



Topic  
Better Living

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Health & Wellness

# The Science of Mindfulness: A Research-Based Path to Well-Being

Course Guidebook

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Dr. Siegel is a longtime student of mindfulness meditation and serves on the board of directors and faculty of the Institute for Meditation and Psychotherapy. He teaches internationally about mindfulness and its application to psychotherapy and other fields, has worked for many years in community mental health with inner-city children and families, and maintains a private clinical practice in Lincoln, Massachusetts.

Dr. Siegel is an author or editor of a number of important publications relating to physical and mental health, including the following.

- *The Mindfulness Solution: Everyday Practices for Everyday Problems* (author), a guide for clinicians and general audiences
- *Positive Psychology: Harnessing the Power of Happiness, Mindfulness, and Inner Strength* (medical editor), a Harvard Medical School Special Health Report
- *Back Sense: A Revolutionary Approach to Halting the Cycle of Chronic Back Pain* (coauthor), a self-treatment guide that integrates Western and Eastern approaches for treating chronic back pain

- *Sitting Together: Essential Skills for Mindfulness-Based Psychotherapy* (coauthor), a new professional skills manual
- *Mindfulness and Psychotherapy, Second Edition* (coeditor), a critically acclaimed textbook
- *Wisdom and Compassion in Psychotherapy: Deepening Mindfulness in Clinical Practice* (coeditor), a collection of the work of leading scholars with a foreword by the Dalai Lama

Dr. Siegel is also a contributor to other professional books and publications, including *Psychotherapy Networker* and *Contemporary Psychology*, and is a codirector of the annual Harvard Medical School conference Meditation and Psychotherapy. His recent work focuses on identifying which mindfulness practices are most effective for treating particular conditions and populations.

Dr. Siegel has taught workshops for diverse organizations, including Kripalu Center for Yoga & Health, NASA, the National Institute for the Clinical Application of Behavioral Medicine, Kaiser Permanente, Psychotherapy Networker, the Massachusetts Collaborative Law Council, and numerous state psychological and social work associations. Topics have included integrating mindfulness practices into psychotherapy, advances in positive psychology, mindfulness for dispute resolution, mindfulness in education, and treating chronic back pain and other psychophysiological disorders. His work has been featured on National Public Radio and on local radio and television programs. ■

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# The Science of Mindfulness: A Research-Based Path to Well-Being

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## Scope:

**M**indfulness—awareness of present experience with acceptance—is a deceptively simple way of relating to the contents of our minds that has been successfully practiced to alleviate psychological suffering and enhance emotional well-being for over 2,500 years. Cutting-edge scientific research and rapidly accumulating clinical experience are now validating what ancient wisdom traditions have long taught: that mindfulness practice is an effective antidote to our hardwired propensity for psychological distress and is a reliable pathway to increased wisdom, compassion, and fulfillment.

Neurobiologists are learning that mindfulness practice changes brain structure and function in meaningful, desirable ways, while mental health professionals are enthusiastically discovering that mindfulness practice holds great promise not only for their own personal development, but also as a powerful tool to augment virtually every form of psychotherapy. Studies indicate that it can be effective in alleviating a remarkably wide range of psychological difficulties, including anxiety, depression, stress-related medical problems, addictions, eating disorders, interpersonal problems, and even the challenges of aging.

Mindfulness is not, however, a one-size-fits-all remedy. Practices need to be tailored to fit our individual needs. Furthermore, to incorporate mindfulness into our work and personal lives, we need an intuitive, visceral understanding of the practice as well as an intellectual one. So, we need to learn how to actually practice mindfulness ourselves in order to reap its benefits.

Through lectures, experiential exercises, case examples, and presentations of scientific research, this course will provide practical skills that anyone can use to deal more effectively with everyday psychological challenges and live a richer, happier, more fulfilling life. Once you understand the core components of mindfulness practices and how they work to alleviate

psychological distress, you will be able to creatively adapt them to meet the needs of changing conditions. You will develop a solid theoretical understanding of mindfulness from both ancient wisdom and modern scientific perspectives. You will also receive instruction and guidance in how to develop a regular mindfulness practice and how to work with obstacles and challenges that may arise as you pursue it.

This course will begin by examining the common elements in mindfulness practices, how they address everyday psychological distress, and how we can begin integrating mindfulness practice into a busy life. It will then investigate the evolutionary and neurobiological processes that scientists believe predispose us to psychological suffering and how mindfulness practices can help us interrupt them.

You will then learn and practice a variety of informal mindfulness techniques that can be incorporated throughout a busy day, as well as formal meditation techniques that, while requiring some dedicated practice time, have been demonstrated to change brain structure and function.

Having begun practicing mindfulness, you will use ecological and cognitive models to understand the fluid nature of the self that is revealed in mindfulness practice and its implications for well-being. These will be compared and contrasted with traditional Western psychological models of health and distress as you explore the similarities and differences between mindfulness practice and Western psychotherapy as paths to happiness.

The use of mindfulness practices to enhance our interpersonal relationships generally at home and at work, as well as specifically with children and adolescents, will be explored. Exercises will also be presented to help young people practice mindfulness themselves.

The course will devote considerable attention to what has been discovered about using mindfulness practice to treat a wide variety of psychological and behavioral difficulties that can interfere with leading a happy life, including anxiety, depression, stress-related medical disorders, and addictions. You will learn how different techniques, including exercises that develop compassion and self-compassion, can help us work effectively with these conditions.

The course will also address how to use mindfulness to engage with inevitable existential challenges, such as loneliness, alienation, aging, trauma, illness, and death, and how these difficulties can become pathways to greater psychological freedom. In addition, the course will address the role of wisdom and ethics in psychological well-being, from both ancient and modern scientific perspectives.

Throughout the course, you will explore recent neurobiological and clinical discoveries, what they can teach us about finding well-being, and how this enriches what we can learn from ancient wisdom traditions. The course concludes with a look at the relatively new field of positive psychology and what it can add to discoveries from studying and practicing mindfulness for finding a path to well-being. ■

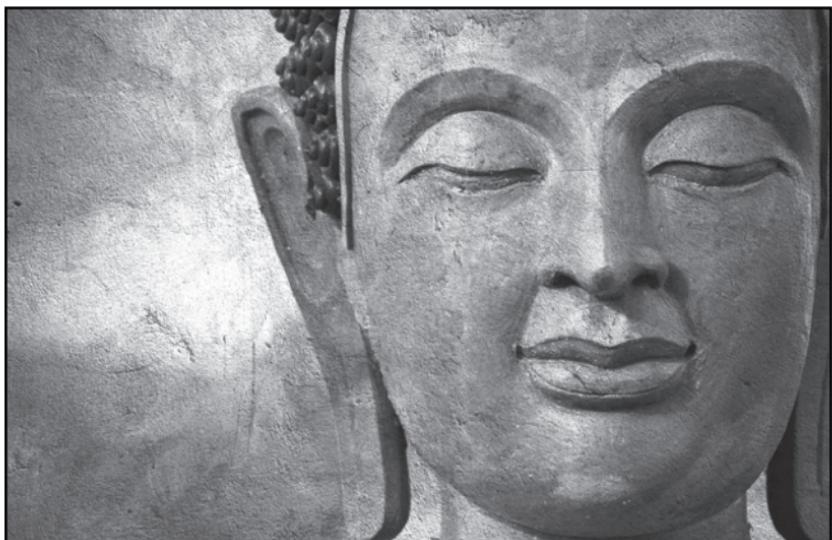
# Why Mindfulness Matters

## Lecture 1

Throughout this course, you will learn what mindfulness is—and isn't—and what modern science is revealing about how it can resolve both everyday and more serious problems while helping to make people's lives richer and happier. Recently, there has been an explosion in scientific research about how mindfulness practices change both the structure and functioning of our brains as well as how they can improve all sorts of outcomes. You are encouraged to regularly engage in mindfulness practices to help you develop mindfulness.

### What Is Mindfulness?

- In Western psychotherapy and neuroscience, mindfulness is a translation of the term *sati*, from the ancient language Pali, in which the teachings of the historical Buddha were first written down.



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The founder of Buddhism, the Buddha was a teacher who lived in northern India between the 6<sup>th</sup> and 4<sup>th</sup> centuries B.C.E.

*Sati* connotes awareness, attention, and remembering. In addition, there is a sense of nonjudgment and deep acceptance, a kindness or friendliness, to the enterprise.

- There are three components of mindfulness: awareness of present experience with acceptance. Now that mindfulness practices have become part of mainstream psychotherapy, people are trying to construct scales to measure this.
- The Dunning-Kruger effect, discovered in social psychology by David Dunning and Justin Kruger, says that our actual competence at a whole host of different life endeavors is inversely proportional to our perceived competence. When we don't have that much mindfulness developed, we think of ourselves as pretty mindful. But when we develop more mindfulness, then we actually notice how often the mind wanders.
- The way in which one develops a sense of mindfulness is by studying mindlessness. You've probably had life experiences in which they simply unfolded on automatic—where the mind was one place and the body was somewhere else. For example, when you drive a common route, you aren't thinking about the directions you're taking.
- Most of the time, our minds are not in the present moment. And yet the moments that matter to us are all situations in which our mind shows up. We spend an inordinate amount of time lost in memories of the past and fantasies of the future.

## How Mindfulness Practice Can Help

- Life is difficult for everybody. Everything changes, and loss is inevitable. Psychoanalytic writer Judith Viorst wrote a book in the 1980s called *Necessary Losses*. Her basic premise was that you could understand a great deal about human unhappiness by looking at our difficulties dealing with loss.

- Self-esteem is our remarkably robust habit of comparing ourselves to others. In fact, in the Buddhist tradition, this is said to be the last neurotic tendency to fall away before highest perfect enlightenment.
- Different people get caught on different domains or dimensions. In other words, we compare ourselves in different ways. For one person, it's about who is wealthier. For someone else, it's about who is smarter, or who is more physically fit, or who has more artistic talent. The concern for rank in the primate troop manifests itself in we humans with these constant preoccupations for how we compare to others.
- Mindfulness practices can help us with all of this. They can help us to see and accept things as they are, rather than as we wish them to be. For example, they can help us with dealing with the inevitability of illness or even death. It can also help us loosen our preoccupation with self—with the concern with where we rank in the baboon troop.
- In fact, it's been shown to quiet parts of the brain that are associated with self-referential thinking. It can even help us to experience the richness of the moment more fully. And this promotes savoring, which research shows to be a very important component of most paths to well-being.
- Finally, it helps to connect us to a world outside of ourselves, to something larger. And this is particularly important given our ultimate prognosis. And it's another reason why mindfulness practices figure prominently in so many spiritual traditions.
- Mindfulness can also help us get along with one another better. It helps us to see the other person more clearly and not believe so much in our judgments. So, we don't get caught as much in condemning the other person who has upset us today. It also helps us to not take things so personally. So, we can realize that much of the time, the other person's behavior, even if it's disturbing to us, isn't really about us. Rather, it reflects their own struggles at the moment.

- And it can help us to be present in relationships. And this is essential to being able to provide empathy for others and to support others, which is quite important if we're going to get along, particularly during difficult times. It also helps us learn not to act on urges compulsively. So, then, we can respond thoughtfully, rather than reacting automatically out of our hurt or anger.

## **Mindfulness Practices and Scientific Findings**

- Mindfulness practices are moving into the mainstream of psychology, neuroscience, and medicine as their positive effects on the mind, the brain, and the whole body are being studied. Mindfulness practices keep important parts of our brain from withering with age. They also activate brain circuits associated with being happy, energized, and enthusiastically engaged in life. They even lengthen telomeres, the ends of chromosomes that get worn down with stress, resulting in cell death associated with aging.
- To experienced mindfulness students, it can seem strange that a millimeter of change in brain tissue shown on an MRI, or a shift in EEG activity, is more convincing in our modern age than the reports of living people or thousands of years of testimony from monks and nuns who have successfully used these practices to find peace, fulfillment, and wellness.
- But for people relatively new to the practice, the scientific findings are important, especially given the tenacity of competing—and often questionable—religious, philosophic, and medical claims over the ages. After all, how do we know that proponents of miracle cures and all sorts of solutions to life's problems aren't just fooling us or themselves?
- It's encouraging for people who have found mindfulness practices to be personally transforming, or have taught these practices to others, to know that science is now validating time-honored observations about their power.

- Mindfulness practice is also itself a form of empirical inquiry, an investigative tool for a sort of inner science. It enables us to carefully observe the processes that create distress, and then alleviate it, in our own minds and bodies. Mindfulness practices can be remarkably transformative.
- There has been a recent explosion of research into how mindfulness practices can help us with a remarkable variety of psychological difficulties. It turns out that everything from anxiety and depression to the challenges of intimate relationships, aging, and raising children can be helped with mindfulness practices.

### **How to Become More Mindful**

- The way that we become more mindful is through mindfulness practices. Many people assume that mindfulness practice is about developing a blank mind, or getting the thought stream to shut up. That only happens during very intensive retreat practice. It is, however, about developing a different relationship to our thoughts—so that we can observe them coming and going and not believe in or identify them so very much.
- Most people enter these practices when they're having a rough time. And they secretly hope that this will get rid of the negative emotions and help them escape pain. The practices don't actually work that way. We actually feel our emotions, and even our pain, more vividly. But because we don't resist that pain or emotion, we end up suffering much less.
- Even though these practices were refined by monks and nuns and other enunciates, they're not actually about withdrawing from life. We might take a little time to step back to develop these capacities. But they are for the purpose of engaging so much more richly and fully in life. And even though, occasionally, we run up against wonderful experiences of bliss or peace, they're not really about seeking bliss or peace. They're about learning to be with whatever might arise.

- Finally, even though we call these “mindfulness practices,” they’re really mind and body practices, because they’re very much about noticing that all of our experience in consciousness occurs from the mind-body more broadly.
- Under the umbrella of mindfulness practices, there are three skills that we’re going to try to develop. The first skill is focused attention, which is traditionally called concentration. And that helps us observe things clearly. The second skill is what neurobiologists now call open monitoring, which is used to see how the mind creates suffering for itself. Finally, the last skill is acceptance and loving-kindness, which is used to soothe and comfort.
- Neurobiological evidence shows that the mental skills cultivated by these three different meditation types represent overlapping yet distinct brain processes. Most mindfulness practices develop one or another of these three skills.

## Suggested Reading

Germer, “Mindfulness.”

Gunaratana, *Mindfulness in Plain English*.

Hanh, *Peace Is Every Step*.

Kabat-Zinn, *Wherever You Go, There You Are*.

Siegel, *The Mindfulness Solution*, chapter 2.

## Questions to Consider

1. During which moments of your day do you find yourself being most mindful? When are you most mindless?
2. Reflect on moments in which your mind makes comparisons between yourself and others. What are the criteria it uses? Which domains matter most to you in judging yourself and others (e.g., wealth, intelligence, fitness, social status, generosity, popularity, spiritual attainment, etc.)?

# Our Troublesome Brains

## Lecture 2

In this lecture, you will learn how our brains evolved for survival rather than for happiness and how this sets us up for countless difficulties—difficulties that mindfulness practices were developed to help us resolve. In addition, you will learn how to start practicing mindfulness so that you can train your brain not only to thrive, but also to flourish. Understanding what science is revealing about why various problems plague us is important for being able to use the practices effectively.

### Stress-Related Disorders

- By some estimates, over 80 percent of visits to the doctor's office in the developed world are for stress-related disorders. After upper respiratory diseases (which we actually catch more easily when stressed because of our weakened immune system), the most common ailments are all either caused or exacerbated by stress, including chronic back and neck pain, gastrointestinal distress, headaches, insomnia, and problems with sexual functioning.
- Then, there are many medical problems that are the result of habit disorders like eating or drinking too much or eating unhealthy foods. And, of course, many people seek medical help for anxiety and depression.
- These problems don't just exist because of the difficulties living in today's fast-paced world. Hardwired, evolutionarily determined tendencies that cause our stress are active even during the best of times. From what science is uncovering about the evolution of our brains, we have learned that most of us have minds that are predisposed to making ourselves unhappy.
- And these predispositions set us up for so many psychological and physical difficulties and disorders. Of course, there are exceptions—



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**Research has shown that people who engage in mindfulness practices experience fewer stress-related problems than those who do not.**

there are a few individuals with minds that are naturally at peace, who are easily contented. And these people have far fewer stress-related problems than others.

## The Evolution of the Human Brain

- Research is showing that our propensity to psychological distress is universal. That's good news—it means that it's not necessarily our fault or failure. In addition, we humans have developed mindfulness practices that can help counteract our propensities for distress.
- Science suggests that we didn't actually evolve to be happy. The cortex of the brain mostly evolved to analyze the past and imagine the future—and to remember past moments of pleasure and pain and to figure out how to maximize future pleasure and avoid future pain. So, the cortex doesn't just think any thoughts; it thinks thoughts tailored to the demands of our environment.

- Our ancestors lived in small bands. It was uncommon for them to meet unknown people, and it was dangerous when they did. In addition, they were faced with starvation, parasites, illness, injury, and the hazards of childbirth and didn't have painkillers or police departments.
- Our ancestors could make two possible mistakes: Thinking that there was a lion behind the bushes when it was actually a beige rock and thinking that there was a beige rock behind the bushes when it was actually a lion. The cost of the first mistake was needless anxiety, while the cost of the second was death. So, we evolved to make the first mistake a thousand times to avoid making the second mistake even once.
- Our ancestors remembered every bad thing that happened and spent much of their lives anticipating more trouble. And this is the mind they bequeathed to us.

## Negativity Bias

- Cognitive scientists say that we have developed what's called a negativity bias. For example, notice what comes to your mind when you see the words "Bill Clinton." In an informal sampling, about 80 percent of people immediately think about either Monica Lewinsky or a blue dress.
- One reason for this is the existence of the amygdala, which is an almond-sized part of the brain that reacts more to negative than positive stimuli. The negative contaminates the positive more easily than the positive contaminates the negative. This is why we remember Monica Lewinsky and why negative ads dominate political campaigns.
- Other animals, which presumably don't think as much as humans do, also have a negativity bias. If you run a rat through a maze and at the end of a given pathway give the rat an electric shock, one trial learning will work, and the rat won't go down that pathway again. But if you run the rat through a maze and at the end they get food,

they need several different trials before they actually learn it. But rats are much less likely than we are to spend their time, when not confronted by danger or pursuing food, thinking about the electric shock or thinking about the food.

- Negativity bias emerged in harsh settings very different from our own, but it continues to operate today. For example, on a daily basis you might drive in traffic, try to diet, watch the news, juggle housework, pay bills, or go on a date. Even in relatively safe situations, we react as though they're life-or-death situations and often expect the worst.

## Survival Systems

- On top of our hardwiring, learning changes the brain. So, the negative expectations and outlooks that develop from our negativity bias become new pathways in the brain. Scientists used to think that the brain reaches maturity at age 25 and deteriorates after that. We now know that it's more like a muscle. While it ultimately weakens, throughout our life, areas of the brain we use become stronger. Scientists call this experience-dependent neuroplasticity.
- Other tendencies that predispose us to unhappiness include difficulties accepting change, because everything we enjoy or love eventually leaves or changes, and preoccupation with self, which is difficult given our changing fortunes and poor prognosis.
- All of this interacts regularly with another important survival system that we share with many other animals: our emergency response, or fight-freeze-flight, system. Basically, it's the arousal, which can feel like desperation, we experience when we're threatened.
- This emergency arousal system is activated by every one of our negative thoughts. While our bodies evolved to be able to handle these emergency responses from time to time, they don't do very well when this system is activated all day long. It's this constant activation that sets us up for so many ailments.

- In addition, there's another survival system that occupies a lot of our attention. While we evolved to expect the worst, we're also hardwired to pursue pleasure and try to avoid pain. This makes a lot of sense evolutionarily, because pursuing pleasure and avoiding pain motivates us to do things that help perpetuate our DNA.
- Generally, activities that perpetuate our DNA are experienced as pleasurable, including returning to homeostasis, having sex, eating, sleeping, alleviating (most) pain, and enhancing social rank. So, we get hooked on seeking these things. And when we don't have the conditions that help perpetuate our DNA, or fear that we'll lose them, we become distressed.
- Our fear-response system is activated not only by threats, but also by fear that we won't get what we evolved to want. These motivational systems—that drive us to seek pleasure and fear threats—are continuously interacting with our propensity to recall the past and imagine the future. They drive us to do things in the pursuit of happiness that don't actually sustain our feelings of well-being for long.
- Many of the things we do to pursue good feeling, such as shopping, are subject to the hedonic treadmill—you need more and more to keep the same level of well-being. And then there are all of our pursuits that feel good in the short run but leave us feeling bad in the long run, such as eating too many donuts.
- It makes perfect sense that we would've evolved to be drawn to sweets and fats given that getting enough calories used to be a challenge, but it wreaks havoc for our modern lives in the developed world, where sufficient calories are all too readily available. With all of these evolutionarily hardwired systems operating, it's no wonder that we so often find life to be difficult.

### The Effects of Mindfulness Practices

- Mindfulness practices were developed in response to our complex evolutionary predicament. They're systematic methods for gaining

insight into how the mind instinctually creates suffering for itself. Mindfulness practices include techniques designed to interrupt these natural processes of mind.

- Of course mindfulness practices are not the only tools we humans have developed to deal with our hardwired tendencies toward psychological distress. For example, people have developed programs of positive thinking—affirmations of various sorts—to counteract our negativity bias. And there are all sorts of psychotherapy designed to replace negative thoughts with positive ones.
- Historically, diverse cultures have developed a wide variety of religious beliefs and rituals that help us feel safer in an uncertain world. Studies have shown that all of these approaches—positive thinking, religious faith, and conventional psychotherapy—can enhance our sense of well-being.
- Mindfulness practices are another set of tools. They may be particularly far-reaching in their effect on well-being because they address two challenges simultaneously: They can provide profound insight into the patterns of mind that create suffering, radically changing our views of ourselves and others, and they retrain the brain to not automatically respond in its instinctual patterns.
- What are some of the insights into distress-generating patterns we get from mindfulness practice? We notice that we relate to all experience as either pleasant, unpleasant, or neutral. We see that we habitually try to hold on to the pleasant, push away the unpleasant, and lose interest in the neutral. This causes an inordinate amount of distress when paired with our negativity bias.
- We evolved to both expect unpleasant experiences and to constantly work to try to avoid them. Having these tendencies coexist sets up a continuous tension for many of us that we experience as feeling stressed much of the time.

