

# Masters of Mindfulness

## Transforming Your Mind and Body

Course Guidebook

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A summa cum laude graduate of the University of California, Los Angeles, and the founder of the Wellspring Institute for Neuroscience and Contemplative Wisdom, Dr. Hanson has been an invited speaker at Google and NASA as well as the University of Oxford, Stanford University, Harvard University, and other major universities. He has taught in meditation centers worldwide, and his work has been featured on CBS, Fox, NPR, and the BBC. Dr. Hanson offers the free newsletter *Just One Thing*, which has more than 135,000 subscribers, and his Foundations of Well-Being online program in positive neuroplasticity is free to anyone with financial need.

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Mike Robbins is the author of four books: *Focus on the Good Stuff: The Power of Appreciation*; *Be Yourself, Everyone Else Is Already Taken: Transform Your Life with the Power of Authenticity*; *Nothing Changes until You Do: A Guide to Self-Compassion and Getting Out of Your Own Way*; and *Bring Your Whole Self to Work: How Vulnerability Unlocks Creativity, Connection, and Performance*. As an expert in teamwork, leadership, and emotional intelligence, he delivers keynotes and seminars around the world that empower people, leaders, and teams to engage in their work, collaborate, and perform at their best. Through his speeches, seminars, consulting, and writing, he teaches important techniques that allow individuals and organizations to be more appreciative, authentic, and effective with others and themselves.

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Dr. Jha studies the neural bases of attention and the effects of mindfulness-based training programs on cognition, emotion, and resilience. With grants from the US Department of Defense and several private foundations, she has been systematically investigating the potential applications of mindfulness training in education, sports, business, and the military. Her work has been featured in the *Journal of Cognitive Neuroscience*, *Emotion*, and *PLOS ONE*, and she serves on the editorial boards of the *Journal of Experimental Psychology: General*; *Frontiers in Cognitive Science*; and *Frontiers in Cognition*.

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Elissa Epel, PhD, is a Professor in the Department of Psychiatry at the University of California, San Francisco. She studies how chronic stress can impact biological aging, including the telomere/telomerase system, and how mindfulness interventions may buffer stress effects and promote psychological and physiological thriving. She also studies food addiction and obesity.

Dr. Epel is a member of the National Academy of Medicine, a steering council member for the Mind & Life Institute, and the president-elect of the Academy of Behavioral Medicine Research. She is the coauthor of *The Telomere Effect: A Revolutionary Approach to Living Younger, Healthier, Longer*, a *New York Times* best seller that integrates the science of cell aging with practical daily tips.

Dr. Epel has won many awards for her research. Her work has been featured in various media outlets, including *The New York Times*, *The Wall Street Journal*, NPR, *TODAY*, *CBS This Morning*, *60 Minutes*, TEDMED, Wisdom 2.0, Health 2.0, and many science documentaries. In addition to doing research, she enjoys leading meditation retreats with her colleagues.

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## JESSICA GRAHAM

Jessica Graham is a spiritual and sexual activist, a meditation teacher, an author, a sex and intimacy guide, an actor, and a filmmaker. She is a contributing editor of the meditation blog *Deconstructing Yourself*, in which her popular series Mindful Sex appears. She cofounded The Eastside Mindfulness Collective, dedicated to exploring secular spirituality through mindful living and learning. She also created Wild Awakening to help people evolve psychospiritually through private sessions, workshops, and retreats. In her book *Good Sex: Getting Off without Checking Out*, she demonstrates that a deep spiritual life and an extraordinary sex life are not mutually exclusive. This keenly personal and unflinchingly frank guide helps readers apply mindfulness in sex without losing the fun and adventure.

Learn more at <http://yourwildawakening.com> and connect with her on Instagram: @jessicacarkgraham. ■



## DACHER KELTNER

Dacher Keltner, PhD, is a Professor of Psychology at the University of California, Berkeley, and the faculty director of the Greater Good Science Center. His research focuses on the biological and evolutionary origins of emotion—in particular, prosocial states, such as compassion, awe, love, and beauty—as well as power, social class, and inequality.

He is the author of *Born to Be Good: The Science of a Meaningful Life*; *The Compassionate Instinct: The Science of Human Goodness*; and *The Power Paradox: How We Gain and Lose Influence*. Dr. Keltner has published more than 200 scientific articles written for many media outlets and has consulted for the Center for Constitutional Rights (to help end solitary confinement), Google, Facebook, the Sierra Club, and Pixar's *Inside Out*.

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Dr. Nichols has authored more than 200 scientific papers, technical reports, book chapters, and popular publications. His national best seller—*Blue Mind: The Surprising Science That Shows How Being Near, In, On, or Under Water Can Make You Happier, Healthier, More Connected, and Better at What You Do*—has been translated into numerous languages and inspired a wave of media, new research, and practical applications across many fields, including water resources and management, health and wellness, and spirituality and mindfulness.

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## DANIEL J. SIEGEL

Daniel J. Siegel, MD, is a Clinical Professor of Psychiatry in the David Geffen School of Medicine at the University of California, Los Angeles, where he is also the founding codirector of the Mindful Awareness Research Center. In addition, he is the executive director of the Mindsight Institute, which focuses on the development of *mindsight*—our human capacity to perceive the mind of the self and others—in individuals, families, and communities.

Dr. Siegel has published extensively for both professional and lay audiences. He is the author or coauthor of five *New York Times* best sellers: *Aware: The Science and Practice of Presence*; *Mind: A Journey to the Heart of Being Human*; *Brainstorm: The Power and Purpose of the Teenage Brain*; *The Whole-Brain Child: 12 Revolutionary Strategies to Nurture Your Child's Developing Mind*; and *No-Drama Discipline: The Whole-Brain Way to Calm the Chaos and Nurture Your Child's Developing Mind*. His other books include *Mindsight: The New Science of Personal Transformation*; *The Mindful Brain: Reflection and Attunement in the Cultivation of Well-Being*; and *The Yes Brain: How to Cultivate Courage, Curiosity, and Resilience in Your Child*. Dr. Siegel also serves as the founding series editor for the Norton Professional Series on Interpersonal Neurobiology, which contains more than 70 textbooks.

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# MASTERS OF MINDFULNESS

## TRANSFORMING YOUR MIND AND BODY

In this course, Dr. Shauna Shapiro and 10 of her colleagues take you on a guided tour of the many ways mindfulness can help you reduce stress and pain, improve your health, increase your happiness, and find meaning in your life. You'll explore both the modern science and the ancient wisdom behind mindfulness, and you'll learn practical techniques to integrate this powerful tool for positive change into your daily routine.

Dr. Shapiro introduces the concept of mindfulness and shows how you can begin practicing it.

Dr. Rick Hanson teaches you to use mindfulness to strengthen your inner resources while making the most of positive experiences.

Author Kristine Carlson illustrates how mindfulness can help you rediscover your passion after shattering heartache and loss.

Mindfulness coach Juna Mustad teaches you to mine stigmatized emotions like anger for the hidden gems they contain.

Author and speaker Mike Robbins illustrates how organizations, leaders, and employees can bring compassion, authenticity, and effectiveness into the workplace.

Dr. Amishi Jha takes you on a deep dive into the neuroscience of attention and presents the mounting evidence that mindfulness training is an effective type of brain training.

By sharing her cutting-edge research on telomeres, which protect our chromosomes from deterioration, Dr. Elissa Epel explains how mindfulness techniques allow you to live younger, healthier, and longer.

Author and mindfulness teacher Jessica Graham reveals how mindfulness can revitalize your sex life and deepen communication with your partner.

Dr. Dacher Keltner explains how the emotion of awe defines us as human beings and teaches you how to cultivate your own experiences of awe to find new meaning in your life.

Dr. Wallace J. Nichols introduces you to blue mind, a revolution in environmental awareness and activism.

Finally, Dr. Dan Siegel takes you on a journey of personal transformation through what he calls mindfulness and the wheel of awareness.

Whether you're a beginner or a longtime practitioner of mindfulness, this course will deepen your understanding of mindfulness and help you integrate it at home and at work, in your relationships and your self-identity, and as you grow and evolve. ■



# WHAT YOU PRACTICE GROWS STRONGER

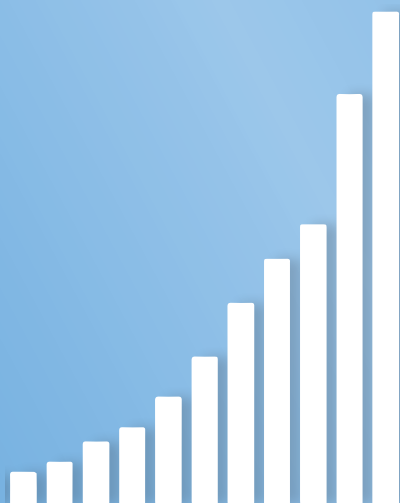
## LESSON 1

Mindfulness, the art of being present, has revolutionized the lives of millions. This course will empower you with scientific knowledge and teach you valuable skills to improve your life. This lesson covers some of the research that has been conducted on the practice of mindfulness and its benefits.



## BENEFITS OF MINDFULNESS

An explosion of research has demonstrated the beneficial effects of mindfulness. It strengthens our immune system, decreases stress, lowers cortisol, and improves our sleep. It also has significant cognitive effects, including increasing our focus, attention, memory, creativity, and innovation. Perhaps most importantly, mindfulness improves our ethical decision making, reduces our cultural bias, and increases our compassion. In our complex world, mindfulness is a powerful tool.



### COGNITIVE CAPACITY

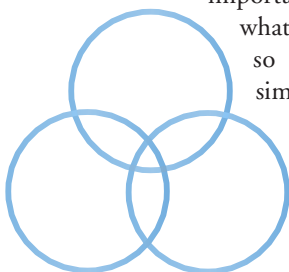
Focus & Attention  
Memory  
Productivity  
Creativity Innovation

### HEALTH BENEFITS

Stronger Immune System  
Decreased Stress  
Lower Cortisol  
Better Sleep

Mindfulness means to see clearly so we can respond effectively. The way we do this involves the synergistic co-arising of three core elements: intention, attention, and attitude.

**INTENTION** is simply knowing why you are paying attention and what's important. We forget so easily what's most important in life, so part of mindfulness is simply remembering what's most important to you.



**ATTITUDE** is the element that's most often overlooked, but it's an essential part of mindfulness. What you practice grows stronger: If you're meditating with judgment or frustration, you're just growing judgment or frustration. Mindfulness isn't just about paying attention; it's about paying attention with an attitude of kindness and curiosity. Yet this attitude of kindness is often so elusive for us. More often, we experience self-judgment, shame, and self-doubt.

**ATTENTION** is simply learning how to pay attention in the present moment. Have you noticed that your mind has wandered since the beginning of this lesson? Everyone's mind wanders. In fact, research from Harvard shows that the mind wanders on average 47 percent of the time. That equates to about half of our waking lives that we're missing—that we're not present for. Part of mindfulness is simply training our attention to stabilize in the present moment so we can see clearly and respond effectively.

## MINDFULNESS EXERCISE

Take a moment to let your eyes close and just connect with your intention. Why are you engaging on this journey of mindfulness? The reason could be to find greater ease, to reduce stress, to connect more with your children or grandchildren, or to improve your happiness. Whatever it is, just find what your intention is. Feel it in your body. Then, let your eyes open.

Physiologically, when we feel shame, the amygdala triggers a cascade of adrenaline and norepinephrine to flood our system, shutting down the learning centers of the brain and shuttling our resources to survival pathways. In other words, shame robs the brain of the energy it needs to do the work of changing.

Kindness, unlike shame, turns on the learning centers of the brain. It bathes our system with dopamine and gives us the resources we need to change. True and lasting transformation requires kind attention.



## THE SCIENCE OF THE POWER OF PRACTICE

We used to think that the brain was static and fixed—that it couldn't change. This is referred to as the doctrine of the unchanging brain. However, one of the most important discoveries in the past 400 years of brain science changed everything: neuroplasticity. We learned that the brain is malleable—that it *can* change.

### MINDFULNESS EXERCISE

We all have the capacity to change, so the question that really matters is this: What do you want to grow in your life?

Take a moment and just listen. What's most important to you? Try to soften your body five percent more and listen with your whole being, not with some mental idea of what you need to change in your life. What will uplift you? It could be more peace, more presence, more compassion, more joy. Find a word or phrase that feels true for you and let it seep into your body—into your cellular knowing. Then, as you're ready, take a deep breath in and let it out.



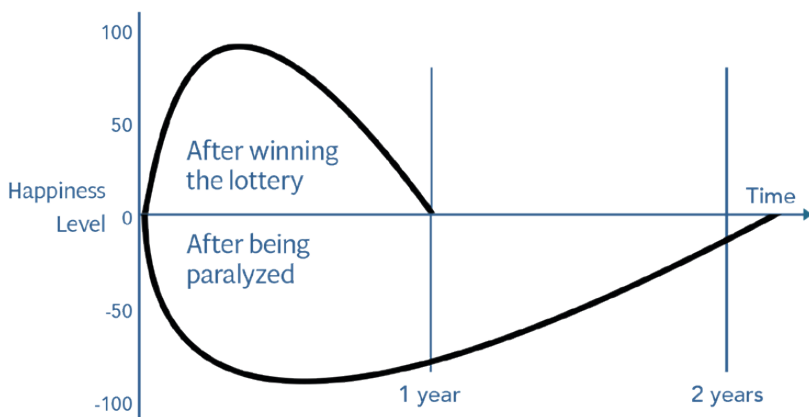
A very famous study of London taxi drivers found that the visuospatial mapping part of their brain grew bigger and stronger after practicing navigating the 25,000 streets of London all day. The same is true with meditation: When we practice, areas of the brain that have to do with creativity, attention, compassion, learning, and memory grow bigger and stronger. It's called cortical thickening—the growth of new neurons in response to repeated practice.

This means that all of us have the capacity to change. All of us can grow new neural pathways. We can even rewire our brain to be happier. This is very hopeful news.

Decades of psychological research have shown repeatedly that no matter what happens in our external life, we typically return to our baseline level of happiness. In psychological terms, we have a happiness set point.

Research has been conducted on people who won the lottery and people who were in a terrible accident and became paralyzed. Researchers discovered that when you win the lottery, you experience a blip of happiness, but then a year later you return to your baseline. Even more surprisingly, if you're in a terrible accident and become paralyzed, your happiness decreases, but then a few years later you return to your baseline.

## Happiness Baseline



This is great news if you're born happy: No matter what happens in your life, when you are knocked down, you pop back up. But this isn't such good news if you weren't born happy, because then no matter how great your wins are—no matter what successes you have—you always return to your baseline level of happiness.

This research shows that even though external changes won't shift your happiness level, internal changes can. According to neuroscientist Dr. Richard Davidson, "Happiness can be trained, because the very structure of our brain can be modified." In fact, anything can be trained, because the very structure of our brain can be modified.

Research by Dr. Sara Lazar at Harvard shows that mindfulness practice can grow areas of the brain associated with happiness, creativity, memory, emotional intelligence, and compassion. We can learn practices to rewire our brain and grow resources.



## MINDFULNESS EXERCISE

Take a moment and let everything you've learned in this lecture settle in. Let your eyes close and let the information become part of your cellular memory. Perhaps focus on one point that you want to encode into your long-term memory. It could be the lesson that what you practice grows stronger. It could be the idea of having an attitude of kindness. It could be that all of us have the capacity to change. When you're ready, take a deep breath in and out, letting your eyes open.





# ESSENTIAL THEMES OF MINDFULNESS

## LESSON 2

This lesson covers the essential themes of mindfulness and how to integrate them into your daily life.



## MINDFULNESS EXERCISE

Settle into a comfortable position. Allow your eyes to close and just focus on your intention. Why are you practicing? It could be to cultivate greater presence, attention, ease and relaxation, or compassion. Whatever it is for you in this moment, find a word or phrase that reminds you of what's important.

Then, when you're ready, begin to focus your attention in the present moment on your body. Feel your feet on the floor. Wiggle your toes. Become aware of both of your ankles, calves, and shins. Feel your knees and thighs. Feel your buttocks, your hips, your whole pelvic floor. Then, begin to draw your awareness up the spine. Feel your awareness move up the spine and spread out over the shoulder blades and shoulders, softening them. Let the awareness pour down both arms into the palms of your hands and let your awareness rest here. Try to feel the pulse of your heart in the palms of your hands. This energy is your aliveness.

Next, shift your attention into your stomach, softening it, and notice that you're breathing. Feel that practice as it naturally flows into the body and out of the body. Feel that natural rise of each inhale and that natural release of each exhale. Your body knows exactly what to do, oxygenating with each inhale and releasing any stress and toxins with each exhale.

Allow this awareness of the breath to move up into the chest, feeling the chest expand with each inhale and fall with each exhale. As you attend to your chest, try to sense or feel your heartbeat. Place one hand on your heart. Just like the breath, the heart knows exactly how to take care of you, sending oxygen and nutrients to all the trillions of cells in your body right now. And you don't have to do anything. Try to just rest and let the heart take care of you. When you're ready, put your hand back in your lap.

Continue moving your awareness up into the throat and face, softening your jaw and letting it rest. Soften the eyes in the forehead and temples. Tilt your chin down a tiny bit and let the back of the neck lengthen and open. Feel the back and sides and top of your head.

Then, just get a sense of your whole body resting here. Feel the front, right, left, and back of your body, focusing a little bit more of your attention into the back of your body and down. Try to soften five percent more and at the same time heighten your attention.

Invite in the attitude of kindness and curiosity. Be interested in what your experience is like right now. Can you bring five percent more kindness to yourself? Whatever you're feeling is okay; it's just what you're feeling right now. Mindfulness isn't about changing our experience. It's about relating to it differently—relating to whatever is here with kindness with curiosity. And if at any point the mind wanders, which it will, gently bring it back to this moment and to your breathing. The breath is a wonderful anchor to keep us in the present moment. Try to stay focused on one breath at a time, or maybe just half a breath. Inhale and then exhale.

As you practice, your pathways of presence and kindness are growing stronger. When you're ready, take a deeper breath in and out, letting some light come back in through the eyes and moving the body in any way that feels comfortable.



## COMMON QUESTIONS ABOUT MEDITATION

At the end of a meditation practice, many questions may arise. What follows are some of the most common ones.

*“I’m terrible at this. My mind wandered all the time. What can I do?”*

The mind wanders; it’s what it means to be human. Meditation is not about shutting down your thoughts or stopping your mind. It’s about noticing the mind wandering and bringing it back into the present moment without judgment—without condemning yourself and without feeling like you’re doing it wrong. You’re learning how to focus and stabilize the attention in the present moment, and every time it wanders off, you bring it back. That’s called shifting and switching attentional focus, and you’re cultivating that pathway.

*“Every time I meditate, I get so tired. Am I doing it wrong?”*

Generally, the reason you get so tired is because you’re tired. Mindfulness is about seeing clearly what’s true, and most of us are sleep deprived. So, when we actually sit to meditate, we start to notice how tired we are. Don’t worry about doing anything wrong when you notice the tiredness. Just try to bring some kindness and compassion to it. And if it really becomes difficult, try practicing mindfulness with your eyes open.

*“How do I handle physical or emotional pain? I’m sitting and practicing my mindfulness, and either a pain in my back or some sadness or anger or confusion arises. How do I bring my mindfulness to pain?”*

The first thing to do is simply to acknowledge that you’re in pain right now and to bring your curious attitude to the pain. Then, begin to really attend to it. For example, if you notice sadness arise in your meditation, ask yourself what sadness feels like. Do you feel a tightness in your throat or tingling or tears in your eyes? Can you bring this loving awareness to be with whatever is here?

*“How much meditation do I need to do to get the benefits?”*

This isn’t an exact science, but research shows that 12 minutes of meditation is the threshold where we start to see benefits, both physiologically and emotionally. But the more you practice, the more benefits you receive.

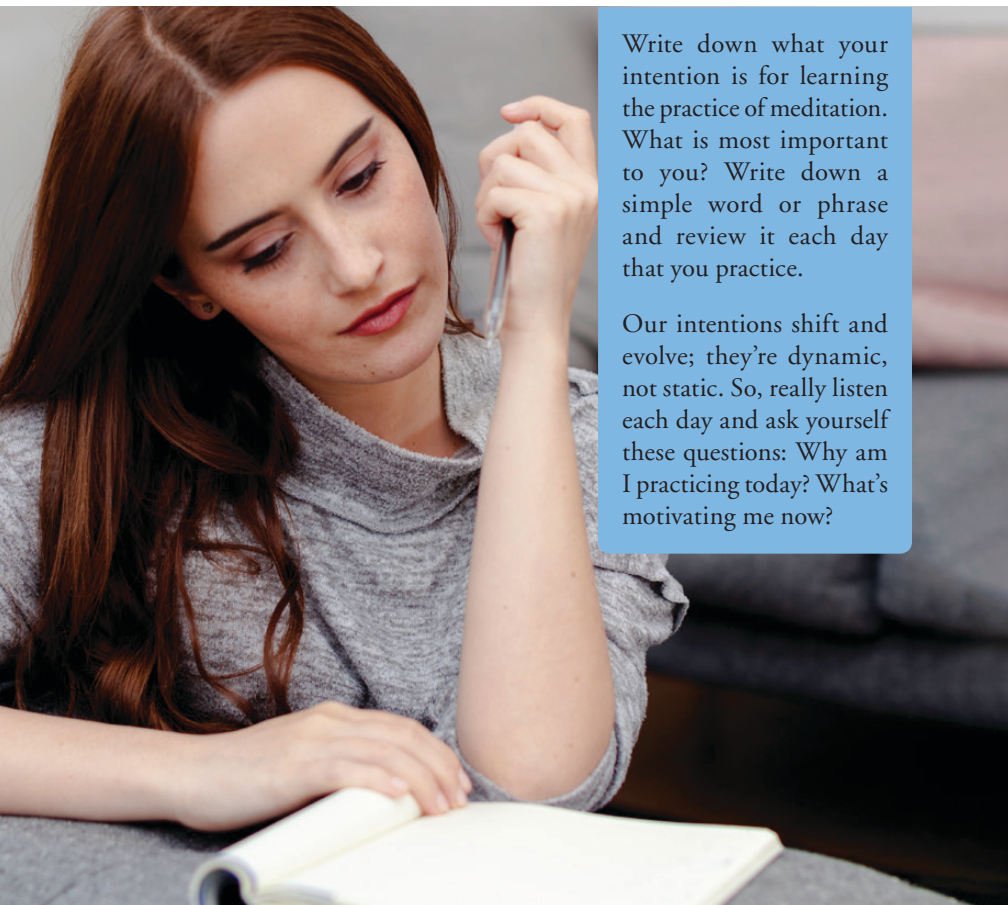
Meditation is just a way to practice mindfulness. Mindfulness—paying attention intentionally with an attitude of kindness and curiosity—can be practiced in every moment.



## HOW TO BEGIN A PRACTICE

There are three key steps to focus on when beginning a practice.

**Have a clear intention for why you're practicing.** You want to use your intention to motivate you to practice. You don't want meditation practice to be one more thing on your to-do list. You want it to be something that really inspires you and connects you with what you truly value.



Write down what your intention is for learning the practice of meditation. What is most important to you? Write down a simple word or phrase and review it each day that you practice.

Our intentions shift and evolve; they're dynamic, not static. So, really listen each day and ask yourself these questions: Why am I practicing today? What's motivating me now?

**Set extremely low goals.** Don't start out with "I'm going to practice one hour every day for the next 10 years." Start small and take gentle baby steps. Choose a commitment that you can actually follow through on. You want to be able to trust yourself and trust your word and your commitments. You can even start with just one minute a day to create the habit of practice; as you begin your practice, it's important to be consistent.

**Make your practice a routine part of your daily life.** You need to schedule meditation into your day, just like you would if you wanted to start exercising. It's important with mindfulness practice to find a time that you put into your calendar and a place to meditate. You might also find it helpful to meditate with a group or a friend; like a running buddy, you can have a meditation buddy.


**Be kind.** Don't think about meditating "correctly" or perfectly. Think about taking baby steps—about having five percent more mindfulness. A small change can have a big impact. As you begin your mindfulness practice, invite a curious attitude, knowing that it's not about doing it right. It's not a self-improvement project; it's not about beating yourself up. Meditation is really about self-liberation. It's about having greater degrees of freedom, joy, ease, compassion, and clarity in your life.

## THEMES OF MINDFULNESS

There are several specific themes of mindfulness that are essential.

**Slowing down.** Often in life we are in autopilot mode as we're rushing around doing things and moving from one thing to another. Mindfulness invites us to slow down so that we can stay connected to our true values and deepest compassion.

**Acceptance.** This is not about passive resignation, tolerating social injustice, or wrongs that need to be righted. Acceptance means that we acknowledge what's happening in the present moment—not because we like it, but because it's already happening.



Meditation teacher Shinzen Young says that suffering equals pain times resistance.

From the mindfulness perspective, pain is a part of life. But suffering is optional. And suffering has to do with how much we resist and fight against the pain.

If you have a small headache—maybe five units of pain—but resist it—with maybe 100 units of resistance—thinking about how terrible and painful it is and how it’s going to affect your performance at work, then you have 500 units of suffering. That’s a lot of suffering over a small headache.

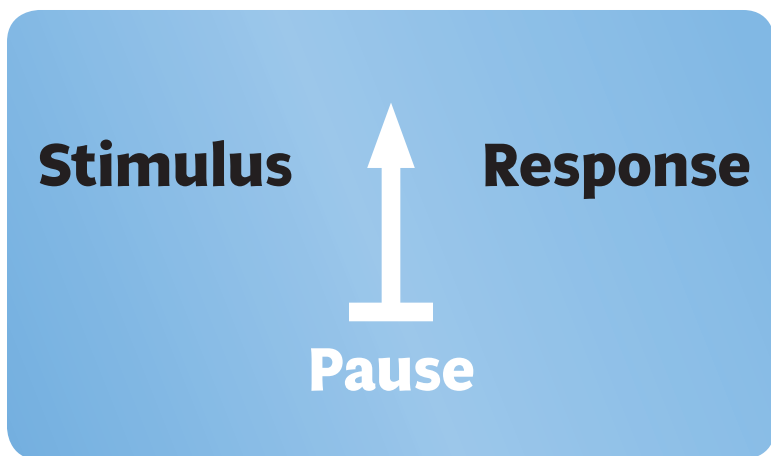
Now imagine that you have the same five units of headache but don’t resist it. You notice it with your mindful awareness and your kind attention. You feel some throbbing; there is more tingling on the right side than the left side. In that case, you have zero resistance and five units of pain. Five times zero is zero suffering.



**Response flexibility.** This is the capacity to respond with agility and grace to what’s happening instead of automatically reacting. Typically, when something stressful or unexpected occurs in our life, the amygdala hijack happens. This is when the amygdala gets triggered and releases stress hormones so that we can’t think clearly and we automatically react. Mindfulness allows a pause between the stimulus and response, and into that space we can see clearly and then respond effectively. Mindfulness allows us to get out of the autopilot mode of doing and actually rest into a mode of being—where there’s infinite possibility and potential. We have choices and can make changes.

**Suspending judgment.** Mindfulness offers an attitude of kindness and curiosity and invites us to hold off on judgment. It doesn’t mean that we don’t see clearly or with discernment—judgment is different. Mindfulness is about suspending judgment of right and wrong and allows us to see a situation more clearly so that we can respond with our natural wisdom and compassion.

**Self-kindness.** This seems to be one of the most elusive aspects of mindfulness. Kindness is what allows us to transform. Kindness turns on the learning centers of the brain. It gives us the resources we need to face difficulty in life and make change.



