way to change behavior, but punishment is remarkably ineffective. One major problem is that punishment doesn't address the underlying problem. People do what they aren't supposed to do for a number of reasons: (1) They want to do what they are supposed to do but don't know how, (2) they know the consequences and choose to do the thing they want instead, or (3) they don't see the consequences as unpleasant. If you have a teenager, rather than punishing him or her for consistently missing curfew, try having an honest conversation to determine the real issue, then identify a solution that addresses the problem.

- As an exercise, take some time to write down how and why you punish yourself.
 - First, ask what behavior it is that you are trying to punish. Then, identify the underlying problem: Do you not know how to control what you eat (lack of knowledge), or do you abstain from control because you love eating (lack of motivation)?
 - After you've identified the problem, then you can start to find a solution. Be open-minded with yourself and brainstorm as many possibilities as you can. Keep in mind that you will never do more or better by punishing yourself, nor will you improve your relationship with stress. Instead, focus on learning new ways of effectively managing stress.

Cognitive Behavioral Therapy and Exposure

- Cognitive behavioral therapy (CBT) is a theoretical approach to counseling that helps people understand their cognitive distortions, identify ways of working through inaccurate and negative perceptions that may cause stress, and implement effective strategies for thinking and behaving. Research has found that CBT is effective for a wide range of mental health concerns, including anxiety, depression, and phobias.
- For many of us, stress and fear are about the unknown, and our minds swirl around the thing we fear. But one approach with exposure therapy is to help you get bored of the thought that scares you.
 - Robert Leahy, author of *The Worry Cure*, says that rather than fighting a fear, we should allow ourselves to be exposed to it. We should treat it as if it is a child acting out—perhaps trying to get attention by being obnoxious.
 - Leahy says that you should give your fear the attention it's asking for, devoting 15 to 30 minutes to repeatedly voicing the



Psychologists and dentists have tried many approaches, from medication to essential oils, but the most effective strategy for helping patients overcome dental anxiety is CBT.

fear out loud. For instance, you might say, “It’s possible that I might lose my job.” Once you’ve repeated the phrase several hundred times over the course of 15 or 20 minutes, you’ll be bored with yourself, with the thought, and with the fear. You can then move forward with clear action rather than from fear.

- Leahy also suggests setting a daily 30-minute session on your calendar to keep stressors in their place. Whenever you have something come to mind as a worry, jot it down on a list and wait to worry about it until the allotted time. You may find that something that seemed stressful several hours ago has lost some of its power by being forced into a schedule.
- In addition, Leahy points out that there is a difference between productive worry and out-of-control worry. If you’re worried and there’s something you can do about it, do it. Double-check your flight details, proofread your article, call the doctor to check your

lab results. The sooner you take care of the details, the sooner you can stop worrying.

Reframing

- Reframing is cognitive strategy that helps you change how you look at something to improve how you manage stress. In this concept, we view everything through the picture frame of our perception. But if you change the frame, you change the view.
- Interestingly, the words we choose influence our views; by just changing our words, we may shift our perceptions and feelings.
 - In one study from the University of California, San Diego, researchers tried to get small children to help with chores by asking: “Will you help pick up these toys?” or “Will you be a helper and pick up these toys?” The children who heard the noun *helper* were significantly more likely to help put away toys.
 - When we think of ourselves as something, we are more likely to do it. It becomes part of our identity, which motivates us to act in a way that promotes identity congruence. We want to be the people who we think we are, and reframing ourselves with certain nouns we want to be can make an impact in this regard.
- Another key strategy may be to reframe your perception of yourself. In fact, believing that you are resilient to stress is the most important stress-management strategy there is. When we believe we are resilient, we also believe that we can manage stress. Resilient people recover from adversity more quickly, and how they talk to themselves may be a significant part of their success.
 - If you perceive the world with a resilient, self-supportive framework, when challenges occur, your self-talk will be positive and encouraging. Resilient people see mistakes as mistakes, not character flaws. Challenges are viewed as

momentary—something people can handle and overcome, not a reflection of their life's pattern.

- Resilient people, ultimately, are kind to themselves. Set an intention that for one week, whenever you encounter stress, you will say to yourself: "I am resilient." Work consciously to shift your perception from someone who gets stressed



Although pessimism is appropriate in certain situations, generally speaking, being optimistic is a better approach to life that supports improved physical and psychological health.

to someone who is resilient in stressful situations. Instead of having stress be part of your self-definition, move to a sense that stress happens. This simple word shift can have a profound impact on your sense of self and your perception of your ability to manage stress.

- In his book *A Complaint Free World*, Will Bowen offers a philosophical challenge to be positive: Can you go 21 days without complaining? You can still seek solutions; for example, if you have a leaky roof, call the landlord. But Bowen's point is that whenever we complain, we focus on what's wrong, rather than focusing on the good, the positive, and the potential in our lives. Research supports the idea that focusing on what's wrong makes us feel worse.
 - As a culture, we have accepted the notion that being stressed and overwhelmed is normal; thus, complaining about your hectic life and schedule and the craziness around you can almost feel like a bonding ritual. But according to psychology professor Robin Kowalski, there is a difference between bringing up a problem with the intent of seeking a solution and complaining just to express ourselves.
 - In Bowen's theory, complaining is a habit that keeps you looking at what's wrong; you want to replace it with a habit of looking at what's good. By not speaking your complaints, you gradually shift your focus, and the goal is that over time, you'll have fewer complaints.
 - This particular approach hasn't been put to empirical test, but similar approaches have. For instance, several research studies show that simply writing down three things for which you are grateful each day can help shift your perspective and improve your well-being.
- Another effective strategy for helping change your perception is to set rules. This provides you with specific guidance to manage your own behavior, especially if you make the rules clear and

consistent. If you want to exercise but find it stressful to fit in a regular workout, pencil in a specific time and type of exercise on your calendar.

- Viktor Frankl survived the Holocaust and went on to become one of the founders of existential analysis. Much of his work came from his reflections during the three years he spent in Nazi concentration camps, where his parents, brother, and wife died. His theoretical framework as a psychiatrist was that distress and psychosis were the result of a lack of meaning; he believed that we have a deep, innate need for purpose and meaning and that our search for meaning helps us to overcome pain. The legacy he left us is that even in the worst situation, we can still choose our thoughts, perspectives, and framework for life.

Suggested Readings

Bowen, *A Complaint Free World*, www.acomplaintfreeworld.org.

Frankl, *Man's Search for Meaning*.

Leahy, *The Worry Cure*.

Seligman, *Learned Optimism*.

Activities and Questions

1. Determine the ways in which you currently punish yourself and identify the core behavior that you are trying to change. Brainstorm more effective strategies to change your behavior.
2. Consider a situation that is currently causing you stress. How can you reframe it to find a solution? What different words might you choose to change your perspective?

- 3.** Practice this daily affirmation: For the next week, each time you encounter stress, say “I am resilient.” Work to see yourself as someone who is resilient in the face of stress, rather than someone who gets stressed. Notice how exercise this helps shift your experience of stress.
- 4.** Establish a clear, consistent rule to help you manage a chronic stressor in your life.



10

Emergency Stress Management

Broadly speaking, there are two categories of stress-inducing situations: life-and-death emergencies and everything else. Life-and-death emergencies encompass such situations as a small child falling into a pool, choking, or someone passing out on the floor. How you react in such situations depends on a variety of factors, but two in particular are critical: training and your overall reactivity to stress. Stress-management training is about learning to manage yourself—your breathing, reactivity, and emotions. The more adept you are in a truly life-or-death situation, the better able you will be to respond effectively in the situation.

Reactions to Stress

- Whatever stress you experience, be it acute or chronic, irritating or deeply troubling, you need help and support to cope. A long-term stress-management plan will help you understand stress because there is power in knowledge. A stress-management plan will also include a variety of exercises and strategies to help you improve your stress reactivity overall and provide you with a toolbox of devices that you can call on when you need them.
- When we experience stress, we generally do one of three things: fight, flee, or freeze. Jot down the outlines of three stressful

situations that you recently experienced and take a minute to reflect on each. Did you fight, either with the individual causing the stress or with others around you? Did you flee, either physically, by leaving the area, or psychologically, by shifting your focus to another task? Or did you freeze, shutting down and just stopping?

- Now think about these three stressful situations as a holistic picture. You probably responded the same way in all three situations. If you didn't, take some additional time to reflect about what was different.
- We may develop different ways of coping based on the context and the relationships in that context. For instance, some people may fight at work but freeze or flee in their personal relationships.
- If you notice this pattern in your scenarios, identify three stressful situations that have occurred at work and three that have occurred in your personal life; then, look to see if you have a consistent pattern of stress reactivity in both places.
- As an exercise, the next time you're in a stressful situation, try to do the opposite of your standard reaction. This exercise is intended to enhance mindfulness. In the midst of stress, you want to bring your awareness into the present moment and consciously make a choice about how you will react. This exercise will help you both gain awareness of the moment and facilitate your sense of self-control.
 - For instance, if you usually fight when you are under stress, then the opposite of fighting is seeking connection. When a stressful situation occurs, before you attack, stop, take a breath, turn to someone you trust, and say, "I need help."
 - Admit your vulnerability and weakness. Don't fight to prove your strength. Instead, come from a place of openness and see what happens.

- The point of this exercise is to help you remember that whatever the event, it is your perception of the event—not the event itself—that is causing stress. And because of habit and tendency, you have a consistent way of behaving when you perceive stress. By changing how you behave, you can change how you think and feel, and with a calmer perspective, you may see the situation differently.
- As mentioned, our three responses to stress are usually to fight, flee, or freeze. But researcher Shelley Taylor and her colleagues articulated a new response. Taylor noted that men generally fight, flee, or freeze, but threatened women often tend and befriend. The connection hormone oxytocin is involved in the stress response, and in moments of stress, women may seek out others for support and protection.
 - Subsequent research found that certain stressful situations may also cause men to tend and befriend. Tend and befriend doesn't replace fight or flight; it just adds another dimension to consider in times of stress.
 - Under stress, you might seek to protect your children and others for whom you have responsibility—that's tending. Or you might seek to form social alliances with mutual benefits of support—that's befriending.

What If You Can't Handle Stress?

- Sometimes, of course, you will feel as if you truly can't manage stress. Your children are sick, then you get sick, then your boss assigns you a last-minute project at work. At such times, you may say, "I don't think I can do this."
- This first step in these scenarios is to just be in the moment. When you're feeling overwhelmed, accept it. Grief, fear, exhaustion, pain—they are all like the ocean, coming in waves. You will get

through the situation; don't fear it and don't force it. Sit with it and let the wave pass through your body.

- Further, don't let your mind swirl into the future with fears about what you have to do. Don't allow yourself to engage in self-judgment or guilt. Experience your body, your most concrete anchor to center you in this moment.
- As you keep that present-moment awareness, pay attention to how the wave starts to subside. Your breath will begin to settle, and your chest will begin to relax. Feel the muscles of your back, neck, and shoulders soften. Focus on the sensation of your breath coming in and out. With each exhalation, you can physically experience a little more fear, stress, and pain leaving your body. This approach centers you, calms you, and brings you back to the essential activity of simply breathing in and out.
- Another strategy when you are in the midst of an emergency is to try to find a moment of joy, happiness, or fun. This may seem impossible, but the times when you are most stressed are when you most need your willpower and powers of self-regulation. We

A group of people is shown from behind, sitting in a circle on mats outdoors, meditating. The scene is bathed in the warm, golden light of a sunset or sunrise over a body of water. The people are in various stages of meditation, with some in lotus position and others in a more relaxed seated posture. The overall atmosphere is peaceful and serene.

Meditation teachers often tell students to identify with their bodies, rather than their minds; bodies change slowly and provide a concrete anchor to center yourself, while thoughts and moods are tumultuous.



all have a certain capacity for self-regulation and willpower, and keeping your cool in the heat of stress can begin to deplete what you have. Taking a few moments to restore your capacity for self-regulation may help you function more effectively in the moment.