- We also see that trying to grasp, or hold on to, changing phenomena causes suffering. We see that our thoughts are not reality; in fact, they constantly change with our changing feeling states. And we see that all that actually exists is the present moment—despite the fact that we're hardwired to be constantly seeking pleasure and avoiding pain, which means living in memories of the past and fantasies of the future.
- Reading, hearing, or talking about mindfulness isn't the same as practicing it. In fact, it's very difficult to understand what these practices are like unless you try them. It's very important to practice regularly. And keep in mind that different variations have different effects.

## Suggested Reading

Gilbert, *Stumbling on Happiness*.

Hanson, *Hardwiring Happiness*.

Hanson and Mendius, *Buddha's Brain*.

Siegel, *The Mindfulness Solution*, chapter 1.

## Questions to Consider

1. In what situations do you notice the negativity bias operating most strongly in your experience?
2. What did you find most challenging about trying breath awareness practice? When you reflect on that challenge, does it illustrate anything about the everyday functioning of your mind and what might cause you psychological distress generally?

## Mindfulness Practice

**breath awareness:** A brief version of a foundational formal meditation practice.

# Informal, Formal, and Intensive Practices

## Lecture 3

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In this lecture, you will learn about the options for meditation practice: informal mindfulness practice, formal meditation practice, and intensive retreat practice. Throughout this course, you can practice all of the forms of informal and formal practice that you learn about in this lecture. You want to create rituals so that you do them regularly. It's often best if you try to do formal practice at the same time of each day. And if you do a longer dose of mindfulness practice, it's actually easier to get into it—because you'll notice the effects that your practice is having on your life.

### Being versus Doing

- Like learning a musical instrument, learning mindfulness is a dose-related activity. If we do a little bit of practice, we develop a little bit of mindfulness. If we do more, we develop more mindfulness.
- Experience-dependent neuroplasticity is the way in which parts of our brain bulk up when we use them over and over. Neurobiologist Donald Tabb says that neurons that fire together wire together.
- All mindfulness practices involve “being.” And this is a little unfamiliar for most of us, because we have a constant focus on “doing.” Many of us have worries about falling behind. We’re constantly involved in making sure we stay on top of the things we need to do.
- It can be very difficult for most of us to be in the now, because being in the now opens the door to all sorts of unwanted thoughts, images, and feelings. In fact, our constant activity is one way that we defend against, or push unpleasant things out of, our awareness.
- Mindfulness means cultivating awareness of present experience with acceptance. And to do this, typically, we need to slow down

a bit and pay attention. Slowing down can be really difficult in our information age, because it's so speedy.

- We could think of mindfulness as single-tasking. Some people think that it is actually possible to multitask, but cognitive scientists say, instead, that attention is like a pie. If you try to do two things at once, each gets 50 percent of your attention. If you try to do four things, each gets 25 percent of your attention.

### Options for Meditation Practice

- In practicing mindfulness, there are options for meditation practice: informal mindfulness practice, formal meditation practice, and intensive retreat practice. Informal mindfulness practices are things we do during the course of our busy day that develop some mindfulness. Formal meditation practice is when we take time out of the day to actually set aside resources to just develop mindfulness. And intensive retreat practice is when we decide to go away somewhere and practice mindfulness in a continuous way over the course of many days.
- We don't have experimental data on the neurobiological and behavioral effects of informal practice. Experienced meditators report that doing these informal practices help to sustain and deepen the effect of formal practices during the day.
- For example, telephone meditation is a practice suggested by the Vietnamese Zen teacher Thich Nhat Hanh. Next time your phone rings, first you have to set it so that it doesn't pick up immediately and go to an automatic answering system. Give yourself enough rings so that you can actually listen to it. And just stay with the sound of the phone, and let your attention on what's going on in the present moment be something to bring you back to awareness of present experience with acceptance.
- Nowadays, virtually all phones have some kind of caller ID, and this allows for another opportunity. So, first, we listen to the sound of the phone. Then, we notice the number, and we see what emotional

response comes up with each number. We have associations to different numbers. Interestingly, when a different number shows up, very different emotions arise in the body.

- An alternative is called taillight meditation. Next time you're in traffic, use the color and the texture of the form of the taillights on the vehicle in front of you as an object of meditation. Instead of our usual reaction, which is thinking about how the traffic is going to make you late, simply take in the texture and the experience of the visual field.
- Because mindfulness practices are becoming so mainstream, it appears that vehicle manufacturers are designing taillights that are especially conducive to mindfulness practice. Many of them look like mandalas. They're concentric circles of light emitting diodes that kind of evoke some Tibetan sand painting or perhaps Navajo spiritual art. Some, in fact, are two interlocking mandalas, to give you a sense of the interconnectedness of all beings in the universe and a real sense of the oneness of the present moment.
- In addition, there are many other mindful driving practices you can do. Simply try turning off the radio and focus on the sights and sounds of the other traffic, nature, and the environment. Try to not drive on automatic—not thinking about the break and the accelerator but, rather, bringing attention out to the environment of the moment.
- We can engage in mindfulness practice while walking the dog, walking to and from the car, waiting in line, or waiting for the bus. All that is required is that we resist the temptation to check our smartphones every 30 seconds, turn on some media, or do something to bring us out of the moment. Any activity in which we can single-task and be present becomes an opportunity for informal mindfulness practice.
- If we want to take our mindfulness practice the next level, we have to do some formal meditation. And this is what we have a wealth of

data coming out supporting the efficacy for. It turns out that formal meditation practice changes both brain structure and brain function.

- Research has found that people who do a lot of meditation practice develop more robust brain structures in certain areas. The cerebral cortex thins as we get older. Sara Lazar at Mass General Hospital in Boston studied the cerebral cortices of older meditators, people who have been doing it for years, and matched controls, who were the same age and had similar life circumstances but hadn't been meditating. Several areas of the brain don't deteriorate in the meditators in the way that they normally do in a non-meditators.
- Scientists have known for a long time that when people are happy, relaxed, or engaged in life, there's a lot of left prefrontal activation. But when they're anxious, stressed, or hyper-vigilant (in survival mode), there's a lot of right prefrontal activation.
- Richard Davidson at the Laboratory for Affective Neuroscience at the University of Wisconsin–Madison conducted a study involving the activation of the prefrontal cortex. He wired up a Tibetan monk who had thousands and thousands of hours of meditation practice and found that he was off the charts in terms of the degree to which he leaned left, in the favorable direction, versus leaning right.
- Mindfulness practices involve restraint. They're not about becoming an ascetic, or trying to wipe out desire; rather, they're about not just doing what comes naturally, but taking some time to focus on what's going on in the current moment.
- If you have had the opportunity to do some breath awareness training, you might notice the experience of an itch or an ache coming up and not act on it. Perhaps you saw that the itch or the ache would transform by itself.
- This happens with other things, too. We can see anger arising and not just act on it, but notice that it transforms by itself. Mindfulness practices help us to realize that we have choices about whether

or not to act on our impulses. And this restraint turns out to be an essential ingredient in using mindfulness practices to work with a host of psychological and behavioral difficulties, including anxiety, addictions, interpersonal conflicts, and stress-related medical disorders.

- If you want to take your mindfulness practice to the next higher level, you might consider an intensive retreat, which is where you would go off and spend several days all day in mindfulness practice. The typical setting of an instructor retreat is out in nature, and people don't talk or check their cell phones. They don't even make eye contact with one another after the opening of the retreat but, rather, keep their eyes cast downward in what's often called noble silence.
- The idea is to develop sufficient concentration and sufficient open-monitoring skills to really notice what the mind is doing in each moment. And what emerges is really amazing. There's a concept in psychoanalysis called transference, which means that we don't actually see other people as they are but, rather, as reflections of other people that they remind us of.
- The mind makes up stories about other people we see doing things, even though we have minimal data about them. Most of the time when our minds present these kinds of stories, we think we're describing reality. The mind picks up on little tidbits and endlessly weaves whole stories.

## **Walking and Eating Meditation**

- During a retreat, one of the kinds of practice that we do a lot of, so as not to get too stiff, is walking meditation. Walking meditation is a wonderful practice, because it can be done both as an informal practice as well as a formal meditation practice.
- Walking meditation has a number of different benefits. First, it easily transforms from a formal meditation to an informal practice. And it's an opportunity to be mindful whenever we're walking.



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**Meditation can be practiced during a routine walk with friends or anytime you are walking in your daily life.**

We tend to walk a lot in our lives, and when we're feeling more agitated, restless, or sleepy, it's easier than following the breath. Simply, it brings more wakefulness. And when we're agitated, it's difficult to sit still—it's easier to be in motion. So, it's quite helpful when we're dealing with anxiety or depression.

- Another practice that also works quite well as both an informal practice and a formal practice is eating meditation. Like walking meditation, eating meditation easily becomes an informal practice or a formal practice. And it's an opportunity to be mindful whenever we're eating. After all, there are a lot of opportunities for that, because you have to eat. It's also very helpful when we're distracted, because eating is a very vivid object of awareness, or stimulus, so that if the mind is jumpy and is easily distracted, it's easier to focus often on food.
- In addition, eating meditation is very useful if you ever struggle with eating appropriate amounts of food. When we eat mindfully—instead of scarfing down to self-soothe or to distract ourselves—

we tend to notice when we're full. We notice the sensations of distension in the stomach, and we also have time for a natural feedback loop to occur.

- Normally, when we eat, if we would eat slowly enough and attentively, as the food reaches the duodenum, a signal is fed back to the hypothalamus that says that there's satiation happening, meaning that you have eaten enough. And we find when we eat mindfully that most of us eat far less than we normally would. In addition, interestingly, even though we're eating less, we feel a lot more satisfied.

## Suggested Reading

Hanh, *Peace Is Every Step*.

Kabat-Zinn, *Full Catastrophe Living*.

Pollak, Pedulla, and Siegel, *Sitting Together*.

Siegel, *The Mindfulness Solution*, chapter 3.

## Questions to Consider

1. Choose three activities that you do most days that could be used as informal mindfulness practices (e.g., walking the dog, showering, eating breakfast, driving to work, listening to the phone ring, etc.).
2. Try a few periods of walking and eating meditation. How does your mind respond to these practices, compared to how it responds to the breath awareness practice?

## Mindfulness Practice

**eating meditation:** A foundational practice that can be done either as a formal meditation (using a raisin or larger quantity of food) or as an informal practice (just paying attention to the process of eating during daily life).

**walking meditation:** A foundational formal meditation practice that can be done initially as a concentration, or focused-attention, practice. Once some concentration develops, it can be expanded to be an open-monitoring, or choiceless-awareness, practice. After spending some time doing formal walking meditation, we naturally find it easy to use walking as an informal practice whenever walking in daily life.

# Who Am I? The Perils of Self

## Lecture 4

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**D**uring your meditation, have you discovered a “self”? Or have you found an ever-changing kaleidoscope of changing sensations, thoughts, and images? This question hasn’t been discussed extensively yet among clinicians as mindfulness practices are being adapted into Western psychotherapeutic interventions. But advances in neurobiology are beginning to bring the question to the forefront among biological researchers. This lecture focuses on the self—the key insight by which mindfulness practices can lead us to great happiness, fulfillment, and well-being. And it’s how mindfulness practices can change our sense of who we are.

### The Sense of Self

- In their original context of Buddhist psychology, mindfulness practices were designed to help us see more clearly into the nature of the self—or, to be more precise, how we construct a sense of self moment to moment.
- Buddhist tradition, and Western cognitive science, suggest that try as we may, all we find if we examine our experience carefully are sensations and images, accompanied by a remarkably persistent narrative. The “I” or “me” can’t actually be found.
- It’s said that if we practice intensively enough, we’ll see that we’re actually not who we usually think we are. Instead, we’ll see ourselves as a modern physicist, biologist, or cognitive scientist might describe us.
- How do we develop a separate sense of self that divides the world into objects and doesn’t notice the fluid interconnections of things—doesn’t notice that two people are part of the superorganism? Buddhist psychology outlined the process about 2,500 years ago.

And this formulation aligns remarkably well with how a cognitive scientist would describe it today.

### Sense Contact and Perception

- In the Buddhist psychological formulation, our sense of ourselves starts with the coming together of a sense organ with a sense object, and then we have awareness of that object. So, this involves six senses: seeing, hearing, smelling, tasting, touching—and the sixth sense is everything else. The sixth sense is not direct sensory contact; it's an experience happening in the mind.
- What we start to see is that we are psychophysiological organisms that don't exactly exist. But we occur moment by moment. And the first occurrence of this involves sense contact. We don't stay at the level of sense contact for very long. We organize sensory experience into perceptions.
- Consider looking at the word “perception.” Can you visualize the letters? Are you able to see simply the shapes of letters, basically fluid forms against a contrasting background, or do sounds arise in the mind?
- Another example is an image that looks like two things simultaneously: two faces facing one another, and the faces themselves define a goblet. As we look at it, we can see it as one or the other. And if you can picture that, are you actually able to see both the faces and the goblet simultaneously, or do they actually appear in rapid oscillation?
- Most of us find that they appear in rapid oscillation—that it constellates itself as a goblet, and then as two faces. In fact, the



**Rubin's goblet looks like either two faces looking at each other or a goblet, depending on how you look at it.**

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mind kind of struggles to make it into one or another. This makes perfect sense evolutionarily, because deciding between a beige rock and a lion mattered a lot to us.

- There's a well-known video of students playing basketball, and they're wearing black shirts and white shirts. The task that people are assigned is to watch how many times the students in the white shirts pass the basketball on the video. In the middle of the video, a big black gorilla comes in, beats his chest, and exits the stage.
- When people are asked to count the number of times the students with the white shirts pass the basketball, about two-thirds of the audience simply doesn't see the gorilla. This is called inattentional blindness. Perception—what we see—is terribly conditioned by culture, language, and desire. What happens in the video is that we're trying to get the number right, so we don't see the gorilla at all.
- Perception constructs and categorizes, and omits details, and fills in all sorts of missing information. Have you ever been in a situation where you were ostensibly in the same place as someone else and saw the same thing, but you ended up perceiving it very differently?
- A study was done in which they took X-rays of the lungs, and they asked 24 radiologists to perform a familiar lung nodule detection task. They placed a gorilla 48 times larger than the average lung nodule in the last slide, and 83 percent of the radiologists didn't see it. And they did eye tracking, which revealed that the majority of the radiologists who missed the gorilla looked directly at it.
- Our perception is radically influenced by what's going on with our desires. And we fill in things, too. Consider a large, round circle with two small circles placed about two-thirds of the way up the middle of it. Can you visualize that? What might it be? Virtually everybody sees a face, or a few people tend to see bowling balls. We fill in details like this all the time, even though the nose (and even the thumb hole from the bowling ball) is missing.

## Emotional Tone

- We don't stay at the level of perception for very long. We add an affective, or emotional, tone to the experience. Everything that happens, we see it and feel it to be pleasant, unpleasant, or neutral. We love some things, and we hate others.
- Then, we develop what are called intentions and dispositions. We try to hold on to pleasant experience, push away unpleasant experience, and ignore neutral experience. When we do this over time, we develop habits of intention. We can also call them dispositions. Behavioral scientists call them learned behaviors or conditioned responses. Many of us actually refer to these dispositions—these habits of holding on to some things and pushing away others—as our personality.
- Sense organs connect with sense objects, and that's experienced in consciousness. There are feelings, intentions, and perceptions happening. It's all happening at once. What mindfulness practice reveals is that it's all impersonal—there's nobody home. There's simply a continuous flow of moment-to-moment experience, with a new self being born and dying in each moment. There isn't even a stable witness; there's just impersonal experience unfolding.
- Our normal sense of self creates all sorts of trouble. Instead of thinking of having a self, we might more accurately think that selfing occurs—because in each moment, we're responding out of this sense of agency, or the sense of "I." And we respond very differently when the experiences belong to "me." It creates all sorts of further distortions, and endless suffering comes from this. These are the self-evaluative thoughts, including "I'm better than you" or "I'm not talented" that happen.
- Whenever experiences arise, we tend to not just take them as they are, or see them clearly; instead, we reflect on what they mean about ourselves. When we identify with the self, it makes pleasure and pain personal. It creates this fantasy of being able to control

your experience, your insecurities, your competitive feelings, and all of these kinds of defensive things follow.

### **Identifying with the Self**

- Karma is associated with the teachings of many Indian cultures and also Eastern cultures generally. Karma is traditionally understood in terms of reincarnation. The idea is that how we perform in this life determines how we will be reborn in the next.
- But karma can also be seen in moment-to-moment intentions. What becomes reborn is a certain constellation or attitude in consciousness. So, your intention in one moment tends to shape the perceptions and feelings in the next moment, which creates the reality of the next moment.
- The Buddha said that our identity is being recreated moment by moment and that the continuity of self simply can't be found—it's illusory. All we have are frames in a movie and the mind's tendency to string these frames together into a narrative, starring you, that makes you feel that you exist. And all sorts of suffering, preoccupation with what's going to happen to you, result from this.
- Carl Jung, the student and colleague of Freud, had a similar observation. He talked about what happens when we identify with some mental contents and reject others. He said that when we do this, it creates a kind of split-off shadow. It's almost a form of dissociation, a kind of splitting caused by trying to avoid pain.
- So, if you think of yourself—because you have a self-concept—as being generous, hardworking and intelligent, then your greedy, lazy, and dumb side is going to be your shadow. And you're going to have trouble every time you have a life circumstance that highlights the fact that you're greedy, lazy, or dumb, to some degree. And you'll go through the world seeking affirmation of who you want yourself to be, or who you think of yourself as being.

- The very construction of the self sets us up for many difficulties. Indeed, the sense of self is a universal category of experience. But it really is experienced differently in different cultures. And one of the things we see through mindfulness practice is how the self is actually constructed not only by our moment-to-moment experience, but by the culture in which we live.
- We all get hooked on different dimensions or domains that define ourselves. For one person, it's about physical beauty, while for another, it's athletic talent that gets the focus. This causes all sorts of difficulties.
- The other thing that we discover is that there is no single self to be found. And we see this all the time in meditation practice. In fact, it can be very useful in dealing with emotional difficulties to notice if there's no single, coherent self—to notice if there's a committee.
- Often, when we're in distress, there are conflicts among different parts. There's a part of you that wants to achieve more and be successful in your career. But there's a part of you that wants love and connection and wants to spend more time with friends and family. Seeing what each part wants and needs can really help us.
- There's a popular form of psychotherapy called internal family systems, which invites us to take time to recognize, honor, and draw out the fears and needs of each of these different parts. When each part is recognized in this way, the part itself feels safer, calms down, and doesn't need so much to run the show.
- When we're not identified with a single sense of self, this can facilitate a tremendous amount of flexibility—because then we don't have to be one way or the other. And we can be much more accepting of our diverse, and often complex, experiences.
- This also has tremendous implications for our development. Mindfulness practices, like forms of psychotherapy, become a sort of loosening process, where the goal becomes not to be more one

way or more of the other way—in the sense of becoming more perfect—but to develop a sense of psychological flexibility.

- In fact, there are some mindfulness-based psychotherapies like acceptance and commitment therapy, where the explicit goal is not feeling good about yourself—not even being successful in your endeavors—but simply having psychological flexibility. The goal is being able to be whomever or whatever you are in each moment.
- And this provides enormous relief from worrying so much about ourselves, about how we compare to others, or about our pleasure or pain. It helps us to identify with something larger than ourselves. And this identification with something more than oneself becomes particularly important in any path to well-being.

## Suggested Reading

Fulton and Engler, “Self and No-Self in Psychotherapy.”

Olendzki, “The Roots of Buddhist Psychology.”

Siegel, *The Mindfulness Solution*, chapter 8.

## Questions to Consider

1. In your meditation practice, when and how does your sense of self arise? Is it found in bodily sensations, visual images, or thoughts passing through the mind?
2. Imagine that you had a day in which you had no concerns about how others see you. How would it be different from a typical day?

## Mindfulness Practice

**loving-kindness practice:** A brief version of this foundational practice for cultivating acceptance, both toward the contents of our own minds and toward other people.

**what defines me?**: A brief exercise that can help us see the domains or dimensions of our personalities we use to develop a sense of adequacy or self-esteem. Useful for loosening the grip of these preoccupations.

**who am I?**: A brief exercise that can help us notice how our self-concept may limit our psychological freedom.

**yes and no**: A simple, brief exercise that can help us see more clearly our tendency to resist contents of the mind and shift to a more accepting attitude.

# Mindfulness or Psychotherapy?

## Lecture 5

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In this lecture, you will learn that there are many parallels between Western psychotherapies and the traditions from which many mindfulness practices come. But they diverge in the understanding of the self—the ultimate goal. However, the practical differences may not really be so profound, because traditional students of mindfulness may have full enlightenment of their ultimate goal. But that ultimate goal is rarely attained. Instead, in ways that would be quite recognizable to Western health professionals, students of mindfulness become more mature and balanced.

### The Eightfold Path

- Many mindfulness practices that are used in Western psychotherapy come from Buddhist psychology. One reason is that Buddhist psychology has much in common with Western psychotherapy. Like modern scientific psychology, Buddhist psychology is nontheistic. It doesn't discuss God or gods in any way.
- Rather, it has a fundamental principle—the Pali term for which is *ehipassiko*, which translates roughly as “come and see for yourself.” The way we understand mindfulness practices is by doing them and making them real in our own experience and discovering what we discover. It is not based on doctrine. It's also a systemic approach, and it uses empirical methodology and questions authority.
- Mindfulness supports open-mindedness by helping us to take our thoughts more lightly. In this regard, it's very similar to the scientific posture that we see in Western psychology and psychotherapy. Also like Western psychotherapy, the goal of mindfulness is the alleviation of suffering. And it actually has a system similar to Western medical practices that includes identification of symptoms, etiology, prognosis, and treatment.