## MINDFULNESS EXERCISE

Let your eyes close and put your hand on your heart. Take a moment to feel that kind touch, where you're bringing your own kindness to yourself.

It's okay to feel whatever you're feeling right now. For some people, this feels really soothing and good, and for other people, it can be challenging to bring kindness to themselves. Use your mindful awareness to welcome whatever you're feeling. Feel your breath. Invite in five percent more kindness and compassion for yourself. Notice how this feels. Soften the body five percent more.

You are practicing the pathway of self-kindness. Notice if you have thoughts about doing this "right" and just let them go. You are doing it right—simply practicing your kind attention.

When you're ready, take a deep breath in and out. Let your eyes open and move your body in any way that feels good.

# USING MINDFULNESS TO GROW INNER RESOURCES

## LESSON 3

This lesson is about how to use mindfulness to grow inner resources—such as resilience, motivation, determination, confidence, self-worth, compassion, and happiness—using the power of positive neuroplasticity, which is the fundamental capacity of the nervous system to be changed for the better.



## THE VALUE OF INNER RESOURCES

Routinely used in health care and psychology, the diathesis-stress model explains mental disorders as the interaction between genetics and stressors. According to this model, the course of a person's life is the result of three factors: challenges, vulnerabilities, and resources.

As challenges and vulnerabilities grow, we need to increase resources as well. The world, the body, and the mind are important places to look for resources. Some fundamental inner resources are as follows.

**Mindfulness.** This is foundational for growing the rest of the resources, because if we're not mindful of our situations, we won't know which resources to develop. We need to sustain mindfulness to help our experiences leave lasting traces as durable changes in neural structure or function.

**Character virtues.** This includes know-how—knowing to lean into an interaction and when to lean back; knowing how to get something done; knowing how to deal with your own thoughts and feelings; and knowing skills of various kinds. This also includes certain motivations and positive intentions as well as values, aims, and dreams that are wholesome and useful.

**Positive emotions.** Happiness is itself a fundamental psychological resource. Research shows that happiness—an authentic happiness, not a fake-it-till-you-make-it happiness—is very helpful for dealing with difficult conditions in life.



**Compassion** and **love** for other people.

**Patience**, **determination**, and **grit** from inside yourself.

The harder a person's life—the more challenges a person has—the less the outer world is helping and the more important it is for that person to develop inner resources.

## ENGAGING THE MIND

The methods for engaging the mind fall into three basic categories.

**Be with what is there.** Feel the feelings. Experience the experiences. And do so usefully. Step back from the movie that is your life. Even if it looks horrible, still experience whatever there is to experience. Sometimes it's helpful to investigate what is underneath the surface of an experience, such as the hurt that often lies beneath anger. As you discover what's there, don't make deliberate efforts in your mind to nudge it one way or another. This way of relating to the mind is fundamental, even though it's often the last resort.

**Decrease the negative.** Prevent, release, or reduce what is negative, painful, or harmful for ourselves and other people. For example, you might let go of tension in your body, vent feelings, or listen to some of the thoughts that make you crazy or make other people crazy and disengage from them. Let them go. Instead, you might release, decrease, or even abandon problematic desires. These are natural and important forms of letting go.

**Increase the positive.** Encourage, protect, or create what is positive or beneficial for ourselves and other people. Let in. Grow inner fortitude, strength, determination, skillfulness, and compassion and empathy for others.



All three of these methods work together. For example, to simply be with the mind, it's necessary to grow resources inside so that we can tolerate what we're being with. We need to develop resources such as steadiness of mind, or distress tolerance, which entails being able to manage feelings without being flooded by them.

Mindfulness has to be present in all three ways to engage the mind. There's a misunderstanding that mindfulness means only a passive witnessing of the stream of consciousness, such that any form of wise effort with the mind is somehow in conflict with mindfulness. Mindfulness has to be present as we have opportunities for gratitude, awe, or self-compassion so that we can incorporate these experiences into our inner selves.

As the focus has emerged in positive psychology on character strengths and other forms of resourcing oneself, there has been a lot of attention on identifying and using key resources inside yourself. But what about developing them in the first place? Where do they come from, and how can we get more of them?

If we're going to develop any change that lasts, it requires some kind of physical change in the body, particularly in the nervous system, whose headquarters is the brain. In other words, if we are going to change, we have to engage the brain.

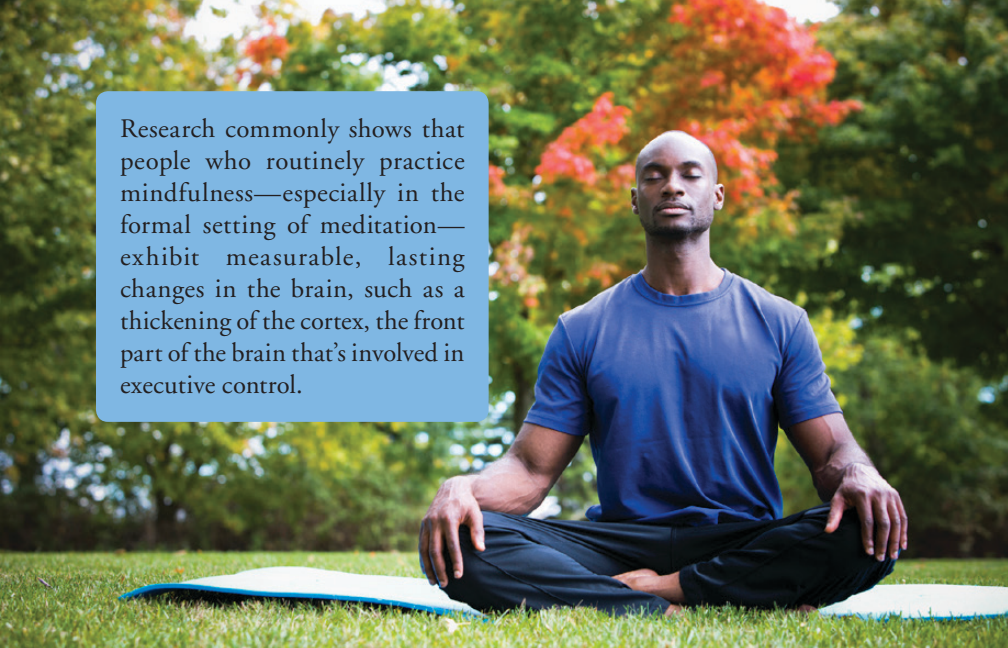
Roughly a third of the variation in human inner resources is based on innate, heritable factors. The other two-thirds is acquired through motional, somatic, and motivational learning—which is fundamentally hopeful.

## CHANGING THE BRAIN FOR THE BETTER

There is great evidence that mental practices of various kinds, such as mindfulness training, produce lasting benefits in human beings psychologically, presumably via some kind of change in the brain.

Studies of nonhuman animals have repeatedly shown—down to the cellular and even molecular level—that the experiences they are having lead to lasting physical changes in their brains.

Research commonly shows that people who routinely practice mindfulness—especially in the formal setting of meditation—exhibit measurable, lasting changes in the brain, such as a thickening of the cortex, the front part of the brain that’s involved in executive control.

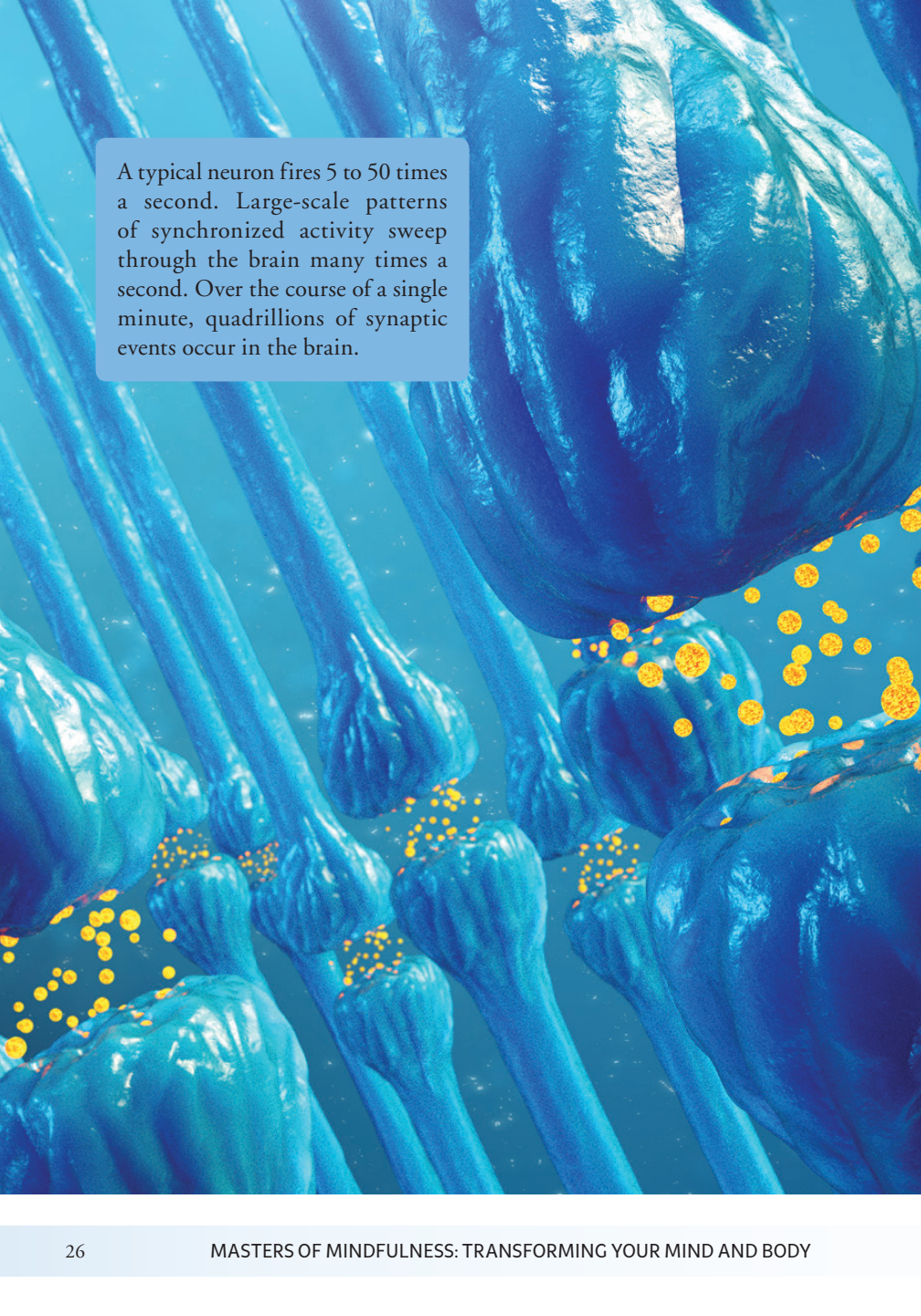


There is some evidence that psychological practices, such as meditation, mindfulness training, and other forms of psychological interventions, can change people’s brains. But because neuroscience is in its infancy and our technology is still quite rudimentary, the evidence here is partial.

There is only a small amount of evidence scattered among various kinds of studies that there are deliberate internal learning factors—such as extending the duration of an experience or focusing on what is personally meaningful about it—that can produce a lasting change in the brain. But the absence of evidence is not evidence of absence, and more research is needed.

The brain is considered by scientists to be the most complex physical object currently known to humankind. The brain contains roughly 1.1 trillion cells, about 100 billion of which are neurons. A typical neuron makes several thousand connections—called synapses—with other neurons, giving us an internal network of several hundred trillion neurons.

We have about as many neurons in our brain as there are stars in the Milky Way Galaxy.



A typical neuron fires 5 to 50 times a second. Large-scale patterns of synchronized activity sweep through the brain many times a second. Over the course of a single minute, quadrillions of synaptic events occur in the brain.



How can we help this amazing organ be as effective as possible to help us deal with life and grow resources we can draw on? This is the fundamental process of what neuroscientist Jeffrey Schwartz calls self-directed neuroplasticity. How can the brain change for the better? And in the process, how can we become happier, stronger, wiser, and more loving?

The neuropsychology of learning—including emotional, somatic, social, attitudinal, motivational, and spiritual learning—has two necessary and sufficient stages.

The first stage is to have the experience, such as an experience of mindfulness, gratitude, or self-worth. There's a little bit of learning that occurs through unconscious processes, but most of the processes of helping ourselves heal, grow, and strengthen occurs through conscious experiences.

But for there to be any kind of lasting change for the better, by definition there must be a physical change as a result. Otherwise, the experience might be pleasant and useful in the moment, but it is a passing moment that leaves no lasting value.

This two-stage process of change is simplified in a saying from the work of Canadian psychologist Donald Hebb: “Neurons that fire together wire together.”

There are a variety of mechanisms of experience-dependent neuroplasticity, which is neuroplasticity that depends on the experiences we have. These mechanisms include the following:

Existing synapses can become stronger or weaker.

New connections between neurons can form.

Changes in neurochemicals inside the brain, such as dopamine or serotonin, can produce lasting changes.

The expression of genes inside neurons can cause changes.

Experientially, this translates to the notion that if we want to become more compassionate, we need to experience compassion and then internalize it. If we want to be more mindful, we need to have experiences of mindfulness that we receive and that sink in, leading to increased trait mindfulness over time. Similarly, if we want to be more determined—more committed to exercise or to social justice—we need to have experiences of determination or related factors that are internalized in the second stage.

But experiencing doesn't equal learning. Experiences in the moment can be useful and enjoyable, but most experiences that people have leave no lasting traces behind.

## THE NEGATIVITY BIAS

Over the 600-million-year evolutionary time scale of the human nervous system, it was really important for our ancestors to do two things: get “carrots,” such as food or mating opportunities, but avoid “sticks,” such as predators, natural hazards, or aggression.

Both carrots and sticks are important, but there's a fundamental difference: In the wild, if you fail to get a carrot today, then you probably have a chance to win tomorrow. But if you fail to avoid that stick today, then there are no more carrots for you forever.

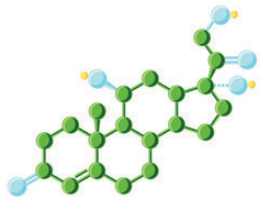
As a result, we have a brain that's hardwired to do five things.

**Scan for bad news in the world, in the body, and in the mind.**

**Overfocus on it.**

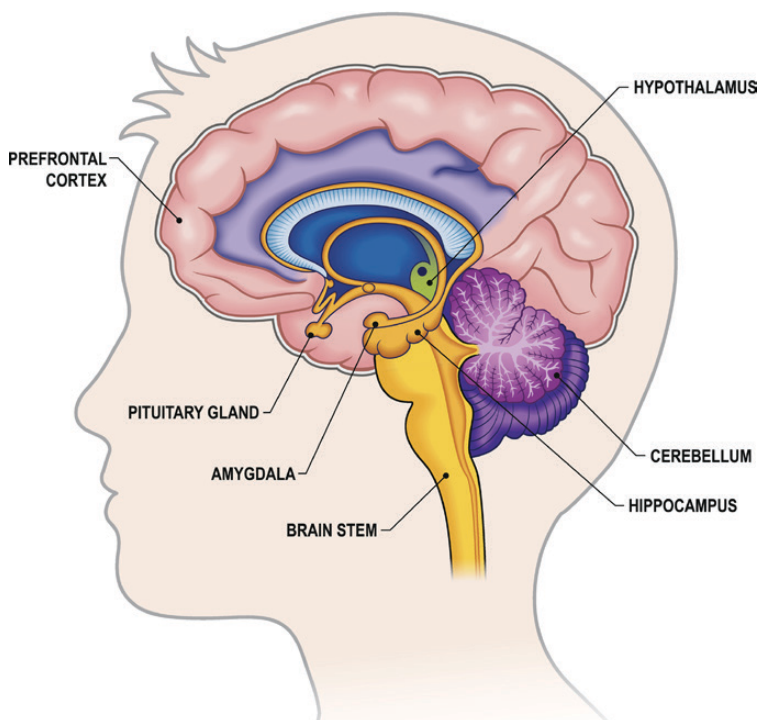
People react more to pain than to pleasure. Research has shown that people react more to losing something than to gaining the same thing. In relationships, people are much more affected by negative experiences with other people than they are by positive ones.

## Overreact to it.



Cortisol  
 $C_{21}H_{30}O_5$

The hormone cortisol is released in stressful situations. When it's released, it goes to the brain, where it sensitizes the alarm bell of the brain, the amygdala. Cortisol overstimulates and eventually kills neurons and then gradually weakens a nearby part of the brain called the hippocampus, which puts things in context, inhibits the amygdala, and signals the hypothalamus (another nearby part of the brain) that there are enough stress hormones and that no more are needed.



**Turn it quickly into memory.**

**Sensitize the brain to the negative.**

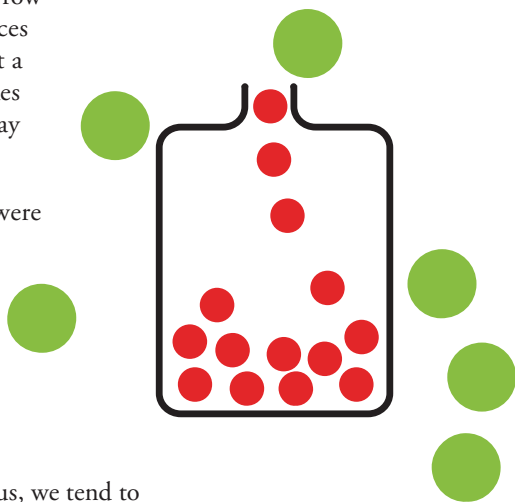
As we have emotionally positive experiences, our field of awareness and perception tends to widen. On the other hand, as we become more anxious, irritated, or frustrated, our attention tends to narrow.

This creates a vicious cycle. As we sensitize the alarm bell and weaken the regulation of it, we become just a little more vulnerable to stress tomorrow based on the stressful experiences we have today. This releases just a little more cortisol, which makes us even more vulnerable the day after—and so on.

These hardwired tendencies were useful for our ancestors living in the wild, but today they create a lot of unnecessary suffering—including unnecessary worry, self-criticism, and conflict with others—under most conditions.

As the negativity bias wears on us, we tend to get involved in vicious cycles with other people. As we become more negative ourselves, the world tends to treat us more negatively, which confirms our expectations, and so on.

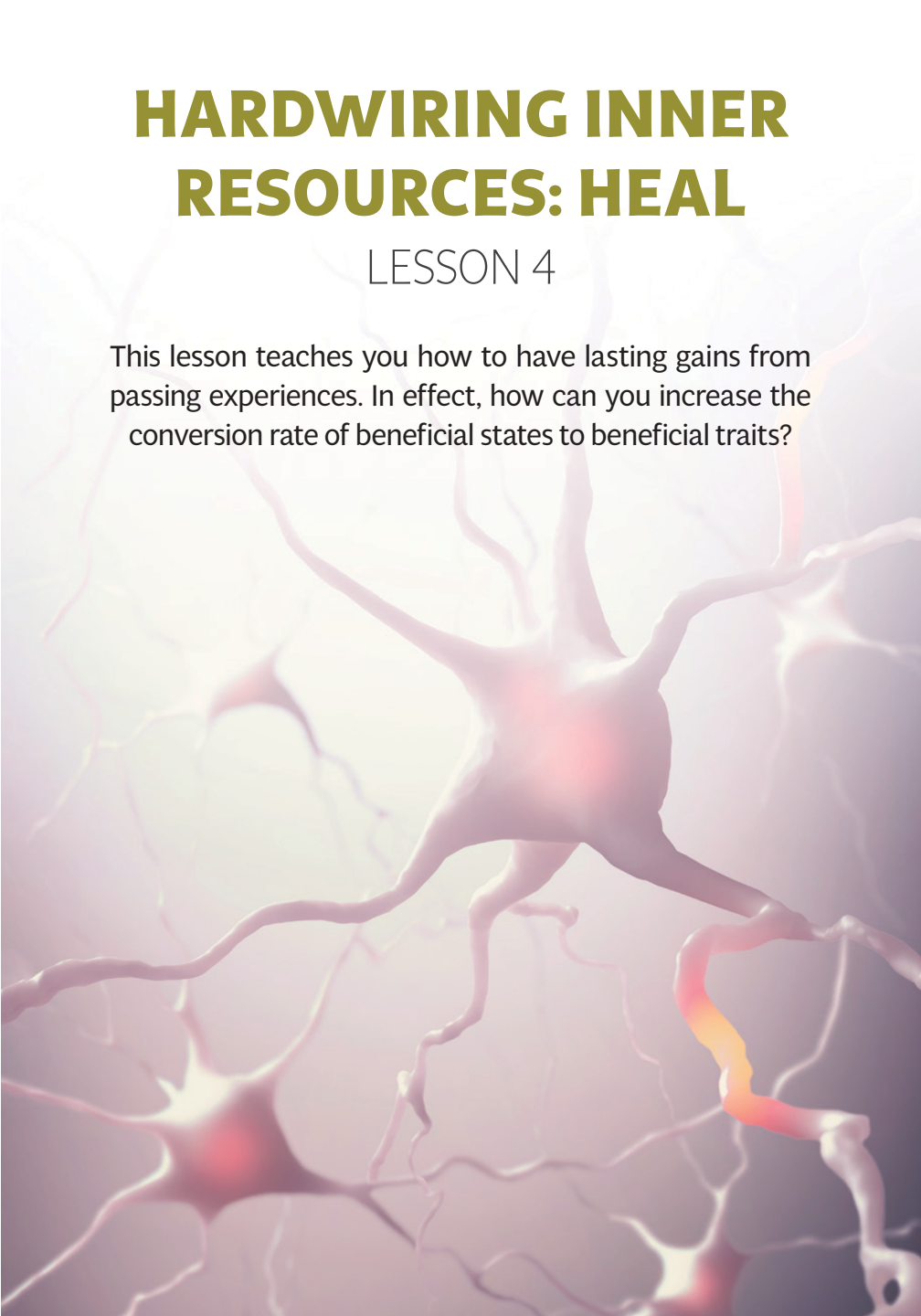
In effect, the negativity bias is like a bottleneck in the brain. It allows negative experiences to go right in, fast-tracked for storage and usage later. Meanwhile, most of our beneficial experiences bounce off the bottle. That's why it's so important to help ourselves get the benefits from key experiences we want to internalize.



# **HARDWIRING INNER RESOURCES: HEAL**

## LESSON 4

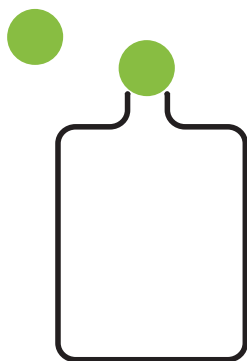
This lesson teaches you how to have lasting gains from passing experiences. In effect, how can you increase the conversion rate of beneficial states to beneficial traits?



## HEAL

The framework known as HEAL speaks to the fundamental process of self-directed neuroplasticity, including the two necessary and sufficient stages in this process.

**Have a beneficial experience.** Usually, this is an experience we're already having—such as a sense of accomplishment or a moment of connection with another person—and all we need to do is notice it and then take it into ourselves. The other way to have a beneficial experience is to deliberately create one, such as calling up things we're thankful for to help ourselves have an experience of gratitude. Research has shown that the capacity to self-generate or self-activate useful thoughts, states of being, sensations in the body, emotions, intentions, and desires is fundamental to coping and to everyday resilience.

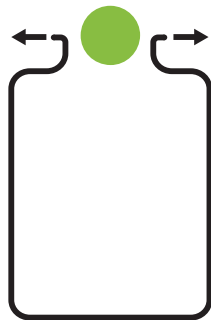


*Once we have a beneficial experience, how can we internalize it?*

Internalization has two fundamentally distinct aspects, subjectively and objectively: enriching and absorbing. Subjectively, the enriching aspect is a sense of the experience being big, intense, and lasting in the mind. Absorbing subjectively feels like really receiving it into oneself and giving over to it experientially. Objectively, enriching is a matter of a sustained, intense, pervading pattern of neural activation. Absorbing objectively is a matter of sensitizing, priming, and making more efficient the memory-making machinery of the nervous system.



**Enrich the experience.** Enriching is a matter of popping open the bottleneck in the brain to help the good experiences—which can be metaphorically described as balls—come in. There are five different ways you can help yourself enrich your experiences so that the installation of them in your nervous system is increased.



**Duration.** Keep those neurons firing together so they have a chance to wire together.

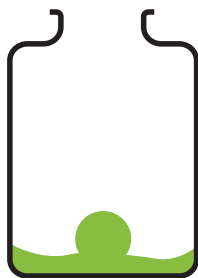
**Intensity.** Intensify the experience. Help it pervade your mind, even if it's a purely subtle experience, such as awe or tranquility. Sometimes gratitude can feel fairly subtle, but if it's all that fills your mind, it's effectively intense.

**Multimodality.** Help the experience be multisensory, or multimodal, bringing to bear thoughts, feelings, sensations, intentions, actions, and desires. The richer the experience, the more it's enriched.

**Novelty.** The brain is a big novelty detector. As our ancestors moved around in the wild, they needed to know what new thing they had to pay attention to. If we bring a sense of childlike interest or curiosity to the experiences we're having, then that will naturally intensify them in terms of their internalization.

**Salience.** Focus on what's relevant or meaningful to you in the experience you're having. The brain is designed to learn from the experiences that the animal—in this case, a human being—considers to be relevant. Focusing on the personal relevance of an experience will really help it land.

**Absorb the experience.** It's as if the experience, or ball, has moved to the bottleneck of the brain and is now coming in, sinking, and staying put. There are three ways you can help an experience be absorbed—in other words, ways you can sensitize and turbocharge the memory-making machinery of the brain.



**Intend to receive the experience into yourself.** For many people, this is a critical first step because there's something that makes them uncomfortable about actually sustaining an experience of gratitude or of feeling close to or affectionate with another person. We can be with our beneficial experiences, and we can intend to receive them in ways that are private and, in the process, grow strengths inside for dealing with challenges.

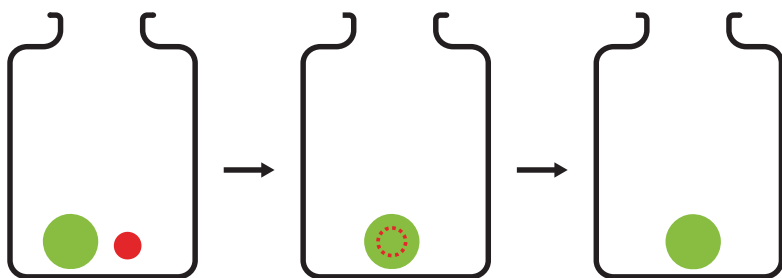
**Sense the experience sinking into you.** This tends to engage a part of the brain on the inside of the temporal lobes called the insula, which is involved in interoception (the sense that includes gut feelings) and with the sense of who we are becoming. Engaging the insula tends to increase the memory and neural traces that are left behind.

**Be aware of ways the experience is rewarding.** This tends to increase the activity of dopamine and norepinephrine, two important neurotransmitter systems that are involved with the tracking of reward. As dopamine and norepinephrine activity increases in the hippocampus—which is the front end of the internalization of beneficial experiences—that flags the experience we're having at the time as a keeper and prioritizes it for protection during processes of long-term storage.