- Baumeister has also explored strategies for improving our capacity for self-control and self-regulation. One of these strategies is to adopt a positive affect. In other words, feeling happy can help you regain your sense of self-control.
- In a series of research studies, when people had undergone testing and activities to deplete their self-control, the participants who either watched a funny movie or received a surprise gift restored their self-control. Participants who had a sad or neutral experience or who simply rested did not have the same level of restoration.
- The researchers concluded that it wasn't just rest or arousal to an emotional state that boosted self-control. Individuals

who had a boost in positive affect had higher levels of self-control on a subsequent task. Feeling happy truly does make us feel stronger and more able to go forward.

- Research from Baumeister and others also shows that having a light snack or drink may restore your energy and self-control. For instance, chamomile tea helps you overcome anxiety and irritability and find a sense of relaxation; other studies show that cinnamon can stabilize blood sugar, which often drops under stress. Baumeister's studies show that glucose boosts willpower, which may be why we crave sweets when we're stressed and tired.

Catastrophizing

- Sometimes, in an emergency, we begin to catastrophize. This is the psychological tendency to transform a current stressor into its most terrifying consequence. For example, if your child gets suspended from school, you can make that experience even more stressful when you begin to panic that the child will get kicked out of school for good and eventually end up on skid row.
 - According to psychologist Alice Boyes, catastrophizing consists of two parts: (1) predicting a negative outcome and (2) jumping to the conclusion that the negative outcome will be a catastrophe.
 - Michael Sullivan, who has extensively studied catastrophizing in individuals with chronic pain, says that catastrophizing has three components: (1) rumination, the tendency to continually focus on the pain; (2) magnification, a tendency to exaggerate the worries and fears related to pain; and (3) helplessness, a feeling that you are unable to control the pain.
 - This model has also been applied to catastrophizing that is unrelated to pain. It shows that when we catastrophize, we get caught in the fear and stress because we keep thinking about it, we let the fear grow, and we feel helpless to stop it.

- To overcome catastrophizing, we have to become aware that we are doing it. We need to listen to our thoughts and ask ourselves: Is this reality, or is it my fear? Use mindful awareness to ask: What is going on right now? One strategy to stop catastrophizing is a stop cue, such as envisioning a large red stop sign.
- To help you regain perspective, you might also write down answers to the following questions: What is the core issue—right now? What is the specific outcome I am dealing with—right now?
 - When you focus your mind and awareness on “right now,” you can figure out the solution right now.
 - In fact, the only solution you can implement is one that addresses the current problem. Other things that you’re worried about haven’t happened yet. You need to make a distinction between what is actually happening and what you are afraid might happen.
- As your mind is running off on the worst possible scenario path, Boyes points out that you also need to make a distinction between significantly unpleasant and catastrophic. Perhaps your older child failed the bar exam. He or she will need more studying and more time to pay off his or her loans. That’s significantly unpleasant, but it’s not a catastrophe.
- Even in the face of catastrophe, remember your ability to persevere. The doctor has called, and the tumor is malignant. You will need surgery and, perhaps, chemotherapy. It will be difficult and uncomfortable, but even cancer is survivable. Many people who survive major traumas of loss, illness, and catastrophe report that afterward, they are stronger, happier, braver, and more grateful for their lives. We often catastrophize in fear, but even catastrophes can take on a rosy glow when we have survived and persevered.

Suggested Readings

Boyes, *The Anxiety Toolkit*.

Hamilton, *Everything Is Workable*.

Van der Kolk, *The Body Keeps the Score*.

Activities and Questions

1. Consider how you react under stress. Do you fight, flee, freeze, tend, or befriend? Look back on several recent situations in which you have been under stress and identify your primary stress response. How can you use this understanding to cope with stress more effectively?
2. Come up with a personal strategy to stop catastrophizing when it occurs. Identify a visual cue, auditory cue, or physical motion you can use to remind yourself to stop the train and get off.



11

Good Stress Helps You Handle All Stress

In the 1960s, Dr. Walter Mischel conducted a study with preschoolers, giving them a choice between eating one marshmallow now or waiting 5 to 20 minutes and getting more marshmallows. The children then had to wait in the room—with the one marshmallow. Some children immediately ate the marshmallow; others jumped, counted, or squirmed to keep from eating it; and others focused on the marshmallow—staring at it, sniffing it, even licking it—but held off from eating it to get more of the treat. With his work, Mischel taught us an important lesson: that learning self-control—stressing yourself out in the short term to get a reward in the long term—is a good thing.

Good Stress

- At a basic level, stress can be divided into two types: good and bad. Good stress, such as learning self-control, leads to improved outcomes in life in general. At the same time, good stress can occasionally be more stressful within the context of an individual's life.
 - Research by Gene Brody and colleagues at the University of Georgia has tracked self-control in teenagers from underprivileged backgrounds. This research found that



Research about what matters in child development is beginning to shape public policy about early childhood education and intervention.

teenagers with higher levels of self-control do better in school; have better mental health; and are less likely to get caught up in drugs, violence, and crime.

- However, Brody also found that youths in deprived areas pay a cost for self-control: They have higher blood pressure, higher levels of stress hormones, and a higher risk of obesity. There is even evidence that, at the genetic level, they are aging faster than their less self-controlled peers.
- Much of self-control is about making choices and decisions—weighing something we want now with something we want more but have to wait for or weighing something fun with something challenging that may lead to rewards. A great deal of good stress is related to the purposeful choices we make. Sometimes, though, we may overestimate the amount of risk or work involved, which

can affect the decisions we make. In this situation, it can be helpful to better understand the realities of risk.

- For instance, we sometimes look at others who achieve certain goals with what we perceive as high levels of risk, and we feel as if we can't achieve the same thing. This can happen when comparing ourselves to business entrepreneurs, who are commonly thought to be more risk-seeking than the average person.
- But in one longitudinal study of entrepreneurs, those who were more risk averse were found to have achieved greater levels of success. These entrepreneurs tended to keep their day jobs while working on their own businesses on the side. By the end of the 14-year study, the risk-averse entrepreneurs who initially kept their day jobs had 33% lower odds of failure. In other words, by being more careful, they were more successful.
- Another interesting example of good stress comes from research on sleep with three traditional hunter-gatherer societies in Tanzania, southern Africa, and Bolivia. Across the three groups, 94 participants agreed to wear a variety of tracking devices, which recorded their sleep times at a range of 6.9 to 8.5 hours and their sleep durations at 5.7 to 7.1 hours per night. Naps were rare and averaged just 32 minutes.
 - Modern research has made clear the variety of physical and psychological health concerns that are aggravated and even induced by sleep deprivation, including obesity, diabetes, and depression.
 - In contrast, the native groups studied have low levels of adult health conditions. Large numbers of the groups live healthfully into old age, in spite of the fact that, on average, they sleep less than we do. Thus, when this study came out, the media consensus was that if native people don't sleep that much and

are in better shape than we are, perhaps we're making too much fuss about sleep.

- The key difference here is that individuals in the native groups rarely experienced insomnia, while rates of chronic insomnia can range as high as 30% in industrial societies. It's not difficult to see that the quality of the natives' sleep was much better than ours.
- These individuals do not get more sleep than us, they don't take naps, and their sleep is far less comfortable than ours, but they sleep better and have better health for it. They have the good stress of physically challenging sleep but have none of the bad psychological stress of sleep that we have. They don't ask themselves if they are getting enough sleep, and they don't use alarm clocks.
- This study represents a good example of the idea that making our lives easier and more comfortable in the short run can make them more complicated and riskier in the long run.

Exercising and Staying Busy

- For many people, exercise is stressful. It combines the mental and psychological stress of finding time, equipment, and motivation with the physical stress of pushing our muscles during a workout. But reams of empirical evidence also tell us that regular exercise improves stress resilience.
- Even the smallest amount of exercise can bring good results. One study reported that for adults aged 60 to 64, walking just one hour per week increased happiness. People who exercise regularly have lower blood pressure, lower rates of anxiety and depression, and improved sleep quality.
- Research from Germany also shows that implementing an exercise program reduces stress reactivity over time. In this study,

half of a student group was assigned a 20-week exercise program. At the end of the study, during the exam period, the students in the exercise group had patterns of heart rate variability that reflected lower stress levels. This study tells us that regular exercise—even at minimal levels—over an extended period of time makes us less reactive to stress.

- The German study offers further evidence for what Dr. Mark Sothmann and colleagues have called the *cross-stressor adaptation hypothesis*. This is the notion that when we purposefully stress the body through chosen activities, such as exercise, the body's physiological stress response is activated, and it trains the body to adapt to stress more effectively.
 - Essentially, in this model, your body experiences exercise as a physical and physiological stressor, and exercise forces you to make changes to multiple systems, including your cardiorespiratory, muscular, and neural systems. Exercise also requires your body to coordinate across and between these systems, and that coordinated effort makes exercise easier the next time you do it.
 - Through exercise, you develop a *generalized adaptation response pattern*, which can then be activated in response to any stressor. In the future, when you detect a threat, that generalized adaptation response pattern will be activated and guide you in responding to the threat.
- According to the 2010 “Stress in America” report from the American Psychological Association, one reason people cite for not managing their stress is being too busy and not having enough time. But being busy is, in many ways, good stress.
 - In one survey of more than 1,000 retirees, the happiest individuals were the ones who engaged regularly in three to four activities, and social activities provided the biggest boost

to happiness. The least happy individuals had minimal regular activities and primarily engaged in individual activities.

- Although we often think of relaxation, vacation, and retirement as times to do nothing and avoid commitment, doing nothing tends to be bad for our health. The good stress of having commitments, obligations, and things to accomplish is better for our health, well-being, and happiness.

Dienstbier's Toughness Model

- Dr. Richard Dienstbier has proposed a toughness model for understanding stress and explaining how good stress works.
- In an earlier lecture, we discussed learned helplessness and the fact that animals exposed to shocks they couldn't control were less likely to try to stop shocks when they could because they had learned that they lacked control over their environment. Later research that included assessment of hormones and neurotransmitters found that part of the reason rats in these studies became helpless was that their neurotransmitters were depleted by the extreme stress experienced outside of their control.
- Dr. Jay Weiss and colleagues proposed that if neurochemicals were involved, then it was possible that intermittent periods of stress followed by recovery might actually toughen the animals. The model suggests that a sense of helplessness has both psychological causes, based on not being in control, and physiological causes, resulting from neurotransmitter depletion.
- As Dienstbier explains, then, by experiencing and recovering from physiological stress, we actually increase our toughness: We become better able to adapt and recover from stress. In animals and humans, when stress is overly harsh, continuous, and overwhelming, it weakens us. But when stress is manageable and comes in rhythms that provide time for recovery after each

depletion, then the experience of stress makes us stronger and more able to perform under stress.

- Fundamentally, then, good stress is good for us, but no stress is as bad for us as debilitating stress. In one survey of 2,000 respondents, the people who had experienced a high lifetime level of adversity demonstrated stress intolerance and were more likely to suffer from mental health issues. But people with low to moderate levels of adversity were in the best shape—better than those who had no adversity.
- Dienstbier proposes that our ability to perform better under stress when we have been moderately stressed is a multifaceted response. Psychologically, surviving and recovering from adversity gives us confidence that we are able to persevere and recover. We also have physiological responses to moderate adversity, such as cold tolerance, that make our bodies more adept at handling stress.
- Dienstbier also points out that social stressors rarely offer the kind of good stress that can make us tougher. For instance, physiological stressors, such as cold and exercise are, by definition, intermittent; they have rest periods inherently built into them. But if you live with cold people, it's much harder to find those intermittent breaks for recovery. In particular, because humans have a tendency to ruminate, social stressors may seem continuous even when we are away from the stressful people.
- In your own life, consider whether you face chronic stressors that drain you because you do not have space and time for rest and recovery. Can you think of ways that you can change your life, environment, or schedule to build in rest and recovery time? Just adding opportunity for recovery can transform stress from the kind of recurrent, chronic stress that drains your resources into the kind of learning opportunity that builds resistance and toughness.

Suggested Readings

Dienstbier, *Building Resistance to Stress and Aging*.

Grant, *Originals*.