- The symptom is the unsatisfactoriness of all experience—the fact that the mind creates suffering no matter what's happening. The etiology is seen as our distorted views, our misunderstandings about reality. And the prognosis is surprisingly good. As we've taken up these practices in Western psychological circles, we've primarily focused on concentration, or focused attention; open monitoring, or mindfulness; and acceptance practices, such as loving-kindness meditation.
- Actually, these were part of a much larger treatment plan in Buddhist traditions called the Eightfold Path, which is about “right” concentration, mindfulness, effort, livelihood, action, speech, intentions, and view. The word “right” doesn't mean “right” in a moral sense as opposed to wrong. It means optimal, wholesome, or that which is most likely to alleviate suffering.
- We've already discussed concentration and mindfulness. Right effort involves having the right degree of control versus letting go. Right livelihood, in the modern context, means doing work in the world in which we're not causing more harm than good. Right action is about thinking about everything we do in terms of whether it is going to be helpful to others or hurtful to others. Right speech involves honesty, but it also involves not speaking in ways that create divisions or derision and not being abusive or hurtful in our speech. Right intentions is about orienting ourselves always toward our own sanity and alleviation of suffering. Finally, right view is about seeing the world clearly.

### **Similarities between Mindfulness Practices and Psychotherapies**

- There are many overlaps and parallels among different psychotherapies and between mindfulness practices and psychotherapies. They're certainly all designed to move us in a similar direction, toward greater well-being. Recently, many mental health professionals have come to believe that mindfulness might actually be a central curative element in most other forms of psychotherapy because it accomplishes several nearly universal therapeutic goals.



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**Mindfulness practices are designed to move you toward greater well-being.**

- Mindfulness, like many forms of therapy, loosens the repression barrier. When we start practicing mindfulness, the previously unnoticed thoughts and feelings—the things we've pushed out of our awareness—start to become evident. We become more sensitized to what's happening in the mind and less distracted by our constant activity. Also, our impulses become clearer. Finally, our defensive strategies become apparent, which ultimately allows us to reintegrate these contents.
- The second way that mindfulness helps to accomplish a task that's pretty universal in psychotherapy is that it treats the thinking disease. The basic idea with cognitive behavior therapy is to develop metacognitive awareness, which means to notice what thoughts are rising and passing in the mind. And it focuses, in particular, on identifying rational thoughts and differentiating them from irrational thoughts.

- Dynamic psychotherapy, which is the vast array of psychotherapies that have come out of psychoanalysis, is more interested in understanding the origins of our personal narrative. How did we come to believe we are who we are? How did we construct our world? The idea is to loosen the identification with the story. And we also look to see how it plays out in relationships, and the idea of this is to create a new personal narrative.
- In Buddhist psychology, the idea is that distorted beliefs lead to suffering. This is not unlike what we're seeing in the other traditions, but in Buddhist psychology, the problem is not embracing reality in a very radical sense; instead, the problem is seen as not realizing that everything is always changing. We can hold on to nothing, not realizing that the mind creates distress, regardless of external circumstances, and that our conventional sense of self is illusory.
- Buddhist psychology is very skeptical of thought generally. This is, in part, because it sees thought as supporting essentialism, meaning that it is our thoughts about things that make things real. And thought also creates self. Descartes commented on this when he said, "I think; therefore, I am."
- First, in mindfulness practice, unlike psychotherapies, there's no need to replace one thought with another. Rather, we start to see thoughts as just mental objects, like any other, including an itch or an ache. If we notice an itch while engaging in mindfulness practice, turn our attention to the itch and watch it dissipate.
- In the same way, in mindfulness practice, we start to simply watch thoughts coming and going. As a result, they become less serious to us, which means that we don't need to suppress or repress them so much. Nothing is unthinkable, and our identifications with roles start to loosen. When we take this attitude, we develop a kind of freedom.
- The third way that mindfulness practice performs something that psychotherapies also are designed to do is by being a form of exposure treatment. Exposure is perhaps the most universal element

in all of our diverse psychotherapies. It's simply facing our fears, longings, or aggressive impulses. One way we could understand mindfulness practice is its exposure to everything.

- Finally, both mindfulness practice and psychotherapy provide holding, which is a term that was introduced by pediatrician and psychotherapist D. W. Winnicott, who discovered that simply holding a baby provides so much comfort to the child. One way in which mindfulness practices and psychotherapy provide holding is simply the relationship with the therapist—having another human being who is accepting and nonjudgmental and keeps confidentiality.
- With both mindfulness practice and psychotherapy, it tends to get worse before it gets better. In psychotherapy, usually people notice that they have so many difficult thoughts and feelings and might start to think that they are crazy. In behavioral treatment, there's often self-monitoring, and people notice that they're having irrational thoughts all the time. And in mindfulness practice, we see just how unruly the mind is.

### Differences between Mindfulness Practices and Psychotherapies

- There are also ways in which mindfulness practices and psychotherapies are different—where mindfulness practice veers off from conventional treatments. In behavior therapy, as well as psychodynamic treatment, we're typically seeking normalcy.
- Mindfulness traditions have a much more radical goal. They're looking for insight leading to complete psychological, emotional, moral, and spiritual emancipation—what's been called enlightenment. Traditionally, the starting point is actually common unhappiness or normalcy. It's only recently, as mental health professionals are adopting it, that we start also seeing that we can use mindfulness practice to move us from states of particular distress to normal unhappiness.
- Another important difference is a different view of the self. In the Western view, there's this emphasis on separateness rather than

connection to family, tribe, or nature. In fact, our models of healthy Western development have included being well individuated, being aware of boundaries, knowing one's needs, having a clear identity and sense of self, and having good self-esteem. Buddhist psychology says that we suffer when we don't know who we really are, and it's the attempt to buttress the self that's the central cause of our suffering.

- One of the goals of Western psychotherapy—to improve self-esteem and have a cohesive sense of self—is actually seen as a form of pathology from the Buddhist perspective. One way we could conceptualize the goal of Buddhist psychology is to shift our universe from a world that is mostly about “me” to a world that is mostly not about “me.” It’s a subtle shift, and it occurs over time.
- Buddhist psychology actually has a very radical psychological goal as well. We erect defenses against pain, ways in which we shut down, pull back, and turn off to others. And we think that they’re going to keep us safe, but they leave us very isolated in a kind of anxiety of the separate self. The alternative is to try to develop a kind of spacious tender awareness—to stay with whatever is and not to leave these feelings in order to feel better.
- In psychotherapeutic circles, we talk about having adaptive and healthy defenses, not be radically open and aware. The Buddhist psychological approach is not a path to perfection, but it’s a path to wholeness. It’s about transforming our view to be able to allow everything in and to not judge them as better and worse.

## Suggested Reading

Epstein, *Psychotherapy without the Self*.

Fulton and Siegel, “Buddhist and Western Psychology.”

Shapiro and Carlson, *The Art and Science of Mindfulness*.

Siegel, “East Meets West.”

## Questions to Consider

1. In what ways are the goals of Buddhist psychology and conventional Western psychotherapies similar and different?
2. How is the self conventionally viewed in Western cultures, and how does this compare to how it is viewed in Buddhist psychology?

# Attention and Empathy in Relationships

## Lecture 6

In this lecture, you are going to explore the area where mindfulness practices are evolving most rapidly and are going furthest beyond their roots in Buddhist psychology, as they're being taken up by Westerners and applying them to interpersonal relationships. Specifically, you will learn how mindfulness practices can help you develop attention, empathy, open-mindedness, and acceptance—all of which are critical when you're trying to cultivate and maintain relationships with other people.

### Attention

- Mindfulness is a kind of training in being present. Our normal state—especially in an era of smartphones, computers, and constant connectivity—is a kind of partial attention. Multitasking distracts us from uncomfortable feelings, and it makes us feel like we can achieve more, but it leaves us more disconnected. Of course, we do have moments of full attention.
- Sometimes danger can help. For example, when we reach to get a tomato from a bin, we might do so with partial attention. When we slice it, we use full attention. Danger can highlight our level of attention. But, often, just the intention to pay attention works, such as deciding to turn our full attention to a friend or loved one.
- Concentration practices help to increase attention, simply by repeatedly practicing paying attention to an object. Every time the mind wanders, bring it back home to the object. Insignificant events can become vivid or rich. We see this in our informal practice—brushing our teeth, showering, or driving. If we bring full attention to these, they become very rich, rewarding, full experiences in themselves, instead of obstacles or difficulties on the way to other things.
- The Dalai Lama says that it takes him about four hours a day of meditation practice to have this form of attention. But even if we do

less than that, we can develop some of this ourselves. In addition, Sigmund Freud suggested that a psychoanalyst should practice what he called evenly hovering attention, which he defined as to listen without the trouble of keeping in mind anything in particular.

- Mindfulness practice helps us to cultivate this by practicing presence independent of context. Most of the time, we're interested in the context—and labeling it and thinking about it. Mindfulness, instead, helps us to simply do open monitoring, to be present to whatever arises.
- This develops a rare gift of wholehearted attention. Usually, in order to pay more attention, we turn up the volume in some way. We go for a much more interesting or more entertaining stimulus. With mindfulness practice, we can turn up our attention instead.
- By helping us to simply be present, mindfulness practice also helps us to stay with discomfort. One way the mental muscle gets strong is simply by “being with” the itch or the ache or whatever happens in our life and just feeling it and not moving.
- The other way it helps is by seeing emotional events as impersonal uprisings or phenomena. This helps us to develop affect tolerance, the ability to really be with feelings. When we start to notice feelings simply as neurobiological events, they are transformed, and we're able to tolerate them at much higher levels.

## **Empathy**

- In psychotherapy, we find that other people can only really be close with us if we can tolerate both our feeling and their feeling simultaneously. In the Buddhist tradition, one of the ways that we learn to tolerate these feelings is by noticing not only their impersonality—not just building up the muscle of tolerating discomfort—but also noticing that everything changes.
- Evenly hovering attention is undefended, unconflicted, tolerant, and open attention. In mindfulness practice, much of the time, we're

defending against unpleasant experiences. We're trying to hold on to the good ones and push away the bad ones. Instead, what we're trying to develop in our relationships is a kind of radical acceptance of all contents, and being able to tolerate emotions in this way is necessary for developing empathy.

- Empathy is a particular kind of attention. As far as neurobiologists now understand it, empathy works through the action of mirror neurons. For example, when we watch a scary movie, we're not involved in the action, yet our bodies react very much as though we are in the midst of it.
- The way in which we sense what another might be experiencing is actually by sensing events in our own body. And the greater our inner attunement and our tolerance of this, the greater our capacity is to be empathic.
- Sara Lazar researches changes in brain structure that happen with meditation practice. One of these is in the insula. There are parts of the insula that don't shrink with age. The insula is very much involved in proprioception, which means feeling inner sensations in the body.
- When we can feel what's happening inside of us, we can understand others. It helps us develop what modern psychologist call theory of mind, which is simply the awareness that other people don't



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**Mindfulness practice cultivates empathy, which is a specific kind of attention.**

live in your head—that they actually have different experiences from you. But you can get a resonating feeling about their experience by tuning into some of your own. This is critical for relationships generally.

- Acceptance is also critical for empathy. Mindfulness practice helps cultivate acceptance by simply seeing the judgments about ourselves and others like other thoughts—like itches or aches simply coming and going. And this helps us to see ourselves and others more clearly. When we can accept our own imperfections, difficulties, joy, and sorrows, we become more accepting of others, and they feel our trust and acceptance.

## **Open-Mindedness**

- Mindfulness practice also helps us to stay open-minded. There is a Greek myth about Procrustes, who was the son of Poseidon. Procrustes lived in a fortress that was along a major thoroughfare in ancient Greece, and every once in awhile when a passerby would come, he would invite him or her in to spend the night. And if it was evening, and the passenger was tired, he or she often took him up on his offer.
- What the travelers didn't realize was that Procrustes had a bed of a fixed length, and in the middle of the night, if Procrustes felt that the traveler was too long for the bed, he'd make an adjustment. He'd come in and cut off the feet. If he felt that the passenger was too short, he'd come in and stretch him or her out. This became known, metaphorically, as the Procrustean bed.
- This myth propagated, and we still know it today, because it has a certain resonance with a very basic psychological experience. This is what Jean Piaget, the pioneering cognitive scientist, called assimilation and accommodation. He pointed out that when young children are developing, they develop what he called schemas for the world. These are understandings of how the world works. It can be basic, such as one thing is a chair while another is a bed, or it can

be more complicated, such as a good person is like this while a bad person is like that.

- As we develop, we do one of two things: As we get new information or data, we either assimilate it into our existing schemas, or we accommodate, changing those schemas to account for the new information. As we get older, we become better and better at assimilation and not as good with accommodation.
- That attitude doesn't work very well in relationships, because in relationships, if we think we know what the other person is thinking or feeling, that can cause trouble. We do much better if we have a kind of radical uncertainty. And mindfulness helps us to have this uncertainty because we see all of our thoughts as simply coming and going. We don't trust them as much.

## Acceptance

- Early in the history of mindfulness practices, when they came to the West and were being taught in meditation centers, there was a lot of emphasis on concentration and open monitoring. Now, the skill of acceptance is gaining a lot more attention. This is critical for relationships. One way to develop the skill of acceptance is to do acceptance practices. And one of those is called loving-kindness practice.
- In Buddhist traditions, loving-kindness practices are designed to cultivate an open, quivering heart. And the image they often use is of a mother with a child. Whether the experience is joyous or painful, they say, it's as a mother would feel toward her child leaving home to marry or pursue a profession, or as a mother would respond to her sick or injured child. This is the attitude of heart that we're trying to cultivate.
- But, of course, the mind can be a little ornery, and sometimes when we try to cultivate one thing, other things come up. In fact, ambivalence is pretty universal. So, what we want to do is realize that negative emotions may arise when we start to try to generate these loving-kindness feelings. Cynicism, anger, or sadism may

come up—and we want to practice saying yes to all of these. The overarching goal of all these practices is to develop awareness of present experience with acceptance.

- Recently, there has been a lot of interesting research on the effects of loving-kindness practices. It turns out that they build positive emotions and resources for people. They increase feelings of social connectedness. They actually change the brain in ways that correlate with developing more empathy and generosity. And it shifts us away from fault finding in ourselves and others. In one study, it even reduced back pain.
- For people who have experience in prayer traditions, loving-kindness practice can feel familiar because both prayer and loving-kindness practice generate similar feelings. The effects in the theistic rather than nontheistic context haven't yet been studied, but this is a very interesting area for future dialogue and research. In the mindfulness tradition, we're not necessarily asking for any external being or entity to do something; instead, we're simply trying to cultivate the feeling in our own heart.

## Suggested Reading

Kramer, *Insight Dialogue*.

Lucas, *Rewire Your Brain for Love*.

Siegel, *The Mindfulness Solution*, chapter 8.

Surrey and Kramer, “Relational Mindfulness.”

## Questions to Consider

1. In what ways have you found that believing in your thoughts or perspectives can get in the way of connecting closely with others?
2. What is empathy, and what is the mechanism that enables us human beings to feel empathy for one another?

# The Science of Compassion and Self-Compassion

## Lecture 7

Empathy is very important for cultivating rich, meaningful relationships. But there's a particular type of empathy that researchers and clinicians are discovering is essential for any path to happiness: empathy for suffering—our own or the suffering of others—that includes a wish to help. We usually call this particular form of empathy compassion. Compassion, which leads to greater well-being, can be compassion toward ourselves when we're suffering or compassion toward others when they're suffering. Research shows that mindfulness practices generally, as well as focused compassion practices, can help us develop this ability.

### The Evolution of Compassion

- To understand how compassion works, and what gets in its way, it's helpful to look at our neurobiology and its roots in our evolutionary heritage. We have three broad motivational systems that are all very useful for our survival and that interact with each other in different ways.
- The first system is our fight-or-flight system, which is focused on threats and is designed for protection and seeking safety. This system can be either activating or inhibiting depending on the circumstance. It can activate us to fight or flee, or it can inhibit us and make us freeze. The feelings that are activated by fight or flight involve feelings of anger, anxiety, and even sometimes disgust.
- The second system is our achievement/goal-seeking system, which involves our sense of drive, excitement, and even vitality. We see this activated when we're seeking pleasure—when we're achieving something. It's a very activating system, and the feelings that are associated with it are feelings of interest and excitement.
- The third system, which is particularly active in mammals, is the tend-and-befriend system. This is a system that has to do with

feelings of contentment, safety, and connection. It's an affiliative system. It's a system that gives us feelings of soothing and creates feelings of well-being.

- All three systems are shared by all mammals, and each system helps with a certain aspect of survival. In addition, we're discovering that each system involves particular neurotransmitters and brain structures.
- The fight-or-flight system involves the activation and production of adrenaline, also called epinephrine, and noradrenaline, also called norepinephrine. This starts with activation in the amygdala, which is the almond-shaped part of the brain that's involved in figuring out whether a situation is dangerous or not.
- The second system, the drive system, involves dopamine. It also involves activation of the nucleus accumbens, which is the same brain area that is activated by crack cocaine, winning prizes, and achievement of all sorts.
- The tend-and-befriend system involves the neurotransmitter oxytocin. This is generated largely in the pituitary, which has fibers going into other parts of the brain. It's the tend-and-befriend system that allows for compassion. The problem is that the tend-and-befriend system is very easily overridden by the threat system and, to a lesser degree, by the drive system.
- When we're frightened for our own survival, we tend to tune out the needs of others. When we're drawn toward some goal or ambition, the same can happen. But when these other systems are quiet, then the tend-and-befriend system tends to flourish.
- Of course, sometimes the tend-and-befriend system prevails even when the other two systems are active. We're always very impressed when people put compassionate action above what seems to be their immediate needs. This can happen among soldiers in war, in strong love relationships, or even in parenting.

- Sometimes, of course, when people are acting heroically, it may be that they're being activated by their fear-based system. But sometimes it really is our compassion being able to overcome these other urges. Certain hormonal states can also make this happen.

## Developing Compassion and Self-Compassion

- The word “compassion” comes from Latin and Greek to mean “to suffer with.” Compassion means to suffer with another, and it includes a spontaneous wish to alleviate that suffering.
- In developing compassion, we can start with developing compassion for ourselves. This is one form of the broad scale of acceptance, and it is a very rapidly growing area of interest in research in psychology, neuroscience, and psychotherapy. Of particular interest is the analysis of how self-compassion affects our well-being.
- Self-compassion is quite different from self-esteem. Self-esteem is subject to narcissistic recalibration, which means that we normally compare ourselves to others who are sort of at our level and then think that we want to be at another level. But research shows profoundly positive benefits of self-compassion that aren't subject to these limitations.
- Kristin Neff and Christopher Germer are leading the charge in terms of teaching self-compassion and learning about its effects. They've identified that when things go wrong—when we suffer, fail, or feel inadequate—we experience a kind of unholy trinity of three things: self-criticism, which is often experienced as shame about failing in some way; self-isolation, which is often pulling back from others because we don't feel fit to be among others; and self-absorption, which often involves the production of narratives about how bad you are and that you can't believe you made that mistake.
- We can think of these three components as the activation of our threat response system. The self-criticism is our fight response and anger that we turn against ourselves. The self-isolation is our flight

response—we want to pull back. And the self-absorption is our freeze response, just being stuck in a kind of paralysis.

- When we get into that unholy trinity, it adds insult to injury. Then, not only do we feel bad or have a painful feeling, but we also start to think that we are bad, and our sense of self starts to plummet. And there are many different negative narratives we develop about ourselves, including that we're alone or helpless.
- The antidote to this unholy trinity is developing self-compassion. When we feel self-criticism, we consciously cultivate self-kindness. When we feel self-isolation, we consciously cultivate common humanity, the awareness that we all have these experiences of loss and failure. And when we're self-absorbed, we can turn to mindfulness practice to bring our attention in to moment-to-moment experience and out of the persistent narrative about "me" and "mine."
- In laboratory research, psychologists have found that self-compassion is quite different from self-esteem and is completely unrelated to narcissism. In addition, research shows that self-compassion is positively associated with virtually every desirable outcome in terms of psychological well-being, including feeling good emotionally and having fewer physical ailments.
- Self-compassion is one of the acceptance skills, and we might also think of it as an equanimity skill. And it's interesting how it differs from other aspects of mindfulness skills. In open monitoring, if we're dealing with pain, we would take an attitude of feeling



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**Self-compassion involves giving ourselves kindness and understanding.**

the pain with spacious awareness so that it can change. In self-compassion, the attitude is to be kind to yourself in the midst of the pain and that, too, will allow it to change.

- The central, albeit subtle, aspect of self-compassion practice is that we give ourselves kindness and understanding—not to feel better, nor to make the pain go away, but simply because we’re in pain. This retains the overall framework of mindfulness of awareness of present experience with acceptance. We’re not trying to get rid of the feeling, but we are trying to provide a sense of holding and comfort in the midst of it.
- Kristin Neff and Christopher Germer have developed a mindfulness self-compassion program that is eight weeks long and teaches various skills. By studying the effects of the program, they’ve identified five paths to self-compassion: physical, mental, emotional, relational, and spiritual.

### Practices That Develop Compassion

- Mindfulness by itself tends to develop compassion. Compassion for ourselves tends to arise when we simply are open to our own suffering, and compassion toward others arises as we see that everybody else also suffers. Then, compassion arises naturally as we see our interconnectedness—as we step out of selfing and see the interconnectedness of all things.
- In Buddhist traditions, compassion and wisdom are seen as two wings of a bird or two wheels of a cart: One without the other doesn’t work very well. If in trying to help a friend we have compassion without wisdom, we might lose the equanimity. We might be so identified with the sufferer, so desperate to try to fix the problem, that we can’t provide a kind of holding. So, both are needed for compassionate action.