**Link positive and negative material.** Linking is the process in which we are aware of something beneficial—something positive—alongside some matched negative material. For example, we could be aware of a worry while simultaneously drawing our attention to the resources we have to deal with that issue, such as allies who will help or a sense of calm strength. And because neurons that fire

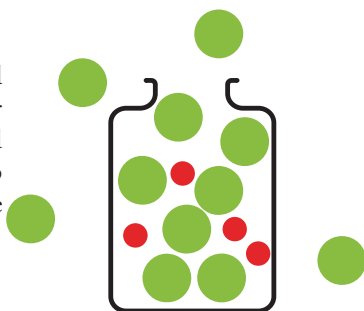


together wire together, through association—especially if the positive experience is stronger—the positive experience will gradually ease, calm, bring wisdom to, contextualize, and even eventually replace the negative material. Linking is natural and routine, and we can do it deliberately and effectively in the flow of everyday life. One of the most powerful ways to do this is to know what the negative material is that you're grappling with, such as a generally anxious mood or the residues of childhood feelings of inadequacy. If you know what the negative material is, then everyday life gives you many opportunities to be mindful of ways in which you could have beneficial experiences that are usefully matched to that negative material.



Most beneficial experiences are enjoyable. Occasionally, there are beneficial experiences that are unpleasant or painful, such as healthy remorse. It's unpleasant, but it's important to take in. And some pleasant experiences are not so good for us, such as that first rush of anger or eating too many cookies.

To summarize all of this in four direct and simple words: Have it, enjoy it. In other words, have the beneficial experience and then enjoy it—receive it into yourself. Help the beneficial experience enter into the bottleneck and stay in the bottle.



## MINDFULNESS EXERCISES

The following are three different ways to take in the good and engage the HEAL framework, focusing on the first three steps (the linking step is optional).

### NOTICING RELAXING AS YOU EXHALE

Notice the fact that as you exhale, you naturally relax. This is because as you exhale, part of the nervous system—the parasympathetic wing of the autonomic nervous system—engages exhalation and naturally slows the rate of your heart beating. On the other hand, when you inhale, the sympathetic wing of the nervous system gets involved, accelerating the rate of your heart beating.

Start foregrounding an awareness, meaning start noticing what's already happening in the back of your awareness: that as you exhale, you slow down and naturally relax.

Naturally extend the length of your exhalation to give you more opportunities to be aware of the relaxation that comes with it. As you start to have an experience of relaxing, move into installing this experience in your nervous system by enriching and absorbing it.

Stay with the feeling of relaxing and bring awareness to it in your body as you relax. Here, the sense of relaxing is being used as the object of attention upon which you are meditating.

You can also have a sense of absorbing, often mixed with enriching. You can explore the sense of the relaxation spreading in your body, making room for it. And you can be aware of what feels good and is rewarding about it as you focus on absorbing relaxation into yourself.

## CREATING GRATITUDE/GLADNESS

Bring to mind one or more things that you naturally and easily feel thankful for. This could be other people. It could be simple, such as thankfulness for chocolate, or vast, such as thankfulness for life altogether. As you start to recognize things to be thankful for, help that recognition become an experience of gratitude, perhaps along with other related experiences, such as gladness or happiness.

Then, as you start to have an experience of gratitude, move into enriching and absorbing it so it can increase its likelihood of leaving a lasting trace behind.

With regard to enriching the experience of gratitude, keep it going. Try to get a sense in your own body of what it's like to be grateful. Stay with it. And if you want, you can be aware of how gratitude is relevant to you or why it's important to you. This, too, is a factor of enriching.

You can also absorb this experience with the sense of giving over to it, letting it land in you and sinking into gratitude as it sinks into you. You might have a sense of this experience landing inside you to help you develop an attitude of gratitude—in other words, to establish more trait gratitude inside you.



## CREATING WARM FEELINGS FOR SOMEONE

Bring to mind one or more beings that you care about, such as a pet, friend, partner, child, or group of friends. As you bring them to mind, help the knowing of them become an experience of warm caring—perhaps compassion, kindness, friendliness, or love. Help yourself create an experience of warm feelings for someone.

Then, as you start to have some sense of warmth and caring, move into installation and internalize this experience.

You can enrich this experience through multimodality, which means to have it be more experiential with an action, such as putting your hand on your heart or getting a sense of what happens in your face as you bring to mind someone you care about. This involves taking warm feelings as your object of meditation—in effect, marinating in a warmth like caring or lovingness.

You can also absorb this experience into yourself, letting it really spread inside and letting yourself have it.

As you do this, other thoughts might arise or your mind might wander. This is normal. Sometimes the opposite feeling arises, such as not feeling so caring or so cared about. That's okay, too. Just come back to placing your attention on the primary experience you're wanting to take in—in this case, warm feelings for someone. You can also be aware of what feels good about warmheartedness, which will help the experience sink in even more.



## **BENEFITS OF ENGAGING POSITIVE NEUROPLASTICITY**

Several benefits are available to us when we engage positive neuroplasticity in a deliberate way.

Inside, we grow particular resources, such as relaxation and calm, trait gratitude, or trait warmheartedness, and related qualities, such as compassion, kindness, or loyalty to other people. We can also grow specific resources that are particularly matched to the issues that we have. For example, if we tend toward anxiety, we can deliberately grow resources such as calm strength.

Built into this process are implicit benefits. For example, there's some mindfulness training. In meditative language, it's a kind of mini concentration practice in which we sustain attention to something useful to draw it into ourselves. In addition, implicit in taking in the good is a sense of being on your own side, or trying to help yourself.

You could be sensitizing your brain to the positive. In effect, if the brain has a negativity bias, we can gradually potentially train it into more of a positivity bias. By sensitizing the brain to the positive, it becomes faster, more efficient, and better at turning passing beneficial states into lasting beneficial traits.

As we grow resources inside ourselves, we often become more effective and capable in the world and with other people. The world starts treating us better, doors start opening, and we start seeing opportunities. Positive cycles with others can develop as well.

# MINDFULNESS IN HEARTBREAK

## LESSON 5

People face hardship, heartbreak, and loss for many different reasons and in many different ways. Can you prepare for a loss? Yes, you can prepare—in the way you practice life. Understanding and practicing mindfulness will not only help you in your everyday life, but it will help you immensely as you heal from heartbreak of all kinds.



## **MINDFULNESS EXERCISE: A GOLDEN PAUSE**

Begin by sitting comfortably. If you're sitting in a chair, make sure your legs are uncrossed. If you're sitting on the floor, lean back against something, keeping your shoulders back and arms on your lap with palms open.

Close your eyes and breathe through your nose, allowing your chest and belly to fully expand and taking in the fullness of your breath. As you exhale, relax. Sink into your body; sink into your breath.

The next time you breathe in, breathe in pure, golden sunlight from the top of your head to the tips of your fingers and toes—to every cell of your being. And as you exhale, relax and sink a little deeper into your body.

Then, as you breathe in pure, golden sunlight again, place your hand on your heart, activating and opening it. Spend the moment thinking of one thing you feel incredibly grateful for. It could be a person, place, or thing, such as something somebody recently said to you. Breathe in that gratitude, filling your whole being with it. Then, exhale and open your eyes.

## **FIVE PRINCIPLES OF AWARENESS**

There are five principles of mental health and well-being that are the foundation of the *Don't Sweat the Small Stuff* book series, which has impacted millions of people around the globe. These principles of awareness teach us how to practice accessing our mental health and well-being in all situations—including during heartbreak and loss.

There is no doubt that we are going to endure both physical and emotional pain in life, but suffering is optional. It's in your mental reactions and emotions and your ability to return to a gentle and loving awareness of them that will help you recover from loss in a healthy way. Once you understand these principles, you'll free yourself from the mental dynamics that can keep you stuck and suffering.

The five principles of awareness are thoughts, moods, feelings, your agreement with reality, and present moment living.

**Thoughts.** There are two important things to understand about thoughts. First, thinking is automatic to you. Think of your thinking as being as automatic to you as breathing; we have 60,000 to 80,000 thoughts a day, and we are not really aware of many of them. Second, you are the thinker. You're just making up thoughts in your own head all day. They're coming from you, not from outside of you. You are your own thinker. Also be aware that we have repetitive thought patterns—sometimes called thought attacks—which are characterized by getting on a cycle of circular thinking that is difficult to stop.

**Moods.** We all have moods—specifically high moods and low moods. Life looks different in a low mood versus a high mood. In a low mood, everything could be annoying. The same thing your spouse or partner says to you that doesn't even hit your radar when you're in a high mood might really bother you in a low mood. It behooves you, in all of your relationships, to consider what kind of mood the other person is in as well as what kind of mood you are in. The ideal is to become graceful when low and grateful when high.

**Feelings.** We all have feelings, but often we can't have feelings before we think a thought. Most of the time, you can ask yourself, what am I thinking right now? And in this way, feelings become a guidepost and a barometer to helping you understand and become more aware of your thoughts, which can be invisible to you.

**Agreement with reality.** We all have separate realities. We all view the world through our own lens, our own unique filter. And every experience we have affects our filter. Along with this comes the notion of what kind of agreement with reality you have. You can choose to be the victim of your circumstances or the victor over your circumstances—the hero of your own story. And you can choose to change your agreement with reality at any time.



**Present moment living.** This is the highest level of awareness and engagement that you can have in your life. Research shows that people are most engaged in their lives while they're having sex, because they're not likely to be concerned about anything else in that moment. People are also highly engaged in dangerous situations; you might notice life slowing down, which is what happens when you're super present. Present moment living is the safest place to land as you're going through any kind of heartbreak or loss. This is because as you think about your past, you might dwell on your regrets, and as you think about your future, you might experience fear, but when you land in the center—in the moment—you don't have anything filling you up in the present and your awareness is what is right now.

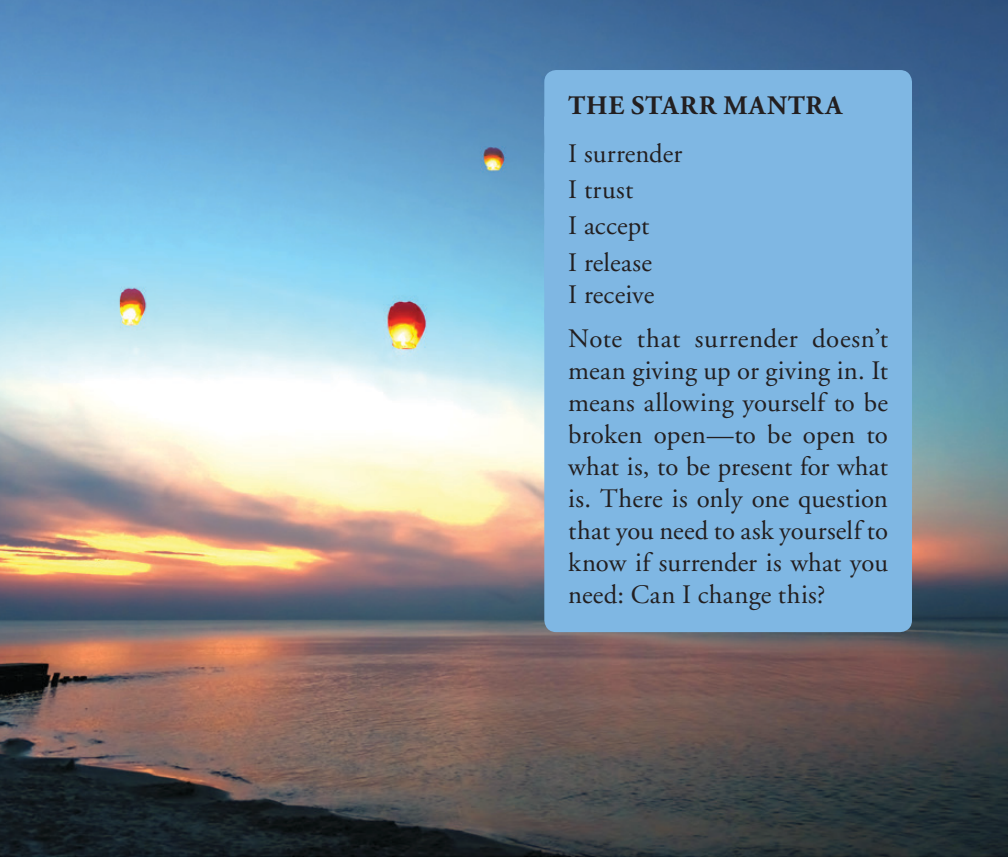
## PREPARING FOR GRIEF

Life can change on a dime. And sometimes it does. The event that causes life to change is called the initiation by crisis event. In Joseph Campbell's work *The Hero's Journey*, he talks about the initiation section of the hero's journey, in which the hero eventually faces a crisis event that shatters the hero's world, causing the hero to head on a new trajectory in life.

We can always tell when we're experiencing an initiation by crisis event because it represents a loss of identity. This can come in many different forms and in different times in our lives. The event could be the loss of a loved one through death or divorce or the loss of your health. And in this loss of identity, you can either shut down and become bitter, or you can be heartbroken open—waking up to feeling more alive.

Often grief comes over us like a wave. But these waves come and go. And if you resist, you will feel it in your body. And your body will begin to inform you when you need to grieve more deeply. If you allow your body to feel whatever is present, then whatever you need will come. Just express out what's there, and then your body will reward you with feeling good.

In times of grief, what you need is crystal clear if you take the time to reflect on it.



## THE STARR MANTRA

I surrender

I trust

I accept

I release

I receive

Note that surrender doesn't mean giving up or giving in. It means allowing yourself to be broken open—to be open to what is, to be present for what is. There is only one question that you need to ask yourself to know if surrender is what you need: Can I change this?

It's okay for you to design this time of grief however you need it to be, not how anybody else wants you to have it. The world will tell you to stay busy when you're going through grief. Instead, consider this a time for you to create time for stillness and spaciousness—a time to heal and to weed out anything you don't need to do. Spend time just sitting in silence when you can.

Supreme self-care is very important when you're going through heartbreak and loss of all kinds. Think of the ways in which you can care for yourself that will be gentle and nurturing. Consider spending more time in nature, taking long baths, spending time with good friends, or spending time on your own. But most importantly, be gentle with yourself. Be self-compassionate.

Don't numb out. Don't use any substance or do anything to feel numb, because your grief is not going to go anywhere. It's going to land in your body until you feel it to heal it.

## **MINDFULNESS EXERCISE: SURRENDER AND TRUST**

Wherever you are, sit comfortably. You can also lay on the floor in a spread-eagle position with your palms upright.

Close your eyes and breathe in through your nose, allowing your chest and belly to expand, taking in the fullness of your breath. As you exhale, allow yourself to relax and sink into your chair or into the floor.

Where do you feel tension in your body? If you're experiencing loss or heartbreak, this becomes a very important question. Your body will tell you through your symptoms. What do you need to do to move that energy out? You might feel your stomach hurt if you're not crying enough. Whatever your symptom is, it's telling you that you're not feeling your feelings deep enough. You're not expressing them outwardly.

As you start to identify where there is tension in your body, breathe and let yourself shake and move. Wiggle your legs and move your arms. Try to shake a sound or a tear loose. Try to let go of what you're holding onto and let your tears come if they come. Let them empty out of you. Let them carve out a place in you for more joy and peace to come in. Sometimes joy isn't present when going through a loss, but peace can be.

As you make this part of your process of surrender and trust, you'll notice that it becomes less and less scary and that you feel more and more peace.

Notice how you feel afterward. Most likely, you're going to feel much better after you go through this process. And you'll rinse and repeat several times—maybe even several times a day. Do it as often as you need in order to empty out all of the emotions and feelings you have. Feel to heal.

# EMBRACING CHANGE AND CHOOSING GROWTH

## LESSON 6

Healing is all about embracing the journey ahead. When you're going through heartbreak and loss, you are standing on fertile ground for your growth. But your journey depends on what kind of agreement with reality you have. Could you see this as a time of richness in your life, a time when your soul is calling you to grow? This understanding of your agreement with reality is your pivot into growth and healing.



## HELPING OTHERS IN LOSS

Transformation means that life is not perfect, but everyone can transform. Yet it can be messy.

Probably the easiest way to help ourselves is to help somebody else. We all need the support of the right people—those who can hold us without fixing us and who can see our brokenness as temporary.

Mindfulness can be helpful as you decide you want to help others in loss. And this is how you can be mindful as you help others:

You can think in terms of holding space with empty presence. This means you listen with an emptiness inside, where you're holding the person. You need to provide a container for the person, a safe place for him or her to land so that he or she can talk with you, cry with you, and be with you.

You can't possibly know exactly what somebody is feeling when he or she is feeling it, and you don't know where somebody is in his or her grief. That's why the best strategy in this situation is fewer words and more love.

It's important to allow people to experience their grief—to allow them to cry when they need to cry, to be angry when they need to be angry, to feel all of the emotions that come with heartbreak and loss. You don't need to fix the person; there's nothing to fix.



The beauty of *kintsugi*, the ancient Japanese art of repairing pottery with gold, is that a thing is more beautiful in its character after it's been broken and repaired—not hiding its cracks and imperfections but instead highlighting how beautiful the object has become by filling the imperfections with gold. This represents the alchemy of change.

In the same way, our character can heal and grow, and we can become more beautiful in our loss, too.



## EMBRACING CHANGE AND CHOOSING GROWTH

The largest pivot you'll make is understanding that life is happening for you. Even this loss—even this thing that has shattered your life—is happening for you. And you might lever back and forth between all kinds of feelings, such as anger, sadness, or self-pity. And you might feel victimized by what's happened and ask yourself, *Why did this happen to me?*

At this point, you can shift and change your agreement with reality. When you can shift from asking yourself, *Why did this happen to me?* to *Why did this happen for me?*, that's when your agreement with reality has shifted from being a victim of your circumstances to being the hero of your own story.

There is a profound gift that you're going to receive in this shift: a message in the mess. The circumstances of your life don't make or break you, but they do reveal who you are. We don't always get to choose the circumstances we are in, but we do get to choose how we think and how we move forward.

You have begun to accept what is when you can ask and answer, What's the message in the mess? At this point, you have made a pivot toward true growth and transformation, and you are on your way to embracing this change.

Our relationship to our experience is important. When our thoughts converge with our agreement with reality, we create a story. And it's the stories that we tell ourselves about our experiences that matter most. This is supported by the fact that two people can have the same circumstances and tell completely different stories. They have separate realities; they're viewing the world through their own lenses. Our lens is the story that we tell ourselves about what happens to us, and we can create a new story if we want.

*From Heartbreak to Wholeness: The Hero's Journey to Joy* uses a soul mantra, a soul inquiry, and journaling to show you how to go inward, because it is in the questions you ask yourself that you will receive answers.

A soul mantra becomes a guidepost—something to put your attention on. There is also an intention in the mantra: “I surrender, trust, and accept. I feel to heal.”

A soul inquiry follows the soul mantra. You do a meditation to put yourself in a grounded, aware state and open to your own inquiry. Then, you ask the questions. You then journal the answers, uncensored; just allow yourself to journal. Your soul inquiry could be, What's the message in the mess?

## **MOVING FORWARD AND LEANING IN**

Embracing the unknown with gentleness and self-compassion is the result of practicing “surrender, trust, and accept” as a mantra for living and healing. But first, you have to address your fears. It's normal to feel fear during change. Few people automatically embrace huge life change immediately; most people must address their fears first.

You can think of your fear as a hoop of fire in front of you. Your hoop of fire is created by your ego, which screams in the loss of identity you're going through. Your ego wants to put fear in front of you because it's saying that it's not safe to go beyond and into your authentic self, your true nature, your highest expression of who you are.

In this way, you can view emotional fear as a guide. If you start to think of your fears as just something to move through, lean into, and be your guide, you'll start to feel almost excited when you feel that sense of fear. You won't be scared anymore, because that feeling is telling you that you're out of your comfort zone. This is a good thing, because it means you're stretching yourself.

Your greatest fear might be being alone. But you don't have to be alone in loss. You can lean into loving again after heartbreak—or not. This is your choice.

Many people will immediately try to fill the gaping hole of loss of any kind with something else. Instead, think of filling that hole with nothing but the present moment. Spend some time with yourself and in reflection.

If we don't address our fears, they can create a barrier that can put us in a place of waiting, which can stop our healing. We feel stuck and in a place of not here, not there.

When you've leaned into your fears and healed, one question can be your guide to a new dream. Something new may emerge from you as you open. Your adventure begins and you get to choose to have a great love affair with your life. This one question is, What is your deepest desire and passion? Follow that.

In the STARR mantra, the other side of "release" and letting go is "receive." It's rebirthing a new life and a new dream. There is a time when you feel better. And it's different for everyone. There's no real timeline.

You don't know when you're going to suddenly be out of deep grief and feel better. But once you have accepted the change—when you have released a lot of emotions and feelings—you receive this new life. And there's a delightful sense of awareness that comes in this awakened heart state that you have well earned. You feel so much more alive. You are awake to life.



The profound awakening you feel in the present moment allows you to deepen your engagement with life. You are living much more presently than you ever have. And that's what loss or heartbreak can teach us: It can bring us into mindfulness, into the present moment, and the result is seeing the ordinary as extraordinary.



## RECOVERY, REDISCOVERY, AND DISCOVERY

As you heal and begin to see that a new life is coming, this is a great opportunity to discover who you are now. Your identity is shattered, but you can take a look back to see where you left behind aspects, passions, and self-expression to live the life you've lived. An identity "crisis" can be an opportunity to reclaim and rediscover those passions or innate qualities that have lain dormant in your career, or your relationship—or whatever you've identified with so strongly that has overshadowed something else that has kept you from feeling whole.

What you have lost actually helps you discover what you value presently and see the world through a new agreement with reality—a new lens.

Who are you after this career, or this breakup, or this loss?

What did you leave behind in the past to live the life you've lived? Your dream shattered; now is the time to dream again.

Look to your passion. What excites you? What excites you ignites you.

What gives your life meaning now?

Perhaps the greatest adventure of all is living in and open to the mystery of the unknown and allowing it to unfold. Being present is the key that puts you in the flow.

# A MINDFUL APPROACH TO ANGER

## LESSON 7

This lesson explores a mindful approach to anger and the importance of taking time to get to know your own darkness—your own shadowy stuff—which includes uncomfortable emotions, such as anger. When you can generate compassion for yourself and your own darkness, then you are better suited to be with other people in their shadow. This is a form of compassion; it's how you tend to those you love.



## EXPLORING ANGER

Anger is one of the most stigmatized emotions. It gets a bad rap in society, in large part because of the things that are connected to it, such as violence and aggression. So, there's good reason that it gets a bad rap. But because of this, we have not taken the time to truly get to know anger—to create a relationship with it.

Anger inevitably arises because we're human and we have boundaries, and sometimes we don't hold them well or sometimes other people trespass them. When anger does arise, we go in one of two main directions: We express our anger in an unhealthy way, so we get overidentified with our anger and fuse with it; or we try to suppress, bypass, or morph our anger into more convenient or comfortable emotions, such as sadness and depression.

When we can come into a healthy relationship with our anger, we can really mine the wisdom it has to offer us and come more into our power and take appropriate action. And mindfulness is the most important tool to support us in creating this balanced, healthy relationship with anger.

When anger arises, we usually express it unhealthily by fusing with it and overidentifying with it. Essentially, we let anger drive the car. Or we want to get rid of it, so we stuff it in the trunk. This point can be illustrated by this metaphor: Anger is like a child. You don't want to let it drive the car, but you certainly don't want to stuff it in the trunk either.



When anger comes up, you can use this metaphor to slow things down and ask yourself a few questions: Who's driving the car right now? Is my anger driving the car, or am I driving the car? Am I stuffing my anger in the trunk? You want your anger to be in the passenger seat or back seat with you.

## STEREOTYPES OF ANGER

There are some stereotypes about anger that can influence how we view this emotion. When we think of anger, some of the things that we tend to think of are that it's ugly, bad, wrong, unenlightened, primitive, and perhaps even unfeminine. We get some of these stereotypes from our families and in school as well as from religion, society, and the media.

Have you ever asked someone, "Are you angry right now?" only to have him or her respond, "No, I'm not angry; I'm just a little annoyed"? This can actually be considered "anger light." Words like "annoyed," "irritated," "frustrated," and "irked" are all anger; they are just lighter versions of anger. But sometimes it can feel a little easier or more comfortable to use those words. There's also "anger heavy," which encompasses words like "enraged," "aggressive," "hateful," and "hostile."



## MEDITATION EXERCISE: DEEPENING YOUR RELATIONSHIP WITH ANGER

Get in a comfortable seated position. Start by taking some slow, deep breaths throughout your whole body, feeling your feet on the floor and your seat bones making contact with your chair or cushion. Come into the present moment.

When you're ready, close your eyes. Notice the sounds in the space around you.

Notice what arises in your body—what sensations bubble up—and where they are arising in your body when you consider the word “anger.” Try to hold all that's happening with compassion and nonjudgment. Take some deep, slow breaths, just noticing what is here. Notice what's bubbling up inside of you, even if it's nothing.

Notice what arises when you consider the sentence “I feel angry.” Take some deep breaths throughout your whole body, just noticing what is here.

Next, you're going to say these statements, either out loud or to yourself. And as you say them, notice what is here—what arises. Say “anger.” Notice what happens inside your body. Take some deep, slow breaths, relaxing your shoulders.

Next, say “I feel angry.” Notice what's here and see if you can say it with a little bit of force. Use mindfulness—compassionate nonjudgmental awareness—to notice what is happening.

For the final piece of this exercise, really come into your body, pressing your feet into the ground, feeling your seat bones in your chair or cushion, breathing through the whole length of your body, and letting your breath really massage your insides. Then, imagine that the essence of anger is standing in front of you. This isn't the stereotypical version of anger; this is the core of what anger truly is.

Take some deep breaths, noticing how anger shows up for you. Try to not judge how it's showing itself to you. Hold all of it with an open mind, breathing and staying curious.

Then, imagine that you can talk to your anger and ask some questions. And imagine that your anger can speak to you.

“Anger, what are you?” Be open to anything it wants to share with you. It might be in the form of words, images, or feelings. Just open into what arises, continuing to breathe.

“What is the one thing you most want me to know right now?”

Take some final deep breaths through your body, wiggling your toes and pressing your feet into the ground. When you're ready, open your eyes.

Take some time to journal about some of the things you discovered by doing this exercise and reflect on your experience, considering the following questions:

When you considered the word “anger” and the sentence “I feel angry,” what arose for you? What sensations did you notice in your body? Where were they? Were you able to stay with yourself?

When you said “anger” and “I feel angry,” what arose for you? Where did you feel your anger? Or was it difficult to stay with yourself in that? Was it difficult not to judge your experience?

When you met your anger, what did it look like? What did it tell you that it was? What did it say to you that it most wanted you to know?

Part of creating a relationship with anger is taking the time to get to know it, and this is what you're doing in this journaling exercise.



## THE ESSENCE OF ANGER

Anger is protection of self, other, or what we care for most. Anger is our boundaries. Anger is also our unclaimed power; it's our right to be here, have a voice, and take a stand for the things we care for most.

It's not about getting rid of our anger; instead, it's about creating more of a relationship with this emotion by understanding it, getting to know it, and learning to sit with it, even the discomfort of it. When we do that, we support the growth of our joy, our love, and our heart.



In Karla MacLaren's book *The Language of Emotions*, she says that anger is "a mix between a stalwart castle sentry and an ancient sage. Anger sets your boundaries by walking the perimeter of your soul and keeping an eye on you, the people around you, and your environment. If your boundaries are broken (by the insensitivity of others or in any other way), anger comes forward to restore your sense of strength and separateness. The questions for anger are: 'What must be protected?' and 'What must be restored?'"

These two questions are helpful ways to slow us down and allow us to come into contact with the anger that's in the present moment so that we can mine the gems of wisdom it might have to offer us.