———, *Give and Take*.

Kremer, *Risk/Reward*.

Mischel, *The Marshmallow Test*.

Activities and Questions

1. Identify opportunities for good stress in your life. What can you try, at work or at play, that will offer the opportunity for challenge and growth?
2. Consider some stressors in your life that may be recurrent and, therefore, draining and debilitating. Could you tweak your schedule or environment to turn these into recurrent stressors with rest periods? This would give you the opportunity to transform ongoing, chronic stressors in your life into the kinds of good stress experiences that provide toughening.



12

The Stress of Learning and Mastery

One of the most important things you can do to help mitigate the stress of performance is to be really good at what you do. And one of the secrets of high performers is knowing how to master stress, which includes a variety of skills in terms of preparation, execution, and post-performance evaluation. But of course, we also experience the stress of becoming good at what we do. Thus, in this lecture, we'll talk about the development of expertise.

Training for Expertise

- Researchers have identified some key principles of expertise. First, measures of general basic capacities do not predict success in a domain. For instance, you can't predict the best basketball player by height. Second, the superior performance of experts is often domain specific, and transfer is surprisingly limited. Being great at chess does not mean that you will be great at checkers or poker. Third, the systematic differences in ability between experts and the rest of us nearly always reflect attributes that the experts acquired during a lengthy training process.
- Many professional fields require that you complete a certain number of hours of training to enter the profession, and this holds true across a variety of domains that require a combination of knowledge and

physical skill. To become a registered yoga teacher, for instance, you must complete a 200-hour training program.

- In his famous book *Outliers*, Malcolm Gladwell stated that 2,000 hours of practice was needed to become a serious amateur in a field, 5,000 to become a less-accomplished expert, and 10,000 to become an expert. This range tends to hold across domains of expertise that are well studied, including music, chess, and sports.

Deliberate Practice

- Even more than a raw number of hours of practice, what matters is a specific type of practice—what psychology professor K. Anders Ericsson has called *deliberate practice*. Deliberate practice matters in terms of expertise, and research shows that it leads to expertise across a variety of domains, both cognitive and physical.
- Deliberate practice refers to training activities specifically designed to enhance an individual's performance. Key characteristics of deliberate practice include the following: The practice is a well-defined task with an appropriate difficulty level based on the individual's current ability, that the individual puts in a high level of effort, and that opportunities for repetition and error correction are available.
 - For individuals learning to play piano, deliberate practice occurs when they work on a song that suits their current abilities (both in reading music and physical dexterity), when they focus and concentrate on the effort at hand, when they spend time working through the music multiple times, and when they purposefully correct errors.
 - Even years of professional experience may not equal deliberate practice. In his book *Peak*, Ericsson reviews research on how well doctors diagnose. Often, doctors work alone, with minimal feedback. Thus, they miss the feedback and correction components.

- If you want to continue to improve and keep yourself engaged with your work, you must approach your work and development deliberately, and part of that is about feedback and error correction. If you're not getting feedback, seek it out, going beyond the general once-a-year performance evaluation. Ask your colleagues or supervisor what you could have done better in your presentation or how you could better meet the client's needs. Look for specific, concrete feedback so that you can make specific, concrete improvements.
- Not only will feedback improve your performance, but it also changes how you perform. Studies on the development of expertise show that the process of feedback and error correction leads to new representations in working memory. It's not that experts necessarily think faster or better than the rest of us, but they actually think differently. They have different mental representations about their areas of expertise that facilitate expert performance.
- The notion that deliberate practice yields expertise and accomplishment is easy for Americans to embrace, but it is not without its critics. For instance, subsequent research shows that 10,000 hours isn't a magic number. Some focused and hard-working people can achieve elite performance goals before they reach 10,000 hours, and others may work for 10,000 hours and not achieve their goals. In fact, there is some evidence that deliberate practice alone isn't enough to truly yield brilliance. Talent, strengths, and natural abilities matter, too.

Talent, Strengths, and Natural Abilities

- In one study, Michael Johnson, sport psychologist for the University of Arkansas, worked with colleagues to interview elite swimming coaches. These coaches train both non-elite swimmers (regional-level winners) and elite swimmers (world record holders and Olympic-medal winners). The researchers wanted to understand

how athletes working with the same coach and using essentially the same training regime achieved different levels of expertise.

- Interestingly, even though the researchers never mentioned or even alluded to talent in their interview process, every coach they interviewed mentioned talent as a prerequisite for becoming a world-class swimmer.
- Of course, these coaches noted that deliberate practice matters; in fact, without deliberate practice, talent is not enough. But when you put the two together, something almost magical seems to happen—the magic of someone choosing to work hard at his or her natural gift.
- When it comes to stress, it's important to ask yourself whether you are pursuing your natural talents or stressing yourself out by working hard at something that may not be the right fit for you. In fact, you may achieve more and feel better about your work if you focus on something that comes more naturally for you.
- Carlo Strenger is a professor of psychology and philosophy, and one of his areas of expertise is midlife career change. He has written extensively about the myth of magical transformations and the Nike-inspired notion that we should “just do it”—as if the willpower to change alone should be enough to transform our lives.
 - According to Strenger, this myth inevitably makes us unhappy. We may be disappointed in ourselves for not being able to make the change happen, and we may be confused about what to do next.
 - When we believe in the myth, we fail to understand that change requires changing our brains, including our neural networks, which requires extensive work over an extended period of time; we can't just feel inspired and suddenly change for good.

- Strenger advocates ongoing development and an active and engaged life into older age, but he suggests that when we set goals, we should be realistic, taking into consideration our personal strengths and abilities. He advises that we should consider our *sosein* (“essence”). Your *sosein* is your internal deep self—the you that is, has been, and always will be you, regardless of context, time, or career.
- We seem to have a natural preference for talent over ability, even if that preference is unconscious. Research from University College London found that investors may be more inclined to support entrepreneurs who are “naturals”—those who have achieved through natural ability and talent—over “strivers”—those who are less gifted but work hard. Another study, from Harvard Business School, found that talent recruiters for companies show a preference for potential over past achievements.

Benefits of Expertise

- Expertise reduces the stress of performance. For instance, consider the classical debate: Do nice guys finish last? The success of such businessmen as Steve Jobs—who are noted to be disasters in their interpersonal relationships—makes some business executives wonder if they should aspire to be jerks for the sake of success. But research from Adam Grant of the Wharton School of Business and Donald Hambrick of Penn State show that the equation is not so simple.
 - Hambrick has studied narcissism in business and has found that narcissists cluster at both ends of the career spectrum. Either their selfishness gets in their way and they fail, or they gamble big, behave well when needed, and end up in the corner office.
 - Grant has also studied givers and found the same dichotomy: Nice guys may finish first or last. Sometimes, they get taken advantage of and end up at the bottom of the corporate heap.

But when they are what Grant calls “disagreeable givers”—people who are willing to be tough and difficult to serve the greater good—they may end up being the most successful of all.

- The people who end up in the corner office, however, are generally competent and confident—qualities that are cultivated through deliberate practice.
- Thus, even if you pursue something that isn't your natural area of strength, there are inherent reasons you may choose to engage in deliberate practice.
 - Hard work to learn something new is one of the best investments you can make to maintain your cognitive health as you age. Even complex skills, when practiced regularly, become overly learned and stop challenging us. But when we challenge ourselves to struggle through the complexities of learning something new, we develop new neural paths in the brain.
 - Animal research demonstrates that learning new tasks in adulthood actually preserves existing brain cells and stimulates new ones. But the learning must be difficult and engaging to make a neural difference. The physical and social activities involved in learning new tasks, such as taking a dance class, are also associated with positive changes in the brain as we age.
- Another aspect to consider as you work toward expertise is self-talk. How you talk to yourself can have powerful and, sometimes, surprising benefits. For instance, in one research study, talking to yourself out loud about an object you are trying to find can make you more effective and efficient in finding that object.
- Ultimately, deliberate practice as a strategy works in several ways to reduce some of the major stressors of life. Whatever your age,



Putting in deliberate practice to learn something new can make a physical difference in your brain and help you stay cognitively healthy into old age.

deliberate practice is the best way to cultivate expertise and a high level of performance and to reduce performance-related stress. In developing skills, we improve our self-confidence and our trust in our abilities through repeated successes. We also improve our ability to perform the task with less thought when under pressure.

Suggested Readings

Ericsson and Pool, *Peak*.

Gladwell, *Outliers*.

Grierson, *What Makes Olga Run?*

Nussbaum, *Save Your Brain*.

Strenger, *The Fear of Insignificance*.

Strenger and Ruttenberg, "The Existential Necessity of Midlife Change."

Activities and Questions

1. Reflect on your strengths. You may consider taking personality or strength-based inventories online, or perhaps you have taken these before in education or at work. What are your identified strengths? How can you more effectively leverage your strengths? If you have been focusing on “improving” your weaknesses, could you, instead, shift your energy and attention to use your strengths?
2. Consider the role of deliberate practice in your life and its role in mitigating the stressors of aging. Is there a task or activity that you are interested in learning and could approach via deliberate learning to facilitate skill acquisition? How you can pursue this activity in a way that supports engagement and personal challenge?



13

Alternative Approaches to Stress

When you're scanning the popular media for advice about how to manage stress, you'll run across at least a few recommendations that support the use of complementary, alternative, and integrative medical approaches. It's a large category with numerous options, including acupuncture, massage, yoga, homeopathy, naturopathy, and a variety of other natural, traditional, and alternative approaches to health promotion and treatment. Further, the empirical evidence on these approaches varies drastically, from those that are well documented to those that are hypothetical at best. In this lecture, we'll start by defining terms, then discuss the complementary, alternative, and integrative approaches to stress management that really work.

Defining Terms

- According to the National Center for Complementary and Integrative Health, *complementary care* refers to situations in which a non-mainstream practice is used together with conventional medicine. *Alternative care* refers to situations in which a non-mainstream practice is used in place of conventional medicine. What the center recommends is *integrative medicine*, which essentially means coordinating conventional medicine with proven complementary approaches.



Research has found that complementary therapies, such as yoga, meditation, acupuncture, and massage, help with the pain, anxiety, and fatigue that accompany cancer.

- Again, according to the center, more than 30% of American adults and about 12% of American children use some form of health care that is outside of mainstream Western medicine. Other research indicates that the use of complementary and alternative medicine may be more common for people with chronic health conditions. Although conventional medicine is impressive when dealing with acute trauma and illness, we need more support and care when dealing with chronic issues and conditions exacerbated by stress.

Proven Complementary Approaches

- Dr. Kavita Chandwani and colleagues of the University of Rochester Medical Center divided complementary and alternative medicine into several broad categories, including mind-body medicine; natural products; nutritional supplementation; manipulative body-based practices; energy-based techniques; and traditional medical systems, such as traditional Chinese medicine;

Ayurveda, the traditional medicine of India; and American Indian traditional medicine.

- Mind-body medicine involves practices that focus on learning control of the mind to improve the health and wellness of the body. These include mindfulness interventions, such as meditation and mindfulness-based stress reduction, and moving mindfulness practices, such as yoga and the martial arts. A strong body of empirical evidence demonstrates the effectiveness of mind-body strategies for improving psychological health, reducing depression and anxiety, improving stress resilience and coping skills, and facilitating self-care and physical health.
- Related to mind-body approaches are natural space interventions, that is, the use of natural space, parks, and green spaces to improve psychological health. Being outside continues to emerge as a powerful strategy for managing stress and promoting health and well-being.
 - One group of British researchers used an app that asked people to report their moods and locations and found that people consistently reported more positive feelings in natural environments than in urban areas.
 - Another study found that just five minutes of *green exercise* (physical activity in nature) boosted mood and self-esteem for people of all ages. Yet another study, from Stanford, found that walking for 90 minutes in a natural area led to decreased activity in a region of the brain associated with depression.
- Another complementary strategy that is best categorized as a mind-body technique is hypnosis. Hypnosis, when combined with cognitive behavioral therapy, has been found to reduce fatigue in cancer patients. Other research shows that self-hypnosis can be particularly effective for stress management and insomnia.