- Mindfulness practice can be used to develop wisdom, but other practices can be used specifically to develop compassion. Because it's difficult to open fully to the suffering of others, we usually use a stepwise approach. First, we develop concentration to steady the mind and allow it to be able to be with what happens. Then, we do loving-kindness practices and meta practices. These involve wishing ourselves and others well, but not necessarily with the attention to suffering or trying to do anything about the suffering. These can be a very good start to compassion practice.
- There are also some practices from Buddhist traditions that are designed specifically to develop compassion for others. One of these is called *tonglen*, which means “giving and taking,” and it comes out of the Tibetan tradition. This practice is attributed to a Buddhist teacher named Atisa who lived in India in the 11<sup>th</sup> century. In the traditional practice, we inhale the pain and suffering of others and exhale kindness, warmth, and goodwill. This reverses our instinctual tendency to battle against emotional discomfort.
- In all of these practices, equanimity is important. This is the wisdom component, and it is about keeping perspective even as we're in the midst of “being with” someone else's suffering. To develop equanimity, you can simply try one of the following phrases: “Everyone is on his or her own life journey” or “I'm not the cause of others' suffering, nor is it entirely within my power to alleviate it.”

## Suggested Reading

Germer, *The Mindful Path to Self-Compassion*.

Gilbert, *The Compassionate Mind*.

Neff, *Self-Compassion*.

\_\_\_\_\_, “The Science of Self-Compassion.”

## Questions to Consider

1. What are the three dominant human motivational systems, and how do they interact with one another? What are the implications of this for developing compassion?
2. What is self-compassion, and how does it differ from self-esteem?

## Mindfulness Practice

**equanimity phrases:** Simple reminders that can help us to “be with” another person who is in pain, even if we can’t make that pain go away.

**giving and taking (*tonglen*):** A compassion practice that can help us connect with a person or an animal that is suffering.

**greeting exercise:** A very brief compassion practice that can be helpful when we’re about to interact with someone with whom we feel some tension.

**self-compassion letter:** An effective exercise for generating self-compassion, particularly when we’re feeling shame about something we’ve done or a perceived shortcoming.

**soften, soothe, allow:** A self-compassion exercise designed to help us find a loving relationship toward mental or physical pain that we find ourselves tending to resist.

# Tailoring Practices to Fit Changing Needs

## Lecture 8

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**N**ow that you have been exposed to a variety of different mindfulness and compassion practices, it will be helpful to step back and look at when each of the various techniques might be most useful to use. In this lecture, you are going to learn about how to choose among the different mindfulness practices that you have been exploring and how to modify the practices to fit your particular needs. You will learn how seven decisions can be helpful in modifying your practices to work with the situation at hand.

### The Seven Decisions

- The question of which practice to use when and for whom is a cutting-edge area of investigation for mental health professionals who are using mindfulness practices in psychotherapy. Because different kinds of patients have such varied needs, clinicians want to be careful to introduce the most effective practices and, particularly, to avoid those that might be harmful for particular individuals at particular moments.
- While we don't yet have experimental research data to guide us, accumulating clinical experience is providing some direction. There are a number of choices that clinicians consider in their work. They can be useful for anyone doing mindfulness practice in deciding how to tailor our practice to our particular needs. There are seven decisions, as follows.
  1. Which skills to emphasize
  2. When to do formal or informal practice
  3. Which objects of attention
  4. Whether to take these in as religious or secular practices

5. Whether to work with life's difficulties in narrative or experiencing mode
6. Whether to stay at the level of relative or absolute truth
7. When to do practices that turn toward safety versus sharp points

## Mindfulness Skills

- In regard to the first decision, there are three fundamental mindfulness skills. Some practices emphasize one more than the others. How might we choose among them? The three skills are concentration, which is used to refine the focus of the mind; open monitoring, which is used to see how the mind creates suffering; and acceptance practices, which are used to soothe and comfort us.
- Typically, most of us have to develop concentration first, because until we develop concentration, the mind is simply too scattered to be able to carefully observe what's happening in each moment. Once we have sufficient concentration, we can move on to open monitoring, or choiceless awareness. That's when we can broaden the field of awareness to pay attention to whatever arises in our consciousness.
- Then, if we notice a lot of resistance to the contents—if we notice that we are filled with self-critical thoughts, judgments, and resistance to certain aspects of what's coming up, that's when the loving-kindness or meta practices are so helpful, as well as the self-compassion practices and equanimity practices.

## Formal versus Informal Practice

- There is a continuum of informal practices that we can do during the day, formal meditation practice, and intensive retreat practices. For most of us, it helps to pick a few informal practices—such as dog walking, showering, and mindful driving—and each time we are in those circumstances to practice them and to try to then pick regular times of the day for formal practices.

- For many people, it's helpful to engage in some kind of meditation class at a local meditation center once a week and to practice in the group as well as receive ongoing instruction.
- Retreat practice only makes sense if we're at a time in our life when we're feeling strong or not overwhelmed, because retreats tend to be rather intense and can be emotionally overwhelming. But they also have the potential to deepen our practice profoundly.

### Objects of Attention

- When we do any practice, there are different objects of attention that we could use. Different objects tend to have different effects on the mind. A common object of attention is the breath. Others include the sensations of the feet touching the ground, sounds and sights, and the sensation of the air. We can think of these as a continuum, from the coarser to the subtler.



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**One of the fundamental mindfulness skills is concentration, which can be developed by paying attention to your breath.**

- Many very intense experiences, such as heavy metal music, appeal to people, in part, because they create a sense of absorption. We are so brought out of our own thought stream by the intense sensations of the heavy metal concert, for example, that we're not worrying about our usual concerns. Intense sexual experiences can also function in this way.
- The problem is that when we're focusing on an object of awareness that's really, really intense, we tend not to see the subtle movements of the mind. So, we don't get a lot of insight into how the mind creates suffering for itself.

### **Religious versus Secular Practices**

- Another choice point involves choosing a suitable style, which depends on our cultural background. Some of us are drawn toward spiritual or religious practices. These may be in a devotional tradition or theistic tradition. It can often be helpful to choose a practice that fits your own cultural orientation or belief system.
- For many people who aren't particularly religiously oriented, we can simply approach mindfulness practices from a very scientific standpoint. We can talk about neuroplasticity and discuss how these are exercises in intentional control training. There is no need to introduce a religious element into them. After all, the Buddhist psychology they come from is not a "religion" in the traditional Western sense of the word, based on doctrine, in that way.
- The only place where people get into a little bit of difficulty is if they come from traditions that try to prohibit certain thoughts and feelings from coming up in the mind. However, virtually all religious traditions have a loving and accepting element. It can be very helpful simply to find clergy who emphasize this aspect of the tradition, and then we can accept it even in a rather nonreligious way.

### **Narrative versus Experiential Mode**

- The next choice involves the narrative versus experiential mode. This is relevant to psychotherapy, but it's also relevant to any of us

doing these practices. The narrative mode involves the stories we tell about ourselves. In the case of psychodynamic psychotherapy, they're stories about our earlier life history and what's happening in current relationships. In the case of behavioral traditions, how did we learn our particular beliefs? In the case of systemic or family approaches, how is it being maintained by the family, community, and culture?

- Instead of thinking about where your wave of anxiety, depression, or anger is coming from or what it is all about, experiencing mode is simply staying with the moment to moment. How is it felt in the body, and how is the mind responding to it? Is the mind trying to push it away, grasp it, or ignore it?
- There's an interesting balance. "Being with" experiencing mode, what we do in mindfulness practice is very, very useful for learning to be with difficult feelings. Yet stepping back and looking at things through narrative mode also can help us quite a bit.

### **Relative versus Absolute Truth**

- A related decision has to do with whether to stay at the level of what we might call relative, or normal, human truth or to move to the level of absolute truth. The level of relative truth is simply the human story—our experiences of success and failure, pleasure and pain, longing for things that we don't have, hurt, anger, envy, joy, and even pride. These are the kinds of things that people come into psychotherapy talking about.
- Absolute truth refers to what are called in the Buddhist tradition the three marks of existence: *anicca*, which is the realization that all phenomena are in constant flux; *dukkha*, which is the unsatisfactoriness of experience; and *anatta*, which is the fact that we don't find any kind of enduring or separate self.
- We don't want to jump to the level of absolute truth when we haven't already processed things at the level of relative truth, but we do want to allow for the possibility that when we're caught

in our human drama, we can also see it through the lens of the bigger picture.

### Turning toward Safety versus Sharp Points

- The last decision—arguably the most important one—is about whether to turn toward safety or toward the sharp points. When people have been through difficult times or are overwhelmed, clinicians need to do a stage-based approach to treatment. They need to first establish a sense of safety, a sense of comfort, a sense of being held.
- Then, they can move on to starting to reintegrate things that have been split off, because the impulse to reintegrate is a good one. It's only when people allow all of their feelings to occur that they can become fully whole and fully present. But you can't rush it.
- Some mindfulness practices are quite helpful for turning toward safety, while others are helpful for reintegrating the difficulties, which in the Tibetan tradition is referred to as “turning toward the sharp points.”
- Things that are helpful for turning toward safety are typically things with an outer, or distal, focus. When difficulty arises emotionally, it tends to be in the body. When we bring our attention outward, it works more readily for us. Examples of practices that can help us turn toward safety that have an outer focus include walking meditation, listening meditation, nature meditation, eating meditation, and open-eye practices.
- There are also other ways to turn toward safety that have an inner focus. These include mountain meditations, guided imagery, *metta* practice, and dialectical behavior therapy techniques.
- There's also a time when we want to turn toward the sharp points—when we want to try to reintegrate what we've pushed out of awareness. Then, we can use mindfulness practice as a kind of

experiential form of treatment, where we start with something like the breath or another object of awareness and turn the attention toward anything that's unwanted or avoided, including a feeling or memory.

- Then, we simply notice how it is experienced in the body—whether it is experienced as pain, fear, sadness, or anger. We can see what arises in response to unwanted images or memories. We can even see what arises in response to urges toward compulsive behaviors, such as overeating or overdrinking. We can simply notice these events happening in the mind.
- Different people need different things, and any one of us needs different approaches at different moments in time. For example, we might go through a period where we've had a lot of difficulty in our lives and need loving-kindness practice or equanimity practice.
- Mindfulness of inner experience—simply spending a long period of time just staying with the breath or turning toward the sharp points—can be harmful when we're overwhelmed by traumatic memories, when we're afraid of disintegration or a loss of sense of self, and when people are suffering from psychosis. There are some practices that we could think of as life preservers, which are about using the practices that turn us toward safety and doing them in a very difficult moment. Usually, these involve some form of concentration practice that includes stepping out of the thought stream.

## Suggested Reading

Germer, Siegel, and Fulton, *Mindfulness and Psychotherapy*.

Pollak, Pedulla, and Siegel, *Sitting Together*.

Siegel, *The Mindfulness Solution*, chapter 4.

## Questions to Consider

1. What have you noticed in your meditation practice about the relationship among focused attention (concentration), open monitoring (mindfulness per se), and acceptance (loving-kindness, self-compassion, and equanimity) practices? When do you feel that one or another is more helpful?
2. Can you identify times in your life when mindfulness practices aimed at cultivating safety and stability would be more useful, versus times when turning toward the sharp points would be more helpful?

# **Modifying Our Brain Function and Structure**

## **Lecture 9**

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**W**hat exactly do we mean by brain structure and function? And how do these relate to the idea of the mind? Different philosophical schools and approaches posit different relationships between the constructs of mind and brain. In this lecture, “mind” signifies the information being processed and our subjective experience in consciousness moment to moment. “Brain,” on the other hand, involves what’s going on in the underlying tissue structures. As you’ll learn in this lecture, the mind changes the brain, and the brain changes the mind.

### **Studying the Brain: Neurobiology**

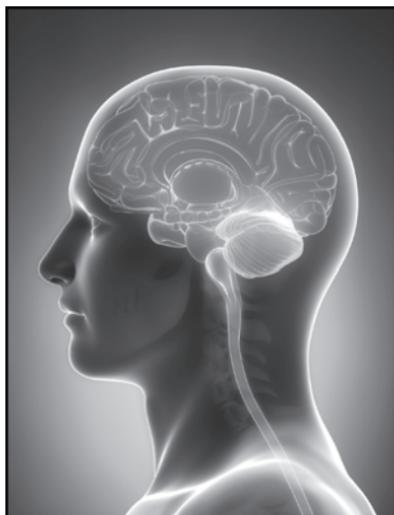
- Neurobiological studies are often what draw people to mindfulness practice. They engage in mindfulness practice to improve aspects of their brain function, but they end up with a path to rather profound changes, even paths to psychological and emotional liberation.
- Also, by studying mindfulness and the effects of mindfulness on neurobiology, we get to see our mind as an impersonal process. We get to see that the thoughts and feelings that arise are actually just neurobiology unfolding.
- Increasingly, neurobiology also gives us the idea of possible new interventions—for example, neurofeedback. There are some studies in which they connect a computer to an imaging machine so that a subject can get real-time feedback on what their brain is doing in each moment, and as a result, they’re better able to train their brain in certain ways.
- Scientists face many challenges in studying the neurobiology of mindfulness practices. What happens to our brain over time if we take up meditation practices? In psychological research, the momentary effects are called state effects, and the more long-lasting

ones are called trait effects. State effects and trait effects reinforce one another. Both are challenging to measure.

- Some of the challenges in studying state effects include not knowing what the meditator is actually doing as we're observing them. Is he or she concentrating on the breath, enjoying a pleasant fantasy, or maybe even remembering to run an errand? Where exactly is the boundary between meditation and non-meditation?
- If you ask a question of a person while they're in an fMRI scanner, simply hearing and answering the question changes brain activity, so maybe we're simply measuring the person's response to the question.
- When we study trait effects, there are challenges there, too, because the way we study those is by looking at people who have been doing meditation over time and comparing them to people who haven't been doing meditation over time. But perhaps only certain people choose to meditate. Maybe the effects that we observe are because they're disproportionately vegetarian, or highly educated, for example. It's difficult to get random samples.
- A challenge that faces both state and trait studies is that we don't know if people can accurately report on their degree of mindfulness. A person needs some degree of mindfulness to be able to notice if he or she is being mindful. However, we're stuck with self-report. There are nine scales that are in use, and all of them ask people about their personal experiences and what they observe in their own minds.
- There are five factors in mindfulness practice, but these appear to be different depending on the experience levels. Some factors seem to develop more at lower levels of experience, and other factors seem to develop more at higher levels of experience.
- What might we use instead of self-report as a measure? Should we use the hours or years in meditation practice? It's a possibility. But

we don't know exactly what the intensity of the meditation practice was or how well trained the person was.

- Also, until recently, we didn't have good active controls. In studies, we would assign people to a meditation practice or to a waiting list, but we couldn't tell if the effects that we were measuring were actually the effects of doing the meditation, or simply getting attention for being in the study, or participating in part of a group, or maybe being exposed to a new belief system. Sophisticated, high-tech equipment can't solve these kinds of problems.
- Despite these challenges, we are learning something about the neurobiological changes. There are several methods for being able to study what's going on in the brain. One set of methods measures electrical activity. Our chief instrument is the electroencephalogram (EEG), which is very sensitive to moment-to-moment changes. The problem is that the image we get is a bit blurry, so it's very difficult to tell exactly where in the brain activity is taking place.



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**Research has shown that mindfulness practice leads to positive changes in brain function.**

- The other way we can look at what's happening in the brain is through neuroimaging. There are three types: PET, MRI, and fMRI.
- Positron emission tomography (PET) detects radiation from emission of positrons. The reason it's not used very often anymore in meditation studies is that these positrons decay, and you can only actually record what they're doing during the period of time that

they're decaying. So, you can only get very short videos of what's going on in the brain. Also, subjects aren't so keen about having radiation injected into them, so this has fallen a little bit into disuse.

- Much more frequently used is magnetic resonance imaging (MRI), which detects a radio frequency signal that's emitted by excited hydrogen atoms in the body. This method provides excellent imaging for soft tissue, including the brain. The resolution is quite clear. But an MRI only takes a snapshot, so we only see what's happening at a particular moment in time.
- Another instrument is functional magnetic resonance imaging (fMRI), which takes a series of MRI pictures one right after the other. The video is somewhat jerky because there are slow refresh rates for the frames, and the resolution isn't quite as good as an MRI, but you can see what's happening in the brain in real time. So, we can get a long video about what's happening in the course of meditation practice.

### Changes in Brain Function

- Neurobiological research on mindfulness practice has taught us a lot about changes in brain function. The first area that we've noticed changes in is attention, which includes alerting, or becoming aware of a stimulus, such as a horn honking; and sustained attention, which is following a stimulus over time. Very closely related to sustained attention is the idea of conflict monitoring, which is about remaining focused despite distractions that are trying to pull our attention away.
- Research has shown that mindfulness practice improves both alerting and sustained attention. In fact, as little as eight weeks of training improved the detection of unexpected stimuli that were introduced in the laboratory, and it improved the ability to maintain attention on a stimulus over time.
- Mindfulness meditation practice also seems to stave off all sorts of normal cognitive declines that are associated with aging. Older

meditators have been shown to outperform age-matched participants on an attentional blink task and on tasks assessing attention, short-term memory, perceptual speed, and executive functioning.

- Different types of meditation seem to yield different results in terms of electroencephalogram patterns, or brain wave patterns. Researchers are just beginning to investigate how different forms of meditation might affect the brain differently, but it's clear, at this point, that all of the different practices have measurable effects on our neurobiology.
- In addition, studies are showing that even within one type of meditation, different doses seem to have different effects.
- Mindfulness meditation activates parts of the brain that are essential for keeping our emotions in perspective and has the clinical effect of reducing excessive anxiety.

## **Changes in Brain Structure**

- We used to believe that the brain reaches peak development at age 25 and deteriorates thereafter. However, the brain is much more like a muscle. If you use it, it bulks up; if you don't, it tends to wither.
- For example, professional musicians have more neuronal cell bodies, or gray matter, than amateurs in areas of the brain related to musical ability. And amateurs have more gray matter than people with no musical training. This is all evidence of brain plasticity. What we do with our attention really matters.
- Aging and pathology are usually associated with cortical thinning—with losing gray matter in the cortex. In 2005, Sara Lazar analyzed 20 long-term Western meditators and age-matched controls. They had, on average, nine years of meditation experience.
- Her team discovered that compared to age-matched controls, the meditators had thicker anterior insulae, sensory cortices,

and prefrontal cortices. The differences in thickness were most pronounced in older subjects.

- The three regions affected by meditation practices were all thought to be involved in integrating emotional and cognitive processes. The opposite development—decreased volume in at least one of the affective structures, the anterior insula—has been strongly implicated in several pathologies, including post-traumatic stress disorder, social anxiety, specific phobias, and even schizophrenia.
- There are some limitations to this study. It had relatively small numbers, and people were only imaged once. And maybe people who have naturally thicker cortices are more likely to practice meditation. Nonetheless, the findings fit expectations.
- The areas associated with paying attention to the breath and sensory stimuli, and areas associated with the integration of thoughts and feelings, had increased in thickness proportional to the amount of time people spent meditating in their lifetime.
- To get beyond these limitations, we need to do pre-post studies. We need to be able to randomly assign people to meditation or non-meditation groups. There has been one eight-week mindfulness course that was given to people with no meditation training, while a similar group was in a control group, and the researchers found increases in gray matter concentration within the left hippocampus and other areas.
- The hippocampus is involved not only in learning and memory, but also in emotion regulation. In fact, it gets smaller in depression and anxiety, and stress seems to shrink it. Altogether, researchers concluded that participating in eight weeks of mindfulness training was associated with changes in gray matter concentration in brain regions involved in learning and memory processes, emotion regulation, self-referential processing, and perspective taking—all valuable things to experience.

- Pre-post studies are showing that changes aren't just due to meditators being vegetarians or something else peculiar. Even when subjects are randomly assigned to mindfulness meditation or control groups, mindfulness training produces measurable changes in important brain regions.

## Suggested Reading

Davidson, "The Neurobiology of Compassion."

Davidson, et al, "Alterations in Brain and Immune Function Produced by Mindfulness Meditation."

Hanson and Mendius, *Buddha's Brain*.

Lazar, "The Neurobiology of Mindfulness."

Lazar, et al, "Meditation Experience Is Associated with Increased Cortical Thickness."

## Questions to Consider

1. How have scientists changed their understanding of neuroplasticity in recent years, and what does research on the effects of meditation tell us about how the brain develops over a lifetime?
2. What are some of the challenging questions scientists need to consider in studying the effects of meditation practice on the brain?

# Solitude—An Antidote to Loneliness

## Lecture 10

Much of our psychological distress—and, in fact, many clinical disorders—are either caused or exacerbated by our sense that we're alone with it or that the problem itself marks us as defective, perhaps even unfit to participate in the human family. This can happen because of many factors, from being the victim of sexual or physical abuse to struggling with anxiety or depression. One reason why therapy groups can be so effective in helping people deal with their difficulties is that it helps us not feel so alone. Luckily, mindfulness practices can also help ease our sense of isolation.

### Suffering in Isolation

- There's a problem in consumer economies, because the way in which we sell things to one another is by promising, in essence, happiness to the person that uses our product or service. One of the results of this is that we think if we're not happy, then it's our fault. This extends to things far beyond buying consumer products, including our choices about our spouse, career, and place of residence.
- Our psychiatric diagnostic system, unfortunately, just exacerbates the problem. We tend to think that if people are suffering, it must be because they're sick. This emphasis on individuality, as well as this emphasis on trying to acquire happiness, tends to create loneliness and alienation. We feel a chronic disconnection, and it results in a loss of energy and meaning for a lot of people—all sorts of negative self-images.
- Historically, religious belief and participation in religious groups helped us feel more connected. But that seems to be declining in modern cultures. People no longer have these natural senses of connection to community that we want to have.

- Mindfulness can help generate empathy and compassion, and both of these help us support intimate relationships. There's a school of psychology called relational-cultural theory that grew out of a feminist critique of conventional psychology. It was the work of Jean Baker Miller and Irene Stiver. They focused on the benefits of mutual connection rather than focusing on individual autonomy and individuation.
- They identified several different benefits of mutual connection. When people are connected to one another, they have more energy and vitality, a greater capacity to act, increased clarity, and enhanced self-worth (or self-efficacy). There's a natural desire and capacity for more connection. And we can use mindfulness practice to develop just this sense of connection.
- In our mindfulness practice, when we're with another human being, we try being aware of three objects of awareness. First, we are mindful of the sensations, thoughts, and feelings that are happening in "me." Second, we can be mindful of the words, body language, and mood of the other. Third, we can be mindful of the flow of relationship.
- When we do mindfulness practice, and we become aware of what's happening in "me" and in "you" and feel the sense of connection or disconnection, we tend to be able to adjust the relationship. When there's more of a sense of disconnection, we tend to find a way to come back together.
- Interpersonal connection fosters awareness of what Zen master Thich Nhat Hanh called "interbeing"—a connection to something larger than ourselves. We experience interbeing on many levels. It could be being part of a family, part of a neighborhood, or part of the natural and human world. It's a natural consequence of seeing our "self" clearly and noticing that this is simply an impermanent, ever-changing process that's wholly interconnected with the environment.