## THE GIFTS OF ANGER

We often think of anger as something that is bad and that needs to be gotten rid of, but there are many gifts that anger can offer us, even though sometimes it can be difficult to see these gifts.

Anger can illuminate our boundaries, our authentic no, and our unclaimed power.

Anger can inspire us into action and to take a stand for what we care for most.

Anger can be thought of as "destroy for love." We love our freedom and our joy so much that anger can inspire us to end, eliminate, or destroy something that's no longer good for us, such as a relationship or a job.

Tara Brach calls anger "discriminating wisdom." Anger helps us see clearly—to know that something is a little off and that we should listen to it. There is a wisdom in anger.

Karla McLaren says that anger is the "healing of trauma." The inner roar of anger has this ability to thaw us out of the freeze, or the dissociated state that we're in as a result of trauma. When our psyche feels us fiercely taking a stand for ourselves, anger helps us come home more fully into our bodies.

## **MEDITATION EXERCISE: REFLECTING ON YOUR RELATIONSHIP WITH ANGER**

In your journal, answer the following questions about anger to reflect on your relationship with it. In this way, you can create a deeper understanding of your history with anger and even your current experience of anger.

What experiences (from childhood and beyond) have shaped and informed your current view of anger?

How would you describe your current relationship with anger? What do you do (or not do) when you feel angry? When others feel angry?

What is the scariest thing about creating a deeper relationship with your anger?

Describe your ideal relationship with anger. What would it look like to have a healthy relationship with this emotion? How might this impact your relationships, health, and work?

# GETTING TO KNOW YOUR ANGER

## LESSON 8

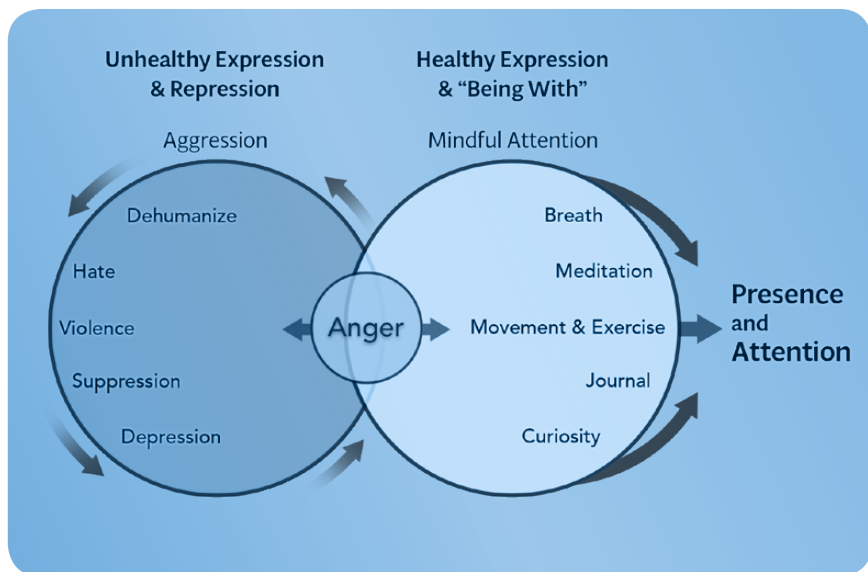
This lesson further explores anger, with a focus on the neuroscience of anger and how mindfulness can help.



## CHANNELING YOUR ANGER

There is the pure emotion of anger, and then there are all the things we do with our anger. These are not the same thing. Anger and aggression are not the same thing. Hate and violence are also not the same as anger. When anger arises, we choose to channel it into avenues that are not anger. But anger itself is often conflated with all the things we do with it because it has the strongest impetus to act out of all the emotions, so anger is seen as violence or rage or hate.

When anger arises, we can choose unhealthy ways of relating to it: expressing it in an unhealthy way or suppressing it. We can express anger in an unhealthy way by channeling it into aggression, bullying, hate, or violence. We can suppress this emotion by just sitting on it, stuffing it under the rug, or morphing it to more convenient emotions, such as sadness and depression. When we go in the direction of these unhealthy aspects, we tend to recycle the emotion of anger. We don't support ourselves in moving all the way through the emotion, so it tends to linger.



When anger arises, we can choose to deal with it in a healthier way by expressing it in a healthy way or by just being with it. We can mindfully attend to it. We can pause, take a deep breath, and meditate with it; go on a walk with it; journal about it; get in our car (or other safe space) and let ourselves speak or yell or move some of the energy; or get curious with it and ask some questions. When you are with your anger in these healthy ways, you support the emotion in moving all the way through you. Then, you can come back into a greater presence with yourself. This supports you in taking appropriate action for the situation you're facing.

Research has shown that emotions tend to not last longer than about 90 seconds if we don't feed them with our thoughts.



## THE NEUROSCIENCE OF ANGER

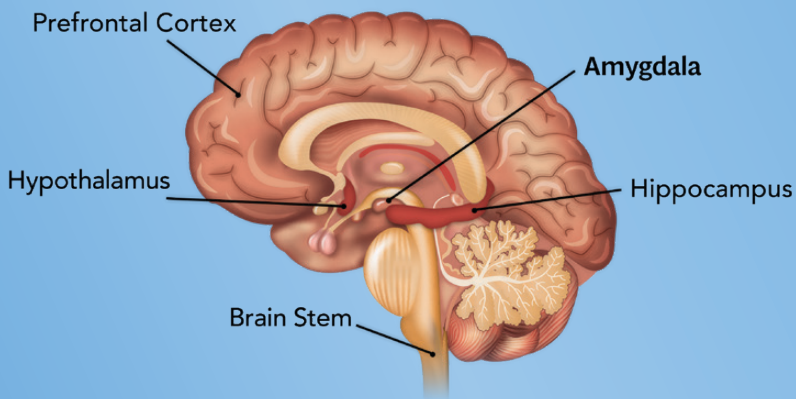
The human brain is often called the triune brain because it's broken up into three main parts:

The **cortex** is the thinking, aware part of the brain. It's flexible in its ability to respond. It's also the reflective part of the brain; it can self-reflect. The prefrontal cortex is the wise part of the brain that can rationally assess what's going on in a particular moment.

The **subcortical** region is the older part of the brain. It's more reactive. It's the source of emotions. It acts quickly and can also act on autopilot to ensure our survival. The limbic part of the brain is where the amygdala, hypothalamus, and hippocampus are housed.

The **brain stem** controls our basic bodily functions.

The limbic part and subcortical region of our brain is constantly scanning our environment, looking for threats. When it detects a threat, the amygdala, which sits in the command center of the brain, sets off the alarm bells.



The amygdala judges whether the threat is something that we can fight and win or not. If it judges that we can fight this threat and have a chance of winning, it will engage the fight response. If, on the other hand, it judges that we will probably not win this fight, it will engage either the flight response so that we can get away or the freeze response.

If the amygdala determines that the threat is a worthy opponent to fight, it then signals its neighbor the hypothalamus, which triggers a release of chemicals throughout the body. Cortisol, adrenaline, and norepinephrine flood the body, engaging us and readying us for the fight response. The heart rate increases, and blood from other areas of the body is diverted to the muscles to prepare for a fight.

There are some challenges associated with this threat response system. When it is activated, we flip our lid, losing contact with our prefrontal cortex—the wise, aware part of the brain that can rationally assess what is going on. The prefrontal cortex determines whether a situation is appropriate to fight or to flee, or whether there is a different way we can respond to it. This is why it's difficult to think rationally and see clearly when you're activated in anger.

Another challenge with this system is that it doesn't adequately differentiate between different kinds of threats. If a tiger is chasing us, that will certainly engage the fight-or-flight response, but what could also engage this response is receiving a snarky email from a coworker.

## **THE BENEFITS OF MINDFULNESS**

Mindfulness can support us in having a deeper connection with the prefrontal cortex in those moments when the threat response system is engaged. Mindfulness practices have been shown to grow the regulatory fibers from the prefrontal cortex to the lower structures of the brain, such as the limbic region and the amygdala.

In essence, practicing mindfulness—slowing down, generating compassion and curiosity, and taking deep breaths—strengthens our ability to get our prefrontal cortex back online once the limbic region of our brain and the amygdala have hijacked us.

There are specific mindfulness tools that help us reconnect with the prefrontal cortex, even in the heat and fire of our own anger. We can apply the tools of mindfulness to our anger or experience when anger arises in a six-step process:

**Be self-aware.** Daniel Goleman, author of *Emotional Intelligence*, says that one of the first aspects of emotional intelligence is self-awareness—knowing ourselves better, watching what’s going on, and noticing what’s arising.

**Slow things down using the breath.** Research has shown that taking deep breaths during an anger episode, when the threat response system is activated, not only helps us come more into the body, but also helps us activate the prefrontal cortex.

**Label your experience.** Research has shown that affect labeling works to engage the prefrontal cortex. This simply involves saying, “I feel angry right now”; “I’m noticing sensations of tension in my stomach, shoulders, and neck”; or “I’m noticing heat rise through my body.” This supports you in coming back more fully to yourself and less in the story of what’s happening.

**Generate compassion.** It’s difficult to channel anger into aggression or violence when you are connected to your heart, so place your hand on your heart and try to feel some compassion for yourself, for the experience that you’re imagining, or even for the other person involved.

**Be curious and inquire.** Ask your anger some questions to get to know it a little deeper and to mine its gems of wisdom. What is your anger trying to communicate with you?

**Take action.** Anger doesn’t just want us to see clearly; it wants us to take action and make changes. Sometimes this can be the most challenging part of the process, but it’s very important.

The mindfulness exercise that follows applies these mindfulness tools.



## **MINDFULNESS EXERCISE: MINDFUL ANGER**

Get in a comfortable seated position. When you're ready, close your eyes. Take some slow, deep breaths down the length of your spine, relaxing your jaw and shoulders and feeling yourself melting into your chair a little more.

Call to mind an experience from your past where you felt angry—for example, a challenging situation with a partner or when someone cut you in line at the grocery store. If feeling anger is a challenge for you, you can call to mind a situation where you should have felt angry.

Imagine that this experience is on a movie screen in front of you. Rewind this experience all the way to the beginning, before the anger started to come up for you. Then, play this experience in slow motion as you continue to breathe. Notice what sensations are arising within your body. How can you hold or tend to these sensations with nonjudgment and compassion? Notice what feels familiar here. Anger is rising up. What does it feel like? How can you maintain curiosity as you're noticing your anger rise?

Take some slow, deep breaths. As you're watching the situation play out, use your breath to soothe your whole body and to help you be in your body in the present moment.

Practice labeling your experience with kindness. How can you say what you're experiencing? "I'm feeling angry right now." "I'm noticing some sensations of tension in my shoulders and my jaw." Play with naming what these sensations feel like. "They feel prickly." "They feel tight and knotted."

When you're ready, place a hand on your heart to generate some compassion for yourself. Maybe you reacted in this situation from the past by saying or doing hurtful things. Or maybe the other person or other party did. Take a deep breath into your chest and feel your own heart. Making contact with your heart is one of the most powerful ways of not letting your anger morph

into hate or aggression, or other hurtful things. Breathe through your whole body, feeling your feet on the ground and rolling your shoulders while still seeing the situation play out in front of you.

Ask your anger some questions, being open to anything that arises—even if it's nothing—and holding all of it without judgment.

What does my anger most want me to know about this situation?

From my past, what does this situation remind me of?

What most needs to be protected or restored here? What action do I need to take?

Take some deep breaths, pressing your feet into the ground and wiggling your toes and fingers.

Before you open your eyes, take a moment to appreciate yourself for being willing to do this exercise—for having the courage to get to know anger and generate some compassion and gain some clarity for this situation from your past. Take a moment to say thank you to yourself for doing this work. It's not easy.

When you're ready, open your eyes, letting the light in. Stretch if you need to.

After completing this exercise, journal on some of the things that you noticed. What arose for you during this practice? Which of the mindfulness tools were the hardest? Which were the easiest? Then, play with answering the questions you asked your anger during the exercise, taking time to journal what arose for you.

Even if this is a situation from your past and it's too late to take action, open to seeing whatever that was. Maybe you can still take action. Open to that awareness.

# MINDFULNESS AT WORK: THE POWER OF AUTHENTICITY

## LESSON 9

This lesson is about the importance of authenticity: honesty without self-righteousness and with vulnerability. Being authentic takes courage, but when we are authentic, not only does it liberate us, but it gives other people permission to be authentic, too. It's also one of the most important aspects of being mindful and effective at work.



## AUTHENTICITY

There is a misconception of what authenticity means. When people think about authenticity, they often think of honesty, or transparency, or directness, or originality instead. Instead, think of authenticity as a continuum ranging from phony to authentic, with honest in the middle.

### The Authenticity Continuum

Phony

Honest

Authentic

While it is easy for us to notice when other people, especially coworkers, are being phony or inauthentic, a better observation—particularly from a mindfulness perspective—is to consider where, when, why, or with whom we find ourselves being inauthentic. It's important to pay attention to this side of the continuum so that we can become self-aware, even self-compassionate, and start moving along the continuum in a more authentic direction.

Being honest is halfway down the continuum because while it is good to be honest, it can be tricky. We can be honest about something and it causes a problem, such as upsetting or offending someone. As a result, most of us have learned different ways to massage the truth so that we're being honest, but only mostly honest or honest in a politically correct way. This is often how we operate in the world, particularly in our professional lives. But it takes an enormous amount of energy and effort to remember how honest we can be with each individual.

Authenticity is where real freedom and power lies. To get there, we not only have to have the courage to be honest, but we also have to remove self-righteousness from our honesty and add vulnerability to it.

### The Authenticity Equation:


Honesty - Self-Righteousness + Vulnerability = Authenticity

## SELF-RIGHTEOUSNESS

Generally, when we're self-righteous about something, we think that we're right and someone else is wrong. This causes separation and disconnection.

From a mindfulness perspective, there's an important distinction between self-righteousness and conviction. With self-righteousness, you think that you're right and another person is wrong.

But with conviction, you believe something to be true and are willing to speak up about it, perhaps even debate about it, but you have enough humility and self-awareness to realize a few things: that you might be wrong or that there might be other ways to look at the issue.



Being mindful at work is about being willing and courageous enough to show up and be who we are—authentic and real.

## VULNERABILITY

Dr. Brené Brown, who has been studying vulnerability for more than a decade, defines it as emotional exposure, risk, and uncertainty.

There is almost nothing that is meaningful or important that we accomplish or experience in life, personally or professionally, that does not involve emotional exposure, risk, or uncertainty. But at the same time, when we are emotionally exposed, taking a risk, or uncertain in a situation or relationship, we're usually not very comfortable. But it's necessary. And the more we can lean into the discomfort of vulnerability, the better.

Two important things about vulnerability are that it's the key driver in human trust and connection and that it's the birthplace of innovation, change, and creativity—anything new and different. We have to be willing to be vulnerable. And that takes real courage, especially in a professional setting.

### **MINDFULNESS EXERCISE: IF YOU REALLY KNEW ME**

This exercise is based on the simple but powerful metaphor of the iceberg. All we can see of an iceberg is the tip above the surface of the water, but the vast majority of the iceberg is below the waterline. That's like how we are in life, but particularly at work. We let our professional side pop up above the surface, but how we really think and feel is below the waterline.

For us to show up more authentically in our work and in our lives, we have to consciously choose to lower the waterline on the iceberg, expressing or exposing more of who we really are. And that takes courage, but it's one of the best ways that we can build our muscle for vulnerability and authenticity with the people we work with.

In this exercise, two people—for example, coworkers—are paired up.

Each person has a few minutes to complete the phrase “if you really knew me” with something the other person does not know about you. It’s an opportunity for that person to authentically, vulnerably share whatever is true and real for them in the moment. The person who is listening does not comment, interject, give advice, or disagree. He or she just listens.

Once the first person has gone, then the second person goes. Once both people have gone, then they talk about what they thought about the exercise and what they noticed.

This exercise reveals that on the surface, we’re all different—we look different and have different backgrounds, ages, and genders—but the farther below the waterline we go, the more similar we become.

By doing this exercise, many people find that they can relate to their partner. The natural human response to vulnerability is empathy, so when people get real, not only is it liberating for the person who’s getting real, but the other people around them can see themselves in that person.

## CREATING AN ENVIRONMENT OF AUTHENTICITY

Being authentic takes courage for us individually and for the people we’re around. The following are some specific steps we can take to create an environment of authenticity:

**Look for opportunities to lower the waterline.** This might involve sharing or revealing something deep and personal, or it might involve sharing something more mundane. At the beginning of a meeting, for example, take a few moments to quickly check in, asking participants how they feel and if they have anything they want to say. This grounds us and makes us more present and connected. We remember that there are a bunch of other human beings in the room. It’s important for us to find ways to make human connections.

**Ask for help.** Most people like to help others, but few people are comfortable asking others for help. When we ask for help a few things become available. First, we might actually get some help. Second, we give other people the opportunity to do something that most love to do, which is help. Most people don't ask for help because they're afraid that they will be judged for asking, perhaps appearing weak, unable, or incompetent. People are also afraid that they'll get rejected. Some people are so controlling that they don't ask for help because they're afraid another person will do it "wrong" or not the way they'd do it. But all of this creates a ton of stress for us, and the act of asking for help and then receiving help can be both liberating for us and build much stronger connections with the people around us.

**Be willing to engage in difficult conversations with people sooner rather than later.** This is not easy, but it's important with respect to our relationships as well as our personal journey. Most people are not huge fans of difficult or uncomfortable conversations, such as giving feedback or talking about emotional issues. There are two aspects of emotional intelligence: the self and the other. Consider self-awareness and self-management: How do I feel about having difficult conversations? Is there a way I can manage myself more effectively in those situations? Also consider social awareness and relationship management: Who am I talking to and what are we talking about? What's needed to have effective, even difficult, conversations?



# MINDFULNESS AT WORK: THE POWER OF APPRECIATION

## LESSON 10

In addition to authenticity, the subject of the previous lesson, appreciation is another important aspect of being mindful and successful at work. Although these are both relatively simple concepts, at least to understand, they can be challenging in practice. But when we do appreciate the people we work with and are grateful for the work we do, it allows us to be more effective and ultimately more fulfilled.



## APPRECIATION VERSUS RECOGNITION

When appreciation exists in relationships and within teams, such as work groups, people thrive. When it doesn't, people get stressed out, burned out, and upset.

Appreciation is a simple concept, but we often confuse it with recognition, particularly in professional settings. While both are important, they are different.

Recognition is positive feedback based on results or performance. It's a reaction to something you did or produced. Sometimes it's formal, such as receiving an award or bonus, while other times it's just someone telling you that you did a great job.

Appreciation is about people's value—who you are.

In other words, recognition is about what we do, while appreciation is about who we are.

Mindfulness and emotional intelligence are about having social awareness. What does this particular person need? Appreciation is about letting people know what we appreciate and value about them. Recognition is reacting to people's performance. We recognize people when they deserve recognition, but we appreciate people all the time.

It doesn't matter how successful or accomplished a person is. We all want to be seen and heard, and we want to know that not just what we say matters, but who we are also matters. This is something we can all do for everybody around us. It takes a certain amount of awareness and mindfulness, because we have to make a human connection with that other person. That sounds simple—and it is—but in today's world, with the pace at which we work, showing appreciation is sometimes a profound act.

When people are asked to think of a time when they felt specifically appreciated, they don't usually recount some big deal. Instead, they recount some small, simple interaction, such as a note or message someone sent them. Just a little bit of appreciation goes a long way.

## MINDFULNESS EXERCISE: THE APPRECIATION SEAT

This is a simple but powerful exercise that can be done with teams or groups of people. If the group is large, it can be split into smaller groups of four or five people. A group of 10 or 12 people who all work together is ideal. Regardless of group size, the idea of the difference between recognition and appreciation is introduced to the group.

Each person in the group gets to sit in the appreciation seat for a few minutes (a timer can be set to regulate this), and everyone in the group takes turns expressing appreciation for the individual in the seat. And as difficult or uncomfortable as it may be for the person in the appreciation seat, his or her job is to just sit there and receive the appreciation from the people in the group.

When one person expresses appreciation for another, it raises the serotonin level in both people's brains, making them happier and less stressed. If this is done in a group setting, such as when this exercise is done with a team, it increases oxytocin levels in the body, which physiologically connects people with each other.

As people express their appreciation for each other, there are laughs, pats on the back, hugs, and even tears. And inevitably, the exercise always goes longer than expected because people have so much appreciation to share for their team members.

After the exercise is completed, the group discusses what they thought about the exercise as a whole. Most people will acknowledge the most difficult or uncomfortable part of it is receiving the appreciation. But people also say that it feels really good to express appreciation.

What people really want in today's professional environment is authentic appreciation.

A study conducted by Glassdoor found that 52 percent of people said they would have stayed at their company longer if they felt more valued and appreciated, and 81 percent of people said they're more motivated to work harder when their boss or manager actually appreciates them. But only 37 percent of people said they were more motivated to work harder when their boss was hard on them or when they feared losing their job.



There are opportunities for us to express appreciation all the time. We just don't do it. We're waiting for some event, or activity, or result. But what if we just did it proactively, for no particular reason, just because we wanted to let people know that we appreciate them? Expressing our appreciation is important because it lets people know the value they bring based on who they are, not just what they do.

## GRATITUDE

If we're going to be able to express and experience appreciation around us at work, the mindset we have to take is one of gratitude. The thing about gratitude is that it's so simple, but it's easy for us to forget. How often do we stop on a daily basis and ask ourselves, What am I grateful for right now?

Gratitude is a mindfulness practice, and we can bring it into the workplace in many different ways. For example, the next time you are in a meeting, try starting the meeting by asking everyone to share what they are grateful for in that moment. Some people will inevitably not be that into this at first, but over time, this practice can help build the connection among the people in the group, resulting in more trust and understanding of each other.

Making gratitude sharing a regular practice can make the members of a group feel safe to share things they have struggled with or times when they have failed. It can create more psychological safety, which is basically trust at a group level.



## CREATING AN ENVIRONMENT OF APPRECIATION

Where can you infuse appreciation and gratitude in your work environment? There are a few simple practices that are helpful in creating such an environment:

**Simply ask this question: What are you grateful for?**

**Look for opportunities to express appreciation for the people around you.** When can you make it safe and conducive to express appreciation for the people that you work with? Perhaps you can write someone a thank-you card and drop it on his or her desk.

**Start receiving appreciation from other people more graciously.** Just say thank you, especially if you don't agree with what they're saying. It's perhaps not possible to be overappreciated, and most people probably feel underappreciated. This is partly because people get weird when others express appreciation for them. So, if you become more comfortable receiving appreciation, you'll get more, and you will make it more conducive to the environment in which you work for appreciation to be expressed.

From a mindfulness perspective, we can become more mindful of what we're grateful for and what we appreciate about the people around us. We can not only express it more effectively, but we can change the culture of the team or the people with whom we work.

# THE BENEFITS OF BRAIN TRAINING

## LESSON 11

This lesson is about cognitive training: the notion that our cognitive functions, the core systems of our brain, can or cannot be trained. The lesson addresses cross-sectional studies as well as randomized controlled studies that have been conducted to study neuroplasticity of the brain: the ability of the brain to change in structure and function as a result of experience and training.



## TRAINING THE BRAIN

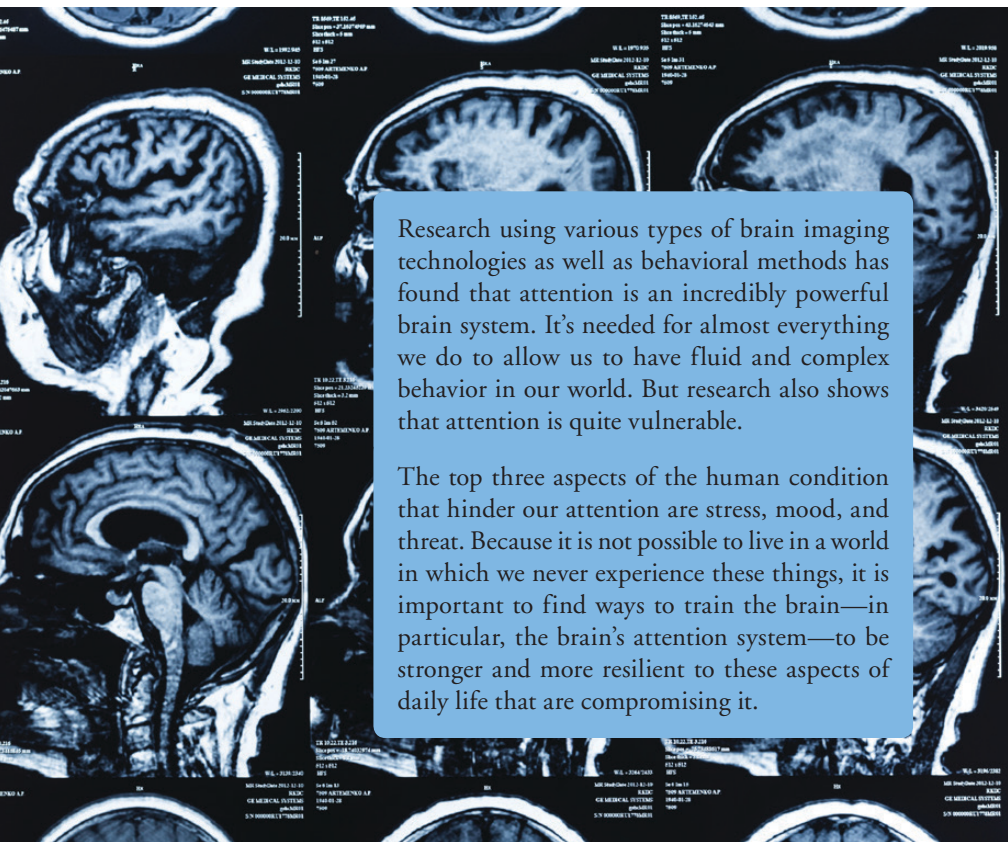
How do we train the brain? Unfortunately, there's a lot of lore around the idea that playing brain games like puzzles or sudoku might help the brain, but research shows that doesn't seem to be the case.

There are three main categories of reasons that motivate people to train the brain: People want to feel better, perform better, or age better.

Feeling better has to do with improving psychological well-being.

Performing better involves improving cognitive functioning.

Aging better has to do with doing something on a regular basis—in the same way we might engage in physical activity for physical health—to protect against age-related diseases, such as Alzheimer's disease.



Research using various types of brain imaging technologies as well as behavioral methods has found that attention is an incredibly powerful brain system. It's needed for almost everything we do to allow us to have fluid and complex behavior in our world. But research also shows that attention is quite vulnerable.

The top three aspects of the human condition that hinder our attention are stress, mood, and threat. Because it is not possible to live in a world in which we never experience these things, it is important to find ways to train the brain—in particular, the brain's attention system—to be stronger and more resilient to these aspects of daily life that are compromising it.



Beyond this, many people have the self-interest of wanting their brains in peak shape so they can be of better service to our world.

There are many reasons we'd like to train the brain, including to be more effective in our job; more resilient to life's challenges; more giving, kind, or connected; or more joyful in life.

## CROSS-SECTIONAL STUDIES

In the broad topic of neuroplasticity, researchers are interested in seeing how the experience and activities that the human brain engages in may alter brain structure and function, ultimately to improve its performance. One of the questions that researchers in this realm aim to answer is this: Are there individuals who have a type of daily life experience, maybe through their profession, that causes their brain structure to be different from most people's?