Every grocery store, health food store, and drugstore has an aisle full of supplements, indicating that they have become a common way we treat ourselves.

Herbal and Nutritional Supplements

- For better or worse, herbal and nutritional supplements are among the most common forms of self-treatment using complementary and alternative approaches. However, research evidence is often lacking for supplements. Further, because supplements may not have adequate government oversight, different brands may have varying amounts of the products they claim to offer, and some products have been found to have high amounts of contaminants.
- Of course, many herbal therapies are traditional treatments that have been safely used for centuries. For instance, your grandparents may have made you chamomile tea to help you sleep. Some research supports the use of these natural herbs for stress management, but other studies have been unable to conclude whether the herbs themselves are helpful or whether placebo or other effects occurred.

- Generally speaking, if you use herbal supplementation, teas and single herbs of food-grade quality are safer than pills or powder. When you buy food-grade lemon balm and make lemon balm tea, you can smell and taste that it's lemon balm tea; in fact, the sensory experience may help as part of the stress-reduction experience. But when you pop a lemon balm pill for stress management, you have no way of knowing that it's actually lemon balm, and you miss the steam, aroma, and experience of sitting down with a hot cup of tea.
- Many people also take vitamin supplements to promote psychological health and reduce stress. Vitamins B and D are common supplements, and doctors may even prescribe these for patients with certain health conditions. For instance, older adults may have a decreased ability to absorb vitamin B12 from food, and B12 deficiencies can lead to depressed mood and reduced memory. For this reason, doctors may prescribe vitamin B12 supplementation for older adults.
 - In a review of supplementation for cancer patients, Chadwani and colleagues indicate that the research evidence is strong that low levels of folic acid, vitamin B12, and vitamin D have been associated with psychological stress, and preliminary evidence from randomized trials indicates that supplementation with these vitamins, in particular, may help to improve mood and reduce stress, anxiety, and depression.
 - However, because many foods, such as breads and cereals, include supplementation with these vitamins and because overdosing with vitamins has its own health consequences, you should talk to your doctor if you are considering herbal and nutritional supplementation.

Diet

- One area over which you can immediately take control is what you eat. Emerging research about the benefits of specific foods and

nutrients for stress management yields some insights about how to eat better to manage stress.

- For instance, many people crave sugar when they are stressed. Unfortunately, eating sugar causes blood sugar crashes that can make you even more stressed. Refined sugars also breed unhealthy bacteria in your stomach, which can lead to the release of inflammatory hormones, creating more stress in the body.

- Take a moment and think deliberately about the kinds of foods you tend to eat when stressed. You may have to think through the different kinds of stress you regularly encounter because you might find that you have different go-to foods depending on the type of stress.
 - For instance, when you've been up late working, what kinds of food do you crave the next day to power through your fatigue? Or when you're on a long road trip and have to stay awake for the drive, what kinds of junk food do you pick up at the gas station?

 - Identify all the key stress events in your life that lead to stress eating, and write down what you eat in each scenario. Then, take some time with each eating scenario and think about what you are really trying to get out of the food in that scenario. What are you actually looking for—the physical sensation, the emotional feeling, the taste, the texture?

 - Once you've identified what you're looking for in each scenario, you can determine how to achieve that feeling in a health-promoting way that will more effectively help work through stress. If you need to chew, try some gum. If you're truly hungry and need something crunchy and salty, try healthy nuts, carrots, and whole-grain crackers. Come up with solutions for a variety of scenarios and strategies to make sure you always have what you need in advance.

Manipulative Body-Based and Energy-Based Practices

- Manipulative body-based and energy-based practices yield inconsistent results, and modalities must be considered individually. For instance, massage and other forms of touch therapy have been sometimes shown to be effective for stress, but other studies have shown them not to have any impact.
- Some research has looked at the effectiveness of spinal manipulation, which is the work that chiropractors and osteopaths do when they physically and manually make adjustments to address pain. A variety of reviews indicates that spinal manipulation is an effective option for providing mild to moderate relief from low-back pain. Exercise, massage, and physical therapy are other physical modalities with proven evidence for addressing low-back pain.
 - Broad-scale surveys show that chiropractic care is the most common form of complementary care people use for chronic low-back pain. A 2012 review of scientific evidence on manual manipulations found that spinal manipulation had proven effective for several conditions, including low-back pain, migraine and neck-related headaches, neck pain, upper- and lower-extremity joint conditions, and disorders associated with whiplash. Evidence is still inconclusive for sciatica, mid-back pain, temporomandibular joint disorders, and pain associated with fibromyalgia.
 - Such findings reflect our understanding that we cannot paint complementary modalities with a broad brush. Just as we use different medicines for different conditions, we must consider different complementary modalities in the context of when they do and don't work, and recognize that sometimes we need further research to understand whether a modality is effective.
- Acupuncture is an aspect of Chinese medicine that, under the traditional theory, is thought to work by influencing the body's energy systems. Scientists are still seeking to understand how

acupuncture might work in the context of Western scientific understanding, but initial theories propose that it may have an impact on the body's neurotransmitters and, thus, influence pain perception and wellness through neurochemical reaction.

- Empirical evidence supports the use of acupuncture as complementary care for a variety of health conditions, including cancer treatment and chronic pain. Research studies have shown that acupuncture is effective in reducing fatigue, distress, and anxiety and improving overall mood and well-being. Preliminary research also suggests that acupuncture is as effective as cognitive behavioral therapy for veterans with PTSD.
- If you are uncomfortable with needles, you can also try acupressure, which is a treatment that uses finger pressure at the same body points as in acupuncture. If you literally have just one minute, try this brief acupressure intervention: Grab each of your ears, about midway down, pinching the ear between your index finger and thumb on each side. Gently pull slightly down and out and hold for 60 seconds. Acupuncture theory holds that your entire spine corresponds to the curve of the ear, and pulling on the center helps to relax and calm the nerves of your central nervous system. When you're feeling stressed, a gentle moment of tugging on your ears may help you to physiologically relax.

Suggested Readings

Elkins, *Hypnotic Relaxation Therapy*.

Ilardi, *The Depression Cure*.

Karren, Smith, Gordon, and Frandsen, *Mind/Body Health*.

National Center for Complementary and Integrative Health, nccih.nih.gov.

Activities and Questions

1. Try the self-hypnosis activity in this lecture. Listen to the script in the lecture once, then try to walk yourself through it, using language that works best for you. Try this a few times a week for several weeks to see how it affects your perceptions of stress.
2. Consider when, how, and where you stress eat. What are the foods that you eat when stressed, and what are you seeking when you eat them—the physical sensation, the emotional feeling, the taste, or the texture? Once you've identified what you're looking for in each scenario, you can determine how to achieve that feeling in a health-promoting way that will more effectively help you work through your stress, rather than creating a blood sugar loop that leads to more stress and more fatigue. Follow these steps:
 - Identify each stress-eating scenario
 - Identify the core issue underlying your stress eating
 - Identify healthier strategies to meet that core need
 - Prepare in advance to help you implement your healthy strategies.
3. Try the self-acupressure activity. Try it once to get a sense of how to do it, then deliberately try it at least once when you are experiencing a high level of stress. How does it help? Do you feel any relief or improvement in your ability to manage stress after trying acupressure?



14

Mindfulness: Heart Healing to Manage Stress

Mindfulness teacher Mirabai Bush says that in mindfulness practice, we have the opportunity to know something that is unquestionably true: “I am breathing in; I am breathing out.” You directly know reality when you focus your awareness on your breath. When we practice meditation, we can pay attention to our thoughts and notice that thoughts, when we let go of them, arise and disappear. We don’t have to accept, embrace, or identify with them. Bush says that mindful learning allows us to cultivate “insightful knowing,” rather than just learning more information. Through mindfulness training, we learn to be fully aware and fully in this moment, which transforms our ability to actually see what is in this moment.

Mindfulness Training and Transformation

- Mindfulness training is a powerful tool for transformation. It may, in fact, change your brain after only minimal training.
 - In one study, participants were taught a daily practice of a meditation strategy known as *loving-kindness meditation*, which is designed to teach a feeling of compassion and kindness to yourself and others. The participants were guided in practicing loving-kindness meditation for 30 minutes a day, for two weeks.

- By the end of the two-week study, participants showed higher levels of empathy and altruism and more activity in parts of the brain associated with regulating emotions and understanding others.
- A dedicated meditation practice can lead to even more change. For instance, MRI research at the Center for Healthy Minds at the University of Wisconsin–Madison found that experienced meditators demonstrated different neurological responses to pain. They reported similar responses as novice meditators to pain intensity but less unpleasantness in response to the pain.
- Regular mindfulness practice has health benefits, as well. Consider telomeres, which are chromosomal caps whose length predicts your longevity. Chronic stress shortens the telomeres, which may explain the negative impact of chronic stress on life expectancy.
 - In contrast, meditation increases the activity of telomerase, an enzyme that actually rebuilds the telomeres. Research suggests that people who meditate regularly may have slightly longer telomeres.
 - Other research suggests that experienced meditators have higher levels of antibodies than non-meditators when exposed to viruses, indicating a stronger immune system response. Thus, meditation may make our extra years healthier, too.
- Mindful meditation may also make your daily to-do list feel a little shorter. When the health insurance company Aetna offered a mindfulness program to employees in 2011, it found that participants improved their efficiency and had 62 more minutes of productivity per week. Aetna estimated that the company saved about \$3,000 per year per employee who joined the mindfulness training program.

Mindfulness Training and Stress Management

- Research consistently shows that mindfulness training is an effective strategy in helping people learn how to manage stress and reduce anxiety. Deep breathing is particularly effective for reducing anxiety. One study found that when participants practiced yoga breathing strategies for 25 minutes per day over six months, their anxiety scores dropped by 44%. Learning to control your breath is a powerful strategy because it helps you to control your energy, awareness, and reactivity in the moment and because it trains your autonomic nervous system to be less reactive overall.
- In a research study at Stanford University, participants with social anxiety disorder went through nine weeks of mindfulness-based stress-reduction (MBSR) training.
 - Social anxiety disorder is a common psychological issue that affects approximately 12% of Americans and often is an undiagnosed cause of substance abuse or depression.
 - In the research study, the individuals were taught MBSR strategies to focus their attention in the moment—on their breath and on simple sensations related to present-moment experiences. By the end of nine weeks, they experienced less anxiety and showed changes in brain circuitry.
 - In particular, MRIs showed greater activity in parts of the brain related to visual attention. Often, people with social anxiety, when feeling anxious, will divert their gaze and focus their attention within. The MRI study showing greater visual attention activity indicates that the mindfulness training helped participants to become more present in the moment; instead of emotionally retreating, they connected with their physical environment.
 - That's part of the power of mindfulness for helping people to overcome stress and anxiety. When we're stressed,

Grand Perspective Mental Video (from Brian Seaward)

The grand perspective mental video is a simple thought-awareness meditation, designed to teach nonjudgmental observation. The goal is to become a detached observer in your own mind. Your mind may wander and run, and you simply sit back and watch it.

Come into a seated position with an open posture, rolling your shoulders down and back and relaxing your chest and neck. Your chin is gently tucked in, and the back of the neck is open. Your palms are open and relaxed on your lap. Close your eyes and take your focus within.

Now focus on your breath. As you breathe in, think *inhale*. As you breathe out, think *exhale*. Use the calm, quiet repetition of *inhale*, *exhale* as a way to let go of other thoughts and be present in the moment.

Continuing to breathe, let your mind go. Your eyes are closed, and you are focusing your awareness on the back of your mind, imagining that there is a movie screen inside. Watch what comes up on the screen without choosing, pushing, or forcing your thoughts.

Again, breathing in and out, see what happens—what you think of. You are not the director, the producer, the screenwriter, or the actor. You are not attached to the outcomes. You are a viewer at the premiere screening of this film. Just watch the screen as you breathe in and out.

Continue breathing in and out, keeping your eyes closed and your focus on your internal screen. Maybe something is rolling up multiple times or jumping about. Don't worry about it; you're not editing but simply watching. Let go of emotional attachment, ownership, and analysis. Consider yourself a neutral observer.