- This sense of interbeing has been noticed by human beings from time immemorial. In theistic terms, it's very often described as everything being part of God or "the divine." In nontheistic terms, it's seen much more in terms of everything being part of a universe of matter and energy or an ecological system.
- Religious mystics throughout the ages have noticed that our narrative, word-based thought tends to obscure this reality, the fact that we're living in the thought stream. What we're noticing through mindfulness practice is that, most of the time, we're simply living in this narrative about "me" and about what "I" want. Developing language for the separate objects in our experience is what obscures the reality of interbeing, or interconnectedness.

## Suffering Together

- Through mindfulness practice, as the thought stream starts to become less and less relevant, we actually feel, in a moment-to-moment way, the interconnectedness of all things. This sense of interconnection, which mystics from various traditions have identified with their own cultural language, is what becomes available to us with mindfulness practice, and it gives us a profound sense of connecting to the larger world and to one another.
- Connecting to others and suffering together is central to all relational healing—to medicine, to the ministry, to parenting, and even to marriage and friendship. Appreciating the impersonal and universal quality of pain is part of how we do this, because we need to learn how to open to the other's pain as we open to our own. That's the power of therapy groups.
- There are many studies of the effects of mindfulness on relationships. Qualities of marriage were reportedly improved with mindfulness training adapted to couples. In addition, mindfulness practice improved stress-coping skills so that couples were able to handle difficulties in a way that didn't devolve into a fight. In addition, mindfulness improved day-to-day ratings of marital closeness and satisfaction.

- Other formal studies show that mindfulness skills enhance relationships, in part by helping us differentiate the experience of emotion from the enactment of emotion. This involves having a moment to take a breath before reacting. We're only able to do this if we have the capacity for increased affect tolerance. Being able to bear the other's upset feeling as well as our own is critical for this.
- The other thing that we get from mindfulness practice is we simply become aware of this full range of emotional experience, which is so important for empathy. Insula activation enables us to feel the mirror neuron activation and the awareness of the effects of the emotional exchange on the relationship.

## **Solitude**

- One of the things that mindfulness practice allows us to do is be alone. And we don't often think about this in the modern world, but solitude can be a very, very powerful tool for not only developing our own awareness and appreciation of interbeing, but also for connecting us to others. The tendency for "I, me, me, mine" is dissolved somewhat in experiences of solitude.
- Isolation being a negative thing may be hardwired among us. After all, we're social primates. We evolved in groups, tribes, and bands. And when we're part of a group, to be separated from that group can be quite threatening. This is in part because we needed one another to survive in a hostile environment.
- Many of us live in urban environments, where we have few moments without interpersonal stimulation. So, being alone can bring up all sorts of difficult feelings for us. It can be quite disorienting.
- Sometimes being alone means feeling like a loser—feeling that lovable people aren't alone and that only losers are alone. When we're alone, the self can feel very threatened, in part because we think of ourselves as having been ostracized from the human family.

- It's also difficult because we know from child development that it's contact with others that provides our sense of emotional regulation. We use others to modulate our moods when we're having a hard time. It helps us create our sense of identity. And while Buddhist psychology is interested in dismantling that, most of us are kind of attached to our identity, which means that the other provides the protection of the primate troop or human group.
- In the modern day, many people are never alone, because they never have any time without their television, radio, or cell phone. This robs us of an opportunity to develop quite a lot of important skills.
- Most religions have recognized that solitude has enormous potential for spiritual development. And one common thread in spiritual development across many different religious traditions is the appreciation of interbeing. Almost all traditions have hermits, monks, nuns, or wandering ascetics, all of whom remove themselves from the hubbub of daily life in order to, in essence, experience interbeing.
- In doing this, they go through phases in which they face loneliness. Most serious inner explorers have had deep loneliness. They come face to face with feelings of being unloved, being alone, realizing that this life cycle is impermanent and that death is coming, and realizing that meaning is socially constructed. We see this in the stories of Jesus, Laozi, and the Buddha—all of whom went off alone to find paths to well-being.
- We can even have this experience in the course of our ordinary meditation practice. There's this tradition of noble silence, which involves not talking to others, not making eye contact, not doing all of the various things we do to interact. Even in the presence of a community, having this solitude gives a profound sense of interconnection as well as connection to one's own experience.



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**Mindfulness practice allows us to be alone, and solitude is important in relationships. We have to be comfortable with ourselves before we can be comfortable with other people.**

- Loneliness is quite different from solitude. When we're lonely, we're longing for contact, and we see our aloneness as a mark of failure. We think that we're the only one. We feel vulnerable and unloved. And loneliness is usually imposed, not chosen.
- Solitude, on the other hand, is about valuing “being with” oneself, choosing it, and recognizing that it's part of our common humanity. Mindfulness—by reducing the self-focus and increasing our interest, curiosity, and awareness of interbeing—supports solitude over loneliness. It makes it so that when we're alone, we're much more likely to experience it as solitude than as loneliness.
- Our capacity for solitude is very important for intimacy, because if you can't be with yourself, alone, then you're not going to be able to be with another person.

- Solitude, at its most gratifying, connects us to the world outside of ourselves. And by removing the moorings of identity that we usually get in our social life, we have the option of seeing our part in the larger world, and this connects us to the big picture.

## Suggested Reading

Brach, *Radical Acceptance*.

Kornfield, *A Path with Heart*.

Surrey and Jordan, “The Wisdom of Connection.”

Tillich, *The Eternal Now*.

## Questions to Consider

1. When in your life have you felt most lonely or alienated from others? What were the personal or cultural beliefs that contributed to your sense of isolation?
2. Try the breathing together exercise, either with another person physically present or with another person held as an image in the mind. Reflect on what happens. Did you feel more connected to the other person? What might keep you from feeling this connection more fully at other times?

# Connecting with Children and Adolescents

## Lecture 11

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Children live in different cultures from adults, even if they are raised by their biological parents. They have different understandings of how the world works and different ways of coping with difficult situations. Therefore, mindfulness practices, which are typically geared toward adults, need to be modified to mesh with the culture of the child. In this lecture, you will learn how mindfulness practices can help adults enter the child's world and how various practices can be tailored to fit the child's world.

### Differences between Children and Adults

- Compared to adults, children live in a culture with a different sense of time. The younger the child, the more he or she tends to live in the present. Children are able to remember the past in a way that they can't when they're younger, and this continues until they reach adulthood, when they are virtually never in the present. They're always thinking about the past and the future.
- Children often also have a different sense of reality. The younger the child, the more he or she lives in fantasy. Selma Fraiberg, who is one of the leading clinicians studying younger children, called these the magic years, in which fantasy and reality are fluidly intermixed in younger children.
- They also have a different use of language. The younger the child, the less his or her world is created by words and concepts. They're involved in moment-to-moment sensory experience. As they get older, they become more attached to language.
- In a certain way, children have more of a beginner's mind. They're more fresh and open to experience. By cultivating a beginner's mind, mindfulness practices help us to enter their world. They help bring us into the present. They help us see reality as fluid, because

we're not so attached to our particular thought forms. And they help us to be less attached to words.

- What is the difference between work and play? Work is more goal oriented than play. Work, of course, we do based on others' demands, rather than whatever is arising internally, like we do with play. And work definitely favors results over process, while play favors process over results.
- We can think of play as being the work of children, but many of us forget how to play as adults. We become so focused on goal orientation that it's difficult for us to fully participate with children.
- Mindfulness practices can help us with this, because they develop a kind of playfulness. They can help open us up to nonverbal communication, and they can facilitate "being with" silence, because often children just want to be silent and have us be with them. They can also help us tolerate repetition, which is sometimes involved when children are playing. For example, a child might repeatedly request that you read *Goodnight Moon* to him or her.

### How Mindfulness Helps Caregivers

- There is a tremendous amount of research that shows that it is, in essence, adult presence that regulates children's arousal and helps children learn their own emotional regulation skills. In other words, adults provide emotional regulation for children. If we are with an upset child and we get upset about their being upset, it tends to go poorly. But if we can accept distress, the children we are with can accept distress. This inner stability is particularly essential when words aren't as powerful.
- In the Buddhist tradition, it is said that if you practice mindfulness diligently enough, you'll become aware of what are called mind moments, which are the shortest periods of time that the mind can be conscious of. We can't think about being responsive to children; we have to develop this kind of inner attunement and stability.

- Mindfulness can help caregivers provide the kind of environment that children need to flourish. Caregivers have to support firm, consistent, and appropriate limits and to be able to be empathic, connected, and loving. However, this is much easier said than done.
- Mindfulness practices can help us to respond more appropriately to misbehavior—to not make so many of the automatic errors that get us into trouble. It's very difficult not to get angry and act out of anger when children misbehave. Action so quickly follows affect that we don't even have vocabulary for the difference between feeling anger and enacting anger. Mindfulness practices allow us a moment to take a breath, which can be essential for responding effectively to children.
- Children enroll adults in very sophisticated behavior-modification programs. They basically train us to yell and to give in. In fact, we get positively reinforced every time that we give in. Children enroll us in these projects quite regularly. And they have pretty big brains. They can devote about 100 percent of their resources toward training their parents. This is why their behavior-modification programs typically work out so much better than ours do.
- Most of our parenting mistakes occur when we take our children's behavior personally. Our errors are compounded by self-hatred over what Trudy Goodman calls parenting crimes, which are all the things that we do in raising children that we absolutely can't believe that we did.
- Convicting ourselves of parenting crimes is rarely helpful. Mindfulness—particularly acceptance—can help us begin to let go of these judgments. Mindfulness can help us just notice the feelings and thoughts arising, and it can help us relate to our child as we might relate to another person's child, where we might not take it so personally.

## Mindfulness Exercises for Children

- Mindfulness practices for parents and other caregivers can help them take care of children. There are also practices that we can teach to children directly. There is a wealth of these that has been developed, but you can also invent your own.
- The basic principle is to think about how children are different from adults and how you have to adjust the practices to meet their needs. One way that children differ from adults is that they tend to have a shorter attention span. So, in general, the mindfulness practices we're going to design for children are going to be shorter than the ones we would do for adults.
- Another way that children are different is that they tend to like more vivid stimuli. Children are going to gravitate more readily toward coarse stimuli, like the sensations of walking meditation or eating meditation, versus more subtle ones, like the sensations of the breath in the body or the tip of the nose.
- When we design environments for young children, they often have bright, primary colors and very clear shapes. These stimuli generally resonate well with children, especially compared to the subtle shapes and pastels that attract adults.
- One of the mindfulness exercises we can do with children is called three breaths. This is analogous to something called the three-minute breathing space, which is part of the system known as mindfulness-based cognitive therapy. When we're with a child, you can say, "Stop whatever you're doing just for a moment and take three breaths." Then, you simply ask the child, "What did you notice happening in your mind and body during that time?"
- This simple exercise helps to tune children in to their current sensations—to what's happening on a body level and what thoughts are arising and passing. Most of the time, children never take a moment to look inside. This is a very simple exercise that can be done with virtually any children.

- Another exercise is called apple meditation, which is very similar to eating meditation and uses an apple. We can take this as an opportunity for inquiry into inter-being and ask the child, “Where did the apple come from? How did it get to the store? Where did the tree come from? What nourished the tree? How many people have helped the apple to arrive in your hand?” Following that inquiry, we simply eat the apple as an eating meditation, paying attention to each bite and the sensations.



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**Apple meditation, the practice of eating an apple mindfully, can be very rewarding.**

- We can also modify loving-kindness practice to work with children. You tell the child, “Remember something you did that makes you feel glad inside. Send a smile into your whole body, and let the feeling of happiness, peace, kindness, and love spread from your heart through your whole body.”
- Then, much as we do with other loving-kindness practices for grown-ups, we send these feelings to other people in the family. Sending them to a pet works well with children, or they can send them to a friend. Then, they can send them to their whole class, to their neighborhood, to the country, or even to the whole world.
- Another practice that is great to use with children is called the bell-in-space meditation, which basically uses a bell as a vivid object

of awareness. In addition to these practices, you can invent your own practices. And the younger the child, the shorter the time and the more intense the stimulation should be. The older the child, the more you can use practices that are like those we use for adults.

## Suggested Reading

Goodman, “Working with Children.”

Goodman, Greenland, and Siegel, “Mindful Parenting as a Path to Wisdom and Compassion.”

Kabat-Zinn and Kabat-Zinn, *Everyday Blessings*.

Siegel, *The Mindfulness Solution*, chapter 12.

## Questions to Consider

1. In what ways is the culture or world of children different from that of adults? How might mindfulness practices help us enter their world?
2. In your experience caring for children, in what circumstances have you found yourself becoming most unproductively reactive? How might mindfulness practices help you have a more skillful response?

## Mindfulness Practice

**apple meditation:** A version of eating meditation suitable for children that uses a vivid object of awareness and encourages reflection on the interrelated nature of all things.

**bell in space:** An easily accessed mindfulness practice for children. They can be given the instruction to count the bells (which may help younger children to remain attentive) or simply to listen to them.

**breathing on purpose:** A variation of a foundational formal meditation practice adapted to the language and attention span of younger children.

**loving-kindness practice for children:** An adaptation of this foundational practice for cultivating acceptance using language and imagery suitable for children.

**three breaths:** A very brief exercise suitable for children to help them notice their experience in the present moment.

**wake up your senses:** A brief practice for children designed to help them step out of the thought stream and become conscious of bodily sensations.

# Seeing Sadness and Depression in a New Light

## Lecture 12

This lecture marks the beginning of the exploration of psychological difficulties that affect us to lesser and greater degrees and how mindfulness practices can help us work with them effectively. The focus of this lecture is on depression. In this lecture, you will learn about models for understanding depression and how to deal with depression from a mindfulness-based approach, whether you are the one experiencing depression or someone you know is.

### Sadness versus Depression

- Have you ever thought about the difference between sadness and depression? We've all experienced both to some degree. How would you say that they feel differently to you? Some people say that depression lasts longer. But it's possible to be depressed for a few hours or sad for days, so that might not really be what distinguishes the two. Other people say that depression is more intense. But we can certainly have the experience of being a little depressed or very sad.
- Some people say that depression includes hopelessness, and that seems to be true. In addition, depression almost always involves a narrative about you and about your circumstances that ends with the conclusion that things are not good.
- Depression causes us to feel deadened, with very little joy or interest in the world. On the other hand, sadness is alive and vibrant. We would describe it as being poignant.
- What differentiates depression from sadness is the way it involves a kind of shutting down of the organism to try to avoid pain. This shutting is not unique to depression, but it plays a role in most of our psychological distress.



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**Mindfulness practice can help with depression, which involves avoiding pain, by helping you work through your thoughts about pain.**

- Our tendency is to want to avoid some kind of painful experience, and in the process of avoiding it, we end up stuck in some kind of loop that keeps us trapped for a long period of time. This operates with a variety of problems, including depression, addiction, anxiety, and even psychosis.
- Experiential, or emotional, avoidance plays a role in all sorts of psychological difficulties. In all of these, it's our attempt to not feel something painful that gets us caught in the disorder. Mindfulness practice—which is, in essence, a form of experiential approach to everything—can help with all of these.
- Depression involves shutting down and turning away from pain, while mindfulness turns toward the experience at hand, and in so doing, it challenges the depressive stance. That's why mindfulness can help so much with depression.

## Models for Understanding Depression

- Psychologist Martin Seligman came up with an animal model for studying depression. In his experiments, researchers constructed large rectangular cages in which they could put a dog, and the cage had the option of having a barrier put up. It had a floor that could be electrified on either side or both sides. The electrification wouldn't harm the dog in any way, but it was uncomfortable or distressing for the dog.
- They put the dog on one side of the cage, and they applied an electric shock. The dogs would always jump up and go to the other side that wasn't electrified, and they'd feel much better. But then, they put up a barrier and applied the shock to the side of the cage that the dog was in, and the dog would yelp and get upset but couldn't escape.
- After a relatively brief period of time, the dog started to look depressed. They stopped having interest in their human handlers. Their appetite and sleep became disrupted in ways that looked very much like human depression. This became the learned helplessness model of depression—the idea that we get depressed after our wishes have been thwarted just one time too many.
- The researchers thought that they could use the same model to perhaps cure depression. So, after the dogs reached a certain point, researchers would remove the barrier and then apply the shock. Initially, the dog didn't do anything. They had to physically go in and pull the dog over to the other side and, in essence, show the dog that the other side wasn't electrified before the dog would come back to normal functioning.
- This experiment became part of the evidence for the negativity bias, because it turned out that it was much easier to induce the depression-like state than it was to resolve it. You get the dog to act depressed with only a few trials, but it took many, many times showing the dog that it could have self-efficacy—that it could get up and move—before the dog would seem to recover.

- Mindfulness practice can help with this by simply redirecting attention to the present and noticing that each moment is a workable moment. Learned helplessness gets so much worse in a human than a dog because we develop a cognitive map for our circumstance that includes the idea that the situation is hopeless and it'll never get better.
- If we look at the psychoanalytic understanding of depression, this also has validity to it. We feel a lot of anger—often anger toward loved ones—but we don't feel that we can express it, so it gets turned against the self. That's why we end up being filled with all of this self-hatred, all of these negative thoughts about ourselves, when we're involved in a state of depression.

### **Attention to Present Emotions**

- How do we work with depression when it comes up? We focus on the *what*, not the *why*. It's really about staying with what's happening right now and trying to be with, or breathe into, what's happening right now. It's very similar to a number of experiential therapies, such as focusing by Eugene Gendlin, Gestalt therapy, or Peter Levine's somatic experiencing.
- Philosopher Eugene Gendlin and psychologist Carl Rogers discovered that the pivotal sessions where people with depression really had a sense of transformation were sessions in which the patient or client closed his or her eyes, paid attention to the core of the body—not the distal parts, but the inner feelings—and talked about them.
- By helping us come into the center and notice what's happening in the body, mindfulness practices can connect us to feelings that might have been disavowed or pushed away. In that way, they can help us resolve the depression.
- Mindfulness practices help us move toward the pain by asking, what do we experience in our body? What's our relationship to the pain? Can we feel compassionate with ourselves?

- Mindfulness practices also help us get a different perspective on thought, because one of the differences between sadness and depression is that depression almost always has this narrative going through our mind. And it's almost always a narrative about how we failed, about how we're inadequate, about how nobody will love us, about how our life is hopeless.
- In cognitive behavioral therapy, the idea is to replace irrational and maladaptive thoughts with rational and adaptive ones. A mindfulness-oriented approach is different; it's about changing our relationship to all thinking. And this ultimately becomes more powerful. It's seeing that all thinking is unreliable.

### **Thinking about Thinking**

- One conclusion we might draw from the summary of recent changes in cognitive science is that we simply cannot trust our thoughts. Our thoughts are so influenced by our culture, by our history, and by emotional biases of all sorts that our thinking is not to be trusted. Mindfulness practice helps us have this kind of perspective on thought, which is quite helpful when those thoughts are thoughts of hopelessness and self-destructive thoughts.
- One of the ways to do this is to simply think about thinking. So, when a thought arises, can we see the thought as just a thought? For example, instead of thinking that you're no good, you can instead recognize that the thought that you're no good is arising. It's not you—it's simply a neurological phenomenon generating the thought.
- Another thing that's very helpful is to practice moving below the level of thought to connect to the feelings and physical sensations that are beneath them. One way to work with this is by practicing affective, or emotional, meteorology. This is just another way of seeing the basic Buddhist principle that all things are impermanent—everything is changing.

- When feeling depressed, just simply ask yourself when in the past you did not feel depressed. Then, think about how your thought patterns were different. When we're depressed and we think about the time when we felt optimistic or positive about our lives, we think that we just didn't see how bad things are and that now we are seeing reality in the depressed state. Conversely, when we're in the state of mind where we're not feeling depressed, we remember all the depressive thoughts and think that we saw everything negatively because of the depression.
- As we're mindful of these changing thought patterns, we see how radically unreliable they are. We also see that they change over time—that everything is in constant flux. This tends to undercut the feeling that it will last forever, which tends to keep us stuck.

### **Entering Dark Places and Finding Meaning**

- It's very important be able to enter the dark places. This is true if we're helping somebody with depression or if we're depressed ourselves. We have to be able to fully feel our despair, loneliness, and self-hate, and we have to learn not to fear these states but simply see them as transient.
- It's very important to know that it's possible to survive this despair and that we won't kill people off with it. Very often, when we're depressed, we feel toxic. We know that people don't really want to be around us in this mood. But connection is so important.
- Hope can be tricky. Often, if we try to offer premature hope—either to ourselves or to somebody struggling with depression—it feels like an empathic failure, because the hope feels to the depressed person like the other person doesn't understand. In fact, empathic connection itself offers much more hope.
- There are problems with hope. Research has shown that prisoners who are sentenced to life without parole actually adjust better and are happier than those who are sentenced with very long sentences but have the option for parole. So, we have to be careful about

how much to try to offer hope to one another in these situations, versus just staying with the experience in the moment, however challenging it might be.

- It's also important to try to find meaning—to ask ourselves, what's our heart's desire? What really matters to us in life? Acceptance and commitment therapy, one of the mindfulness-based treatments, spends a lot of time on this, trying to find a way to clarify our values and find a compass for our lives. This can give us a sense of a spiritual or psychological path, and then we don't see the pain so much as an obstacle but as a developmental opportunity.

## Suggested Reading

Gilbert, *Overcoming Depression*.

Martin, *The Zen Path through Depression*.

Segal, Williams, and Teasdale, *Mindfulness-Based Cognitive Therapy for Depression*.

Siegel, *The Mindfulness Solution*, chapter 6.

Williams, Teasdale, Segal, and Kabat-Zinn, *The Mindful Way through Depression*.