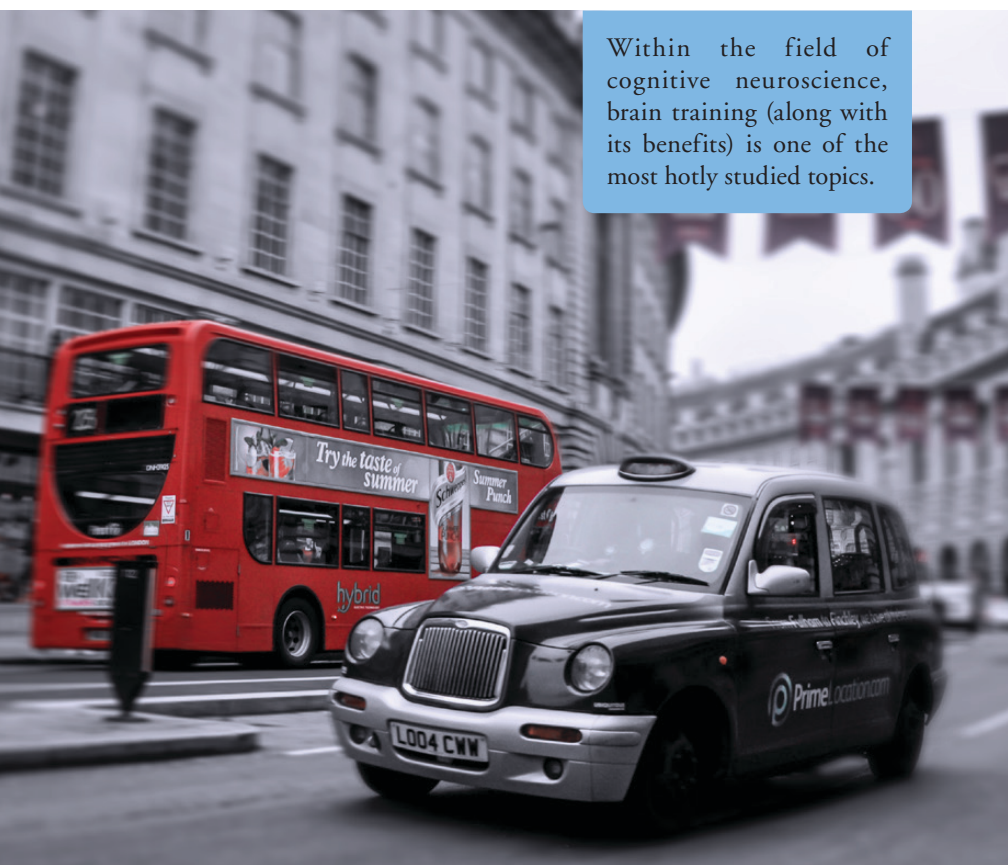
One very intriguing group is cabdrivers—in particular, those who navigate the circuitous landscape of the city streets of London. It is very difficult for people to know how to get from point A to point B unless they are highly familiar with this jungle of streets, so London cabdrivers have to have three years of formal training to get very familiar with the maps of the city.

Researchers designed a study using this unique group to analyze the notion that engaging in certain activities may change the brain's structures. They scanned the brains of London cabdrivers, who constantly had to navigate unknown routes, and compared the scans with those of bus drivers, who also drove all day but had well-defined paths on which they traveled back and forth.

Using structural MRI, researchers found that there were brain differences between London cabdrivers and bus drivers—specifically in the region involved in spatial navigation, the hippocampus. Cabdrivers had larger hippocampi—which were more densely packed and looked structurally healthier and more robust—than the bus drivers. Even more striking was that the size of the hippocampus was tied to how many years the cabdrivers had been cabdrivers: The longer time they'd spent navigating the streets of London, the larger the size of their hippocampus.

This finding suggests that there is some correspondence between how the brain is organized and how people spend their time. In addition, driving itself appears not to cause the brain change; the spatial navigation demands appear to change it.

This notion of experience altering or shaping the brain is not unique to cabdrivers. The hippocampi of people who play video games (such as Tetris) or who juggle tend to look healthier and more robust than matched control groups, in terms of age and education, of people who don't engage in that activity.



Within the field of cognitive neuroscience, brain training (along with its benefits) is one of the most hotly studied topics.

Although this study does a great job of connecting a particular brain structure to function, it is an opportunistic, naturalistic type of experiment. They didn't recruit drivers in London to be part of the study; they sought out people that happened to drive as their profession.

This is called a cross-sectional study because researchers are studying individuals who just happen to be different because of their life circumstance; they are not asking individuals to engage in any particular training. Cross-sectional studies allow us to compare distinct groups of people and ask specific questions, and benefit from what's already happening.

But who decides to become a cabdriver? What if it's the case that people that choose to be the cabdrivers just happen to have hippocampi that are larger? It becomes a question of cause and effect. It may not be that the circuitous route navigation leads to the structural change; instead, it may be that people choose to do this type of job because they already have larger hippocampi that allow them to do it well.

## **RANDOMIZED CONTROLLED TRIALS**

Cross-sectional studies may not give us the strongest test of neuroplasticity because of this design limitation. A better way to ask the question of whether experience and training changes the brain is by using the gold standard of how research is conducted: the randomized controlled trial.

In this type of research design, people are invited into a study who have an interest in a broad topic—for example, brain training—and then are randomly assigned to be in either a condition of interest—for example, one that includes a particular brain-training protocol—or another condition, called the control group.

The control group is either a no-training control group, which involves doing nothing, or an active-comparison control group, in which participants in a computer-based brain-training study, for example, can watch movies or read books instead of doing the training. The control condition serves as a comparison for the treatment condition.

A longitudinal study is one in which researchers track participants over time.



The industry of computer-based programs and apps for brain training is a very popular one. In fact, it's valued at about a billion dollars. Therefore, a lot of effort and financial investment goes into this strategy for brain training.

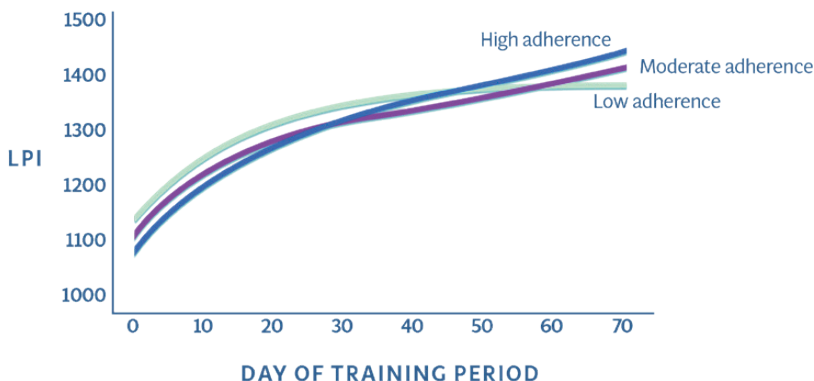
In a particular randomized controlled trial on the effectiveness of brain training, the goal was to determine if brain function could be improved as a result of people engaging in the study itself. The study involved a very popular way that people choose to engage in brain training: computer-based programs or apps.

In this study, researchers randomly assigned participants either to use Lumosity, a brain-training app, for 70 days or to engage in fun, intensive video game playing for 70 days. The first condition was intended to be training for the brain while the other was just intended to match the amount of screen time and engagement the people in the brain-training condition experienced.

Researchers tracked the performance of participants by using an index from the Lumosity program. Overall, everyone showed improvement over 70 days. Their scores continually increased, until at some point they plateaued, but the data showed a strong learning and improvement effect, which is very encouraging.

By analyzing this data, researchers also learned that how much time and effort people spent engaging in this brain-training protocol impacted how much they benefited. People who had low adherence and didn't always do the assigned homework didn't improve as much as those who had high adherence.

### Lumosity Performance Index



The intention of Lumosity's brain-training protocol is to improve attention, and attention-related processes, that might eventually help a person be better at decision making in the real world. So, the true test of this brain-training method came when the researchers in this experiment studied whether the benefits participants gained from training certain operations—such as attention, inhibition control, and deliberation—through the Lumosity program carried over into a real-world decision-making task.

A review paper on brain training found little evidence that training enhances performance on distantly related tasks or that training improves everyday cognitive performance. This suggests that although people may download an app and choose to use it and even get better at the brain-training games, it has virtually no impact on the rest of their lives. And this probably means that it's not worth their time, because nobody's really playing these games for the sole purpose of getting better at playing them.

# MINDFULNESS AS BRAIN TRAINING

## LESSON 12

Can we think of mindfulness training as a form of brain training? What type of training may be required to cultivate a more mindful way of being? And if somebody engages in this type of training, can we think of it as brain training? Put more plainly, if mindfulness training is training the brain, what is it training? What specific functions might it be strengthening? To understand this from the perspective of neuroscience, we need to understand how mindfulness training is cultivated through mindfulness exercises.



## **MINDFULNESS EXERCISE: MINDFULNESS OF BREATHING**

This is a foundational exercise that is common to most programs in mindfulness training. You start by sitting in a comfortable upright posture and focusing all of your attention on the sensations of breathing.

Select a particular sensation that is tied to your breathing, such as the coolness of air moving in and out of your nostrils or your abdomen moving up and down.

Maintain your attention on that sensation for the period of time you're going to engage in the practice—for example, 10 to 15 minutes.

Notice when your mind wanders away from the sensations of breathing. When you notice that it has wandered, gently return your attention to the sensations of breathing.

These three main components—select, maintain, and notice—are the central driving hypotheses of how we think mindfulness training may be altering the brain. Does mindfulness training allow for process-specific training of attention?

## **SYSTEMS OF ATTENTION**

One way to think about attention is that it's like a flashlight. And just like a flashlight in a darkened room, wherever our attention is directed, more information becomes available. We can have a laserlike focus, a very narrow focus, or a broad focus, but wherever that flashlight is directed, information is clearer and richer, more comes in, and you can direct it at will. This is the brain's orienting system of attention.

In contrast to the orienting system is the alerting system. This is like a caution sign. When you see a caution sign, you might not know exactly what the danger or potential threat might be, but the intention is to keep your attention in a readied state so that no matter what might come your way, you're prepared to deploy your attention in the service of benefiting your performance.

The brain's alerting system is the opposite of the orienting system. Whereas orienting the flashlight means narrowing and selecting, the alerting system is about broadening and preparing. And both of these systems are important tools for our attention and attention training.

Related to attention is working memory. This is like the mind's internal whiteboard. In fact, it's a whiteboard that has disappearing ink. Working memory is the ability to maintain and manipulate information over very short periods of time, from a few seconds to a few minutes. So, it works well with the brain's system of attention. Once information is selected into this system, working memory allows us to maintain it.

Our mind is exquisite at being able to engage in mental time travel. We can travel to the past and future with ease, but many times this ability can get our attention system into trouble.


We can think of rewinding to the past not simply as a way to reflect on what's happened, but under conditions of stress and distress in particular, we may end up ruminating, reliving, or regretting experiences that have already happened. Or we fast-forward in a way that's not productive, possibly catastrophizing or worrying about events that not only haven't happened yet, but frankly may never happen.

Orienting, alerting, and working memory are core cognitive systems that are extremely important for our psychological health. They are functions that we all need in order to engage in fluid human behavior. And when they work well, we perform well. But these same three systems can also make us vulnerable to psychological diseases.



This shows that attention can be hijacked in time. And when this happens, there are fewer moments for the mind to experience what's happening in the present—a mindfulness mode of being.

Another way to think about the hijacking of attention from the present moment is mind wandering, or having off-task thoughts during an ongoing task or activity. Mind wandering is not about just letting the mind flow wherever it will; it has to do with wanting to accomplish a goal and having your attention hijacked so that you are not able to accomplish that goal.



The mindfulness of breathing exercise is in some sense a brain-training exercise of attention.

In this exercise, the intention is to select a particular sensation, so in that sense, we can think of using our orienting system to direct the sensation once we've selected where our attention should be.

The next instruction is to maintain our attention on that sensation. On the mind's whiteboard, we have what we're going to be focusing on, such as the coolness of air or the abdomen moving up and down.

The next instruction is to remain in this noticing or alert mode so that you can watch out for mind wandering. The final aspect of the instruction is once you've noticed that your mind has wandered, take that flashlight of attention and return it to the breath-related sensations.

## THE BRAIN SCIENCE OF ATTENTION

The broader cognitive neuroscience of attention literature has found that there are distinct networks that are tied to these three aspects of our functioning: our ability to select and maintain, our capacity to notice, and mind wandering.

The central executive network, which involves the frontal lobes and parts of the parietal lobe, is involved in the capacity to select and maintain—the flashlight and the whiteboard.

There are also networks that are distinct from the central executive network that are responsible for different aspects of functioning. For example, the alerting system, the noticing capacity of our brain, is subserved by the salience network, which is anchored in a region of the brain called the insula.

The default mode network is the network that people typically associate with mind wandering.

These networks are established in the broader brain-imaging literature, and there are two important things to understand about brain networks—in particular these three attention-related networks.

They're anatomically distinct from each other. In other words, the central executive network, the salience network, and the default mode network rely on different brain regions.

They are mutually inhibitory, meaning that when one network's activity is prominent, the other two networks have lower levels of activity.

The reason these three networks are important is that they give us a clue into the brain regions that may be involved in brain training involving mindfulness.

## RESEARCH ON BRAIN TRAINING AND BRAIN NETWORKS

There are many different ways we can look at brain changes. When we want to look at structural changes in the brain, we might analyze brain gyrification, which refers to how tightly packed and condensed the brain is. As we age, experience stress, or encounter brain-related disorders, the brain becomes smoother, or less gyrified. A less gyrified brain is a less healthy brain; a more densely packed brain is a healthier brain.

Research has shown that individuals who engage in long-term mindfulness practice have better gyrification—more efficient-looking brains. And it appears they have cortical gyrification in networks that are tied to the brain's attention systems. This is very interesting, because it suggests not only that certain parts of mindfulness practitioners' brains look healthier, but also that those same regions are the ones that are tied to the hypothesis that mindfulness exercises are training attention, noticing, and control over mind wandering.

There are also functional brain changes that are present in long-term mindfulness practitioners. One study found that the default mode—a brain network tied to mind wandering—has less activity in individuals who are long-term mindfulness practitioners. They are better able to control the activity of this network.



It was found that two important nodes of the default mode, the medial prefrontal cortex and the posterior simulate cortex, had less activity in mindfulness practitioners relative to age- and education-matched control participants. This suggests that not only are there structural changes, but functional brain activity profiles also seem to be aligned with better performance and better brain health.

These cross-sectional designs, though, have their limitations. For example, we don't know if long-term practitioners might have had brains that just happened to be more gyrified before they decided to start practicing mindfulness. In fact, it may be that there's a causal relationship the other way: People who have gyrified brains may end up choosing to meditate or practice mindfulness, and it has nothing to do with the mindfulness instantiating those changes.

A stronger test of this notion that brains can become healthier looking and function more efficiently as a function of mindfulness training requires us to test this with a randomized controlled trial.

Meta-analyses—sets of studies that are compiled to deduce a pattern of research—show that the brains or brain networks of long-term practitioners look healthier, are more gyrified, are more densely packed with gray matter, and function more efficiently. Meta-analyses also reveal that the kinds of structural and functional changes that are seen in randomized controlled trials of mindfulness training look very much like what's seen in long-term practitioners.

The fact that there are beneficial changes to the brain's structure as well as to the brain's functioning with mindfulness training is very exciting, but much more research is needed.

## **PERFORMANCE CHANGES**

Some of the research studies conducted on the cognitive effects of mindfulness training look at many different groups of people who experienced some type of demanding interval. And for these individuals, in many cases, their attention can be the difference between success and failure—for example, for a student—or life and death, for a firefighter or military service member. Attention really matters.



Is it the case, as the brain data suggests, that the networks of the brain supporting attention are stronger and healthier? Is it the case that performance on tasks of attention looks like it's better in those engaging in mindfulness training?

For the groups of people that have been studied, unfortunately attention does not stay stable over high-stress intervals. If we index attention using simple computer-based behavioral tasks, we find that over multiple weeks of high demand and high stress, attentional performance declines.

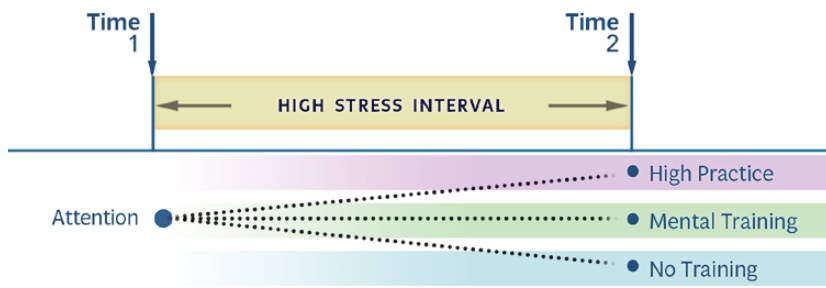
The interest in these types of groups is to promote cognitive resilience, the ability to maintain or regain cognitive capacities—in particular, capacities like attention and working memory that are at risk for declining. We want to keep them protected against decline and keep them functioning well, even in the course of experiencing high demand.

In one study, undergraduates participated in a seven-week mindfulness training course in which they learned the foundational mindfulness practices. Individuals were randomly assigned to either get mindfulness training or not, in the case of the control group.

Students were recruited into this study during two time intervals: during the academic semester, when the stresses of a semester are high, and during summer break.

Over summer break, attention was stable over the seven-week period. But over the semester, for students who were not offered mindfulness training, attention significantly declined. These students were tested right before finals season, and that's when their attention was the lowest.

Unlike their counterparts who didn't get the mindfulness training and declined in their attention, those who received mindfulness training were able to stay stable in their attention and actually slightly improve in their attention over the seven-week period.



This is just one example in the education context, but the same pattern is seen in other studies: Reliable improvements are found with mindfulness training in different aspects of cognitive functioning, including selective attention, working memory, and mind wandering. This is quite promising from the perspective of thinking about mindfulness training as brain training.

In broad terms, mindfulness training may be a successful strategy by which to train the brain.

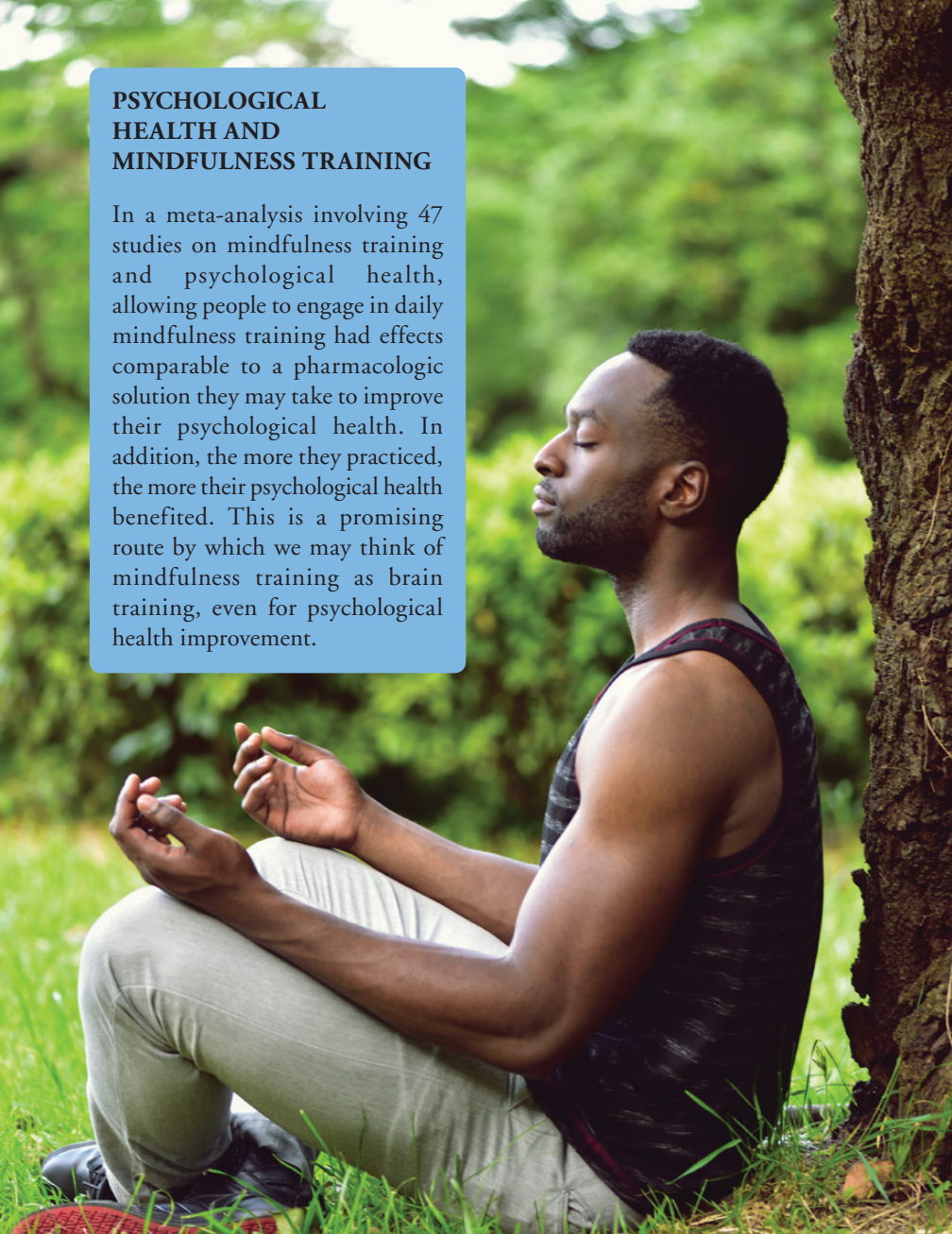
### **BRAIN TRAINING AND AGING**

Our brains change over the course of our lifetime, and one feature of normal, healthy aging is that brain density in specific regions is reduced.

Recent studies have found that mindfulness practitioners seem better protected against this normal age-related decline.

## PSYCHOLOGICAL HEALTH AND MINDFULNESS TRAINING

In a meta-analysis involving 47 studies on mindfulness training and psychological health, allowing people to engage in daily mindfulness training had effects comparable to a pharmacologic solution they may take to improve their psychological health. In addition, the more they practiced, the more their psychological health benefited. This is a promising route by which we may think of mindfulness training as brain training, even for psychological health improvement.



# THE SCIENCE OF MINDFUL AGING

## LESSON 13

Aging is inevitable, but our rate of aging is partly under our control. Aging is a product of our genetics, our life experience, and our lifestyle. This lesson is about mindful aging, including how our cells age and what slows down and speeds up our aging.





## MINDFULNESS EXERCISE: LONGEVITY

Reflect on your stage of life and write down your responses to these questions: What are your concerns about the future? What is your view of the future?

Reflect on your future and make conscious choices about how you want to spend the rest of your life. Think about and write down your answers to these questions:

How long do you want to live?

What do you look forward to?

How do you want to spend your time?

Who do you want to spend your time with?



## HOW OUR CELLS AGE

There are four ways that our cells age.

**Systemic inflammation.** The inflammation in our blood, called systemic inflammation, rises with age—but at variable rates—causing the aging of body tissue and resulting in a fertile ground for diseases such as cancer.

**Telomere shortening.** Telomeres are the caps that protect the ends of our chromosomes, which contain our genes. When our genes get damaged by chemicals such as free radicals, bad cells, such as cancer cells, result. Telomeres shorten as we age, but not at the same rate in everyone. When we have a lot of inflammation, this shortens our telomeres, and when our telomeres are short, this causes the cell environment to be pro-inflammatory.

**Mitochondrial impairment.** Mitochondria are the energy-making machines in the cell that keep us feeling vital. They wear out with aging at a variable rate, and when they get worn out, they start leaking free radicals, which can damage the telomeres, which are near the mitochondria in the cell.

**Epigenetic changes.** Although we're born with one set of genes that can't change, genes can turn on and off based on signals. Some signals are ones that we tell our genes, such as if we're under chronic stress or feel danger. These signals will be more pro-inflammatory. Epigenetics involves turning genes on and off in a way that is more long term and permanent. The pattern of our epigenetics roughly matches our age, but some people are epigenetically older or younger than their chronological age. Epigenetics is also roughly correlated with telomeres.

One thing all of these pathways of aging have in common is that if we're under chronic or traumatic stress, we tend to age ourselves more in these four ways.

Stress and aging are closely related because our aging biology listens to all the chemical signals from stress. Research shows that caregiving parents, people who are under chronic stress, tend to have shorter telomeres.

Studies show that taking up a mind-body activity—such as mindfulness, qi gong, or different forms of meditation—and committing to it for several months can result in reduced inflammation and telomere stabilization compared to people who do not engage in a mind-body activity.

## **MINDFULNESS EXERCISE: STEREOTYPES OF AGING**

Write down the negative thoughts that you have when you think about aging as well as any positive associations you have with aging. What are your stereotypes? When you think of aging, what does it remind you of?

You might think of pain, suffering, fear of dependency, fear of dementia, or fear of leaving people behind. But research shows that many of these are myths.

## **POSITIVE AND NEGATIVE ASPECTS OF AGING**

Some aspects of aging, such as the physical part, are inevitable. But there's a richness and growth that comes with aging that has been shown in many studies. Some of the benefits of aging include wisdom, more positive emotions, a better balance in your daily life between negative and positive emotions, and having a more positive social network.

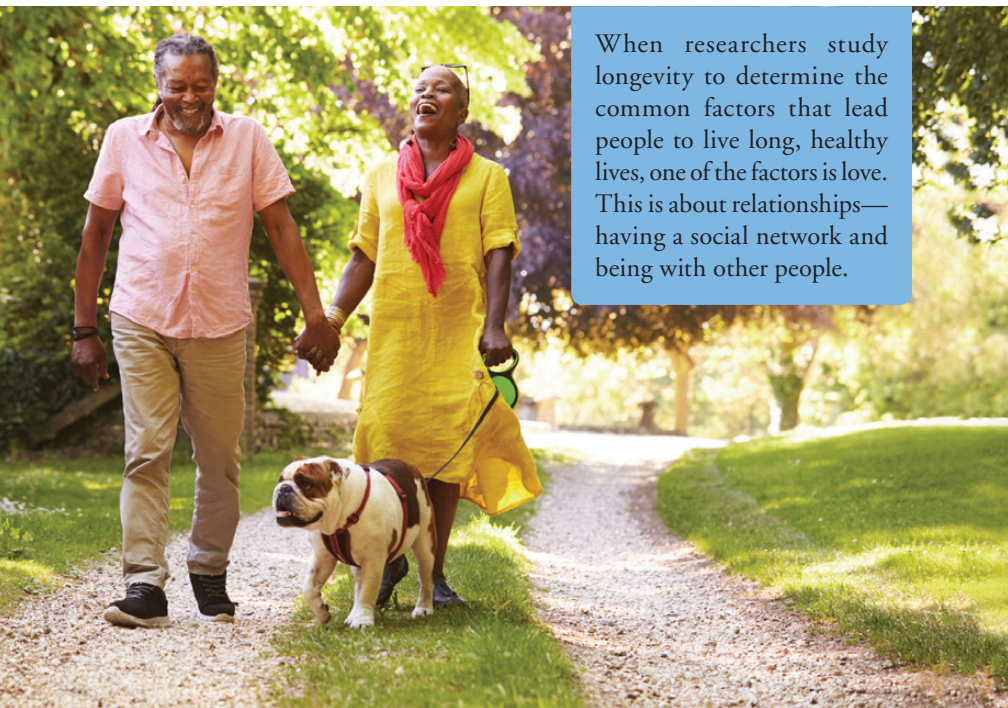
When we're young, we might think that we want a big sprawling social network and lots of connections, but those relationships tend to be more superficial and have more negative aspects. These connections don't necessarily make us feel supported or even make us feel insecure or criticized. But older people in general tend to prune their social network to have a more positive emotional tone—people whom they feel good around.