To come out of this exercise, breathe in and out a few minutes to let go of whatever you picked up along the way. Inhale in and exhale out. After a few minutes, open your eyes.

Although you may feel as if you found some insight or awareness during this exercise, that isn't actually the intent. It's not about finding answers; it's about recognizing that you are separate from your thoughts and that you can detach from them. It's a helpful exercise to understand that our thoughts are part of our experience but they're not who we are.

particularly when we have a tendency toward anxiety, we tend to get fixated on negative thoughts about ourselves and retreat within. Learning to shift our thinking patterns and to avoid getting stuck in a negative internal belief can be a powerful way to get out of a negative feedback loop in your own head.

Mindfulness and Stress Eating

- A sense of mindfulness can also help reduce the likelihood of stress eating. Weight and stress are often cyclical: When we're stressed, we may eat more to soothe our emotions, and when we show our stressed emotions on our waistlines, we feel more stressed. Research shows that comfort food isn't just in your head; there are hormonal and neurological reasons that we reach for certain foods. For instance, carbohydrates raise serotonin levels, and serotonin is the body's feel-good chemical. Eating doughnuts and chocolate when you're sad will actually boost your serotonin and make you feel temporarily better.
- Mindfulness can be helpful in breaking the pattern. Research into strategies for mindful eating, sometimes called *intuitive eating*, show that people who eat mindfully are 34% less likely to be obese. Mindfulness strategies allow us to be more thoughtful about our food, making us less likely to wolf down a chocolate bar without thinking. Mindfulness also offers consistent strategies that we can turn to when we're stressed, which makes it less likely that we'll end up in front of the vending machine in the first place.
- Mindfulness allows us to see our food as just food. Susan Albers-Bowling, clinical psychologist at the Cleveland Clinic, says that we put moral judgments on our food that trigger our own sense of shame and guilt. If we think ice cream is bad and we eat it, we must be bad, so we eat the whole carton to dull our shame with sweets. Shame and guilt lead to stress-eating spirals.

- Albers suggests that, instead, we consider our foods along a spectrum of healthy; some things are less healthy, and others, more so. In a similar vein, preschools and pediatricians often teach young children about everyday foods and sometimes foods: You can have an apple every day, and you can have cake sometimes.
- Mindful eating teaches that whatever you're eating, you should be in the moment when you eat it; notice the taste, smell, and texture. If you eat an ice cream cone while watching TV and don't notice that you ate it, did you really eat it? Certainly, you got the calories, but you didn't get the satisfaction.

Loving-Kindness Meditation

- One meditation technique that has consistently been shown to help people heal wounds and move forward with forgiveness is loving-kindness meditation. A variety of research studies have shown that this practice can reduce migraine and chronic pain; decrease PTSD and depression among veterans; increase gray-matter volume in the brain; increase your sense of compassion, empathy, and connection with others; and even reduce symptoms among individuals with schizophrenia.
- In this meditation, you focus on five people: (1) yourself; (2) someone you both respect and love dearly, perhaps a cherished teacher, mentor, or spiritual guide; (3) loved one, a close friend or family member for whom you have strong positive emotion; (4) a neutral person, someone with whom you have regular interaction but no strong emotions; and (5) a hostile person, someone with whom you have conflict and who makes your life challenging.
- To begin, come into a comfortable seated position. Hands should be relaxed gently on your lap. Try to soften and relax the muscles of your face, shoulders, and upper back. Close your eyes.

- Take a few deep breaths to quiet the mind. As you exhale, release all the stress and tension from your body. As you inhale, breathe in a sense of being calm, quiet, and relaxed.
- Now focus on cultivating a sense of love and compassion toward yourself. Out loud, say the following: “May I be happy. May I be healthy and strong. May I be filled with peace.” Repeat those words a few more times, while breathing slowly and comfortably.
- Next, think of your beloved and respected individual. Let your heart fill with a sense of kindness and compassion as you send good will to the individual. Repeat the words out loud: “May you be happy. May you be healthy and strong. May you be filled with peace.”
- Continue repeating these words until you reach the hostile individual, the person with whom you have conflict and strife. Allow your heart to soften. Recognize that this person needs compassion and that often, conflict arises from misunderstanding and the triggering of childhood wounds and sorrows. Let your heart fill with a sense of kindness and compassion as you send good will to the individual. Repeat the words out loud.
- Finally, move to the world at large, hoping for good will to everything in the universe and every living creature. Repeat these words out loud: “May all be happy. May all be healthy and strong. May all be filled with peace.”
- To end the meditation, keep your eyes closed and take a few more deep breaths. Then, slowly open your eyes.

Loving-Kindness Practice

- The sociologist and author Martha Beck proposes that loving-kindness practice helps us deal with stress by providing insight into our personal triggers—the situations, contexts, and people that make us more likely to experience stress. Through personal awareness, we can notice when we are at risk for a stressful

reaction and stop and calm ourselves. Through mindfulness, we can learn to understand the connection among the environment, our emotions, and our reactions, then use that insight to consciously choose not to react.

- Beck suggests a modified loving-kindness meditation for moments of stress to address the current stressor. For instance, she says, in the moment, we can say, “May I be filled with confidence,” or “May I be free from the compulsion to scream in meetings.” As you go into the situation that you know you perceive as stressful, you repeat this calming reminder.
- Mindfulness practice in general and loving-kindness meditation in particular helps us cultivate a sense of forgiveness, both self-forgiveness and forgiveness for others. That’s important because research suggests that older adults who practice forgiveness have better mental health. In fact, the greatest gift of loving-kindness meditation may be that it helps us to forgive ourselves, to leave the past in the past, and to move forward with positive intention.



Think about situations in which you experience recurrent stress, and create a scenario-specific mantra that will help you stay centered.

Suggested Readings

Albers, *Eating Mindfully*.

Kabat-Zinn and Davidson, eds., *The Mind's Own Physician*.

Kornfield, *The Art of Forgiveness, Lovingkindness, and Peace*.

Activities and Questions

1. Practice the mindfulness techniques in this lecture. Make a commitment to practice one of the strategies several times per week for several weeks. Notice how you feel as you increase your sense of mindful awareness. Does this begin to affect your awareness during the rest of the day?
2. Consider the situation-specific loving-kindness meditation suggestion. Are there specific stressful situations where you could apply this strategy to help you proactively adjust to stress and, therefore, reduce your tendency to react with stress?



15

Channeling Stress for a Competitive Edge

Research suggests that about 80% to 90% of people are afraid of public speaking. And those who have to give a speech usually get advice similar to this: “Take a deep breath. Just calm down. Don’t worry; you’ll be fine.” We give this advice because a long tradition of research on stress in America has led us to believe that we perform better when we have a lower level of arousal. But you can’t “just calm down” because performance stress is a high-arousal emotion that occurs for a reason. In fact, research from Harvard Business School suggests that a much better strategy is to channel your high arousal into another, more positive emotion: excitement.

Reframing Stress as Excitement

- Dr. Alison Wood Brooks has conducted a series of experiments that asked people to complete the kinds of performance experiences that many of us find stressful: competing in a singing or public-speaking competition and taking a math exam.
 - In one experimental group, participants were told to repeatedly tell themselves to keep calm before their performance. The second group was told to repeatedly tell themselves to get excited. The control group was given no instructions.

- The people who were told to focus on getting excited—in other words, who were instructed to reframe their natural stress as the positive high-emotion experience of excitement—performed better than the people in the other two conditions.
- Although additional research is needed to understand the long-term effects of using this approach, Brooks speculates that an ongoing effort to train yourself to view your stress as excitement may make it become an ingrained habit.
- Since the 1970s, the Scandinavians have been researching how higher levels of arousal during performance may lead to higher levels of performance. They found that during extensive challenges—for instance, an hour-long academic exam—a higher level of adrenaline and noradrenaline was related to better performance. This makes sense because adrenaline improves how we use blood glucose for mental activity. And if your brain has more glucose available during a cognitive task because of the



When you step onstage to give a performance, you want to be highly aroused, because your arousal will enhance your performance.

supportive effect of adrenaline, you will be able to more readily solve problems and access necessary memories.

- Additional research shows the same effect with high levels of elite performance corresponding to high levels of physiological arousal. Research with Norwegian paratroopers and American Special Forces has found that those who had higher levels of noradrenaline during operations had better performance. Interestingly, those who had higher levels of noradrenaline during operations and faster hormonal returns to base rates performed the best. Thus, the best performers are those who seem able to control their arousal; they can ramp themselves up to a high level of arousal during performance, then calm themselves down to neutral quickly once the performance is complete.
- We shouldn't try to stop, reduce, or eliminate performance stress. The arousal happens for a reason, and it can help us perform at a higher level. As we've noted, we get aroused in performance situations because they reflect something we value. We are stressed because the performance matters to us. But we don't have to feel distressed by the arousal. What we want is to shift our perspective on that arousal from "stressed" to "excited" to enjoy the experience and maintain peak performance.

Self-Talk Activity

- For an activity related to self-talk, mimic the experience of physiological arousal by doing 30 jumping jacks or walking in place quickly for about 30 seconds. This exercise will increase your heart rate and breathing rate.
- Now, think of this activity as stressful or fearful. Use negative self-talk: "I'm stressed. I'm uncomfortable. I'm nervous. I don't want to do this. What if someone judges me?" Notice that the perception generated in your mind with this self-talk feels awful.

- Next, shift the self-talk to focus on excitement: “I’m so excited. This is a fun, new adventure. I love doing new things. I can’t wait to see what will happen next.” In your mind, you’re now doing something fun, which feels better. Maybe you’ll sweat and your heart will race, but you won’t pass out.
- The benefit here is that by choosing to repurpose your stress into excitement, over time, the excitement will come more naturally. You may never change your physiological responses to stress, but you can consistently experience it as fun, positive excitement—the challenge of doing something that matters to you and doing it well.

Posture Activity

- As a second activity, from a seated position, cave in your chest and slump over. This is the posture we naturally fall into when we’re feeling sad, lost, hopeless, sick, or cold.
- This posture has both physical and psychological effects. Physically, it wears on our backs and necks and weakens our

We almost naturally slump over when we’re using technology devices, such as computers or smartphones, but better posture has positive physical and psychological effects.



core muscles and abdomens. From a psychological standpoint, research shows that a slouched posture makes it harder to recall happy memories and that people have lower performance on cognitive tasks, lower self-esteem, and lower self-confidence when their posture is poor.

- In contrast, assume the posture of Superman. Come to a wide stance with your feet slightly open for a strong, grounded posture. Your chest should be up and open, with your chin slightly lifted and your shoulders rolled down and back. From this posture, you're stabilizing your core—engaging the muscles of the back, opening up your lungs, and keeping your spine straight and aligned.
- Research shows that when people are taught how to improve their posture, they feel happier, healthier, and more confident. They perform better in stressful situations and think more clearly.

Research on Posture

- Harvard social psychologist Amy Cuddy has done a great deal of research on how our posture affects our sense of self and our confidence, and her famous TED Talk makes the assertion that how you stand can change how you feel. Her research shows that our nonverbal communication influences how others perceive us, but even more important, it influences how we perceive ourselves.
- In research with primates, scientists have found that the alpha animal has high testosterone levels and low cortisol levels. The high testosterone supports their dominance and power, and the low cortisol means that they have a low level of stress reactivity, which is a good combination for a leader. Further, scientists have discovered that when one alpha leaves and another animal steps into the alpha role, the new alpha animal shows an increase in testosterone and a decrease in cortisol.
- Cuddy and her colleagues did research to see how posture would affect humans, in other words, to understand if standing

as if we are brave could actually make our hormone profile look braver. In participants who stood or sat in a high-power position for just two minutes, testosterone increased by about 20% and cortisol decreased by about 25%. In contrast, standing or sitting in a low-power position decreased testosterone by about 10% and increased cortisol by about 15%.

- Cuddy notes that the point here isn't how others perceive your nonverbal behavior but how nonverbal behavior affects you. Before you go into the job interview or a difficult conversation, find two minutes by yourself and stand like Superman, creating a sense of bravery and low stress with your posture.