## Questions to Consider

1. We have all experienced at least some sadness and some depression in our lives, even if these may have never reached the level of a psychiatric disorder. In your experience, how has sadness been different from depression?
2. When you (or someone you have known) have been depressed, how did this effect your (or his or her) thought processes? How would the experience of depression have been different had you (or the other person) not believed in the thoughts as fully?

# Befriending Fear, Worry, and Anxiety

## Lecture 13

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In this lecture, you are going to learn about a close relative of depression that affects almost everybody to some degree: anxiety. People with anxiety disorders are often more accurate at appraising risk than people without anxiety problems. People with anxiety disorders actually notice that life is fragile and that it is pretty dangerous to be alive—that at any moment bad things can happen very readily to good people. This lecture will teach you how anxiety arises and how to deal with it.

### Anxiety

- Researchers and clinicians have identified three basic components of anxiety. First, there is a physiological arousal, or what happens in our body when adrenaline starts pumping. Second, there is a cognitive and emotional part. There is all the future-oriented thinking and fear and the accurate and inaccurate risk appraisal. Finally, perhaps most importantly, there are the behavioral aspects—the avoidance and rituals (the things we do in order to try to not feel anxious).
- A fundamental challenge in working with anxiety is figuring out whether the anxiety is signal or noise. Sometimes, fear indicates genuine danger that needs our attention, but other times, the arousal does not actually require action. It is just noise. And we need to be able to differentiate cognitively between the two. This is difficult, because we have a negativity bias, which is a propensity toward false-positive errors.
- With mindfulness practice, we discover that there is almost always some baseline of anxiety happening in the body and in the mind. Sometimes it is little fears, and sometimes it is big ones. With mindfulness practice, we also notice that we are constantly thinking about the future, looking forward to pleasure, and dreading pain.

- There are some people who spend more time looking back, and those people tend to experience depression more than anxiety. But those who are more anxious look forward quite a bit. Neither of these is in the present. The mind leaves the experience of the present moment and goes off into these fantasies about the future.
- All anxiety is anticipatory. Even people who are in terrible present situations are worried about the future. Emergency medical technicians say that when they are extracting somebody from an accident, even if the person is bleeding and is in very bad shape, that person is worried about the future. The person will think, will I be able to walk? Will my loved ones be okay?
- Why do we do this? Sometimes we get positively reinforced. Sometimes we will get into our worry loop, and we will come up with a novel solution to the problem. But most of the time, we do not. There is just something about going through the thinking process that gives us the illusion that it is somehow going to keep us safe, help us to cope, and prepare us for what may come.

### Avoiding the Risk of Fear or Pain

- There are a lot of techniques that we do to try to avoid the risk of fear or pain. This is because we find anxiety to be very unpleasant. One set of these we might call the “dive Dan” approach to life. This involves phobic avoidance and constriction. There are the things that we do in order to avoid any circumstance that might bring on fear or discomfort, and then there are the things that we do directly to tackle anxiety when it comes up.
- An awful lot of people medicate anxiety. Sometimes this is with prescription drugs that are prescribed by a doctor, but very often it is simply having a drink or using other drugs. Probably what we do more than anything else is try to distract ourselves—by watching TV or shopping, for example.
- The problem with these different forms of distraction is that we develop what is called stimulation tolerance. We end up needing



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**Mindfulness practice provides an alternative to medicating a person's anxiety.**

higher and higher doses in order to distract ourselves from unpleasant thoughts and feelings, including anxiety. When we try to use distraction, we need more and more of it to bring ourselves away from our fears.

### **How Do Anxiety Disorders Develop?**

- Most anxiety disorders develop through what is called escape-avoidance learning. The following is how you can create an anxiety disorder in just a few simple steps. First, you have to enter a situation. Then, anxiety arises. We find anxiety unpleasant, so most of us try to take steps to get rid of it. So, we leave the situation, and the anxiety abates.
- This reduction in anxiety is called negative reinforcement, which is a principle in learning theory about the reinforcement that comes from removing an unpleasant experience. Once your behavior is negatively reinforced, the next time you are in a similar situation, you are going to decide to leave it right away—or avoid it

altogether—because you have learned that you can avoid having anxiety if you’re not put in a particular situation.

- For example, agoraphobia is fear of going out into the world. But even if it does not get to that state, most of us develop these patterns, in little ways, around things that we are afraid of and we start to avoid.
- The general treatment for anxiety in modern psychology is exposure and response prevention. In these cases, the fear response becomes extinguished because people experience that nothing terrible happens when they are exposed to the cause of their anxiety. For example, someone who is afraid of snakes is exposed to one, and when nothing bad happens to them, they start to release their anxiety about snakes.
- When people come into therapy for anxiety problems, they are not actually interested in handling the snake—or whatever the equivalent might be. People want to eliminate the anxious feeling.
- Instead, in a mindfulness-oriented approach, we are going to increase their capacity to bear it, changing their relationship to the experience. During mindfulness practices, or whatever the person is doing, he or she focuses on trying not to scratch the itch. He or she does not adjust to make the pain go away but, rather, simply stay with the experience until it transforms by itself.
- Basically, what we are trying to do is learn how to face our fears. The idea that facing our fears is what can free us turns out to be true both in classical behavioral treatment and in mindfulness-oriented treatment.

### Relief from Narcissistic Threats

- Many of our anxieties are actually about what we might think of as narcissistic threats. They are threats to ourselves or our loved ones. A lot of our anxieties are about threats to our self-image, health, and

wealth. Broadly, it is about anticipating that we might lose pleasure or experience pain.

- We have some existential problems that we have to face. The reality of old age, illness, and death can produce a lot of anxiety, and mindfulness practices can help us with these. In part, the focus on the present moment is antithetical to the anticipatory anxiety. We can take an attitude of not knowing.
- We can take refuge in the present moment. When we are having anxious thoughts about what is going to happen in the future, often it is because we cannot stand the uncertainty. We have a lot of difficulty tolerating the fact that we really do not know what is going to happen in the next moment. Mindfulness practice can help us live without knowing by bringing us back to the present moment.
- There is also a safety that comes from identifying with the universe larger than us so that we do not have to be so worried about various narcissistic threats.
- Unwanted feelings also scare us a lot. Much anxiety is fear of our own emotions and impulses. We might be afraid of our anger, sadness, repressed or suppressed memories, or unacceptable thoughts of all kinds. When these things start to arise, we find ourselves getting anxious. Doing mindfulness practice regularly allows opportunities for these feelings and impulses to be accepted and integrated so that we no longer fear and resist them. Then, the source of anxiety abates.
- If you are particularly anxious, it can be difficult to just sit and do something like the breath meditation. So, in those situations, it is usually best to do more active practice, such as walking meditation, eating meditation, or even hatha yoga, which is a form of very gentle stretching that can be done in a mindful way. All of these things dissipate the anxiety a little bit, making it easier to work with.

## Suggested Reading

Forsyth and Eifert, *The Mindfulness and Acceptance Workbook for Anxiety*.

Orsillo and Roemer, *The Mindful Way through Anxiety*.

Roemer and Orsillo, “Mindfulness and Acceptance-Based Treatment of Anxiety.”

Siegel, *Mindfulness for Anxiety*.

———, *The Mindfulness Solution*, chapter 5.

## Questions to Consider

1. What is the principal distinction between feeling anxiety and having an anxiety disorder?
2. What is the central goal of a mindfulness-oriented approach to working with anxiety?

## Mindfulness Practice

**stepping into fear:** A brief exercise to practice experiential approach, rather than avoidance, when struggling with anxiety.

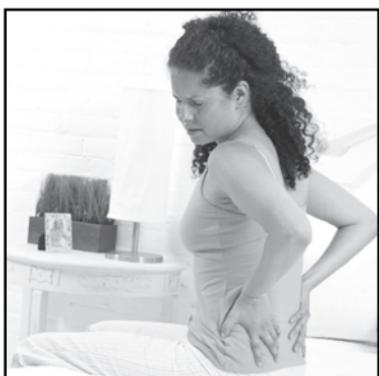
# Transforming Chronic Pain

## Lecture 14

To the surprise of both doctors and patients alike, a growing body of medical research indicates that a lot of chronic pain disorders, as well as a lot of other common medical problems, are not actually caused by injuries or illness. Rather, they're the result of a complex interaction between the mind and the body. And it turns out that mindfulness practices can help us resolve them. In this lecture, you will learn about stress-related medical disorders.

### Chronic Back Pain

- Research shows that chronic back pain is not usually caused by damage to the spine or surrounding muscles. Although it's often thought to be an orthopedic problem, the accumulating evidence is that, for the vast majority of sufferers, it's actually one of the more common stress-related medical conditions.
- The orthopedic story, or the explanation for why we have such enormous epidemics of chronic back pain in the modern world, is that we originally evolved to walk on all fours, but in order to use tools and get fruit and the like, we learned to stand up. And we've adopted all sorts of ergonomically unwise work postures that are giving us the trouble.
- Indeed, it does seem that there's an evolutionary accident that's responsible for our epidemics of chronic back pain, but it's one that has nothing to do with



**Mindfulness practice can help chronic back pain, which is a stress-related disorder.**

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structural damage. Instead, it has to do with the various factors and forces that predispose us toward developing chronic muscle tension.

- Research shows that most chronic back pain isn't due to damage to structures of the spine. One study showed that two-thirds of people who have never suffered from any kind of serious back pain had the same sorts of abnormal back structures that are often blamed for the pain.
- Furthermore, millions of people who suffer from chronic back pain show no abnormalities in their backs at all. Finally, there are people with abnormal back structures who still suffer from chronic back pain even after a successful surgery.
- What possibly could be going on here? “Smoking gun” studies offer some answers. Pretty much the entire industrialized and developed world has a chronic pain epidemic, while people in the developing world have much lower incidences of chronic back pain.
- Chronic back pain costs billions of dollars, so some companies have tried to study who is going to get it. In one study, Boeing analyzed thousands of their employees before they developed chronic back pain. The most robust predictor for who would develop chronic back pain over the ensuing years was job dissatisfaction.
- Finally, there are studies that look at what's the quickest way out of acute, rather than chronic, back pain. In study after study, the quickest way out is a rapid return to vigorous exercise.
- None of this would make any sense if the orthopedic story were accurate in accounting for our epidemic of chronic back pain. Instead, chronic back pain is a stress-related disorder.

## Stress

- Stress involves the activation of two very important systems in the human body. One of them is the sympathetic branch of the autonomic nervous system. The autonomic nervous system

has a parasympathetic branch, which tends to calm the body, and a sympathetic branch, which tends to arouse the body. The sympathetic nervous system is activated immediately when we experience ourselves to be in danger.

- The second system that is activated is the hyothalamic pituitary adrenal axis. This is the hormonal system that does similar things as the sympathetic nervous system, but it just comes in a little bit slower.
- Disorders of chronic overarousal or disregulation of the fight-or-flight system include back, neck, and other chronic muscle pain, gastrointestinal distress, headaches, temporomandibular joint disorder, tinnitus, bruxism, insomnia, eczema and other skin disorders, sexual dysfunctions, and panic and other anxiety disorders.
- All of these disorders can be caused either entirely by these arousal patterns, or, as is often the case, there's a medical component to it, and then the arousal component on top of that exacerbates the condition.
- In the case of chronic back pain, a cycle gets established. For example, the cycle might begin with a minor injury, such as overuse. If the person lives in a country that has a preexisting epidemic of chronic back pain, he or she may start to worry about the sensations of pain that arise in the back. When we start to worry, we start to have negative thoughts, and these thoughts bring with them fear, frustration, or even anger. And these negative emotions themselves affect the back. Tense muscles increase the sensation of back pain, which increases the negative thoughts.
- After a short period of time, almost everybody starts to give up activities, because we don't want to reinjure ourselves. Then, we tend to lose strength, endurance, and flexibility, and we get into a bad emotional funk. Sometimes this whole cycle begins with stress or tension from an event in our life that causes the tensing of the muscles and the sensation of back pain, and the problem takes off.

## Pain Is Not Imaginary

- While psychological stressors of all types can contribute to chronic back pain, the pain is not imagined. Rather, it's the effect of changes in the musculature of the body.
- Conversion disorders—such as hysterical blindness or hysterical paralysis—are situations in which the body is intact, nothing is broken in terms of organ systems, but we're experiencing it as if it doesn't work. Psychophysiological disorders are not conversion disorders. These are about actual changes in all kinds of aspects of organ systems operating correctly.
- For people to get free from conversion disorders, they need to see that it's real muscle tension that's causing the problem. There are four steps that we go through to resolve these disorders. The first involves a medical evaluation. If there's an underlying medical problem that can be addressed, you certainly want to address it. The next steps involve cognitive restructuring, which is shifting our thought patterns; exposure treatment, which is what is often used for anxiety disorders; and working with negative emotions. Mindfulness practices can help with all of these steps.
- Kinesiophobia is the fear of using the body normally. Treating this fear involves resuming activities often enough to be convinced that they're not damaging. There are a few ways to do this. One that's quite radical works very effectively, and it's done in the gym. A new patient is given a plastic crate filled with weights, and they're asked to take a weight and aerobically put it on the middle shelf and the top shelf of some industrial shelving as quickly as they can.
- This is a very fast method of getting over one's kinesiophobia. The problem is that it has a great chance of dropout, because it can really scare people to start moving their backs so vigorously if they've been so cautious up until then.
- Then, there's a gradual approach, which involves simply beginning with activities that are relatively easily, that are pleasurable or

rewarding, and that can be done three or more times per week. You continue until it's no longer feared and until you're convinced that it's not going to make the pain any worse.

## The Role of Mindfulness

- We learn through mindfulness practice that pain can be observed as being separate from suffering. Impermanence is a gift, not just a curse. We notice that pain comes and goes. And apparently solid pain states can be observed like frames in a movie. We start to notice that they change from moment to moment.
- We learn that pain is inevitable in life, but suffering is optional. Suffering comes from resisting the pain, which includes grimacing, wincing, and bracing; all of the aversive thoughts; wishes for relief; self-punitive thoughts; and anger, fear, and depression about the condition.
- Neurobiological studies have shown that if we induce pain in a meditator, a meditator responds differently than a non-meditator. Novices showed less activity in areas associated with proprioception—feeling what's going on moment to moment inside the body—but more activity in areas associated with cognitive appraisal, with evaluating and thinking about and reacting to the sensations.
- The more experienced meditators had more activity in the proprioceptive areas. In other words, they were feeling the pain more vividly but less in the areas of cognitive appraisal. So, the experienced meditators actually felt the sensations more but evaluated and resisted them less. Experienced meditators also typically reported the pain as being at a much lower level than the novice meditators.

## Cognitive Restructuring

- Mindfulness increases cognitive flexibility. This is important, because we need to believe or understand that beliefs are part of the problem. We need to understand that it's the thought, for example,

that you're orthopedically damaged that is part of what's inducing your fear, and that fear is causing the pain. Mindfulness can help us be more flexible about this and notice the relationship between thinking and the body's reactions.

- We can use mindfulness to observe pain-related thoughts, and we can see that anxious thought and feeling is actually playing a big role in the disorder. We can also notice future-oriented catastrophizing, as well as budgeting activity.
- We need to develop what's called creative hopelessness in acceptance and commitment therapy. This is the central paradox in the treatment of psychophysiological disorders generally: Attachment to symptom reduction, or trying to feel better, perpetuates the disorder. In the case of chronic back pain, it's avoiding using the back normally, because we want to "heal," that actually locks us into the cycle. This applies equally in other disorders.
- Because we become subject to control addiction, we try desperately to get the problem or symptoms to go away. Through mindfulness practice—awareness of present experience as acceptance—we learn that it's useful to control our behavior. In the case of chronic back pain, it's useful to go to the gym, but we can't control the sensations. The sensations are going to come and go.
- This can be difficult given our cultural bias toward symptom relief, because we're always being offered medicine to make the symptoms go away. Instead, we're going to be increasing the capacity to bear experience rather than getting rid of experience.

### Suggested Reading

Dahl, Wilson, Luciano, and Hayes, *Acceptance and Commitment Therapy for Chronic Pain*.

Shubiner and Betzold, *Unlearn Your Pain*.

Siegel, "Psychophysiological Disorders."

\_\_\_\_\_, *The Mindfulness Solution*, chapter 7.

\_\_\_\_\_, Urdang, and Johnson, *Back Sense*.

## Questions to Consider

1. How in the past has medicine misunderstood chronic back pain and other often stress-related pain syndromes?
2. What more broadly are psychophysiological disorders, and how are they different from the conversion disorders that Sigmund Freud studied and treated?

# Placebos, Illness, and the Power of Belief

## Lecture 15

One of the biggest challenges that people face in recovering from psychophysiological or stress-related disorders is believing that the mind could be powerful enough to cause the illness. And this is because these disorders are so disruptive to the body. One of the ways that patients can understand this is by learning about placebo studies, because in the effects of the placebos, we see just how powerfully the mind can influence our organ systems.

### The Effects of Placebos

- Placebos are inactive substances—sugar or starch pills—that are given to people with some suggestion that they might help. Among placebo pills, bigger pills are more effective than smaller pills, and two pills tend to be more effective than one pill.
- The dose-response curve of most placebos is remarkably similar to aspirin, ibuprofen, or acetaminophen. It reaches maximum efficacy



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The widely studied placebo effect is the notion that a sugar pill can improve the condition of a patient in similar ways as a real pill.

in 20 to 30 minutes, and then it tends to trail off in its effectiveness after four to six hours. Active placebos are much more effective than passive placebos. An active placebo isn't just sugar or starch; it's some medicine that in some way causes some response in the body that is uncomfortable, even if that response has nothing to do with the purported effect of the placebo.

- Injections tend to be much more effective than pills. Active injections—in other words, injections of substances that change how we feel in the body—are more effective than injections of saline. And the really powerful placebos are surgical.
- An example of the remarkable power of placebos dates back to the 1970s and involves treatment for temporomandibular joint (TMJ) disorder, which is pain that occurs in the joints of the jaw muscles and the jaw joint. At that time, it was thought that the epidemic of TMJ problems were due to the deterioration of the joints, and oral surgeons were busy putting replacement disks into the joint.
- One enterprising group of dentists believed that TMJ was not about the structure of the jaw. Instead, they believed that it was about the patient's attitude toward the TMJ symptoms. They decided to try an intervention called sham tooth grinding. They created a dental instrument that was about an inch in diameter and maybe six or eight inches long that vibrated a lot.
- They told patients that they were going to realign their bite, and they would put this instrument into the patient's mouth and vibrated it for about 45 minutes, after which they told the patient that they had restructured the shape of the patient's teeth so that he or she would have a better bite, which should resolve the difficulty.
- Perhaps not surprisingly, 64 percent of the patients who had sham tooth grinding had total or significant relief a year after only one application of the procedure. Of course, this type of experimentation with patients is unethical, especially by today's standards. And for a long time, studies like this one were not conducted.

- In the year 2000, a team of enterprising surgeons and researchers at the University of Texas came up with a plan by which they could do a placebo/control surgery and get it passed by an institutional review board, because it was an ethical plan.
- They told subjects in advance that they were going to be randomly distributed to groups receiving either arthroscopic debridement, which involved making little incisions around the knee to do arthroscopic surgery and smoothing out the structures under the kneecap; arthroscopic lavage, which involved washing out the structures under the kneecap; or incisions only, which was the placebo group.
- The surgeons did the surgery, but then they never saw the patients again. But the researchers followed them in the post-operative period, and then for over the next two years. The researchers were completely blind to the condition; they had no idea who had the surgery and who had only placebo interventions. They found that everybody improved. Real surgery had no advantage of the placebo at any point during the two years following the surgery.

### Using Mindfulness to Treat Disorders

- Studies of the placebo effect show that the body and mind are closely interacting with one another, and the mind is extremely powerful in the effects that it can have on our subjective experience of the body. So, how do we use these principles to treat disorders?
- Muscle tension disorders, which are remarkably similar to chronic back pain in their dynamics, include headaches; temporomandibular joint disorder; and neck, knee, foot, wrist, and shoulder pain.
- With chronic back pain, we know that the correlation between what's found in the imaging of the spine and what people experience in terms of subjective distress is very, very low. The condition of the spine only rarely actually influences whether or not people will be in pain.

- With neck, knee, wrist, and shoulder pain, we don't quite have the data—largely because we haven't done large-scale studies in which we take people without knee, shoulder, or wrist pain and assess what the body parts look like for them. The science isn't there yet, but the basic principle of treatment is the same.
- The central dynamic in a lot of sexual dysfunctions is fear of the dysfunction itself. Before Viagra and Cialis existed, we had the inventions of Masters and Johnson to treat erectile dysfunction. They were sex therapists who had some pretty effective non-pharmacological treatments. They were teaching mindfulness practice where the focus was central touch. For erectile dysfunction, they found that about 75 percent of the time, just training couples to focus on touch would resolve the disorder.
- The conventional treatment for insomnia is stimulus control, or teaching people to associate the bed with sleep; sleep hygiene, which involves waking up and going to bed at the same time each day; and relaxation training.
- An alternative is to do mindfulness treatment—to simply use the time in bed as an opportunity to be aware of present experience with acceptance. It turns out that mindfulness practice actually reduces our need for sleep. In addition, if we trust that mindfulness practice will help to be restorative for us, then we can give up the goal-orientation aspect of needing to fall sleep.
- The gastrointestinal (GI) system is remarkably sensitive to our emotional lives. Our GI system will often shut down when we're under stress, or it will suddenly become overactive. People experience all manner of GI distress, including upper and lower GI symptoms.
- Ulcers were once thought to be caused by stress, and then we discovered the role of *H. pylori*. You can treat an ulcer by giving an antibiotic that kills *H. pylori* bacteria. But then we discovered that *H. pylori* infections are actually endemic to large percentages of the

population—so what determines whether somebody with *H. pylori* infection gets an ulcer? It turns out that stress is a critical factor in whether the stomach lining becomes broken down in a way that makes it vulnerable to the infection.