If we let our negative views of aging, which we all have unconsciously, fester, then the more negative views of aging we have, the more likely we're going to have early aging, memory loss, hearing loss, and slower healing. We are also more likely to have dementia and earlier mortality.

Becca Levy, a pioneer in the area of aging stereotypes, has found that countries who believe as a culture that people have much lower status in society when they age and view aging as very negative have a much higher rate of dementia. She has also found that individuals who hold more negative views of aging are more likely to get Alzheimer's dementia.

## CONSCIENTIOUSNESS

Conscientious personalities are one of the strongest personality predictors of healthy longevity. Conscientious means governed by conscience, and it's when we are mindful of others. There are many traits that go along with conscientiousness, including being responsible, careful, reliable, and meticulous. Conscientious people tend to plan ahead more and be less impulsive.



When researchers study longevity to determine the common factors that lead people to live long, healthy lives, one of the factors is love. This is about relationships—having a social network and being with other people.

There has been a tremendous amount of research on conscientiousness and longevity, particularly by Howard Friedman, who followed a large sample of young men in a long-term study and found that when personality is measured young in life, it's those who are mindful and conscientious that live longer.

## **HEALTH BEHAVIORS THAT SLOW AGING**

An easy way to think about what will slow aging is to consider what is most anti-inflammatory and antioxidant. What's going to soak up free radicals and reduce inflammation?

For example, whole foods and fiber create an anti-inflammatory diet. Conversely, refined sugars and meat create more of a pro-inflammatory diet. And these are the two diet patterns that are related to telomere length. Consuming more vegetables is related to longer telomeres and less inflammation, while consuming more meat and soda is related to shorter telomeres and more inflammation. In general, processed foods are pro-aging.

Hundreds of studies have found that moderate physical activity is enough for maintaining telomere length. Specifically, if you're running ultramarathons, you won't get much longer telomeres than you would if you were running a moderate amount a week.

## **STRESS RESILIENCE AND POSITIVE STRESSORS**

Toxic stress—very severe or traumatic stress or stress that goes on for a long time, such as job strain or caregiving—can lead to speedier cell aging. You might think the answer is to avoid stress, such as work or social or physical activities. But we actually should pursue moderate doses of stressful things. This is what makes our body more resilient to aging as well as more resilient psychologically.

The biology of stress and the biology of aging are intricately intertwined. Extreme stress in large doses speeds up aging, but small doses of stress actually slow aging.

Positive stressors help you grow and are anti-aging. They are things that will put you on the edge of, or just out of, your comfort zone. This is particularly important for us as we age, because we need new challenges to keep our cognitive functions sharp.

There are not many things that get us stressed out that we think are good for us, but one is exercise, which is a physiological stressor. Getting a moderate amount of exercise is anti-aging. It seems that high-intensity interval training, which involves short bursts of effort, is just as good as longer-endurance, slower sports.

When we stress out our bodies, we are causing more anti-aging mechanisms—more scavengers to soak up free radicals, for example. When the stress is over, we turn on mechanisms that cause the clean-up of cells. Autophagy, the clean-up process, is more active after we exercise.

In our nervous system, once we have had a lot of sympathetic activity, then the antisympathetic system turns on the parasympathetic system. The vagus nerve, which is part of the parasympathetic system, turns on very strongly after we've had a bout of stress. We want to have vagal time; we want to relax when we can relax. We want to have a strong peak stress response when we're dealing with a stressor and then a quick recovery.

When you're safe, notice that you're safe. Tell yourself, "I can fully relax. There's nothing that is wrong in this moment." And let that be true if it's true. The reason why it's often not true is because of our thoughts. We're keeping threats alive in our mind by ruminating and wishing things were different or worrying about the future. So, if we can be present and let our bodies respond to those feelings of safety, that is a restorative state. Let yourself be in a restorative state when you are safe. And you're safe more often than your mind thinks you are.

When we want to face a challenge, a big stress response is good for us. Then, we want to have a big recovery. And part of that big recovery means that we stop ruminating over negative aspects, such as wishing we performed better. Catching those thoughts is critical. But we can only do this when we become aware and look at our thoughts.

Stressors can be viewed in a positive way using a challenge orientation or mentality. When we're facing an uncomfortable situation, we can fill ourselves up with positive thoughts that may be true, such as "I can cope with this," "This is going to go well," "I'm going to be happy when it's over," "I have a lot to gain," or "I've got what it takes." Thinking these thoughts beforehand is not only going to help you do better, but it's also going to change your physiological stress response to be more of a positive response.

Visit <http://www.amecenter.ucsf.edu/telomereeffect> to learn more about telomere science and to take assessments that help you discover more about your personality.



# POSITIVE BEHAVIORS THAT SLOW AGING

## LESSON 14

We are social mammals, and the things that stress us out the most are interpersonal stress and conflict in relationships. This lesson includes research that shows how important your social world is.





## POSITIVE CONNECTIONS

Think about your social landscape. Who do you feel most connected to? Do you talk to or see this person as much as you'd like to? If you see this person once a year and you can roughly project how many years you have left to live, this gives you a startling sense of how many more times you'll be together.

Our social connectivity is so important that it's not just how much time we spend physically together, but also what our schema—our model in our head—is of how alone versus connected we are.

Studies have shown that people who feel like they have more social support in their life have healthier stress responses. Overall, these people have less secretion of cortisol, a hormone that is released in stressful situations.

One thing that mindfulness teaches us is that we are intricately connected to each other—to this earth. It's just difficult to see. Especially if we're feeling stressed or down, we become very focused on ourselves. Alternatively, when we can see the interconnections that are truly there and how we are connected, that is one of the most freeing and important realizations that can come from a compassionate or mindful practice.

Studies have shown that loving-kindness, feeling positive toward other people, and feeling compassionate toward ourselves and toward other people is related to better health. In some cases, it's related to longer telomeres, at least in a study related to telomere lengthening and meditation practice that makes us feel connected to other people.

On the opposite side is loneliness—which is, in part, a state of mind. Feeling alone, whether you see people or not on a daily basis, is as big of a risk factor for early death as smoking.

It's particularly difficult when older people are so isolated. There are 13 million older people living alone, and they rarely see others. Loneliness is a huge predictor of early mortality.

There are many things we can do—either for ourselves or to encourage people we care about who live alone—to connect socially, including taking a class, finding a hobby, volunteering, scheduling a phone call each day with someone, or sharing a meal with someone.

It is extremely important for us to be socially connected in positive ways to each other. Without social connections, people suffer emotionally and physiologically.



## EMOTION CONTAGION

Research shows that we transmit emotions to others through a phenomenon called emotion contagion. If one member of a couple tends to have more positive emotions, the other member of the couple does, too. If one of the people in a couple tends to have higher cortisol, the other partner does, too.

Our mood and physiology change depending on the people we're with. This happens somewhat with families, and it may happen with people you work with. You influence the mood of the people you are close to, the people you care about, and they influence yours. The fact that we set the tone for others around us, not just for ourselves, is something to take note of so that we can harness this to positively affect the world.

In families who are taking care of a child with autism or a developmental disorder, some caregivers feel that they're very influenced by their family's emotions. For example, if their child has a bad day, they're much more likely to have negative feelings themselves.

Other caregivers have more independence so that when they notice the negative mood of their family, they're less influenced by it. This doesn't mean they're less compassionate or caring, but it doesn't cause them to adopt that negative mood.

And that takes mindfulness—remembering that you can be compassionate and empathetic without going down that same rabbit hole or entering that same blue state of mind.

People who report that they are more independent of others' emotions have much better mental and physical health.

It takes mindfulness and awareness to be compassionate but not to let yourself have empathic distress, which is when you take on emotions and feel distress, which can lead to burnout. When teachers and therapists easily adopt the emotions of the person that they're caring for, they tend to get much more burnt out and feel numbness, demoralization, and lack of ability to keep empathizing.

## **PURPOSE IN LIFE**

Purpose in life is something that has just arisen in the field of aging and longevity, and it is such an important factor for our healthy aging and our happiness or good mental health. In a study of US populations, researchers found that people who feel more purpose tend to live longer and are healthier, regardless of whether they're retired or not—and regardless of depression or positive or negative mood.

Having a purpose in life is buffers against stress. It's related to having less overall cortisol in our hair (one way to measure cortisol) as well as less inflammation in our blood. It's also related to having less buildup of chronic disease risk factors over the course of 10 years. In other words, if you have high purpose in life, you're going to age less over 10 years, and that's partly because you feel more control over your health, according to some studies.

## **MINDFULNESS EXERCISE: MEASURING PURPOSE IN LIFE**

If you want to measure your purpose in life, you can ask yourself these questions:

What is it when I wake up that matters to me about my day?

Do I feel like my plans are important and what I do is important?

Do I have things to look forward to?

To more formally assess your purpose in life, visit:  
<http://www.amecenter.ucsf.edu/purpose-in-life>.

## **GAINING CONTROL OF YOUR DAY**

You determine your day and how you're going to view events. And while you do have some automatic reactions, you could gain control of your secondary reactions.

Rather than thinking of a big change in your health—such as a big shift in diet or suddenly going to the gym every day—think about small changes that you know you can implement into your day. For example, think about a time of day, such as right when you wake up or during a lunch break or walk with someone, when you might be able to be active for 10 minutes more than on a typical day. You can add small pieces of wellness to your day in a structural way that you can sustain and keep.

Research shows that doing a mind-body activity right when you wake up is important. When people wake up, whether they feel joy or stressed sets a different trajectory for their day.

For people who wake up feeling joy, their cortisol level right after waking does not rise as high and their cell aging looks better than those who wake up feeling stressed, out of control, or full of dread—which is related to the opposite effects.

We're habitual creatures. You might tend to be the type of person who wakes up with dread, but when you're mindful of that and notice it, that's when you take control. You can spend a few minutes in bed thinking about something you're looking forward to that day or thinking about something you're grateful for.

These are strong, potent, positive exercises that you can build into your day. You can develop realistic daily rituals that you can maintain.



## MINDFULNESS EXERCISE:

Starting tomorrow morning, what can you add to your day in terms of health behaviors, social connections, and positive stress that keeps your cells from aging as quickly as they would normally?

**POSITIZE YOUR ATTITUDE ABOUT AGING.** Think about someone older who is inspiring to you and realize he or she walks on a path that is possible for you. Catch and notice your negative stereotypes of aging when you have them. Build in more conscientious behavior.

**BUILD IN POSITIVE STRESS.** Where's the positive stress in your life? What are you going to add that is going to be a short-term positive stressor for your body or mind, or both? Notice when you have these threat responses. Be mindful of how you carry around stress with you. Even when you're not in the middle of dealing with a stressor, you might be planning around it or worrying about it. Once you can develop the habit of getting intimate with your mind, you notice this, giving you the ability to build in spaciousness, let your body go into restorative mode, or laugh at your thoughts when they're self-critical.

Write down a time of day tomorrow when you're going to work on turning something that's typically stressful into a positive stressor. Where in the landscape of your day are the stressful events? Thinking about this gives you the opportunity to plan ahead and to practice a different way of approaching stressful moments, viewing them as challenges and positive stressors.

**THINK ABOUT YOUR RELATIONSHIPS.** Are there ones that stress you out, that you don't need, or that you don't need to have exposure to as much? Are there people that you haven't connected with that you feel particularly grateful for that you can express that to? Showing gratitude is not automatic.

It's not something we're typically raised to think about, and we often don't realize how important it is. But you can become better at being grateful—for example, by writing someone a card describing how much they mean to you or how much what they did meant to you.

In general, think about how you want to be tomorrow—how you want to show up to other people and to yourself—and try to align your intentions with your day. Starting from right when you wake up, notice your automatic thoughts. Then, shift the trajectory toward more positive thoughts. What's right in your life? What are you grateful for? Finally, have the kind of day that's more restorative than stressful.



# **MINDFUL SEX: BEING PRESENT IN YOUR BODY**

## LESSON 15

This lesson offers some techniques to bring mindfulness into your sex life. Studies have shown that you can become more aware of pleasure in your body, address issues around sexual dysfunction and erectile dysfunction, and have more connection with your partner.





## REASONS TO BRING MINDFULNESS INTO SEX

There are many good reasons for bringing mindfulness into sex.

**Increase pleasure.** If you're more in touch with your body, you're going to be more in touch with pleasure.

**Reduce stress and anxiety.** Meditation, specifically mindfulness meditation, has been shown to lower stress and anxiety, meaning that the anxiety and stress that many people experience during sex can disappear and you can just be present and enjoy the experience.

**Create a deep connection and intimacy with partners.** When you're really able to connect, really seeing and feeling that other person in this deep way, sex becomes a completely different experience.



## **MINDFULNESS EXERCISE: A TOUR THROUGH THE BODY**

During sex, many people are in their minds—thinking about how they look, their performance, and whether they're going to have an orgasm too soon or too late or at all—so they're not actually having the experience of being in the body and in the pleasure that's available in the body. This exercise takes you on a tour through the body, getting in touch with physical sensations and then encouraging, cultivating, and noticing pleasure in the body.

Take a moment to bring some attention to your body. And if you like, you can close your eyes.

Begin by paying attention to the sensations in your face. Notice your eyes. Notice the sensations in your mouth and jaw. How does your neck feel? What about your shoulders?

As you continue to move down the body, don't try to get rid of anything; if there are a lot of thoughts coming up for you, don't worry about that. Just gently come back to the body whenever you find yourself pulled away. You might come in contact with sensations that don't feel so good, and that's all right—just greet them with as much acceptance as you can.

Keeping a curious attitude, bring your attention to your arms and feel any sensations there. Notice sensations in your hands. Feel into the chest the area around the heart and the lungs, using your physical awareness to really explore these sensations in your body.

Move your attention into your stomach. Now move your attention to your back, feeling any sensations along the spine and in the muscles of the back. Continue down into your hips and your seat and your pelvic area, noticing any sensations there. Move down both of your legs and into your feet. Now just get a sense of your whole body.

Start tuning your attention into pleasure in the body, beginning by intentionally relaxing. Release the muscles of your jaw and release any tension in your shoulders. Relax your chest and your stomach. Relax your hips and your seat. Release the pelvic floor muscles, those you would use to clench if you wanted to stop urinating midstream. Relaxing down your legs and into your feet.

Now smile. Start to notice the sensation of that smile and the sensation of relaxation through your body. Focus on what feels good; focus on pleasure in your body. Any time you're pulled into a thought, gently bring your attention back to any sensation in the body that feels good. Open your eyes.



## **MINDFULNESS EXERCISE: MINDFUL MASTURBATION**

During sex, there's a lot of pleasure. The simplest way to think about mindful sex is actually being in your body while you're having sex, feeling the sensations of sex. This could be with a partner or with yourself. You can do this exercise on your own as a practice.

Create a comfortable space to lie down in, maybe with cushions and blankets surrounding you. Set a timer for 10 to 15 minutes, putting away any toys, video content, books of erotica, or other tools that you might use to masturbate normally. You're just going to take some time to be with your body and do your pleasure.

Once the timer begins, start by gently touching your face. This might feel silly or embarrassing at first, but that's okay. Just notice that there are some feelings of embarrassment, or maybe resistance, in your body and then come back to the exercise.

Touch your shoulders and your arms. Touch your chest, the sides of your body, and your stomach. Try different pressures and different strokes on your thighs, even on your calves and feet. Do all of this before bringing attention to the genitals.

Once you've really had an opportunity to feel into what it's like to touch your own body, then move to masturbation, letting go of what you would normally do. Just start to get to know your genitals using your hands. Explore sensation. Find out what feels good as well as what doesn't feel so good—that's important, too.

During this 10- to 15-minute period, you may or may not have an orgasm. Either way is fine. Put orgasm to the side rather than striving for it during the exercise.

When the timer rings, take a moment to check out your body. How are you feeling? Are there any emotions? What's going on in the mind? For some people, a lot of emotion can come up, even some sadness or grief or anger. And for some people, this is a liberating experience, and one that is really fun.

Then, if you like, do some stream-of-consciousness writing. Write about the experience, including how it made you feel and what you discovered about yourself.

Finally, if you want to go back to it, you're welcome to masturbate however you like until you orgasm. But see how you feel. Maybe you won't even need to do that; you might feel completely satisfied already.

You can bring these techniques of basic body and pleasure awareness and mindfulness during sexual activity into sex with your partner. Ideally, you have a partner who is on board, and you can share the experience before, during, and after.

While having sex with your partner, the main idea is to keep coming back to your body. When you get pulled off into thoughts, or maybe just lost in the moment in a way that's not present or conscious, come back to the sensations in your body. Start to notice how good it actually feels to be engaging sexually with your partner. Take orgasm off the table; maybe it happens but maybe it doesn't. Let it be more about sensation and exploration of pleasure in your body.

## MINDFUL SEX

Mindful sex isn't just one thing. It's whatever your sexuality looks like, but being more present. Mindful sex doesn't have to be spiritual and doesn't have to involve burning candles and sprinkled rose petals. It could be just a quickie.

There is no right way to do this. Have fun, be curious, and let go of any perfectionism.

In many sexual relationships, people are afraid to express their desires, fantasies, and needs. People are also not always expressing what they don't want. This is why communication is so important when it comes to truly consensual sex. Bringing mindfulness into sex increases the odds that your sex is going to be more pleasurable and 100 percent consensual.

When thinking about talking to their partner about sex, people feel afraid, embarrassed, and shy. They think that their partner might not like what they say, or that their feelings will be hurt, or that they'll be turned off. Mindfulness can help us to get in touch with these thoughts that come up when we're considering talking to our partners about sex. Observing thought, witnessing thought, and recognizing that it's just a flutter of activity helps us to not be so afraid to speak our mind, because we realize that thoughts are just thoughts.



## MEDITATION EXERCISE: CONNECTING WITH YOUR SEXUALITY

Close your eyes and bring your attention to the area where mental talk arises for you. For most people, this is around the head, but it could be somewhere else for you.

Start to notice if any thoughts are arising. There may not be any thoughts, and that's okay. But if there are, simply witness that activity—the coming and going of thought. Some of these thoughts may be auditory, and some may be visual. Any time you get pulled in and start taking the thoughts personally, try to pop back out to a broader perspective. Keep coming back to witnessing the activity of the mind.

Bring to mind something about your sexuality that you've been hiding—something that you could share with your partner or a potential partner—such as a fantasy or a certain sexual position. Bring this to mind and just honor it in this moment. This fantasy or sexual desire is true for you.

Imagine sharing this information with your partner or a potential partner. You might notice that some part of the body tightens up. You might feel the chest tighten or a knot in your stomach—or you might feel great about it. Either way, just notice the emotional reaction in the body.

Now take a moment to relax the body, letting go of the exercise. And if your eyes were closed, you can open them.

Now that you've had a chance to explore the mind and check out some of your fantasies and desires and what it might be like to share them with someone else, try this writing exercise: Write a list of all your fantasies and desires without censoring yourself. Some may be things you've already played out or would like to play out, while others may be things you never want to do but still bring up a sexual charge for you. There's no need to judge or censor yourself when it comes to your sexual desires and fantasies. This is about you exploring you. No one else is ever going to read this list, unless you decide that you'd like to turn it into a sexy letter for your partner.

## MINDFUL COMMUNICATION ABOUT SEX

In our culture, we don't really have mindful communication about sex—about pleasure, consent, desires, and actual connection with each other.

If we start talking to our partners about what's going on for us sexually, not only are we going to have better sex, but we're going to have better relationships and deeper intimacy. It might feel scary and radical to start talking about what you like and don't like, but this is the key to a wonderful relationship.

This idea of bringing mindfulness into communication about sex is a powerful thing—not just for your relationship and sexuality, but for our culture in general. Especially these days, as we start to lean more into issues of consent, mindful sexual communication becomes incredibly important.

Consent is the first ingredient for good sex. And along with that comes safe sex. Many people are afraid to have the safe sex conversation, but it's actually quite simple. You just need to say, “Hey, I've been tested. Have you?” If you need to disclose a sexually transmitted disease or infection, you share that information, then you take in any information the other person is giving you, and then you move forward. When we incorporate mindfulness, conversations about consent and safe sex can be fun and easy.

If you are having anxiety around having a safe sex talk or negotiating consent, take some time to observe and witness the thoughts and emotions associated with this. Just sit down and bring it to mind. Consider sitting down with a partner and sharing openly about your sexual history and notice what comes up inside you. Maybe there's fear, anxiety, or a big cluster of thoughts. Use your mindfulness practice to simply observe, in a kind and accepting way, this arising and passing of emotion and thought.

You can continue to practice this way until it's time to have the talk, and then bring your mindfulness practice with you. As you're discussing safe sex or consent, notice what's happening in your body. How are you feeling? Notice what's happening in your mind. Stay present. Be honest with yourself. Be honest with your partner. This kind of mindful communication is so important and will add to the wonders that can be had in mindful sex.



If your partner brings up something with you, try to receive it with as much kindness and acceptance as possible. Try to let go of any judgment, even if what he or she is suggesting isn't really your style. Maybe make another suggestion.

If you bring a desire, fantasy, or sexual need to your partner and you aren't received with kindness, this can be difficult. Take a moment to comfort and soothe yourself. Check in with any thoughts or emotions that are arising. Maybe think about coming back to the conversation when you're not feeling upset.

Mindfulness can help you navigate anything that comes up in these conversations, whether it's excitement or heartbreak. So, keep leaning on your practice and remembering that coming back to observing thoughts and emotions is a great way to get some space, especially when you're having an overwhelming experience.

Another way that communication comes in handy with sex is when you're having a dip in libido—when there's not as much sex happening as you might like. Take some time to talk about sex every day. It might be as simple as letting your partner know how beautiful or sexy he or she looks before leaving for work, or maybe it's sending a sexy text. It could be just having some kind of sexual interaction every day, even if it's not actual sex. Have a longer kiss instead of a peck on the cheek; maybe give your partner a stroke down the back rather than a pat on the shoulder.

If you bring sexual communication, both verbal and nonverbal, into your relationship, it will usually generate more of a sense of sexual energy between you and your partner and potentially create a more exciting sexual relationship.

# BEYOND THE ORGASM: COMMUNICATE AND FLOW

## LESSON 16

Orgasms can bring up anxiety for many people. Some people are worried that they're taking too long; other people are worried that it's happening too soon or that it's not happening at all. Mindfulness can help us get space from the thoughts around orgasm anxiety and get into the pleasure of sex. As we move through mindful sex, we repeatedly come back to focusing attention on the body—on pleasure. In this way, instead of spending the entire time you're having sex thinking about the orgasm, you can focus on feeling the sensations.



## **MINDFULNESS EXERCISE: BRINGING RELAXING INTO SEX**

What would it be like to connect with your partner without the orgasm being the focus? A big piece of this is relaxation—learning to relax into sex and into pleasure. The idea behind this relaxation practice is to bring it into sex.

Begin by closing your eyes. Bring your attention to your forehead. Start to soften and relax all the muscles in the forehead. Now move your attention to your eyebrows and the space between your eyebrows. Relax and soften the eyebrows. Now relax the eyes and all those little muscles around your eyes.

Moving your attention to your jaw, invite the jaw to release and relax. Let the mouth drop open a little, letting go. Now relax into your neck and over your shoulders. Let your shoulders release. Relax down both of your arms and into your hands.

As you continue to move down the body relaxing, you might run into some spots that don't want to relax, and that's okay. Just relax around those areas, letting go of resistance. If you get pulled into thoughts, that's also okay. It's normal. When that happens, just gently bring your attention back to your body and back to relaxing.

Continue to relax into your chest and into the solar plexus area at the pit of the stomach. And continue down into the rest of your abdomen, relaxing, softening, and letting go.

Now start to relax your back. If you're sitting up, only use the muscles you need to and release and relax the rest of those muscles. Now bring your attention to your hips, relaxing the them and allowing them to widen. Bring attention to your seat, relaxing all around the tailbone.

Now bring your attention to the pelvic area—to the muscles of the pelvic floor and to the genitals. Relax and release, letting go. Invite that relaxation to continue to move down both of your legs and into your feet.

Take a moment and scan through your body and notice anywhere that might have tightened back up. This could be one of the spots where you personally hold tension and stress in the body. Pay attention to this area and try to sit and relax it a little more. This might also be a spot that tends to tighten up during sex, so while having sex, you can practice this exercise of releasing and relaxing. When you're ready, open your eyes.

Many people have a lot of tension going on while they're having sex, and that reduces the possibility for pleasure. More relaxation means more blood flow, which means more pleasure. So, bringing in this exercise while you're having any kind of sexual activity, including sex with yourself, can make sex feel so much better.

This is also an antidote to the anxiety that can come up around orgasm. Practice relaxation with your partner before having sex. And as you're doing this, if you become aware of thoughts and emotions, you can acknowledge and notice them and then return to relaxation. Of course, relaxation is very pleasurable, so this will also continue to tune into pleasure in your body.

If you have a partner, sit down with him or her before sex and go through this exercise of relaxing from your head to your toes, paying special attention to those areas you've identified in which you personally hold tension and stress and also remembering to relax in the pelvic area. Bringing this kind of relaxation into sex is a way that mindfulness can increase the pleasure and lower the anxiety.

## TIPS FOR COMMON ORGASM ISSUES

Men are often worried about orgasming too quickly. If you experience this anxiety, try this method on your own.

Play around with the start-stop method. Begin pleasuring yourself, and right before you think you're about to orgasm, stop and breathe. Feel the sensations in your body. Notice the thoughts; notice the emotions. There might be some frustration, and that's okay. Just acknowledge it, notice it, and then you can begin to pleasure yourself again.

Try this for 10 to 15 minutes, really getting in touch with what it's like to go to the brink and pause and feel the body and then come back to pleasure. Try this on your own first and then bring it into sex with your partner.



Women often have anxiety about not orgasming quickly enough. If you tend to experience anxiety in this way, here are some tips.

Let go of the idea that there's a right way or time to orgasm. This is your sexual pleasure. It doesn't belong to anybody else, and it shouldn't be compared to anybody else. Start with some self-love and acceptance.

If you'd like to work with this, as you're having sex and receiving any kind of pleasure, when you find yourself caught in the mind—caught in thoughts about not orgasming quickly enough—use that tool of coming back to pleasure and to your body.

This will take a lot of practice at first, but after a while, just like with a regular mindfulness practice, you'll become more and more capable of returning to your body and to pleasure. It doesn't mean you need to quiet the thoughts; you don't need to turn them off. Just notice that they're there and come back to the body. Ideally, you can share with a partner that you're having this anxiety.

Some women have trouble having orgasms at all during sex with a partner. If you're having this challenge, let go of the idea that there is anything wrong with you. You're great just the way you are. If you'd like to work on orgasm with a partner, here are some tools.

Start by bringing attention to the genital area while having sex or receiving any kind of sexual pleasure. Communicate what feels good. How much pressure? What pace? All of these things matter. And the more you can communicate about what feels good, the easier it will be for you to move toward climax. You can use the tools of communication from the previous lesson if you're shy or embarrassed about talking about what you want.

Once you've been clear about what feels good for you, keep your attention on the genitals. One way to sensitize yourself to this part of the body is to squeeze the pelvic floor muscles and then release them (also called a Kegel), staying in touch with the sensations of pleasure in the genitals.