Failure and Flow

- Sometimes, in spite of extensive training, expertise, and self-confidence, talented people fail. Sian Beilock of the University of Chicago studies this phenomenon, and she has found that certain common processes occur under stress that can make skilled performers fail.
- One factor is paralysis by analysis. You know how to do something well, and you are so comfortable with doing it that most of the time, you don't think about the nuances of the activity. But then, for some reason, you find yourself under pressure to perform, and you lose your automaticity. You perform at a worse level because you're thinking about something that you should just be doing.
- In other studies, Beilock has found that working memory plays an important role in performance. The average person has a working memory of about $7 + 2$, which functionally means that you can keep track of between 5 and 9 things in your mind at one time.
 - Extremely talented people with high levels of expertise may, in fact, have working memories with higher capacities, but when you start worrying, those worries take up memory space and you have less capacity to focus your mind on the task at hand.

When we are in situations of evaluative threat, worry about how others will perceive your performance takes over the available memory space. Inevitably, performance degrades.

- Anxiety is perhaps the most common reason that successful people fail to perform at their ability levels. In the end, the people who are most successful in performance are not necessarily those who are most talented but, rather, those who are most talented and best at managing their anxiety.
- This returns us to the notion that when you perform, you will experience a high level of arousal. If you perceive that arousal as a threat—if you are worried about how others will judge you—you will “choke” under pressure, failing to live up to your potential. But if you can, instead, channel that arousal into excitement, then you’ll perform at your best.
- It’s that moment when you trust that you have trained well and can trust yourself to perform without having to micromanage every second of the experience that you can achieve what Dr. Mihaly Csikszentmihalyi has made famous as “flow.” In research that began in the 1960s, Csikszentmihalyi and his colleagues have concluded that regardless of culture, education, or any other external criteria, seven conditions occur when a person experiences flow:
 - An intense focus and sense of clarity
 - Clear knowledge of what you need to do in each moment
 - Immediate feedback within the situation
 - Intrinsic knowledge that though your work is difficult, it is possible
 - Disappearance of a sense of time

- Disappearance of a sense of self
 - A feeling that you are part of something larger.
 - Flow is most likely to occur when you are doing something that poses a higher-than-average challenge for you, but your skills are also higher than average. Thus, stress and arousal in your work can be good signs because they mean that you are challenging yourself and building the skill level you need to experience flow in that activity. In contrast, when you feel completely in control, you need to push yourself a little harder to enter that flow state. In a way, a flow experience sits on an optimal line between not quite hard enough and just a little too hard. On that line, the concept of performance stress dissolves away because you're completely immersed in the experience.
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Suggested Readings

Beilock, *Choke*.

Csikszentmihalyi, *Flow*.

———, “Flow, the Secret to Happiness,” TED Talk, www.ted.com/talks/mihaly_csikszentmihalyi_on_flow/transcript?language=en.

Cuddy, *Presence*.

———, “Your Body Language Shapes Who You Are,” TED Talk, www.ted.com/talks/amy_cuddy_your_body_language_shapes_who_you_are?language=en.

Activities and Questions

1. Try the arousal-into-excitement activity several times over the course of a week, whenever you feel nervous or stressed, and see if you can reframe it into a positive emotional state. When you exercise and feel physiologically aroused, use positive self-talk to create a positive emotional state of arousal.

2. Make a commitment to spend one week with increased awareness of your posture. Check your posture in the seats you most commonly use—your desk chair at home and at work, your couch, your dining room table, and so on. How can you improve your posture when you sit? Consider your standing posture throughout the day and pay attention to how it changes over the course of the day. Is it better and stronger in the morning or in the evening? How does your posture change with certain people and certain activities? When do you feel the most open and strongest, and when do you feel the most closed off and weak? Make an effort to consciously improve your posture through consistent awareness.



16

Emerging Stress Management Technology

A variety of strategies continue to emerge that offer the potential to improve psychological health and support stress management. In this lecture, we'll explore emerging research from the promising to the outer reaches. We'll consider such technologies as biofeedback and magnets, art and music therapies, animal therapy, and psychological approaches, including visualization, emotional freedom tapping, and eye-movement desensitization and reprocessing.

Technology for Stress Management

- Technology offers great potential, particularly as teaching tools, to improve how we manage stress. For instance, a substantive body of research supports the use of breathing strategies to improve stress resistance and reduce the effects of stress on the body.
- Biofeedback involves the use of some sort of technology device to help people learn to control specific physiological functions, such as heart rate, respiratory rate, muscle tension, and urinary incontinence. Biofeedback can also be a handy tool to make exercises in breathing, muscular tension, and relaxation more effective. The clinical evidence for biofeedback use is strong, and

research shows that it can be helpful for individuals with anxiety and panic disorders.

- Neurofeedback is a specific form of biofeedback that focuses on feedback about the neurological activity in the brain. Electroencephalography neurofeedback measures the brain's electrical activity via sensors placed on the scalp. Research shows that it can help people learn to regulate brain functions and can improve the ability to pay attention in children who have attention-deficit/hyperactivity disorder. Programs involving neurofeedback may also help older adults maintain reaction time and confidence for driving.
- You may think of virtual reality as something that is useful only for video games, but medically, virtual reality has true potential for helping people deal with stress and anxiety disorders. Consider people with a fear of heights; virtual reality can be part of the treatment process because such individuals can experience a simulated balcony or bridge to help address the fear before going out on a real balcony or bridge.
- Magnets are another therapy at the forefront of experimental research. In 2008, the U.S. Food and Drug Administration (FDA) approved the use of a device for transcranial magnetic stimulation (TMS) for people with depression who have not responded to antidepressant medication; in subsequent years, a second TMS device has gained FDA approval.
 - In TMS, the patient is awake while the physician uses a machine placed against the scalp to send short, intense magnetic pulses into the brain centered over the left prefrontal cortex, an area of the brain that usually shows abnormal electrical activity in depressed individuals.
 - Initial results are promising, although more research is needed to understand whether the effects are lasting, whether maintenance treatments are needed, and whether

TMS is more effective when combined with therapy and drug intervention. Some research teams are now looking at how TMS can be used for other conditions, including anxiety, chronic pain, and PTSD.

- Neurological understanding of the parts of the brain related to fear are fueling research into how bad memories form and how we may become haunted or traumatized by bad memories. This suggests that, in the future, emergency rooms may treat victims of trauma, such as rape victims, with therapeutic approaches to reduce the risk of PTSD. Theoretically, medical teams could work to heal the physical trauma of the event while also helping the person to heal from the psychological trauma.
- Of course, a variety of apps for smartphones or tablets now provide training in stress management. In addition, technology may make it easier to talk with a professional advisor when you need immediate help with a stressor. For instance, some websites now allow you to video-chat with a licensed mental health provider, and preliminary research shows that virtual therapy can be as effective as traditional therapy.

Art, Music, and Pet Therapy

- Art therapy is based on the premise that many of our feelings and emotions cannot be adequately expressed in words. Art therapy is as old as psychology itself, as both Freud and Jung had some of their patients draw to help gain insight into their psychological disorders.
 - In the 1970s, art therapy moved from a focus on the created product to the creative process; in other words, it wasn't that people should create art to help their psychologists better understand them but, rather, that the product of creation offered opportunity for healing and restoration.

- According to art therapy expert Noah Hass-Cohen, art therapy allows sensory input to mediate the mind-body connection. By using physical activities, such as painting and drawing, you engage your senses and have the opportunity to connect your physical and mental experience through this bridge.
- Music therapy, another form of artistic therapy, has two common forms. One approach is that the act of creating music is therapeutic, much as the act of creating physical art offers cathartic value. The other approach proposes that through listening to music, we can relax and restore.
 - Research has found, for instance, that listening to relaxing music while engaging in progressive relaxation leads to greater levels of physiological relaxation than doing the technique without music.
 - In a variety of studies, Dr. Barry Bittman has shown that recreational music-making helps to reduce stress. He has

A photograph of a patient lying in a hospital bed, wearing a green blanket and a nasal cannula. A healthcare professional in teal scrubs is partially visible in the foreground. A dark purple circular callout bubble is overlaid on the right side of the image, containing text about a study on classical music in an ICU.

One study found that playing relaxing classical music in a hospital's intensive care unit led to decreased anxiety among patients, including reduced heart rate, blood pressure, and muscle tension and improved sleep time.



Even if you're not formally working with animals in a therapeutic setting, you may find having a pet or taking horseback-riding lessons to be a stress-relieving experience.

investigated the impact of music training on a variety of groups, including corporate employees, nursing students, inner-city teenagers, and individuals with heart disease, and consistently found that music training improves psychological health and reduces stress markers in the blood and immune system.

- Numerous studies have shown the psychological power of pets to promote mental well-being. For example, research has found that pets can help people with mild to moderate depression and indicates that pet owners have lower levels of blood pressure and stress hormones.

Visualization

- *Visualization* is, essentially, the use of a mental impression or imagined scene to help you consciously make a change. Mental imagery and impressions occur spontaneously when we daydream and our minds wander, but we use visualization to purposefully leverage what we see toward a desired outcome.
- Basically, visualization comes in two types. In *receptive visualization*, you sketch a scene in your mind to help you relax, such as seeing yourself on a beach. The intent is to help you come to a mental state of relaxation. In *programmed visualization*, you visualize a desired outcome, such as running a race. In this type of visualization, you might do a *process visualization* (you see yourself physically running) to focus on improving your form and your ability. You might also do an *outcome visualization* (you see yourself achieving a specific place in the race).
- Generally speaking, both process and outcome visualization can be useful tools, but research provides stronger evidence for the effects of process visualization. Theoretically, that's because process visualization focuses on what we can actually do and what we are actually doing. You have no control over the weather the day of the run, but you do have control over how you prepare and

how you run that day. Focusing on aspects that you can control is an important part of managing stress.

- Stress expert Brian Luke Seaward says that we use our powers of visualization and imagination whenever we are in stress. But when we are not using them purposefully, we may end up visualizing potential catastrophes that make us more stressed and afraid. A more effective use of our powers for mental imagery is to channel them into purposeful visualizations that can help us relax and improve our resilience for stress.

Other Therapies

- Eye-movement desensitization and reprocessing (EMDR) is a psychotherapy treatment designed to help people process trauma. Dr. Francine Shapiro developed the treatment in the late 1980s, and the approach combines lateral eye movements, hand tapping, and audio stimulation. In the early years, EMDR was controversial, but extensive research has shown that it can be effective for helping people work through trauma.
 - Shapiro compares psychological trauma to a physical wound; if you have a cut on your hand with a piece of glass stuck inside the wound, your hand will try to heal but continue to fester because of the shard of glass. Once you remove the glass, the wound can heal. Shapiro's theory is that when emotional traumas are not effectively processed, essentially, there is still glass in the wound; that's why we continue to ruminate on and experience traumatic memory.
 - EMDR combines cognitive therapy strategies with eye movement, hand tapping, and audio stimulation to get the metaphorical glass out so that the psychological wound can heal. Research on the effectiveness of EMDR in trauma treatment and for PTSD is particularly strong.

- One self-help technique Shapiro recommends is called the butterfly hug. It is intended to help you quickly feel a sense of a safe space and was initially developed to help children in disaster areas deal with immediate stress and trauma. If you practice this simple exercise daily, you can use it when you're feeling stressed to reconnect to a sense of being calm.
- Emotional freedom technique (EFT) is a similar approach, although there is less research evidence to support EFT. EFT is based on acupuncture and combines specific sayings with physically tapping the body along meridian points. The process is sometimes known as *tapping* because you literally tap on your body with your fingertips at specific points to yield specific outcomes.
 - In practicing EFT, an individual says, "Even though I have this issue, I deeply and completely accept myself."
 - That may well be the power of EFT. Many of us struggle with self-acceptance; indeed, criticizing ourselves creates a tremendous sense of disconnection from ourselves and is a central source of all our stress. Perhaps the tapping and the physical movement in the EFT process keep us distracted so that we can't discount that powerful statement of self-acceptance. The tapping also provides a physical reminder to keep repeating that powerful statement of self-acceptance to truly absorb it.
- At the core, this seems to be much of the power of many alternative and emerging strategies for stress management and psychological health. Animals don't judge or criticize; they just love and help us to do the same. When we paint, draw, or play music—if we can learn to stop worrying about outcomes and connect to the process—we can rediscover our childhood sense of wonder, self-love, and self-acceptance. And in that self-acceptance, we can transcend stress.