- Irritable bowel syndrome (IBS) is a very common disorder. It often consists of alternating constipation and diarrhea. The distress about the symptoms is often the stressor that keeps it going, not unlike what happens with chronic back pain. It's only when people can relax about IBS, and actually use mindfulness practices to simply ride the waves of different sensations, that they do considerably better.
- Another interesting disorder that works similarly is called hyperacusis, which is a somewhat unusual disorder where people become afraid of loud sounds. Loud sounds don't just feel uncomfortable, but they become terribly painful to people. So, naturally, these people try to avoid loud sounds, and they get into a pattern where they work so hard to avoid loud noise that then any noise becomes too intense.
- You can use mindfulness practice to try to resolve hyperacusis. The idea is to simply listen to the noise, noticing how there's the actual experience of the sound, the sensations, and then there's our reaction to the sensations. And as we notice that these could be separated, it becomes much easier to work with the symptoms.
- Another disorder is fibromyalgia. People with this disorder feel particular sensitivity to pain at certain trigger points. In fact, we've learned that people with fibromyalgia are actually sensitive to pain everywhere. This has become something of an epidemic. Fibromyalgia could be one of the stress-related disorders.

### Illness Anxiety

- Illness anxiety is a component of all of these different disorders. It's unavoidable, and it's actually remarkably easy to generate. For example, people who live with people with brain tumors have a

lot more headaches than people who don't live with people with brain tumors. And people who have had chronic headaches before rivet on any sensation of pressure, and it becomes a problem, which expands into a headache.

- All it takes is bringing anxious attention to a part of our body, and we can start to feel sensations in that part of our body and start to worry about them. And these things can get amplified very easily.
- There are two basic reactions when we experience something untoward in the body. When we're younger, we might think that it's probably nothing and that you don't have to worry about it. But when we're older, we might start to think that it's probably something serious. These thoughts are now exacerbated by the Internet, because many people resort to searching their symptoms online, which leads to becoming scared of the possibilities.
- Illness anxiety itself can become the problem, and it can be very tricky to figure out which error to make. You wouldn't want to ignore a grapefruit-sized growth coming out of your neck, thinking that it's a zit. Nor do you want to rivet on, and pay attention to, every one of these different sensations when they arise, because doing that can make any of these sensations turn into one of these disorders.
- An important challenge to keep in mind when dealing with stress-related disorders is to realize that even if we're a good mindfulness student, and even if we take a good attitude toward these disorders, we can still run into trouble. Some of these disorders are resolvable, and some are not. We don't want to fall into the trap of blaming ourselves for a disorder that we can't resolve.

## Suggested Reading

Harrington, *The Placebo Effect*.

Kabat-Zinn, *Full Catastrophe Living*.

Siegel, “Psychophysiological Disorders.”

\_\_\_\_\_, *The Mindfulness Solution*, chapter 7.

\_\_\_\_\_, Urdang, and Johnson, *Back Sense*.

## Questions to Consider

1. What do studies of placebo effects tell us about the power of the mind to influence pain and other symptoms?
2. How can our efforts to make unpleasant physical symptoms go away keep us stuck in those symptoms?

# Interrupting Addiction and Troublesome Habits

## Lecture 16

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Almost all of us have some habits that we'd like to change. Some are relatively harmless, like overeating from time to time, checking our smartphones a bit too often, or perhaps procrastinating a bit on work. But others can be quite destructive, including alcoholism and other forms of substance abuse, sexual addictions, and compulsive gambling. In this lecture, you will learn about a range of addictions and how mindfulness practices can help control them.

### Addictions

- All addictions—from everyday habits to the kinds of habits that are more damaging—involve the principle that it's our hardwired impulse to seek pleasure and avoid pain. Ironically, we can break free from being enslaved by our habits, but first we have to be willing to give up some of what we might think of as our freedom.
- With mindfulness practice, we see that we're actually all addicts. We see that much of our behavior is automatic and compulsive. We don't notice this unless we pay attention. But when we're mindful, we can see that we're thinking all day about how to try to feel good and avoid feeling bad. And this can be quite subtle.
- The process begins with our hardwired, evolutionarily determined predilection to seek pleasurable experiences and avoid painful ones. Then, it's exacerbated by our thinking disease, because we're able to anticipate the future, recall the past, and make plans to maximize future pleasure and minimize future pain. It's great for survival, but when we're successful, our efforts are actually positively reinforced, and that can become quite addictive.
- In traditional Buddhist language, the tendency to hold on to the pleasant, avoid the unpleasant, and ignore neutral experiences are called greed, hatred, and delusion. They are referred to as poisons,



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**Drinking alcoholic beverages and smoking cigarettes are just two examples of activities that people can become compulsively attached to.**

unwholesome roots, or fires that control our behavior. And it's these hardwired tendencies that lead to a remarkable range of addictions, including ingesting substances like alcohol and other drugs like nicotine or caffeine, and we become easily imprisoned by compulsion toward any of these.

- There are other compulsive activities, such as over- or under-eating; sex, love, or abusive relationships; gambling; shopping; work; religious activity, including meditation practices; Internet surfing, texting, and video games. There are all kinds of things that we can become compulsively attached to.

### **How Do We Get Hooked?**

- There are many models that try to explain why we get hooked on things in our lives. A popular one was put forth by psychiatrist Edward Khantzian, who said that when we're doing addictive habits, we're actually medicating underlying psychiatric conditions,

such as anxiety or depression. In fact, certain activities tend to treat certain underlying problems.

- We also have evidence that some of us have genetic predispositions toward becoming addicted to certain substances, for example. But most experts in addiction these days say that whatever else might be going on, we learn to be addicts through predictable mechanisms of positive and negative reinforcement.
- One particularly clear model comes from Dr. Judson Brewer, whose model talks about associative learning addictive loops. Smoking, drinking, or another addictive behavior becomes associated with positive and negative feelings through positive and negative reinforcement.
- Positive reinforcement refers to a pleasurable experience that follows a behavior, such as ingesting a substance, and makes it more likely that we'll repeat the behavior as a result—because it felt good. Negative reinforcement, such as fleeing a situation when we're anxious, refers to the removal of a painful experience that comes from an addictive behavior, which also makes it more likely that we'll do it again in the future.
- Some examples of positive reinforcement can be feeling high when we have a drink, having fun, being funny, having sex, or connecting with friends—any good feeling that comes from the addictive behavior. Negative reinforcement usually involves reductions in anxiety, worry, sadness, anger, boredom, or some other unpleasant emotion.
- Once we've had some experience with our addictive behavior, then we get triggered by cues. Positive cues include seeing the cigarette, beer, candy bar, or gambling casino, and this makes us desire it again. Negative cues include feeling stressed out, lonely, anxious, depressed, and this triggers a cue-induced craving to get rid of the negative feeling.

- Following this urge, we typically enact the addictive behavior by smoking, drinking, eating, or going to the casino. This makes the unpleasant feeling go away temporarily, or it brings on a good feeling for a little while. This creates more positive or negative reinforcement, increasing the likelihood that we'll reenact the problematic behavior. Through repetition, this process becomes automated over time.

### Conventional Treatments versus Mindfulness

- Conventional treatments don't dismantle this addictive loop. Many conventional treatments either target the avoidance of positive and negative cues, or they target learning to enact substitute behaviors so that we don't do the addictive behavior. The avoidance of cues includes staying away from bars and liquor stores, casinos, and bakeries. This dampens the input into the addictive loop.
- While substitute behaviors, such as calling a friend when you're tempted to drink or gamble, circumvents the addictive behavior for a little while, it doesn't do anything with our underlying craving. So, the alternative is to try to change our relationship to craving. And mindfulness practice can help us to do just that.
- Traditionally, many religious and philosophic traditions have tried asceticism to try to kill off cravings. In that way, they try to get us away from the pain of unfulfilled desires as well as to interrupt unwholesome habits.
- Mindfulness practices can help us transform our desires and cravings by giving us a way to forge a new relationship with craving. We learn to accept the changing experience, instead of compulsively chasing pleasure and avoiding pain. In addition, we learn not to take our relapses so personally. The times we slip stop being such a big issue about how we failed and start being new opportunities to start fresh.
- How do we use mindfulness practices to cultivate acceptance of changing experience, rather than acting compulsively to try

to obtain pleasure or get rid of discomfort? It begins by just noticing whatever sensation is happening right now in the mind and in the body. Then, it's noticing the impulse to fix or escape it. These impulses wax and wane, and we become conscious of their constantly changing nature.

- Most compulsive behaviors occur because we believe that we can't tolerate the experience and, therefore, must act to change it, or we have the mistaken belief that unpleasant experiences will last forever if we don't take action to interrupt them. Mindfulness practice helps us to see that neither of these beliefs is actually true.
- Mindfulness practices help to increase our capacity to bear experience. Because compulsive behaviors are designed to reduce the intensity of unpleasant experiences, or to ensure a pleasant one, if we can ride the waves of pleasant and unpleasant feelings, we're not going to be driven so hard toward our compulsive behaviors. And if we don't reenact them, then they won't be continually positively and negatively reinforced.
- A model for working with troublesome behaviors generally is called motivational interviewing, which is based on the idea that people have different levels of motivation for change at any given moment. The therapist asks the person questions about his or her addiction: What do you enjoy about it? How does it improve your life? What might you lose if you gave it up? This method is often called motivational interviewing, and it is related to some scientific work on change that began with smoking cessation done by James Prochaska and Carlo DiClemente.
- When working with habits in this way, we first do this assessment so that we can address it in a kind of stage-based way, because we need different approaches depending on our relationship to the addiction. What stage we are determines what we're ready to do. Prochaska and DiClemente came up with six habit change stages.

- The first stage is precontemplation, which is when we don't have any awareness that life could be improved by changing our behavior. The next stage is contemplation, where we see that it's a problem, and we're not really ready to do much about it, but we are gathering a little bit of information about what might help. Then, people move on to preparation, which is where you start to really think about the pros and cons of taking action.
- Then, we move into action. Once we've taken the action, we've actually started changing the behavior. The next stage is maintenance, which is consolidating the changes. The last stage is termination, because at the end we get to a point where we no longer miss the habit. Sometimes we get to that point, and sometimes we don't, depending on what the habit is.
- There are number of programs that explicitly use mindfulness practice to change our relationship to craving. These programs offer us techniques that any of us can use in working with our own troublesome habits. One of them is mindfulness-based relapse prevention, which helps people who become free from a habit not to fall back into it. The main thrust is giving us a new relationship to craving.

### Suggested Reading

Bays, *Mindful Eating: A Guide to Rediscovering a Healthy and Joyful Relationship with Food.*

Bien and Bien, *Mindful Recovery: A Spiritual Path to Healing from Addiction.*

Brewer, "Breaking the Addiction Loop."

Peltz, *The Mindful Path to Addiction Recovery: A Practical Guide to Regaining Control over Your Life.*

Siegel, *The Mindfulness Solution*, chapter 9.

## Questions to Consider

1. What are a few of your addictive behaviors or habits?
2. How might you use mindfulness practice generally, and urge surfing in particular, to exercise greater choice around these behaviors?

## Mindfulness Practice

**mindful intoxication:** An exercise designed to increase our awareness of our use of intoxicants. This is not recommended if you've already learned that you have difficulty with an intoxicating substance and are trying to be abstinent.

**urge surfing:** An exercise developed as part of the mindfulness-based relapse program designed to help us ride out urges toward unwanted behaviors, such as excessive drinking, overeating, gambling, or speaking unskillfully.

# Overcoming Traumas Large and Small

## Lecture 17

**A**ny event that brings up reactions that are stronger than our felt capacity to experience them can become traumatic. Often, we push the feelings out of awareness. We either repress or suppress them. Then, they show up as symptoms. There are many studies that show promise for using mindfulness practice to work through the effects of trauma. Given the number of people who have been afflicted by trauma, both large and small, it's nice to know that mindfulness practices can give us an effective way to work with them.

### Traumatic Experiences

- Many psychiatric interventions for trauma are designed to make us feel better by reducing the intensity of unpleasant experiences. Mindfulness practices instead increase our capacity to bear experience rather than decreasing the intensity of the experience. They prepare us to better handle whatever good or bad fortune may come our way.
- Joyful and fulfilling aspects of life are inextricably intertwined with experiences of pain and loss. Some people's adversities are especially hurtful and destabilizing. Many children have been abused, unloved, or abandoned. Many adults have endured disasters, war, assaults, torture, or traumatic deaths of loved ones. The incidence of these adverse events is much higher than most people imagine.
- A large study of patients at Kaiser Permanente, a health maintenance organization, was designed to assess childhood exposure to multiple types of adverse events, including abuse, neglect, domestic violence, and serious household dysfunction (such as substance abuse). They derived an adverse childhood event (ACE) score, with one point for each major category of abuse. Two-thirds of the patients reported at least one ACE, with 26 percent experiencing

one event, 16 percent experiencing two events, and 27 percent experiencing three or more events.

- And that doesn't include traumas that happen after childhood. They found that trauma has a huge impact on well-being, with higher ACE scores corresponding to more life problems. Compared to persons with an ACE score of 0, those with an ACE score of 4 or more were twice as likely to be smokers, 12 times more likely to have attempted suicide, 7 times more likely to be alcoholic, and 10 times more likely to have injected street drugs.
- What exactly makes these events traumatic? When a painful event or loss is of sufficient magnitude, it pushes us into an emergency state and activates our fight-freeze-or-flight system, which we experience as great anxiety. This usually narrows our awareness to immediate survival.
- Memories are formed, carrying with them emotions, cognitions, and sensations that become associated with the event. These can be triggered and relived as flashbacks, intrusive thoughts, painful feelings, and other aspects of posttraumatic stress. Sometimes these memories are continuously activated, leading to chronic anxiety, depression, or anger.
- These events can also change the assumptions most of us carry about ourselves, our safety, the future, and even the goodness of other people. This sort of trauma can completely upend our world. A rape, heart attack, or traumatic loss can leave us feeling entirely alone, irrevocably changed, and flooded with awareness of the fragility of life and well-being.
- When faced with such difficult experiences, most of us, consciously or unconsciously, try to avoid thoughts, feelings, and memories about what happened. So, we try to suppress these. We might engage in addictive behaviors or even engage in harmful acts toward ourselves or others.

- Of course, during a crisis, it can be very useful to block out feelings in order to cope with immediate challenges and demands. But in the long run, this tends to makes matters worse, both by causing all sorts of distressing symptoms and also robbing us of the opportunity to integrate the painful experience.
- Research shows that trauma survivors who use drugs or alcohol, dissociate, externalize, or engage in denial or suppression of upsetting thoughts are more likely to develop intrusive and chronic posttraumatic problems and syndromes. It appears that what's happening is that avoided material can't be processed and resolved. And others' reactions, including cultural assumptions of those around us, often make matters worse.

### Trauma Large and Small

- Sometimes we block out feelings connected not only to major adverse events, but also feelings connected to smaller emotionally painful experiences. In fact, much of what we call “stress” is the tension that comes from trying to push little emotional hurts out of awareness. Whether or not an event is experienced as “traumatic” depends on the ratio between our capacity to handle pain when it occurs and the intensity of that pain.
- Many cultural messages encourage us to bury painful thoughts, feelings, and memories. They teach us to deal with emotional pain and uncomfortable states through behaviors that distract, suppress, or numb. Other people may say after a while to “just get over it,” “put your past behind you,” or “move on already.”
- Endless ads promote pain relievers or other medications to fix simple discomfort. We’re encouraged to buy things to feel better or get rid of feelings of inadequacy or dissatisfaction. The message we hear over and over is that pain, distress, and dissatisfaction are bad things that should be removed, medicated, or distracted from. We come to expect that once we’ve done things to stop feeling bad, we will, by definition, feel good.



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**Painful thoughts that result from a traumatic experience can be alleviated by engaging in mindfulness practice.**

- The problem is that the mind doesn't actually work this way. Research shows that in general, those who are able to more directly experience distress—whether through mindfulness, psychotherapy, or other ways of “being with” traumatic memory—are likely to experience less distress over time.
- It seems that “being with” non-overwhelming psychological pain allows the mind to integrate traumatic or upsetting material, until it no longer needs to intrude on consciousness. So, when in distress, to the extent possible, we should consider doing the exact opposite of what we or others may want us to do—that is, to directly feel painful states and/or think painful thoughts. We should avoid, in a sense, avoidance.
- Mindfulness practices increase our ability to stay with discomfort, both by practicing not scratching the itch and by seeing emotions as impersonal events arising in the mind and body.

## Using Mindfulness Practices to Engage in Therapeutic Exposure

- “Being with” experience in mindfulness practice desensitizes us to difficult material and decreases its power to overwhelm us. By experiencing traumatic memories with less judgment and with more awareness of present experience with acceptance, their effects are less likely to be exacerbated by catastrophizing, shame, or guilt.
- Less disturbing memories require less avoidance and, therefore, increase exposure and psychological processing. A virtuous cycle gets set up that eventually helps us integrate the traumatic event. Again, we’re learning to see thoughts as just thoughts.
- As we see intrusive thoughts as merely words, images, and body sensations, we have less to be afraid of or angry about. And as we come to view triggered thoughts and memories as “old tapes” or “just trauma talking,” avoidance strategies such as withdrawing from activities or substance abuse become less necessary.
- There are two sources of distress associated with traumatic experience: just discussing the event itself and the pain it produces, along with the pain that persists if we resist processing the feelings associated with the event; and the suffering associated with attempts to maintain previous models of self, others, and the basis for happiness, in the face of intruding reality.
- Mindfulness practices can help with the second difficulty as well. Mindfulness practices, by helping us notice how all phenomena are in constant flux, can lead us to recognize more clearly the inevitability of illness, aging, change, and death so that we’re not so shocked to learn about them. We’re then less likely to be traumatized by life’s misfortunes.

## Processing Trauma

- People find it much easier to integrate trauma from natural disasters than trauma caused by other people. With a natural disaster, there’s nobody else to blame and no shame, and it’s not a personal event.

- This leads to appreciation of what is called, in Buddhist terms, “dependent origination,” which describes the fact that all things come from causes and conditions. Every event happens because other events caused it to happen. This can help us see all trauma, even trauma perpetuated by others, as a more impersonal event. This has a way of transforming the trauma quite radically.
- From this perspective, there are four steps to working with trauma: open to the painful emotions and memories, explore the facts of the trauma, see it through the lens of dependent origination, and develop compassion toward ourselves and the others who are involved.
- The first two steps are actually more on the level of relative truth, the way we think about life in general. We’re simply going to open to the painful emotions and explore the facts of the trauma. The third and fourth steps are really about absolute truth. Can we step back and look at things—not from a personal perspective, but from the perspective of impersonal factors and forces unfolding in the world?
- In doing this work, timing is vitally important, because you can’t rush things. In treating trauma, you always have to start with safety. Until a person feels safe in their current situation, then trying to reintegrate the split-off feelings and look at them in a new light is useless. You have to be able to feel that you can manage your feelings before delving into them.
- Whether we’re using mindfulness practices to develop more safety or to integrate thoughts, feelings, and images that we may push out of awareness, continued practice is key. Unless we have the regular practice to draw upon, it’s very difficult to use mindfulness practices to deal with these difficult circumstances.
- Our ultimate goal is integration. We can, in fact, think of integration psychologically as health—when memories are no longer split off or suppressed, when the feelings and cognitions are all connected, and when mind and body are connected. With integration, we become comfortable with ourselves. We become comfortable with

our mammalian nature, with our sexuality, with our aggression, with all of our body functions, with all of our instincts, and with all of our emotional responses to what has happened to us.

- This ultimately leads to a kind of spiritual development, an integration between who we think we are, other people, and the wider world. But we can only do this work when a person is ready for it. The reason we split off feelings is because the feelings were too difficult to bear at the time.
- An important caveat is that we need safety first. You need to have a stable life first. You may want to try a simple integration exercise that goes by the acronym RAIN: recognize, allow, investigate, non-identification. You can use this with any trauma-related difficulty, whether a large one or a small one. It's a technique that is taught by many different meditation teachers.

### Suggested Reading

Briere, "Mindfulness, Insight, and Trauma Therapy."

Briere and Scott, *Principles of Trauma Therapy: A Guide to Symptoms, Evaluation, and Treatment*.

Herman, *Trauma and Recovery*.

Levine and Frederick, *Waking the Tiger: Healing Trauma, the Innate Capacity to Transform Overwhelming Experiences*.

### Questions to Consider

1. What makes an experience traumatic? Name a few experiences, whether seemingly serious or not, that you have personally found to be traumatic.
2. During what times in your life have you needed more safety and stability to deal with challenging events? When might you have benefitted more from turning toward the sharp points to integrate previously split-off mental contents?

## Mindfulness Practice

**R-A-I-N:** A brief practice designed to help us “be with” and investigate challenging emotional or physical states.

# Groundbreaking Mindfulness Programs

## Lecture 18

In this lecture, you will learn about various mindfulness-based programs that have been shown to help people with a wide variety of behavioral and psychological problems. Specifically, you will learn about mindfulness-based stress reduction, mindfulness-based cognitive therapy, dialectical behavior therapy, and acceptance and commitment therapy. Understanding the components of these pioneering approaches will help you see different ways that you might use mindfulness practices to work with the difficulties you encounter in your own life.

### Mindfulness-Based Stress Reduction

- There are several pioneering multicomponent mindfulness-based programs that have been designed to help with a wide variety of difficulties, each of which has good research support. And each of these programs offers additional techniques that any of us can use to deepen our mindfulness practice.
- Mindfulness-based stress reduction (MBSR) was the first of these. It was started by Jon Kabat-Zinn in 1979 to treat pain and stress-related disorders. His pioneering efforts are responsible for the wide-scale adoption of mindfulness practices into so many different health-care settings. It's been the most widely studied and adopted approach, and it's the independent variable in most studies.
- MBSR has several components to it. Mostly, it teaches mindfulness meditation. It encourages informal practice and teaches a number of different formal practices. It uses the breath meditation and mountain meditation. It also uses body scan and hatha yoga.
- When John developed MBSR, he wanted to know how much practice to ask participants to do. He chose to require more to make the effects tangible. He asked people to do 45 minutes to an hour a day, six days per week, of mixed formal and informal

practice. There is also a six- to eight-hour intensive, or retreat, at week six, and people attend eight weekly two- to three-hour group sessions.