Don't put any pressure on yourself to have an orgasm or to have an orgasm right away—just start this as a practice. Over time, you'll start to notice that you get more tuned into pleasure and less caught up in anxiety and worry. And most likely, you can work toward having orgasms with a partner. It's also acceptable to use toys and different ways of having an orgasm. Do what works for you. We all have unique bodies, so pay attention to what yours likes.

It's really important that we share our anxieties with our partners. If you're having anxiety about orgasming or about any other part of sex, let your partner know. Sit down and share it with him or her. And if you're feeling nervous about talking, use the practice of focusing on thoughts and emotions and of relaxation. And then come back to communicating, connecting, and sharing your anxieties. As you do this, the anxieties will lessen. Just talking about it will help.

## DEEPER INTIMACY AND CONNECTION

You've probably heard the term “becoming one” as it relates to sex, and that's actually possible. It's possible to truly feel connected on that deep level with your partner.

Take a moment and think about what kind of connection you'd like to have with a partner, whether a long-term partner or a partner for the night. How would you like to be connected? What's meaningful for you? This is what makes the connection: your values, what's meaningful for you, what excites you, and what turns you on. It's up to you to dive into your sexual creativity and imagination and find out what you want.

A meditation called flow can help you feel a deep sense of unity during sex. Flow is simply anything that's moving or changing, such as your breath or the sounds around you. You can notice how these are moving and changing. You can do the same thing with thoughts, emotions, sensations, and sights.

You can also bring this into sex. The tastes, smells, sensations, and sights are constantly moving and changing. When you get in touch with these aspects of flow while you're having sex, you can start to really feel connected to your partner.

## **MINDFULNESS EXERCISE: FLOW MEDITATION**

You can bring the concept of flow into sex to improve how it feels.

Start by closing your eyes. Bring your attention to your body, noticing the sensations in your face, your neck, and your shoulders. Notice the sensations in your arms and hands. Notice how your chest feels. Feel into any sensations in the abdomen. Notice any sensations in your back.

Bring your attention to your hips and your seat and your pelvic area, just feeling any sensations that are there. You don't have to create anything, and you don't have to get rid of anything. Just pay attention to what's present. Now feel into any sensations in your legs, all the way down to your feet.

Now get a sense of your whole body. From this embodied place, bring your attention to your breath. Start to pay attention to the movement and change that's occurring in the body as you breathe, feeling the expansion and the contraction of each inhale and each exhale. Get interested in that flow sensation. If it's helpful, as you feel the sensation, in your mind label it "flow." This can help facilitate mindfulness.

Begin to move your attention around the body, noticing any other areas where flow is present. There might be a tingle, a wave of sensation, or an undulation somewhere in the body. There might be a big burst of sensation somewhere. There might be a contraction or an expansion. There's flow in pleasant sensations, neutral sensations, and unpleasant sensations, so you can explore any of these. Keep being curious about the way this movement and change in your body feels.



Begin to bring your attention to sound, such as the sounds in the next room or sounds outside. In particular, pay attention to the movement and change of these sounds—the way sound flows. Let yourself deeply encounter this flow of sound.

As you're practicing this flow meditation, you may have noticed some thought. Bring your attention to this mental activity—it could be auditory or visual—and pay attention to the flow of it. You're not trying to stop the thinking; instead, you're getting interested in how the thoughts bubble up, spread out, and vanish. You're getting curious about how the images move and change or how the pitch, pace, and volume of mental talk shifts. Get really interested in the flow of mental activity.

If you'd like, open your eyes just a little. Start to let in some light and start to become aware of any flow in sight. You might be aware of a tree out the window, leaves moving in the wind, or some other kind of flow in the visual field. Take a moment to experience that.

Close your eyes again. Let go into the flow of sensation, sound, and thought without directing your attention anywhere in particular. Just drop in to that constant movement and change in the body, in the mind, and in the sounds of your environment, diving into flow.

As you do this practice, if you need to use other techniques, you're always welcome to do that. Maybe you get really pulled into thoughts and need to just observe them for a moment and give them some acknowledgement. Or maybe you start to feel some pain in the body or an intense emotion. You can notice that, give that some space, or turn to relaxation and take a moment to settle the system. All of these tools work together.

When you're ready, come back to flow, noticing that even your awareness gathers around something and then moves and gathers around something else—a sensation, a sound, a thought. Even your awareness is flowing.

Take another moment to drop into flow, but this time notice flow that's pleasurable in the body, in the mind, or in the sounds around you, relaxing into the flow and going with the flow.

If at any time you're doing this technique and you get confused or lose track of what you're doing, you can always come back to the simple flow of your breathing. Your breathing is always flowing, moving, and changing with every inhale and every exhale.

You can now open your eyes.

Imagine how good sex will feel if you bring in this technique. You could start by simply feeling the sensation of your partner's body moving against yours, the sensation of his or her fingertips touching your body, or the sensation of his or her skin under your fingertips. However you have sex, there's always going to be some movement and change, and you can start to pay attention to that.

Before sex, you can even synchronize your breathing with your partner. Just sit down and breathe in and out together, maybe looking into each other's eyes. As you begin to move into sexual activity, keep your breathing synced up. Then, notice the flow in all the waves and spikes of pleasure. As you do this, you might become tuned in to the flow occurring in your partner's body, and this is where you might experience the mystical feeling of oneness and unity.

# AWE: A DEFINING HUMAN EMOTION

## LESSON 17

What is awe? This lesson answers this question first by differentiating awe from related emotional states, such as beauty, wonder, and epiphany. Then, the lesson traces its cultural history to determine where it came from. Finally, the lesson considers sources of awe as another way to get insight into the nature of this emotion.



## **DIFFERENTIATING AWE FROM RELATED EMOTIONAL STATES**

When we define awe, it's important, given the complexity of the emotion, to differentiate it from related phenomena. Awe is the feeling of being in the presence of something vast that challenges your understanding of the world.

We differentiate awe from related emotional states, such as astonishment, which is less intense.

Awe is different from beauty, which is less powerful.

Wonder is the state of curiosity and amazement that motivates the search for understanding. It's more of a knowledge-seeking state than awe is.

We also differentiate awe from elevation, where you feel inspired by the moral goodness of other people.

Finally, we differentiate awe from epiphany, which is the sudden realization of something really deep and meaningful about your life or the world. Epiphany doesn't necessarily have to be vast like awe.



## A CULTURAL HISTORY OF AWE

Awe, like all of the human emotions, has a phenomenally rich and interesting cultural history. In the written record of early human history, awe was an emotion that was intertwined with religious experience. It was filled with the dread, wonder, uncertainty, and deep humbleness people felt thousands of years ago when they encountered God.

Then, awe transformed dramatically in the era of the Enlightenment in the 18th century—in large part thanks to the dramatic, radical writing of the Irish philosopher Edmund Burke. In 1757, he published *A Philosophical Enquiry into the Origin of Our Ideas of the Sublime and Beautiful*, in which he contends that awe arises when perceiving power that is obscure. He writes about how awe is triggered by thunder, clouds, and the sky. He differentiates awe from beauty, which he writes as being a softer emotional response. Through his writing, Burke takes awe out of the purely religious realm and brings it into our everyday perceptual experience.

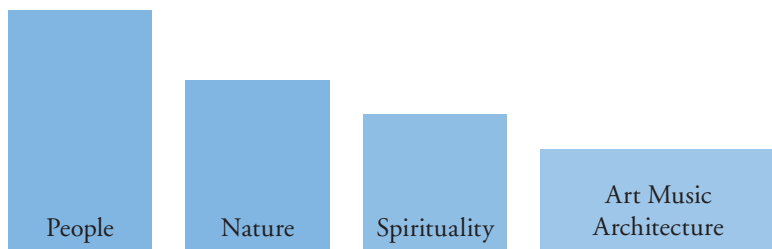
Ralph Waldo Emerson, one of the great writers in the American transcendentalist movement, advocated for nature as a source of awe. Emerson wrote about the experience of getting out into our favorite part of nature and feeling our sense of self start to fade. We feel an expansion of who we are, and we no longer care about the more egotistical concerns of life.

We also learned about awe from psychologist William James, who wrote *The Varieties of Religious Experience*, published in 1802. He surveyed Puritan preachers, Buddhists, and Hindus, and wrote about the mystical core to experiences of awe, such as visions, enlightenment, and transitional states, in which you lose the sense of the boundaries between self and other, as well as the sense of time, and feel deeply interconnected.

## SOURCES OF AWE

Researchers surveyed thousands of people in 26 different countries, including countries of all the great religious traditions, countries of different degrees of economic wealth, countries that range from collective to individualistic, and countries that vary in their degree of education. In this study, participants were asked to write about an experience of awe.

The researchers found that the most common source of awe worldwide is other people; the second most common source of awe is nature; the third most common source of awe is spirituality; and less common sources of awe include art, music, and architecture.



The researchers were struck by the fact that other people are an underappreciated and most common source of awe.

They discovered that we are awestruck by people's kindness.

We are also awestruck by people's virtuosity. For example, if we hear a child play the piano, we might be struck by how good he or she is.

We are awestruck by size. For example, a person who is seven feet tall makes us feel awestruck.

We're awestruck by people's heroism—for example, people who overcome challenging life circumstances to do good in the world.

Unexpectedly, researchers found that childbirth (the spectacular aspects of the process and the fact that life comes out of it) was a common source of awe across countries.

The second source of awe, nature, is intuitive to people. We are awestruck by sunsets, waves, trees, vistas, tornadoes, and other natural patterns.

Spirituality is the third source of awe, which is found in prayer contemplation. When people meditate or engage in mindful practices, they will often be struck by a sense of awe about what it can bring to them and what the qualities of their mind are like.

These are also other, less common sources of awe.

People very commonly feel awe when engaging in collective activities, such as dances, festivals, celebrations, weddings, and even funerals. People feel awe at political rallies and at sporting events.

There's a sense of awe that people commonly feel when encountering remarkable architectural structures, paintings, and poetry.

People feel awe about ideas. For example, a person feels awe when first learning about how DNA or evolution works.

People feel awe about technology, such as rockets and spacecraft.



### FACTS ABOUT AWE

Awe is much more common in people's ordinary experience than we might expect. Research shows that we feel awe about two to two and a half times a week.

About a quarter of people's experiences of awe involve fear, threat, uncertainty, and elevated stress-related physiology.

There is cultural variation when it comes to awe. For example, in China—a more collectivist, hierarchical culture—awe is more submissive than it is in the United States, where awe is more egalitarian.

# HOW CAN YOU FIND MORE AWE?

## LESSON 18

What does awe do for us? This lesson answers this question by explaining what functions awe serves in human interactions and why we evolved the emotion of awe. The lesson also addresses how to find more awe in life.





## SURVIVAL: SELF-INTEREST VERSUS SOCIAL GROUPS

Emotions help humans adapt to problems and opportunities that are important to our survival.

In his book *The Social Conquest of Earth*, biologist E. O. Wilson wrote about ultrasociality, which he said is the defining strength of the human species. We defended ourselves, took care of vulnerable young, and got food for our survival in tight social groups.

This idea that our collective tendencies are a deep part of our evolution traces back to Charles Darwin, who in *The Descent of Man* wrote about how sympathy, as well as many of the prosocial emotions—such as awe and gratitude—are increased through natural selection. He argued that to survive as a species, we need to survive in strong communities.

One of the implications of this analysis is that if we're going to survive as an ultrasocial species in strong social groups, we have to have mechanisms that help us move away from gratifying our self-interests to acting in ways that benefit the interests of others.

Various intellectuals, from economist Robert Frank to philosopher Elliott Sober, have grappled with the complicated concept that we're not just self-interest machines. We have to have particular emotions, tendencies, and ways of interacting with each other that benefit others first and often sacrifice self-interest. That is at the heart of being an ultrasocial species.

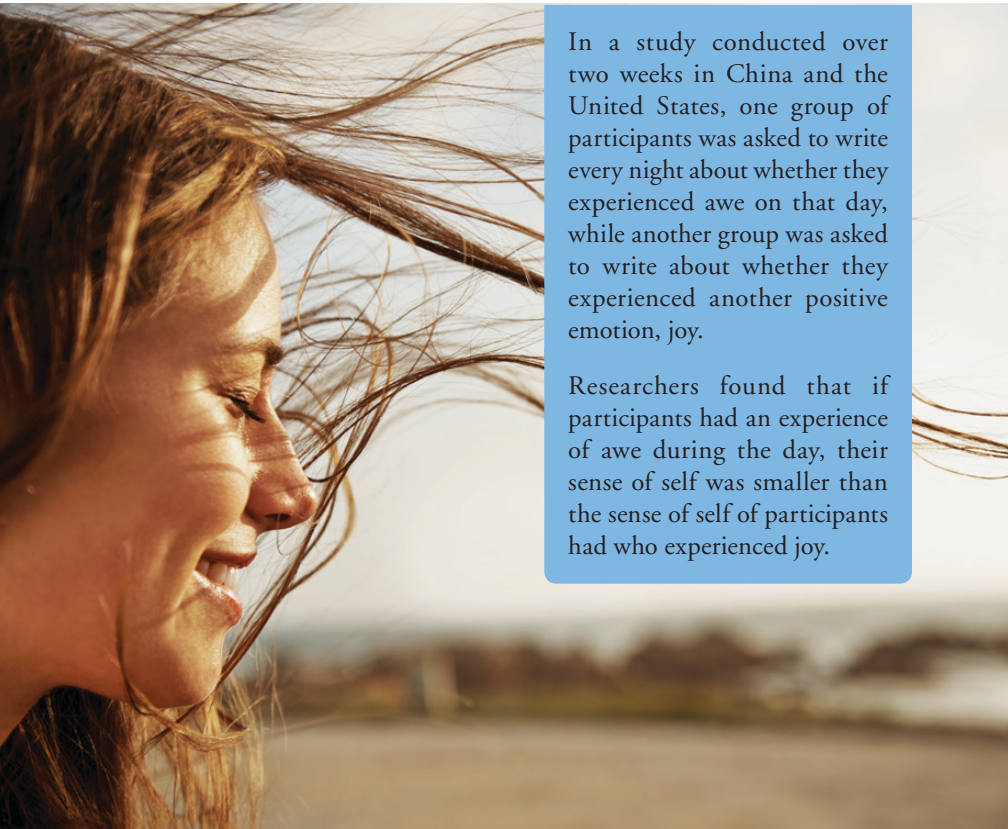


In light of the concept of ultrasociality and transcending self-interest in the service of others, a variety of scholars, from David Hume to Martha Nussbaum, have made the case that there are certain emotions—such as compassion and gratitude—that motivate behaviors that help us act in the service of other people and momentarily ignore our own self-interest.

Research has shown that this amazing experience of awe does a few important things that help us form strong social groups:

It shifts our attention away from our own self-interest to focus on other people's interests.

It helps us form strong ultrasocial groups by motivating and producing more altruistic, cooperative behavior—a foundation of human social living.



In a study conducted over two weeks in China and the United States, one group of participants was asked to write every night about whether they experienced awe on that day, while another group was asked to write about whether they experienced another positive emotion, joy.

Researchers found that if participants had an experience of awe during the day, their sense of self was smaller than the sense of self of participants had who experienced joy.

Research shows that as people's sense of self becomes smaller and starts to vanish, they are aware of the much stronger connections that they have to other people in their social network.

Another benefit to the diminishing or vanishing of the self is the ethic of humility, which has two different attributes: You have a realistic view of yourself, including your faults, and you are open to the strengths of other people. A variety of studies show that momentary experiences of awe make people humbler, which helps us fold into social collectives.

This vanishing of the self has been traced into the human brain.

One of the functions of a region of your brain called the default mode network is that it keeps you on task and helps you achieve your goals. Scientists now think of the default mode network as part of the self, keeping track of things in the present environment. Research shows that awe experienced through nature, contemplation, mindfulness, and even psychedelics reduces activation in the default mode network, meaning that the sense of self starts to be diminished.

As self-focus fades, we become more curious about other people. Research shows that when people feel awe, they ask more questions of other people during social interactions. Some studies even show that we have an expanded sense of time.

We also feel less everyday stress. Research shows that as we feel awe and experience less self-focus, the body's stress-related inflammation response—which produces cells that attack pathogens in your body and is problematic to have chronically activated—lowers bodily inflammation.

One of the implications of the idea that awe helps us fold into strong social collectives is that awe should increase the likelihood of prosocial tendencies, such as sharing, being cooperative, sacrificing for another person, and various forms of kindness. And research supports this thesis.

Studies have shown that awe makes us feel connected to others and makes us kinder and more prosocial. Studies have also shown that brief experiences of awe make us share more, cooperate more, give to strangers more, and act in a more altruistic fashion.

## WHY WE EVOLVED THE EMOTION OF AWE

In 1872, Charles Darwin was facing a lot of criticism about how evolution would account for the emergence of particular human tendencies, such as emotions. In response to his critics, Darwin published *The Expression of Emotions in Man and Animals*, in which he laid out a few ways of answering the questions of why we have awe and where it comes from in our human and mammalian evolution.

The first thing that he pushed was the idea of universality—that the characteristics of humans that are produced by evolution should be genetically encoded and have physiological structures. They should be part of the universal human as it has been crafted by evolution.

The second thing that he captivated people with was mammalian origins. He wrote about the emotions of cats, dogs, nonhuman primates, and other species as a way of saying that perhaps there is a precursor in mammalian evolution that we could trace back to help us understand why we have awe.

Paul Ekman, a founding figure in the study of emotion, was a pioneer in translating these two criteria—universality and mammalian origins—to the study of human emotion by studying facial expressions and their universality.

Based on research in this area, what do we know is universal in awe? What might be some of the behaviors that are precursors in other mammals to human awe?

The human vocal apparatus is a spectacular system of communication. Anatomically, the brain sends signals down to the muscles that surround your lungs, which contract, sending bursts of air particles to your vocal cords. The vocal chords start to vibrate and produce sound waves of different frequencies, which then move through your mouth into your nasal passage. Finally, a sound comes out. And sounds come in very diverse forms, including laughs and words.

Depending on dozens of different factors, it takes more than 100 muscles to produce a single sound.

Vocal bursts are sounds that we make to communicate emotion to other people (without words). It is believed that vocal bursts predate language; some linguists even believe that early vocal bursts are millions of years old. In fact, in combination with things like pointing and gesturing, vocal bursts may have given rise to words and other linguistic structures. Cross-cultural studies have shown that vocal bursts are very old universal characteristics of human communication.

Remarkable work has been done on the bodily response of awe, which is colloquially called the chills and involves a rise of sensations and the body shaking in response. Research in this area has found that the feeling of the chills breaks into two distinct sensations: goose bumps and the cold shiver.

Goose bumps, which are related to awe, describe a pattern of response that goes up your arms and the back of your neck.

The cold shiver results when you shiver and shudder when you feel something is scary or worthy of wariness.

Research has shown that goose bumps map onto feelings of awe and elevated joy, whereas the cold shiver maps onto a much different response, which is social disgust.

Research conducted in 26 different countries found that the goose bumps of awe are a universal response, and when we feel them, they make us feel part of a social collective or community. We feel like we have a common cause with people, and this is at the heart of our motivation to fold into social collectives.

There is speculation about the mammalian origins of this response. The idea is that many different species of mammals, such as rats and certain dogs, will fluff up their fur—which is the same anatomical response as human goose bumps—to get warm and to get close to each other when they face collective threats. This may tell us about the deep origins of awe, because it is a response that we feel in the chills, when we're trying to get warm and bond to each other to handle circumstances in the environment.

## HOW TO FIND MORE AWE

Awe gives us a sense of more time, reduces stress in our life, makes us more prosocial, and quiets the inflammation response in our nervous system, so there is increasing active literature on finding awe.

**Get out in nature.** Research has shown that just getting out in nature gives you awe. Find a place of awe that strikes you, that gives you goose bumps, that makes you feel a sense of deep meaning. When we immerse ourselves in nature, we feel more purpose and more content and we concentrate better.

South Korea and Japan have a rich tradition of healing forests, in which you can experience awe by partaking in rituals as a form of health care.

**Study nature to get a sense of awe in the sacred.** Early thinkers and philosophers wrote about how to find things that transcend our understanding of the world, make us find deeper meaning, and endow life with a sense of the sacred. Humans in different parts of history and different cultures have studied nature to get a sense of awe in the sacred by looking to the clouds, the sky, the tides of the ocean, or the changing colors of leaves on trees.

**Engage in contemplative practices.** Many great contemplative practices, such as mindfulness and collective rituals, give us a sense of awe.

**Find texts that resonate with you.** For example, find a great novel or film that you can return to over time. Specifically, historical studies of great people and how they inspire us give us awe.

**Take an awe walk.** This is a walk you can do once a week that takes you to a place that makes you appreciate something vast, such as a tree or a beautiful pattern on a building, that has special meaning to you. You can do this in urban or suburban settings, near parks or green spaces. Awe walks are a great way to reduce levels of stress, create a sense of connection to others, and take a more mindful approach to cultivating this very powerful emotion.

# **BLUE MIND: THE HEALING POWER OF WATER**

## LESSON 19

Being near, in, on, or even under water helps us be happier, healthier, more connected, and better at what we do. This connection between our mind and our water planet is called blue mind. Water is life. We are made primarily of water, and the planet we live on is covered mostly with water. Water is our oldest medicine for not only our physical health, but also for our mental and emotional health. Our brains and bodies are hardwired to respond positively to water of all kinds in ways that can improve our physical and emotional health. Water can also provide a universal tool for enhancing mindfulness.



## THE VALUE OF WATER

We live on a small blue planet; it is mostly covered with water. Our bodies are mostly made of water, and whatever we do on this small blue planet matters—the big things, the little things, the good things, and the bad things.

What's your water? What's the water that you dream about and long for?

When did you fall in love with your water?

Who took you there? Who was your guide? Who is the person—maybe a teacher or family member—who brought you to your water the first time?

Think about how much that water means to you and your life.





For some people, their water is simply a matter of hydration and hygiene—the water we drink and bathe in. For others, it's a more adventurous experience; it's the water we play in, from white-water rafting to paddling on flat water. For many people, it's the community and the family time we get when we spend time on the water together, sometimes just standing around having conversations in the water with the people we love.

For still other people, it's being in domestic water—being indoors in bathtubs and showers or even taking a sip of water from the tap. We get to luxuriate in the taste and feel the coolness, the hydration, and the refreshing sense that all is well when we connect with our water.

When we're out on our water, we pause and think. We ponder and dream. Water can help us sleep; it can help us slip away and calm our minds. When we learn new skills on or in the water, we feel more empowered and stronger. We feel like better versions of ourselves. We connect with ourselves and the people around us.

This water story is not just about oceans. It's also about lakes, rivers, and springs. Wherever we are in the world, we are never far away from water, even if we're in the desert.

We need to understand the true value of healthy waters cognitively, emotionally, psychologically, socially, and even spiritually in order to protect them, as well as ourselves, and take care of the planet we share.

## **MINDFULNESS AND WATER**

There are a number of books related to applied neuroscience and neuropsychology in the realms of music, creativity, happiness, and even economics. There are many books about how we can change our mood and our minds by being more mindful.

Now there's a whole new generation of books exploring how nature—and, in particular, water—can help us reconnect with ourselves and with those around us.

The field of neuroconservation connects neuroscience and conservation biology and involves protecting the world around us in a more mindful way. In order to do good neuroconservation, we have to understand that people are human. And understanding how people react to the world around us is incredibly important to taking better care of that world.

Research on how our brains track nature has shown that when we're swimming in the water, we follow the eyes of animals as they swim with us. We are drawn to novelty.

The water around us also helps us relax. It switches our emotional state from a focused, prefrontal cortex, active, working state to a more distributed perspective involving the default network of the brain.

The value of water is ecological, economic, and educational. But it's also emotional, and the emotional value of water is important to our wellness and to understanding how to better take care of the water around us.

The emotional value needs to be the focus. Conceptually, emotion underlies all of our decisions. And as psychologists and neuroscientists have unpacked the science of emotion, we've learned that emotion is a physical, physiological response to the world around us.

## **RED MIND AND GRAY MIND**

Around the world, people are experiencing increasingly higher levels of stress all the time. Many things are easier for modern humans, but we're still experiencing a high level of stress for a number of reasons.

The world seems to be more connected. We're ever more stimulated. We're always "on." And this takes its toll on our minds and bodies.

Social media is changing the way we interact with the world. Higher levels of anxiety and depression are occurring in people. Many people are self-medicating. They're taking care of the stress and anxiety in ways that only create more and more stress and anxiety.

About 60 percent of modern diseases and disorders relate to stress. They're either caused by stress directly or exacerbated by it.



There is a public health crisis as a result of the stress and anxiety that pervades our lives. At its most extreme—for people who have experienced acute or repetitive trauma—we refer to it as post-traumatic stress.

Sometimes the result of all this anxiety and stress is suicide. A number of people take their own lives and are unable to manage the anxiety that is occurring for them daily.

Taking all of this together, this state is called red mind, and it is increasingly the norm. It's a state of overstimulation and overconnection, but at the same time a disconnection that causes anxiety and stress in our lives.

Eventually, red mind leads to gray mind, which is a burned out, numbed out, indifferent, blasé perspective of the world. None of that is good for us.

Red mind is useful; we need it to get things done and to reach deadlines. But if it's all we have, then eventually it burns us down.

We often bring messages of fear and anger to try to motivate people to respond to the environmental crisis that the world faces today, even though research shows that anger creates a fight-or-flight response. We bring tools like shame and unload a lot of facts on people.

This combination of fear, anger, shame, and facts creates even more red mind. And in that red mind fight-or-flight state, we are less creative, less collaborative, and less likely to solve problems and find our way forward. We're more likely to run away or fight. And that doesn't solve our problems.

The message that we share about water is that we have a huge problem. Instead, we should lead with gratitude. What if we say thank you for what people are doing to help solve the problem? We begin with gratitude and build on that with love. We create connections, and respect builds up between people and allows us to communicate in a way that helps solve problems.

By bringing more positive emotions to the conversation about water, we have a better chance of solving our water problems.

## **GREEN SPACE AND BLUE MIND**

There's an increasing amount of literature on how green space can help us take better care of ourselves and improve our health and wellness, both physically and mentally. And blue space is now entering the picture.

In this conversation about water and forest, green space refers to plants, forests, and trees. Blue space refers to lakes, rivers, and oceans.

When we add blue to the equation, the benefits increase. Even the sound of water allows us to relax and helps us become more mindful.

Recent reviews of all the studies on blue space indicate that from a mental health and emotional health perspective, water is a wonderful tool. In fact, water is medicine for our mental health.

These are important insights into understanding the world around us and how we communicate the need to protect and restore the lakes, rivers, and oceans of our planet.

Lab-based research is being conducted to determine how the brain responds to fields of green and fields of blue—to scenes related to a creek running through the mountains or a coast, an ocean, and waves. This research has shown that specific portions of the brain light up in response to nature. These new studies are giving us even more insight into the science behind blue mind.



# **GO DEEPER: THE SEVEN AGES OF WATER**

## LESSON 20

Blue mind can be carried through our entire life history—  
from birth through death—in what can be considered the  
seven ages of water.



## BIRTH

Each of us spent nine months in the womb—underwater in the dark in a sailing environment, just swimming around and relaxing, without a care in the world.

When we emerge into the world, suddenly there are bright lights, gravity, and air. Some people have a water birth that transitions from one watery environment to the next to make the experience less harsh for the baby. Our birth story is probably one of the most important stories that we carry with us, so when our birth involves water, that may set us up for a lifelong love of water.