Suggested Readings

Benson and Proctor, *Relaxation Revolution*.

Davis, Eshelman, and McKay, *The Relaxation and Stress Reduction Workbook*.

EMDR (Eye Movement Desensitization and Reprocessing Therapy) Institute, Inc., www.emdr.com.

Equine Assisted Growth and Learning Association, www.eagala.org.

Fulgham, *All I Really Need to Know I Learned in Kindergarten*.

Hass-Cohen and Findlay, *Art Therapy and the Neuroscience of Relationships, Creativity, and Resiliency*.

Hayes, *Riding Home*.

Khazan, *The Clinical Handbook of Biofeedback*.

Official EFT (Emotional Freedom Techniques), www.emofree.com.

Ortner, *The Tapping Solution*.

Shapiro, *Getting Past Your Past*.

Stevens, *Music Medicine*.

Activities and Questions

1. Try the visualization exercise as a relaxation strategy. Try other visualization exercises on your own, using your own imagery, for instance, relaxing on a beach or in the forest or swinging in a hammock. Identify a scene and situation that feels relaxing and restful to you.
2. Try the EMDR butterfly hug. Consider how you can use this when you are feeling stressed or threatened.
3. Try the EFT tapping activity. Think about how this technique makes you feel and how you might use it whenever you are feeling stressed, worried, depressed, or afraid.



Rest, Restore, Recover Your Resilience

Whether you go on a dream vacation to Europe, go camping in the nearest park, or relax at home on a “staycation,” you need to take time off. Research with more than 1,300 participants found that people who had more leisure time had fewer negative emotions, a lower risk of depression, and improved psychological health and life satisfaction. As Dr. Jessica de Bloom puts it, vacation is much like sleep: We sleep, we go about our day, we get tired, and we need more sleep. Consider vacation the extended version of sleep—an opportunity to rest, recover, and restore your stress resilience. And in between vacations, you also need regular periods of rest and recovery.

Strategies for Sleep

- Let's begin by considering your light exposure both during the day and at night. Getting sunlight during the day improves both the quality and quantity of sleep. In contrast, exposure to artificial light from clocks, cell phones, and street lights makes it more likely that you will sleep fitfully, experiencing more frequent mini-arousals. Low levels of light suppress your body's melatonin levels and make it harder for you to sleep restfully and deeply.



Without sufficient sleep, you are at risk for a variety of health conditions, from obesity and diabetes to anxiety and depression.

- If, however, you find yourself in bed, struggling to fall asleep, the last thing you want to do is stress about it because worrying about whether or not you are going to get enough sleep keeps your mind churning and keeps you awake. One strategy to try instead is to read something boring on paper.
- While you're lying in bed, you can also try forcing yourself to keep your eyes open wide and stare at the ceiling. One study found that by leveraging the notion of *paradoxical intention* (setting an intention to do the opposite of what you really want), people fell asleep faster. The participants who focused on not closing their eyes actually fell asleep about 40% faster than people who closed their eyes and tried to fall asleep.
- Another cognitive strategy for people whose minds whirl a mile a minute is to put the whirling toward thinking about sleep; while you're in bed, trying to fall asleep, challenge yourself to think up as many words related to sleep and relaxation as you can. In another sleep research study, participants who tried to think of sleepy

words, such as “cozy,” slept 62% longer than people who didn’t. A third study found that visualizing a relaxing, calming scene, such as a quiet meadow, helped people fall asleep.

- Consider giving yourself permission to rest and sleep in on the weekends. Research in 2016 from the University of Chicago says you may be able to sleep in and justify it as health-promoting.
 - In the study, healthy young men were sleep deprived over a four-day period; they were in bed for 4.5 hours per night and slept about 4.3 hours per night. Their bodies reacted physiologically to the sleep deprivation; after just four days, they decreased insulin sensitivity by 23% and increased diabetes risk by 16%.
 - This study supports extensive previous research that a consistent lack of sleep increases your risk of developing type 2 diabetes. In this study, the sleep deprivation period was followed by two days when participants were allowed to catch up and get plenty of sleep. Just two days of extended sleep returned their insulin sensitivity and diabetes risk to normal.
 - Because sleep deprivation has significant long-term effects— inflammation, weight gain, diabetes risk, and increased risk for mental health disorders—the best strategy is to consistently get enough sleep. However, this study suggests that when you occasionally have to push yourself, you can recover through a couple of days of sleeping in.

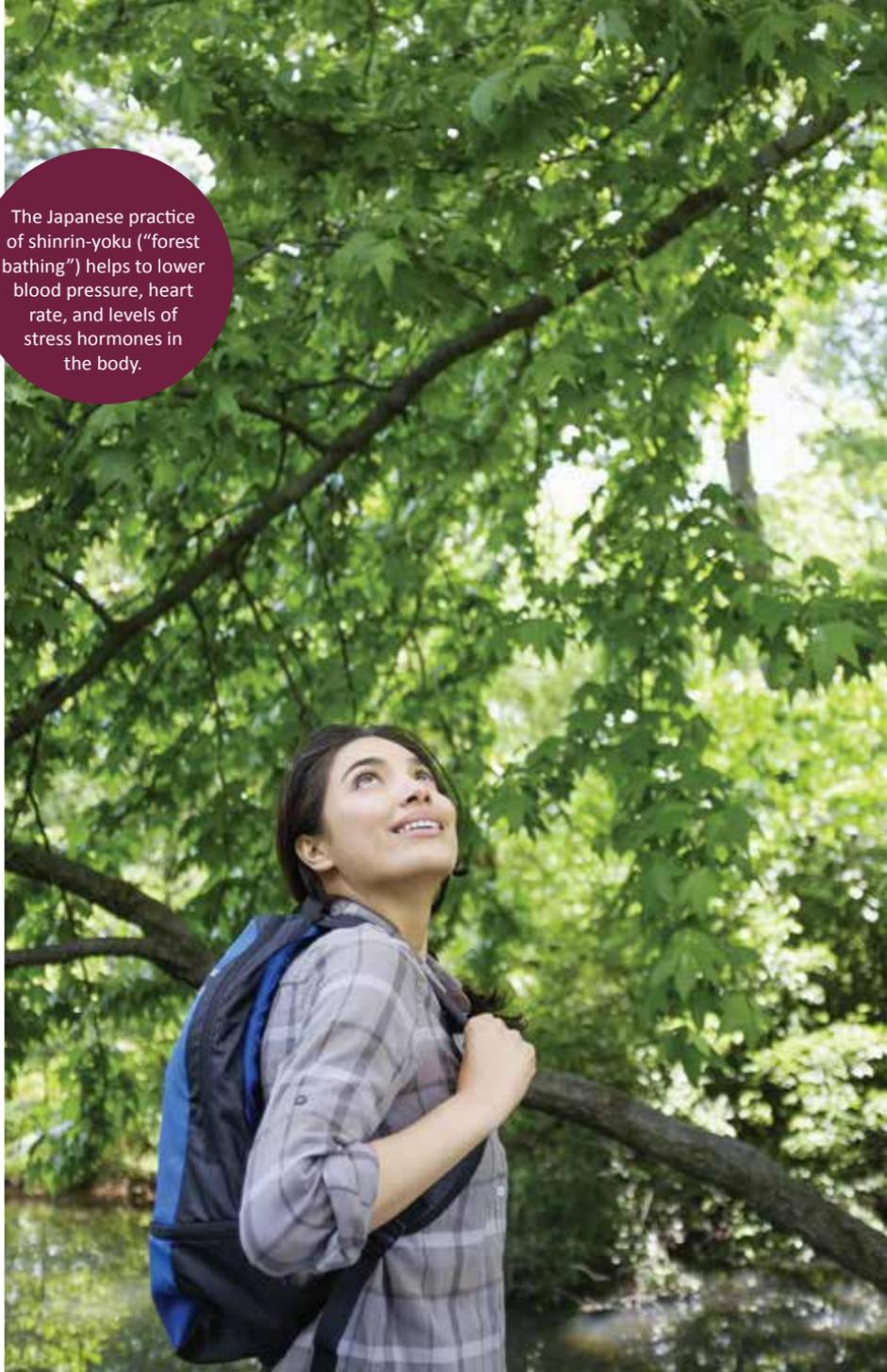
Daytime Relaxation

- Once you’re rested, consider ways that you can relax in the daytime, such as getting outside. Although we must be mindful of sunburns, research shows that UV light actually alters nitric oxide levels in the skin and blood. Nitric oxide is used in erectile dysfunction medications because of its capacity to relax the blood vessels. Thus, it’s true that a relaxing summer day at a pool, lake, or beach

has a physical effect on your body; the nitric oxide has a relaxing effect on the blood vessels, which leads to lower blood pressure.

- There are also benefits of a soak in a tub. A research study at the University of Wolverhampton in the United Kingdom found that when people took a bath every day for two weeks, their psychological health improved. They had reduced levels of pessimism and increased levels of enjoyment.
 - European health-care systems often use water floatation therapy—soaking in a hot bath or spa—to treat a variety of health conditions, including chronic pain, and to help prevent cold and flu.
 - Preliminary research has even found that baths can help children with autism and sometimes leads to improvements in behavior and social skills. The researchers propose that a bath helps reduce inflammation levels, which may be at play in causing some autism symptoms.
 - Other research from the University of Miami found that adding the essential oil lavender to a bath provides additional relaxation benefits, reducing heart rates and levels of the stress hormone cortisol.
- Hot showers can also have a calming effect, particularly when you focus the hot water on the neck and back to help soften and relax tight muscles. Research has demonstrated that exposure to negative ions has potential for reducing chronic depression, seasonal affective disorder, anger, and stress.
 - One study found that negative-ion exposure helped mitigate the stress response, as reflected by hormones in collected saliva, after a stressful experience. A handful of other studies have found that negative-ion exposure is as effective as bright light—exposure in treating seasonal affective disorder.

The Japanese practice of shinrin-yoku (“forest bathing”) helps to lower blood pressure, heart rate, and levels of stress hormones in the body.



- Negative ions are naturally created with the movement of water, which may be why we feel calm and relaxed in natural settings with moving water, such as near waterfalls, streams, and the ocean. A shower is the easiest way to generate negative ions in your home.
- Showers as part of the bedtime routine are also a great way to reduce insomnia; research consistently shows that taking a hot shower or bath about 90 minutes before you go to bed can help you fall asleep faster and sleep longer. The hot water raises your core body temperature, and the subsequent drop in body temperature makes you sleepy.

Doing Nothing

- As you think about relaxation, consider this question: When was the last time you did nothing? The average American child spends less than 30 minutes per day in unstructured outdoor play and more than 7 hours per day engaging with some form of electronic device. That's very little time unstructured and a great deal of time plugged in.
- Research also indicates that American adults spend 8.5 hours per day interacting with screens. The Bureau of Labor Statistics American Time Use Survey reports that, on an average day, American adults spend 5 hours and 5 minutes in leisure time, more than half of which is spent watching TV and another 30 minutes of which is leisure computer time. Only 17 minutes per day is spent relaxing and thinking.
- Now, ask yourself this: When was the last time you had nothing scheduled and you didn't turn on the TV? When was the last time you were left alone to think, wonder, ponder, maybe even be bored? Albert Einstein once said, "Creativity is the residue of time wasted." If we never have time to do nothing, then we will never really do anything amazing. To function at your best—to be most

effective at becoming resilient to stress and handling it well—you need to relax.

- Taking this idea a step further, graphic designer Stefan Sagmeister has brought the concept of the sabbatical from academia and into the working world. In his TED Talk on the subject, Sagmeister makes the point that considering the average educational and career trajectory and the average lifespan, we spend about the first 25 years of our lives learning. Then we spend about 40 years working, followed by about 15 years of retirement.
 - Sagmeister set out to put 5 years of retirement in between blocks of working years. Essentially, every 7 years, he takes a sabbatical for 1 year.
 - Sagmeister points out that even though he didn't earn money during his first sabbatical year, it was financially successful because every success he had during the following 7 years of work came from a seed or thread he started during the sabbatical year.
- In his book *Drive*, Daniel Pink recommends that companies implement 20% noncommissioned time; the premise is that you give your employees 20% of their work time to focus on projects, learning, and activities in which they are interested. At Google, Gmail came out of employee 20% time. The point is that by giving yourself time to just play and explore, you may discover and create things that you would never have accomplished if you'd set out to achieve a specific goal.
- To end this lecture, we'll do a few guided relaxation exercises. Consider this permission to do nothing for the next 15 minutes. It's an opportunity to restore your body and your mind. For the next week, try to do at least one of these exercises a few times to see if adding a bit of relaxation into your week can make you feel more energetic the rest of the time. If you struggle with insomnia, doing

a relaxation exercise every night before bed can be a great way to calm the mind and more easily drift to sleep.

Suggested Readings

Hatch, *The Maker Movement Manifesto*.

Pink, *Drive*.

Sagmeister, "The Power of Time Off," TED Talk, www.ted.com/talks/stefan_sagmeister_the_power_of_time_off/transcript?language=en.

Activities and Questions

1. Unschedule yourself. Put some unscheduled time on your calendar. Try to find at least one hour in the next week where you can schedule time to relax and do nothing. Within the next three months, plan one unscheduled day to relax and do nothing. And within the next year, plan one vacation week; even a staycation is fine, as long as you really relax. Make it a priority to regularly build time into your day, week, and year to relax and recharge.
2. Try the relaxation activities in this lecture. Pick the one you prefer and try it at least three times over the next week.



18

Learning from Your Stress

Over the last 17 lectures, we've learned a variety of strategies for dealing with stress, but we still live in the world and still experience stress. Still, sometimes, in the midst of stress, you lose your temper. The point that meditation teacher Jack Kornfield makes in his book *After the Ecstasy, the Laundry*, is that even those who achieve spiritual ecstasy—even those master teachers who succeed in understanding the world—still have to face day-to-day realities. There is still traffic. There are still annoying fights with your boss, your coworkers, or your spouse. But now, you have a wide variety of stress-management tools that you can apply to navigate the stressful world with far more skill and flexibility.

Living Your Calling

- We began the journey of this course with heavy backpacks that strained our necks and left us blistered. But we've now changed our mind-set about stress, letting go of the heavy weight that stress is bad for us and replacing it with the supportive awareness that we can leverage stress to enhance our performance and heighten our awareness. We can now move forward with a backpack that is filled only with essentials.

- One essential for your journey is a sense that you are living your calling. Knowing that your life is the life you truly want is perhaps one of the greatest strategies for mastering stress, but figuring out what your calling is can be another major stressor. How do we find the job, meaning, or purpose that truly matters?
- Renowned counselor and executive coach Richard Leider has developed what he calls the napkin test. On a piece of paper, write down:

$$G + P + V = C$$

Gifts + Passion + Values = Calling

- Rather than trying to figure out your weaknesses and the things you need to work on, start with your gifts. Take a positive, glass-half-full attitude toward yourself. What are you good at? What are your gifts and strengths in life? That's one-third of the equation.

Breathing Strategy

The following is a simple breathing strategy that integrates relaxing visualization. You can use this strategy anytime you need a quick moment of calm, and remember that doing it consistently will make it more effective when you need it.

- Come into a seated position. Maintain an open posture, rolling your shoulders down and back and relaxing your chest and neck. Your chin should be gently tucked in, and the back of the neck, open. Palms are open and relaxed on your lap. Close your eyes and take your focus within.
- Start with an exhale, imagining that you are exhaling out the gray, cloudy skies. Whatever is stressful, exhale it out.
- Into that empty space, inhale clear blue skies and a sense of sunny positivity, strength, and resilience. Repeat the whole exercise several times before opening your eyes.

- Next, look at your passions. What do you care about? Which conversations get you riled up? What topics, causes, and issues truly spark your interest? That's one-third of the equation.
- Third, look at your values. What do you really need in your environment and lifestyle in order to feel authentically you? What are your nonnegotiable needs? Identifying the environment that fits your values is the final third of the equation.
- Overall, what you are looking for is how to use your strengths for things you feel passionately about in a work-life setting that supports your values. When you find that, you'll find your calling.
- Finding your purpose isn't just an esoteric wish; it's a deep, intrinsic human need, with tangible physical outcomes. For instance, research shows that people who feel a sense of purpose have better physical and mental health. They are less likely to suffer such conditions as viruses, diabetes, and cancer or to experience specific health traumas, including heart attack and stroke.
- Another key concept in mastering stress is to let go of what others think. Take a moment to think honestly about how much of the stress in your life is created by your own wants, needs, and perceptions and how much is created by what you assume to be other peoples' wants, needs, and perceptions. Often, our stressors are fundamentally caused by what we think others expect of us and our attempts to live our lives to please them. Instead, we should live our own authentic lives.

Setting Priorities

- Ultimately, looking at stress in our lives requires us to look at our priorities. And part of what causes our stress is that the things we think matter—the things we pursue passionately—actually don't matter. A survey of young adults from the millennial generation was asked about their most important life goals. Of the respondents,

80% said that a major life goal was to be rich, and 50% said that a major life goal was to be famous.

- Of course, we could simply say that there is something wrong with kids today, but it's not that simple. Harvard's Study of Adult Development has been tracking a cohort of more than 700 men across their lifespans. The study started in 1938 and has tracked two groups of men: (1) a group who began the study as sophomores at Harvard and (2) a group from a disadvantaged neighborhood in Boston.
 - One finding from this study is that there is not something wrong with millennials. There is something about the ambition of youth, something about the spark you have when you're young, that makes you think that your purpose is to fire up and change the world. Many of the men in this study, when they were 19 and 20 years old, thought that a good life would be defined by their careers and by achieving success and wealth.
 - But, of course, a meaningful life isn't about fame, wealth, or professional success. In one analysis, the researchers used the data they had from the men at age 50 to see what characteristics could predict which men would become happy, healthy 80-year-olds. The characteristic that was most predictive of health at age 80 was the quality of the relationships the men had at age 50. The men who had better relationships had better memories and less dementia than those without solid connections to other people.
- The bottom line is that connection matters more than anything else. Having people you love and who love you matters more than the work you do, the money you make, or the things you create. But this isn't an easy answer or a quick fix.
 - Relationships can be messy. Connecting with others requires work; it means giving, and knowing that sometimes you won't get back. It means sometimes authentically grieving



When you splurge on the occasional vacation, make sure to take pictures so that you bring the experience of happiness back into your daily life.

relationships you have lost and sometimes struggling to rebuild relationships that have been damaged. It means accepting others as they are.

- You can choose anything you want to depend on: career, hobbies, or collections. But 75 years of data gathered by Harvard University unequivocally teaches us that leaning into people—finding a way to genuinely connect with and care about others—is the thing that will make you happiest and healthiest in the long run.
- Further, research from psychologist Ed Diener shows that the frequency of your positive experiences is a better predictor of happiness than the intensity of the positive experiences. Thus, playing with your kids every day at the local playground has a much more sustaining impact on your happiness, their happiness, and your relationship with them than an expensive yearly jaunt to Disney World.

Being Your Own Stress Champion

- Fundamentally, we are not looking for stress-free lives, stress reduction, or stress management. We simply want to feel as if the stress we experience leads to something we truly care about. That is when we are champions of our own stress—when we become partners with our stress in pursuit of outcomes and people we care about.
- To become your own stress champion, choose the life and purpose that are meaningful to you. Accept that stress comes with that life; it means that you care enough to get worked up about things—but not just anything. You need to let go of things that create stress and hassle merely for the sake of stress and hassle.
- Keep in mind that your experience of stress is a gift. Every time you feel stressed, it's an opportunity to ask yourself: Am I doing what matters to me? Is this stress a reflection of hassles, irritations, and things I don't love? Or is this stress a reflection of how vested I am in this activity because I care about it? Use your stress as a



According to neuroscientist Richard Davidson, learning to be well is like learning any other skill, such as playing the cello; we can all train and get good at it if we're willing to put in a little work.

“gut check” and a teacher. Are you on the right path, or is it time for change?

- Richard Davidson, a neuroscientist at the Center for Healthy Minds at the University of Wisconsin–Madison, tells us that we can learn to be well. Key strategies he outlines include the topics we’ve discussed throughout this course: mindfulness training to help you learn how to guide your own mind and recover your thoughts more quickly under adversity, a positive outlook, and a sense of generosity because helping others helps you feel better about yourself and more connected to those around you.
- Choosing to respond with gratitude to even the worst of life may have a profound impact on your sense of well-being and your resilience to stress. In her book *The Upside of Stress*, Kelly McGonigal discusses several mindset interventions that ask people to reflect on the benefits of difficult situations.
 - In one study, adults with autoimmune disorders, such as lupus and rheumatoid arthritis, were asked to journal every day for several weeks about the benefits of their disorder. In another study, women with cancer were asked to journal about the benefits of their experience. In a third study, people serving as caregivers for loved ones with Alzheimer’s disease were asked to journal about the positive aspects of caregiving.
 - Across these studies, deliberately making an effort to focus on the benefits of the difficult situation led to improved mental health. The individuals with autoimmune disorders had lower levels of pain and fatigue. The women with cancer had less distress and needed fewer doctor appointments. The caregivers were less depressed and had better psychological health than a control group that went through a standard stress-management intervention.
 - It’s not that focusing on the benefits makes the problem go away. But the practice of finding benefits can be empowering.

It helps you make a choice in a difficult situation and to see the benefits—growth, strength, flexibility, new possibilities—that you might not have noticed if you weren't purposefully looking for them.

- When you're dealing with chronic, ongoing stressors, a benefit-seeking exercise can be a powerful way to transform your experience and shift your mindset to one in which you feel positive and in control.
- A large part of becoming a champion of stress is accepting that life is, often, stressful. Stuff happens, and sometimes you step in it and get stress all over your shoes. But you can clean up your mess and move forward with a positive outlook that you're a stronger, better person for having done so. The philosopher and writer Joseph Campbell once wrote that we should "Participate with joy in the sorrows of the world." That's the bottom line. Life is stressful, but you don't have to be stressed. You can find joy in this moment, in this chaos, in this life, by learning to be your own ultimate master of stress.

Suggested Readings

Davidson and Begley, *The Emotional Life of Your Brain*.

Diener and Biswas-Diener, *Happiness*.

Hagerty, *Life Reimagined*.

Kornfield, *After the Ecstasy, the Laundry*.

Leider, *The Power of Purpose*.

Strayed, *Wild*.

Activities and Questions

1. Complete the napkin test: $G + P + V = C$, or Gifts + Passion + Values = Calling. What are you good at? What are your gifts and strengths in life? Those are your gifts, one-third of the equation. Next, look at your passions. What do you care about? Which conversations get you riled up? What topics, causes, and issues truly spark your interest? That's one-third of the equation. Finally, look at your values. What do you really need in your environment and lifestyle to feel authentically you? What are your nonnegotiable needs? Identifying the environment that fits your values is the final third of the equation.
2. Try the inhale blue skies/exhale gray skies breathing exercise for 5 minutes. Consider how you can use this as a quick relaxation exercise to shift perspective when you are stressed.
3. Try the gratitude-in-difficulty exercise. Consider a situation in your life that is difficult. Is there a silver lining to the cloud, an aspect of the experience that provides you with the opportunity to learn, grow, and become stronger? It isn't that you should whitewash your experience but, rather, that you can shift your perspective to identify what is still good and positive in your life. Choosing to respond positively to even the worst of stress is a difficult choice, but it is a choice that can have a profound impact on your health and wellness.

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