It's important to consider the role of water in conception, gestation, and birth—but also in our early lives. Getting children into the water at an early age is good for their cognitive development. Moving in the water safely together and supervised is referred to as water parenting, and it's starting to catch on all over the world.

## PLAY

As we become mobile, we begin to engage with the world around us, especially through play. Scientists have shown that play is not just for fun; it helps both our brain and body develop properly. We begin playing in three dimensions, interacting with the world, trying things, sometimes failing, and trying again until we succeed.

### **It's Just Science! Play Fuels the Mind**

Improves decision making

Clears out the cobwebs

Raises empathy



Increases speed of learning

Jump-starts imagination & creativity

Raises engagement & motivation

Learning new skills in the context of water allows us to fall and fail less painfully. Eventually, we learn to swim in water and to dive and jump into water—interacting with water in all of the many ways it allows—which is part and parcel to play.

Water helps us connect with the world around us in a hopeful way. Water can also help us deepen our trust in ourselves and in those around us, as well as the water itself. This is no small deal, considering that most of the planet is covered with water. We will all interact with water on purpose or otherwise throughout our lives, so building trust and respect for water is incredibly important.

Programs around the world are introducing children to water and helping them work through many of the disorders and dilemmas that may plague their young lives.

Children build confidence when they learn a new skill, and the water can be the vehicle that allows this. There are programs that teach children how to surf and swim as well as basic safety skills, and children leave those programs feeling empowered, stronger, and more connected to each other and to the planet we live on.





There's a sense of freedom that comes from being in the water that is hard to find anywhere else.

It's very important that we continue to play throughout our entire lives. As adults, we have a fear of letting go and finding that part of ourselves that is more open and more creative. But don't be afraid of that. Continue to get into the water and play. Splash around and let your mind open.

## THE LOVER

This period is when we fall in love with ourselves, with big ideas, and with each other. It's when we begin to dream big dreams that become our future.

Research shows that mind wandering and daydreaming are incredibly important to creativity and solving problems. Disconnected time to let your mind wander is when we begin to dream, and those dreams become the ideas that will dictate our lives.

In many cases, taking time away from daily life, especially traffic and technology, and just walking on the beach with someone you love and having a moment of privacy to connect to each other is what falling in love is all about.

A sense of awe and wonder overcomes us when we experience nature, such as the large ocean or a sunset. Scientists have discovered that having a sense of awe and wonder sets us up for an increase in empathy and compassion. Because the number one source of awe on the planet is nature and water is the biggest subcategory of nature, then it follows that water builds empathy and compassion.

It's very important that we take care of ourselves and work on our personal emotional health so that we remain strong, clear, and creative. But what's even more important is that we connect that wellness to the world around us to improve life on earth.

Find awe in your water, whatever your water is—whether it's the pond down the street, the creek running through your community, or an ocean that you visit during a vacation.

Another part of the lover age is falling in love with each other. It's about romance and the romantic connection that we have with each other. And there's something about the water that is incredibly romantic; it's almost a cliché that water and romance are intertwined.

## THE FIGHTER

This age is when we fight for what we love. We can fight for our water. We can restore coral reefs and fight for the water and life within our oceans.

We can also fight on the court and on the field as athletes, and elite athletes are understanding that water helps them heal, reduce stress, and come back stronger.

Athletes use flotation therapy as a way to calm their minds and improve their performance, and using flotation pods is becoming more mainstream among elite athletes. Research shows that floating in water is good for the mind and body, and athlete performance is backing this up.

Sometimes we fight for what we believe in. All warriors need to know about humility, and nature—especially water—teaches us about humility. The ocean will knock you down; the river will sweep you away.

Water gives us the resilience we need to come back over and over and fight for what we love. When you fight for what you love, you will fall down and get hurt, and you will need to stand up and come back to fight again—whether it's fighting for the people you love, the ideas you care about, or the places that help make you whole.

## THE JUSTICE

This is the widest and longest age of our lives, when we are in our productive years and are expected to be responsible, be creative, and solve problems on demand day after day. This occurs at work, in our household, in our place of worship, on our sports teams, and in our schools. This is the long, heavy age where we're carrying the weight of responsibility on our shoulders and doing our part for our communities and for society.

We need to find balance in this age. We need to understand that it isn't just about work; it's also about relaxing. And water can play an important role in helping us maintain our creativity, be responsible, and come back and be persistent, productive members of our team.

We need to be able to find a place to go where we can reset and relax, and the water provides a great opportunity to do this in many ways, whether we are near the water, on a boat, or even walking through an aquarium. Research shows that just standing in front of an aquarium tank puts you into a different state of mind. People's breathing and heart rates slow, and they report a higher level of wellness.

This blue-mind state also gives us a feeling of solitude. And in this increasingly connected world, where we're wired to each other all the time, solitude is at a premium. Being able to truly disconnect and be alone with your own thoughts is important to our mental health and wellness. Water provides an outlet for us to reclaim our solitude and leave our devices behind.



## EBB AND FLOW

This is when we need to get in the water to heal our bodies. We need to get near the water to reduce the weight of the world. This typically happens later in life, but it can happen at any point when we need water therapeutically.

We tend to find that this is needed most acutely later in life, as our joints start to get sore and our body starts to fail, but this can also happen after any kind of accident at any age.

Hospitals are beginning to understand that pools can be used therapeutically for their patients, both for recovery of their bodies but also to help them relax and mitigate pain. Children that are hospitalized and dealing with the pain of their condition can receive some relief from that pain through water.

The research around the world on the health and well-being benefits of swimming is clear: Getting in the water is a tool that is underutilized and available to everyone. We just need to step in and prioritize it. When we get in the water and move our bodies, we reduce the chances of injury and increase the chances of healing and recovery.

Even virtual water can help us mitigate pain and promote a path of healing. Research has shown that virtual ocean experiences via virtual reality goggles help reduce pain in children in intensive care.

Health-care professionals have begun to prescribe water as medicine. It's becoming more and more common for doctors, nurses, and medical practitioners to encourage their patients to get in the water.

Water is also a source of nostalgia. If we form memories of the water we love in the places we play during childhood, we can rely on those memories when it's harder to get to those places later in life. And these places can produce feelings of wellness, joy, happiness, and connection.

## DEATH

Water and death have always gone together. There are various kinds of ceremonies involving rivers and water. Around the world, there are burials at sea. And it's increasingly common for families to gather by the water to remember lost loved ones.

Water helps us reconnect with our families and with each other. It also helps us reconcile some of the differences that occur at the end of lives. Reconnection and reconciliation are facilitated by being near and in the water with those we love, even in the face of death.



### ACCESS TO WATER

If water is medicine for our bodies and minds—if it's a path to mindfulness and relaxation—then we should all have access to it. But we often don't.

There are three main reasons why we may not have access to water: the physical barriers that separate us from the water; the pollution that can preclude spending time in the water; and the perception (either in your mind or as a result of your culture telling you) that the water is not available to you.

# **MINDSIGHT: UNDERSTANDING YOUR INNER LIFE**

## LESSON 21

This lesson is about the mind and mindsight, which is the ability to see the mind. Strangely, the word “mind” is rarely defined in the many fields that explore it, such as psychiatry and philosophy of mind. But this lesson attempts to determine what the mind actually is and to use research to explore the nature of our mental lives.



## EXPLORING THE MIND

One of the ways of exploring the mind is to say that it includes our feelings and thoughts, called subjective experience. It's the first facet of the mind, and it's profoundly important. It's present in relationships of all sorts, including parent-child relationships, friendships, and romantic relationships. In fact, it's present in every kind of relationship where two people are interacting in society.

The first facet of subjective experience is known by us because we have the second facet—consciousness, which can simply be defined as the quality of knowing. Consciousness plays a crucial role in our development—in how we help people grow through life, whether it's in the process of helping children grow in families or in the process of psychotherapy. Consciousness is needed for intentional change.

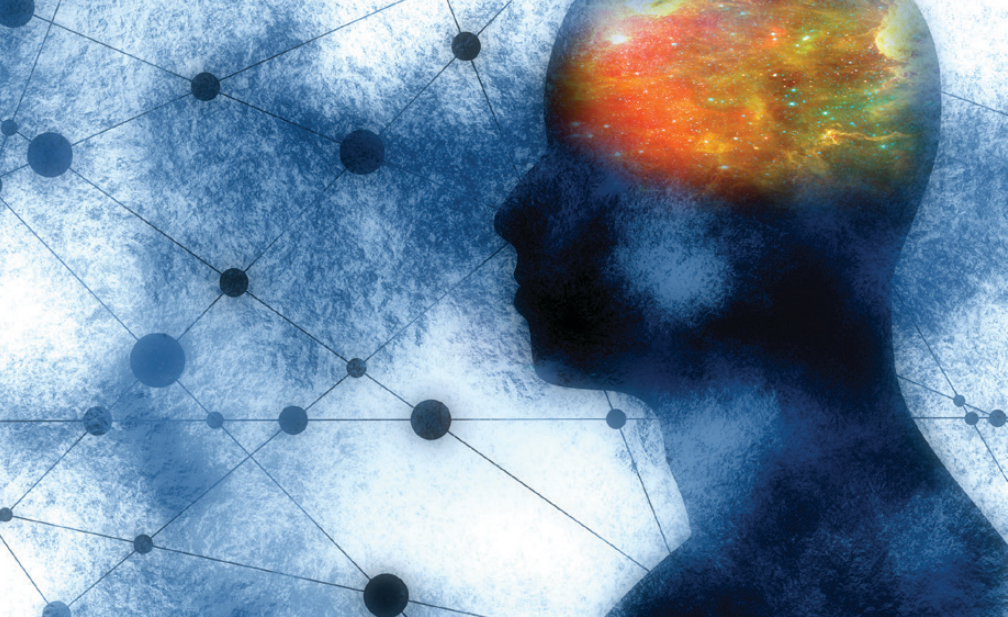
Another facet of the mind, which you may be experiencing at this moment, is information processing. As you're reading this text, you're using an extension of the body's experience to have cognition. Information processing doesn't necessarily involve consciousness; it can happen when you're sleeping or when you're focusing on one thing but your mind is processing something else. This is why information processing, or cognition, is said to have four E's to it.

**Embodied.** We experience this type of information processing not just in our head but throughout our whole body. There are processors of information in our head, of course, but there are also processors in our heart and even in our intestines.

**Enacted.** Our body and its movements, or its enactments, allow us to experience different ways that information flows.

**Extended.** Through books, computers, and phones, we can extend the information processing we do inside the body to outside the body.

**Embedded.** This is the way we culturally have shared meaning and symbols. For example, we have words that we use with each other, and linguistics embeds meaning in our relationships in our culture.



These three facets of the mind—subjective experience, consciousness, and information processing—are wonderful descriptions. But if someone asked what exactly a subjective experience is, or how consciousness emerges, or what exactly information is, these descriptions don't help us move to a level of considering, for example, where the mind is in all of that or what a healthy mind is. There is a fourth facet of the mind that helps us address these important questions.

## **ENERGY AND INFORMATION FLOW**

Consider that the word “mind” for many people is the origin of the self. It is often thought of as coming from the brain. The field of modern psychology has based a lot of research on the notion that whatever we think the mind is, it is roughly equal to brain fire, and the mind is what the brain does from that perspective.

Subjective experience is not the same as brain firing, even if the mind is totally dependent on the brain. What exactly is this mind that has subjective experience that isn't exactly the same as the brain, even if it's dependent on brain activity?



What are subjective experience and consciousness? What are they arising from? What is information processing? And why is it that various fields, such as psychiatry and neuroscience, emphasize the head brain but other fields, such as sociology and linguistics, emphasize the relational aspect of mind? What could be both within your brain and also within your relationships with other people and the larger culture in which you live?

What is the essence of the substance that happens inside your brain in your head, maybe even throughout your whole body, but that also happens between you and your friends and family? That essence is something that completely changes how we understand the first three facets of the mind and helps us define a fourth facet that takes us to the next level of asking, What is the mind and what is a healthy mind?

That substance is energy and information. And because energy and information changes, or flows, we can use the phrase “energy and information flow.” But where is this energy and information flow?

The location of the system of the mind is both within your skin-encased body, including the skull-encased brain, and it’s between what goes on inside your body and what happens between your body and other people. Energy is shared in our relationships with other people, and even with the planet as a whole.



Energy is streaming through the body. And if we focused on the brain, we could see that energy is what the brain is all about. It is a transformational organ of energy and information flow.

But if this is the system from which the mind emerges, what actually is the mind? It could be subjective experience, consciousness, and information processing. Maybe those processes are simply emerging from energy and information flow.

But there's a fourth facet of the mind that not only helps us answer the question of what the mind might be—something about energy and information flow—but also asks the question, What is a healthy mind?

This system of energy and information flow that goes within you and between you has several qualities that from a mathematical perspective meet the criteria for a complex system: being open, or influenced from outside of itself; capable of being chaotic, which roughly means random in what's going on; and nonlinear, which means that when something small happens, large and difficult-to-predict results unfold.

If a system is a nonlinear, capable, open system, then in mathematical terms it is a complex system. And in this complex system in our universe, mathematics shows it has emergent properties, which means the stuff of the system is interacting with itself and giving rise to something that is more than just its elements. In other words, the whole is greater than the sum of its parts.

Maybe subjective experience, consciousness, and information processing are simply emergent properties of a complex system of inner and outer energy and information flow. And that could be, but a second aspect of complex systems is that they have one particular emergent property called self-organization, which illuminates many properties of the human mind.

It's a proven outcome of complex systems that they have emerging from them a self-organizing regulatory process that regulates the very essence from which the system then continues to arise.

## SELF-ORGANIZATION AND INTEGRATION

Self-organization is the fourth facet of the mind. And with that, we now have a definition of “mind”: An aspect of the mind can be defined as the embodied, relational, emergent, self-organizing process that is regulating energy and information flow.

Embodied means that this energy and information flow is not limited by the hard case of the skull. To make the mind—that is, this self-organizing aspect of the mind—reside only in the head makes no sense. And many researchers concur that looking deeply at the whole body is a natural way to understand the mind and not limit it to just the head.

Relational means that energy and information flow happens between two people. In that view, an idea is a piece of information that is being shared between one body and another.

Emergent, a deeply scientific term that comes from mathematics, suggests that the mind is an emergent phenomenon, a property of energy and information flow that is embodied and relational.

Beyond just the possibility of the other three facets, this fourth one actually is one particular property, called self-organization, which is the self-organizing process that regulates the flow of energy and information.



From this definition, we can ask what optimal self-organization looks like, how we develop it, and what happens when we repair it. And does that give us any insight into the mind?

Optimal self-organization is predicted by the mathematics of complex systems when the system is differentiating aspects of itself and then linking them together. The linking of differentiated parts of a complex system is called integration.

When integration is occurring, the system moves with harmony. It has five qualities, which spell the acronym **FACES**: flexible, adaptive, coherent, energized, and stable.



Integration can explain almost all the listed symptoms of the various syndromes of mental disorders in the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders*. In fact, we can reinterpret every one of the syndromes as chaos and/or rigidity. For example, there is the chaos of mania and the rigidity of depression.

What support do we have for the mind having this fourth facet that we've defined as a self-organizing, emergent process? Every study done of the brains of individuals with various psychiatric conditions so far, without exception, has found impaired integration in the brain. In various disorders, the structures of the brain are not well developed.

A new set of studies called the Human Connectome Project show how the differentiated areas in the brain are linked. So far, major psychiatric disorders also have impairments in the connectome, the map of neural connections in the brain.

In the practice of mindfulness, you go from states of chaos and rigidity to states of harmony. Brain studies show that areas of the brain that are integrative grow and the connectome becomes more interconnected. Therefore, it's reasonable to state that a practice like mindfulness or mindful awareness training or any reflective practice that integrates your mind is also integrating the brain.

In studies of the connectome, when researchers analyze every measure of mental well-being and try to determine the brain feature that goes along with it, one brain feature has been found to predict well-being in every measure that researchers could assess. That is how integrated our brain is.

# THE WHEEL OF AWARENESS: A MODEL FOR WELL-BEING

## LESSON 22

Mindsight, the ability to see the mind, has three components: insight into your inner life, empathy for the inner life of someone else, and integration. We've defined integration as things being differentiated, or allowed to be special and unique, and then becoming linked together, or connected. The important aspect of integration is that it maintains the differences yet creates the linkages to one another. And integration creates a harmonious flow of the FACES—flexible, adaptive, coherent, energized, and stable—which we're defining as mental health. What can you do to create more integration, and therefore more well-being, in your life?



## HOW TO CULTIVATE INTEGRATION

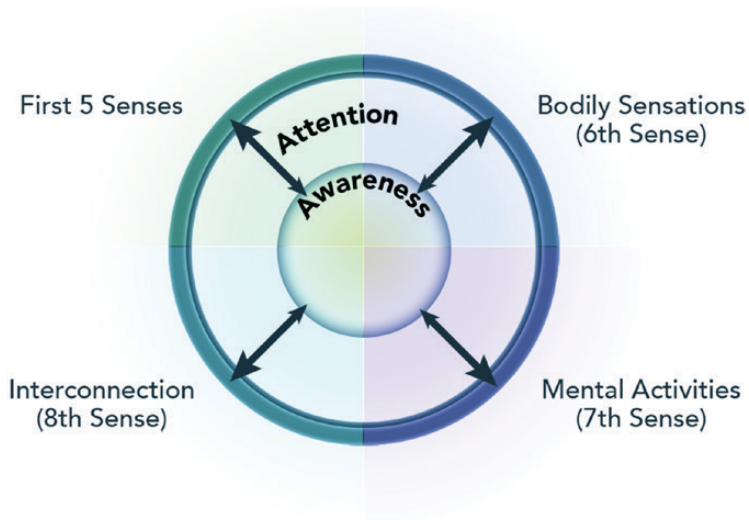
We know enough from science and with this framework of the mind to determine what you need to do to cultivate integration. It builds on insights and empathy—the first two parts of *mindsight*—and teaches you how to create the third part of *mindsight*, which is to promote integration in your life.

One scientific notion is that consciousness is needed for intentional change. To intentionally create more well-being in your life, you want to use the experience of being aware.

Another scientific notion is that integration is health. That's what we're suggesting comes from seeing the mind as a self-organizing process.

If integration is health and consciousness is needed for any change, what would happen if we integrated consciousness?

Picture a wheel with an outer circle, which is the rim, and an inner circle, which is the hub, and a singular spoke connecting the central hub to the outer rim. Now picture your rim and divide it into four sections, each of which represents the knowns of your life.



On the first segment, we place the first five senses, which basically involves bringing energy in from the outside world through sound for hearing, light for seeing, chemical energy for smelling and tasting, and tactile energy for touch.

We then move the spoke over from the first segment to the second segment of the rim, which represents the energy patterns from the inside of the body. This is known in science as the sixth sense—interoception—which means perception of the interior. For example, it is the sensations of muscles and bones and the feelings of each of your organs, which you can review one by one and differentiate each from the other.

We then move the spoke over to the third segment of the rim. Imagine what else can be unknown in your conscious experience, such as thoughts, feelings, and memories. These are all considered mental activities, and they can be considered our seventh sense.

We then move the spoke over to the fourth and final segment of the rim. This is the segment that represents our sense of interconnection—our sense of relationship with other people, nature, and the world around us. This can be considered our eighth sense.

## **HOW TO USE THE WHEEL OF AWARENESS**

There are three aspects to the wheel of awareness: focused attention, open awareness, and kind intention or compassionate care. These three pillars of mind training have been identified by researchers as cultivating well-being in many ways.

When you have this three-pillar mind training, you cultivate a more integrated brain, which it turns out is necessary for having a nimble, resilient brain—a brain that regulates with more efficacy attention, mood, emotion, thought, memory, behavior, relationships with others, and morality. All of these functions are part of self-regulation, or executive function, and they all come from integrative fibers in the brain, many of which have been shown in preliminary studies to grow after mind training.



By doing the wheel-of-awareness practice, you get in a single practice the three pillars of training focused attention in the mind. In the first segment of the rim, you're focusing on the energy flow coming from the outside world. Moving over to the second segment, you're focusing attention one by one on the different signals of the body.

Then, you move the spoke of attention over to the third segment, shifting from building the first pillar of mind training—focused attention—to developing open awareness. With focused attention, you're focusing on something and then get distracted and then return to your focus again, and so on, like building up a muscle.

With open awareness, you're sitting in the hub of being aware and inviting anything to come in—in this case, from the third segment of mental activities, our seventh sense. You're distinguishing the hub of knowing from the knowns. This is very different from choosing what you're paying attention to and thus makes a clear distinction between being in the hub versus being on the rim.

Then, after open awareness, we move the spoke around to the fourth and final segment, where we cultivate an awareness of our interconnections with other people, such as our family and friends, people in our neighborhood, and people with whom we work.


Based on a study conducted in Richard Davidson's neuroscience lab, in which verbal statements of care and kindness produced positive changes in the brain and even in behavior, the third pillar of the mind, kind intention or compassionate training, was incorporated into the wheel practice.

In many people, the hub becomes a very special place of simply being aware.

This mind-training pillar can be cultivated, like all of the other pillars, with repeated practice. This brings up a principle of neuroscience: Where attention goes, neural firing flows and neural connection grows. In other words, where you aim your attention—that's the spoke of your wheel—neural firing gets the brain to fire in particular patterns, and with repeated firing, a stronger, more interconnected brain results.

Studies suggest that with this kind of training, you're growing changes in the molecular basis of health and enhancing your physiology.

There is one more step in the wheel practice that is often done as you move along the practice and get used to the wheel: You explore the hub itself by imagining bending the spoke around, or leaving the spoke in the hub, or retracting the spoke—or just being in the hub—and in this awareness of awareness, amazing things happen.

A woman with curly hair, wearing a grey long-sleeved shirt and blue jeans, stands barefoot on a weathered wooden post on a sandy beach. She is looking to her left with a thoughtful expression, her hand near her neck. The background shows a calm sea and a cloudy sky.

By doing the wheel-of-awareness practice on a regular basis, you can cultivate an integrated state so that you create the traits of integration—the FACES flow. Do this practice daily for a minimum of 12 minutes a day, but typically anywhere from 20 to 30 minutes a day, depending on how you do it.

With practice, you intentionally create a state, and when that state is repeatedly created, you make changes in the structure and function of the brain so that your baseline way of being becomes a trait. And in this way, without effort, you develop the integrative capacities of the FACES: flexibility, adaptability, coherence, energy, and stability.

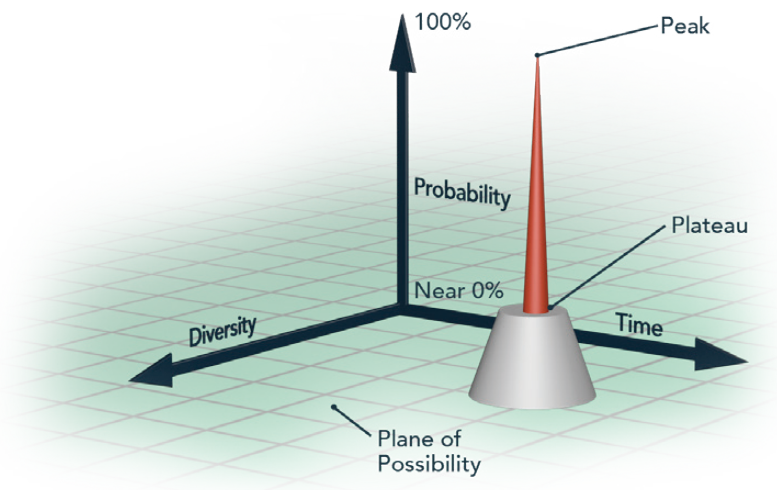
Research of thousands of people from all around the world has shown that when people go into the hub, they have a universal set of experiences. They feel a spaciousness, an odd sensation of things being empty and full, a sense of tranquility, a sense of God, a sense of love and peace and joy, a feeling of gratitude, a feeling of interconnection.

If our proposal that the mind is an emergent property of energy is accurate, then it's natural from both a scientific and a practical perspective to ask, What exactly is energy? If the brain is really an organ that's allowing energy to flow through it, then what actually is energy?

Physicists say that energy is the movement from possibility to actuality. Based on this notion, we could map out the research findings from people across the globe with what the hub may actually be in energy terms and propose that energy is a movement from possibility to actuality.

What may be going on is that when we have a thought or an emotion or a memory, it's actually an actualization of all the possible thoughts we could have.

Picture a graph where the top of the graph has a 100 percent line on the vertical *y*-axis. That will be called a peak.

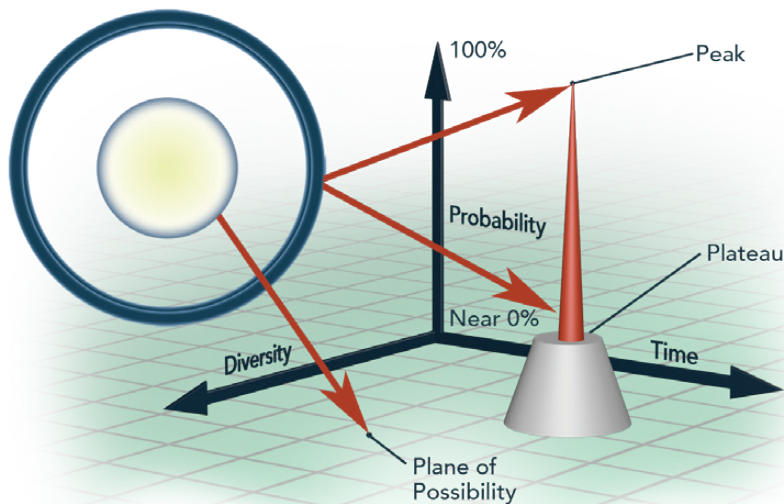


You add a thought, such as “I’m hungry for dinner.” That thought is a peak. As you come down below the peak, which is 100 percent, maybe you want to only think about restaurants you’re going to choose and maybe you only want a certain kind of food. Maybe there’s only 10 of those restaurants nearby. When you drop down to the choice of 10, that is a plateau. When you go to the actual restaurant, that’s a peak.

But let’s say before you ever got to that plateau or peak you were in what quantum physics calls the sea of potential, a quantum vacuum. It’s the mathematical space where all possible things rest. In that space, probability is called near zero, so it’s very uncertain, but possibility is maximal.

What this means from a mathematical point of view—that energy emerges from this sea of potential, the bottom of our *y*-axis, near-zero-possibility place—is that when people say “I was in a place that was empty and full at the same time” and “I felt interconnected,” what may be going on is that awareness of the hub comes from what we can call the plane of possibility.

This graph, made three dimensional, turns into a plane, and when you look at this plane, it maps out on exactly what people have been describing all around the planet about what the hub feels like.



If this is true, then we have an entire model for understanding what your mental life is and that integrating your mind would mean learning to access this plane of possibility, where not only awareness arises, but you can put a pause between the different plateaus and peaks that might arise so that you can think about what to do before you have an action.

You also have the experience where you drop into the plane of pure awareness. You come to realize how deeply interconnected we all are.

Finally, if this proposal is true, it means that when we learn to do the wheel-of-awareness practice and cultivate a differentiation of the hub from the rim, we're not only enhancing our experience of being aware, but we're actually dropping into the source of other options. So, instead of getting lost in the plateaus or peaks that could be imprisoning us, such as anxiety, depression, and post-traumatic states, when you do the wheel-of-awareness practice, the reason it may work so well for so many people is that you're dropping into this plane of possibility where other options rest. And then you are free.

And that is how the wheel of awareness can cultivate integration of consciousness in your life and set the stage for a healthier, more enriched life for you and everyone that you relate to.

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