- MBSR has been studied more than any other treatment intervention, and many studies document its efficacy for various disorders. The early studies were typically not large in scale or well controlled. Because of this, it wasn't easy to tell whether the results were due to participating in the group, learning instructions, or actually practicing mindfulness. Increasingly, the studies use active control, which allows scientific conclusions to be drawn from them.
- MBSR has shown significant improvement in ratings of pain, other medical symptoms, and general psychological symptoms. In addition, it has shown significant improvement in generalized anxiety and panic disorder. There have been improvements in binge eating disorder and in fibromyalgia symptoms. Even psoriasis patients had quicker skin clearing. Cancer patients reported reduced mood disturbance and stress levels during their treatment.

### **Mindfulness-Based Cognitive Therapy**

- One of the programs that grew out of MBSR is mindfulness-based cognitive therapy (MBCT), which is one of what we now call the third wave of behavior therapies. Behavior therapy began with the work of Pavlov and his dogs, in which he discovered that if you paired an unconditional stimulus with some other behavior, over time, people would respond to the other behavior as they had responded to the unconditioned stimulus. His dogs learned to salivate to the ringing of a bell in the same way that they had salivated to meat powder.
- The second part of behavior therapy came out of the work of B. F. Skinner, called operant conditioning, or behavior modification. This is the idea that by rewarding certain behaviors and not rewarding others, we can change people's behavior patterns.

- Psychotherapists using behavioral principles discovered that if humans are different from animals in that we think a lot, then maybe it would make more sense to start changing our thought patterns and use behavioral learning principles to change those thought patterns. And that ushered in the whole world of cognitive behavior therapy. There are all sorts of different programs that are designed to change irrational, maladaptive thoughts into rational, adaptive ones.
- The innovation of this third wave of behavior therapies, and MBCT in particular, comes back to the teachings of Carl Rogers, who said that acceptance is a precondition of change. And they realized that trying to change thoughts and behaviors doesn't work as well as first developing profound acceptance of experience. So, all of the mindfulness- and acceptance-based treatments start with developing this profound acceptance of treatment.
- The founders of MBCT hypothesized that mindfulness might prevent relapse of major depression episodes. They discovered that people who get seriously depressed are different from ordinary people when they're faced with sadness, disappointment, or discouraging news. Ordinary people just feel sad or discouraged, but people who have been through serious bouts of depression bring with them thoughts that they had the last time they were depressed. This is an example of cue-dependent memory.
- The founders of MBCT said that with depressed people, the feeling of sadness or discouragement—the very mood—is what brings back the flood of all of the old memories and thoughts. So, instead of just feeling sad, people feel worthless, unlovable, rejected, and hopeless.
- The MBCT founders thought that mindfulness practice could help people see all of these thoughts as simply thoughts arising and passing in the mind so that they wouldn't get so stuck in depression. They taught these people formal practice, such as MBSR, and all sorts of informal practices, such as mindfulness of everyday activity.



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**Therapies that involve group sessions help individuals cope with their issues by relating to other members of a group.**

- The structure of MBCT is similar to MBSR, only it's done in groups of up to 12 recovered depressed patients over the course of eight weeks. They also give daily homework assignments that help people both do their mindfulness practice and help them notice what their thought patterns are about.
- MBCT uses a mindfulness- and acceptance-based approach. Instead of trying to replace irrational or maladaptive thoughts with rational ones, we try to see all thoughts as coming and going and not to be trusted.
- Mindfulness-based cognitive therapy was one of the first clinical interventions to have a really dramatic outcome. In a study of this approach, after one year, two-thirds of the people who had participated in at least four sessions of MBCT remained depression-free, while only one-third of the people who had the usual treatment remained depression-free.

## Dialectical Behavior Therapy

- Another form of treatment is called dialectical behavior therapy (DBT). It was developed by Marsha Linehan to treat borderline personality disorder, which involves emotional disregulation. People with borderline personality disorder have very widely fluctuating moods and interpersonal relationships. They also have a very high incidence of suicide, substance abuse, and other kinds of problems.
- DBT combines mindfulness practice, particularly in the Zen tradition, and cognitive behavior therapy in order to help people with emotional disregulation. The central dialectic in dialectical behavior therapy is the tension between acceptance and change—realizing that at every moment in our life when we confront a difficulty, we have to be able to change what we can change and accept what we can't change. It's basically what's often known as the serenity prayer.
- People with borderline personality disorders, who struggle with emotional disregulation, have a heightened sensitivity to all their emotions. This increased emotional intensity takes a long time to return to baseline. They often feel that their environment is invalidating, because people with this disorder are a bit difficult, and other people are often criticizing them. So, they're used to being rejected a lot. Their emotional displays are met in different ways. Sometimes people respond to them; other times people just reject them.
- DBT is a system of helping people to realize that they can accept themselves, their history, and their current situation, but they can work to change the behaviors that create such difficulty in their environment. Mindfulness practices actually help a lot in doing this.
- The structure of DBT is different from MBSR or MBCT. The structure is usually part of an intensive individual psychotherapy, and mindfulness is also taught in year-long, two-and-a-half-hour

weekly groups. The frequency and intensity of mindfulness practice is tailored by the individual therapist.

- Many of the techniques that are used can be useful for any of us. A lot of them are Zen techniques, including those of Thich Nhat Hanh. They can be helpful additions to any of our mindfulness practices, even if we're not struggling with some kind of very difficult emotional circumstance.
- There have been many, many studies showing positive outcomes from DBT. There are improvements in the frequency and the medical risk of parasuicidal behavior. Self-injurious behaviors decrease, and people stay in treatment longer when they practice DBT than when they don't. In addition, things like illicit drug use and binge eating improve.

### **Acceptance and Commitment Therapy**

- Another form of treatment is called acceptance and commitment therapy (ACT), which was developed by Steve Hayes and his colleagues in the 1980s and into the late 1990s. He used a number of Eastern meditative traditions to develop a mindfulness-, acceptance-, and value-based psychotherapy. Many of the elements in ACT seem to come from Erhard Seminars Training, which is an organization that packages meditative techniques in a way that is accessible to Western audiences.
- ACT has several components. The first is creative hopelessness, which is about realizing the futility of current efforts to feel better. The second component is cognitive defusion, or deliteralization, which means realizing that thoughts are really just thoughts, not reality. The third component is acceptance, or just allowing experience to be just as it is.
- The fourth component is self as context, which is about identifying with the observer of the thoughts, not the thinker. The last component pays attention to what is called valuing, which involves redirecting one's life to what gives it meaning. This final

component is something that is pretty much unique to ACT among the mindfulness-based interventions.

- The structure of ACT is usually part of individual psychotherapy, although increasingly it's been done as a group format as well. It teaches specific ACT skills, of which there are over 100. Many are based on images or metaphors. They teach insights that you can also derive from mindfulness practice.
- The outcomes of ACT have been very, very promising. They have reduced rehospitalization of psychotic people, social anxiety, and disability due to pain. It beat nicotine replacement for quitting smoking and reduced high-risk adolescent sexual behavior.

### Suggested Reading

Harris and Hayes, *ACT Made Simple: An Easy-to-Read Primer on Acceptance and Commitment Therapy*.

Kabat-Zinn, *Full Catastrophe Living*.

Linehan, *Cognitive-Behavioral Treatment of Borderline Personality Disorder*.

Segal, Williams, and Teasdale, *Mindfulness-Based Cognitive Therapy for Depression*.

### Questions to Consider

1. What are the four original empirically supported mindfulness-based treatments that were developed to ameliorate medical and psychological disorders?
2. How might you use one or more techniques from these approaches to work with difficulties in your life or help someone else with his or her distress?

## Mindfulness Practice

**three-minute breathing space:** Developed as part of mindfulness-based cognitive therapy, this exercise can help us step out of the thought stream and bring our attention back to the sensations of the present moment at any time during the day. It's particularly useful when we're feeling stressed or overwhelmed.

**what is the meaning of my life?:** An exercise designed to help us identify what really matters to us in our lives so that we can redirect our energies toward meaningful pursuits.

# The Neurobiology of Self-Preoccupation

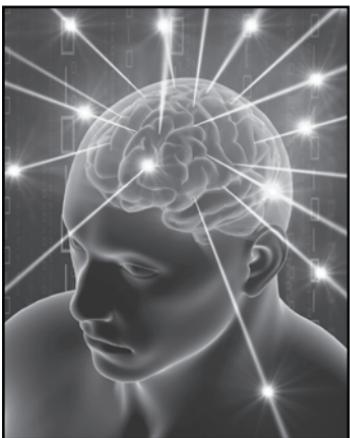
## Lecture 19

In this lecture, you will explore the neurobiological effects of mindfulness meditation, including what happens in the brain when we experience our sense of self and how mindfulness practices can affect that process. Neurobiologists are discovering that mindfulness meditation practices seem to train the brain in the direction encouraged by the world's great wisdom traditions. The practices help us shift from focusing on thoughts of improving things for "me" and instead open to the present moment with acceptance. And mindfulness practice makes us happier and better able to deal with pain in the process.

### The Default Mode Network

- Researchers have found that the default mode of our brains appears to be that of mind wandering. This correlates with unhappiness and with activation in a network of brain areas associated with self-referential processing—with thinking about "me."
- While our brains evolved primarily to seek opportunities and avoid threats, or to sleep, it turns out that when we're not doing either, our brains are still quite active. That's when areas of the brain that have been called the default mode network come online.
- The circuits of the default mode network include the medial prefrontal cortex and the posterior cingulate cortex. It turns out that mindfulness practice can dramatically affect the activity of these areas.
- Dr. Judson Brewer and his colleagues investigated brain activity in experienced meditators and matched meditation-naïve controls as they performed meditations focused on three skills: concentration (refocused attention), open monitoring (choiceless awareness), and loving-kindness practice (which cultivates acceptance).

- They found that the main nodes of the default mode network were relatively deactivated in experienced meditators across all three meditation types. They believe that the reason for this is that the “task” common to all three meditation techniques is the training of attention away from self-reference and mind wandering and toward one’s immediate, moment-to-moment sensory experience. It would appear that, in this way, mindfulness meditation interrupts selfing.
- They also observed meditation-specific regional differences in activation patterns. For example, during loving-kindness practice, there was deactivation in the amygdala, which is the brain structure that’s activated when we experience ourselves as being in danger.
- This makes sense, because loving-kindness meditation is designed to soothe and comfort. We might expect that this would help us respond neurobiologically as though we’re not under threat.
- Inspired by these findings, Dr. Brewer and colleagues programmed a computer to analyze in real time brain activation recorded by an fMRI machine. They had the computer focus on a particular area of the default mode network called the posterior cingulate cortex (PCC), which appears to be most activated by self-referential thinking. The PCC has been shown generally to be deactivated during meditation. It’s a central hub of the default mode network.
- Dr. Brewer and his colleagues programmed the computer to draw red upward spikes on a moving graph whenever the PCC was active



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**Studies of experienced meditators and non-meditators show significant differences in brain activity.**

and blue downward spikes whenever it was quiet. He then put experienced and novice meditators in an fMRI machine so that the researchers could see this real-time feedback on a video screen.

- Remarkably, subjects were able to see a close correlation between what they were experiencing in consciousness and what the moving graph was showing. Experienced meditators could very quickly quiet the PCC, while novice meditators had to struggle more to learn how to do it.
- Subjects were amazed at just how closely the graph tracked whether or not they were involved in self-referential, judging thinking. Every time the subject got excited—and thought, in some way, that the computer was really tracking his or her mind—a red spike, indicating activation of the PCC, appeared.
- For a novice meditator, as opposed to an experienced one, the graph of the first trial contains almost all red upward spikes. The second trial has a little blue surrounded by red. In the third trial, the subject started to get the hang of mindfulness practice, and the graph shows mostly red upward spikes but with several blue downward spikes interspersed. By the fourth trial, there were all blue downward lines.
- For an experienced meditator, the first trial is almost all long blue downward lines, with just one tiny red vertical line. The second run is still mostly blue lines, but not as long, with a few more red ones. Then, in the third run, we see an occasional red line. There were many instances in the study where we can see subjects learning how to step out of self-referential thinking.
- Initially, beginning meditators approach the practice as *thinking about* the breath, because they're so accustomed to being in the thought stream. Later, they realize that it's about simply *feeling* the breath moment by moment.
- In normal, non-meditating life, the default mode network is particularly active during times of rest. Its self-referential processing

plays a central role in creating our sense of self and identity. Studies have demonstrated that long-term meditators have increased connectivity between regions of the default mode network.

- Several of the studies with experienced meditators have also demonstrated that activity within the default mode network is more tightly coupled to other networks during rest, in particular to networks associated with attention and executive control. Researchers believe that this reflects experienced meditators' enhanced ability to maintain attention, disengage from distraction, and spend less time mind wandering—even when not meditating.
- These findings are the opposite of what is seen in Alzheimer's disease or autism, in which decreased connectivity within the default mode network has been reported. In these illnesses, the differences in connectivity are related to clinical symptoms that include great difficulty focusing.
- The fact that meditation experience is associated with changes of similar magnitude but of opposite direction to Alzheimer's or autism has implications for the profound nature of changes that may be occurring with meditation practice.

## **Research on Meditation**

- These neurobiological findings point in the same direction as ancient Buddhist philosophy. The neurobiology of selfing, or creating a sense of separate self, is seen as central to our suffering. Cognitive researchers identify two different modes of self-reference—two ways of experiencing the self.
- The first is narrative focus, which is what we're engaged in most of the time, particularly if we're not trained in meditation practice. Narrative focus is talking to ourselves about ourselves. Experiential focus, on the other hand, is about momentary experience—simply experiencing the mind-body in action.

- The experiential sense of self appears to be neurally distinct from narrative self-reference and is derived from neural markers of transient body states. In particular, this happens with activation of parts of the insula.
- Experiential self-reference, the nonnarrative self-reference, relies on moment-to-moment proprioception—on feeling what's happening, inside, in each minute.
- The medial prefrontal cortex (MPFC) is part of the default mode network, and it functions by linking subjective experiences over time. It holds memory of self-trait, traits of similar others, reflected self-knowledge, and future aspirations.
- Researchers at the University of Toronto found that in novices, or non-meditators, experiential focus reduced self-referential activity in the MPFC. In MBSR graduates, or people who had learned meditation practice, the experiential focus resulted in a more marked and pervasive reduction of activity in the MPFC.
- The interpretation is that mindfulness practice teaches us how to decouple from the thought stream and how to be able to shift between narrative mode and experiential mode voluntarily.
- They also found that trait mindfulness is measured by self-report. Together they suggest that mindfulness yields improved regulation of our emotional responses and helps meditators to have more equanimity.
- There are obvious implications for therapy. Not believing in self-narrative is perhaps the most important arena in which not believing in our thoughts can lead to psychological freedom.
- There is a fundamental neural dissociation between two forms of self-awareness: the self across time, accompanied by narratives about “me”; and the unfolding of moment-to-moment experience

of the mind/body. Mindfulness practice enables us to see these as separate—to see how the self is created out of a narrative.

- With mindfulness practice, we learn to differentiate previously inseparable streams in the flow of information in the mind. This ability may help in “objectifying” the mind, a process in which we are able to disidentify from mental activities as being the totality of who we are.
- Abnormal amygdala function has been consistently demonstrated across several stress-related psychopathologies. Exciting studies of short-term (one to eight weeks) meditation training found decreases in amygdala activity in response to a variety of affective stimuli.
- Another exciting area of neurobiological research involves the effect of mindfulness meditation on the experience of pain. Several of the findings that have come out of this research have practical implications for how mindfulness meditation can help us deal with all sorts of pain.
- First, experienced meditators report that they perceive painful stimuli as less unpleasant than inexperienced controls, with the extent of meditation experience being inversely correlated to subjects’ unpleasantness ratings. So, subjectively, the same heat or shock feels less unpleasant to the meditators than the non-meditators.
- Second, experienced meditators report higher tendencies to observe and be nonreactive to pain sensations than inexperienced controls. This means that the experienced meditators could simply feel the pain sensations as moment-to-moment sensations, without getting particularly upset about them.
- Third, open-monitoring practice results in a significant reduction of pain unpleasantness among experienced meditators, but not novices. This implies that it takes some practice with mindfulness meditation for it to have the benefit of reducing the subjective discomfort of pain.

- Fourth, research shows that experienced meditators, but not inexperienced controls, have significant decreases in anticipatory pain anxiety when in a mindful state, meaning that the experienced people don't tense up in anticipation of future pain. This is important because a lot of research shows that this tensing up plays a huge role in what makes pain difficult to bear.
- One of the ways that mindfulness meditation seems to help with pain is by reducing this anticipatory pain anxiety. There's also a lot of research showing that in the short run, distraction reduces the experience of pain. In general, the more extensive a subject's meditation experience, the greatest benefit in dealing with pain.
- By accepting pain sensations—rather than resisting, fearing, or trying to avoid them—we are able to tolerate greater pain stimulation with less distress, whether the pain is caused by a medical condition or induced in the laboratory.
- Mindfulness practice decreases suffering and pain-related anxiety through increased processing of the pain sensations themselves. This is coupled with cognitive disengagement that involves letting go of attempts to control the sensations.
- We're seeing on a neurobiological level how experienced meditators open to pain sensations and apparently feel the pain more vividly, while letting go of attempts to control them, and consequently experience less distress or suffering. On the other hand, when novices tried to practice mindfulness meditation in the presence of a painful stimulus, they had increased activity in the lateral prefrontal cortex, suggesting that they were struggling to control the pain.

## Suggested Reading

Brewer, et al, “Meditation Experience Is Associated with Differences in Default Mode Network Activity and Connectivity.”

Brown and Jones, “Meditation Experience Predicts Less Negative Appraisal of Pain.”

Gard, et al, “Pain Attenuation through Mindfulness Is Associated with Decreased Cognitive Control and Increased Sensory Processing in the Brain.”

Garrison, et al, “Real-Time fMRI Links Subjective Experience with Brain Activity during Focused Attention.”

## Questions to Consider

1. What is the default network, and what are its implications for understanding how we construct our sense of self?
2. What have neurobiologists learned about how experienced meditators experience and react to pain when compared to inexperienced meditators?

# Growing Up Isn't Easy—Facing Impermanence

## Lecture 20

In this lecture, you will learn about how to use mindfulness practices to become more aware of impermanence and how greater well-being can result. Because most people don't like to focus on aging and death, these can be difficult topics, but facing them can also be tremendously liberating. Mindfulness practice can help us see things as they actually are, loosen our preoccupation with a separate self, and experience the richness of the moments we have while we still can.

### The Challenges of Aging

- A remarkable amount of time is spent thinking about the future, imagining that the future is going to bring us some form of happiness. We think about the long-term future, including losing weight or finding our true love, and the short-term future, including looking forward to the weekend or the next week. These fantasies about what will make us happy someday become increasingly dubious as the number of possible days diminishes as we get older.
- The central legend of the Buddhist tradition speaks to this. By practicing mindfulness, the Buddha discovered that everything changes, that all things are interdependent, that our trying to hold onto changing phenomena causes endless suffering, that all we actually experience is the present moment, and that our thoughts—no matter how often they occupy our attention—are not actually reality.
- It's precisely these insights that are essential in dealing skillfully with illness and aging, because we see that it's thoughts about illness and aging more than the moment-to-moment experience of these events that distresses us so much.
- It's our thoughts about ourselves and our loved ones as separate selves that make the life cycle feel so difficult. Mindfulness practice



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**Engaging in mindfulness practice can help you deal with the challenges associated with aging and even death.**

can help us loosen our identification with these thoughts. One of the practices we can do is every time a thought comes into our mind, just label it as thinking or planning. We can watch the thoughts come and go like clouds across the sky or ripples in a pond. Then, we can see how they're dependent of our feeling states, even while they help determine our feeling state. Doing this helps us see how unreliable thoughts are and how they cause unnecessary suffering.

- One way to work with illness and aging is to practice stepping out of the thought stream and participating more fully in the current moment, rather than dwelling in our fantasies of what illness and aging will be like. Of course, while stepping out of the thought stream can help us appreciate the moments of our lives, thoughts are not likely to stop entirely.
- This leaves us with two broad options to manage our awareness of impermanence. We can either use denial and distraction, which

is probably most people's preferred approach, or we can practice identifying with something larger than "me" and "mine."

- The problem with denial and distraction is that it's a very unreliable solution. Reality keeps threatening to invade our consciousness. We become constantly stressed trying to keep out realization of illness and aging. How many times can we reassure ourselves—thinking, "I won't get cancer; I never smoked"?
- The alternative is to identify with something larger than "me." This is the better option. Mindfulness practices help us notice that all of these thoughts are just thoughts and that there really is only moment-to-moment experience unfolding. In addition, it helps us see the interconnected nature of all phenomena and embrace the reality of impermanence and change.
- The Buddhist tradition emphasizes facing this reality as a path to happiness. One of the exercises that is prescribed is known as five subjects for frequent reflection. Try reflecting on the following statements for a moment. In fact, you can try writing them down and posting them in a prominent place as a reminder.
  1. I'm sure to become old. I cannot avoid aging.
  2. I'm sure to become sick. I cannot avoid sickness.
  3. I'm sure to die. I cannot avoid death.
  4. All things dear and beloved to me are subject to change and separation.
  5. I'm the owner of my actions. I will become the heir to my actions.
- Of course, this can be a difficult practice. While our resistance—our tendency for distraction and denial—ultimately causes greater suffering, we do it for a purpose. We tend to grasp onto these kinds of defenses because we find it difficult to be "with" these

experiences. But with continued mindfulness practice, we notice that our perspective begins to shift.

- Of course, timing matters. Our defenses serve a purpose, even if they keep us unhappy, and prematurely challenging these can be destructive. We need to assess our readiness—our stability in life—prior to engaging in meditations on impermanence.
- If you’re already overwhelmed by challenges in your life, it’s probably not the best time to go headlong into these impermanence practices. But if you’re not in a crisis at the moment, and you’re feeling a bit more secure in that sense, you can try meditating on the changes associated with aging.

## Facing Death

- For some people, even more difficult than facing aging is facing death. After all, all things change. The house we grew up in doesn’t last forever—neither does a mountain, the course of a river, or ultimately the whole planet. But it’s amazing that this surprises us.
- It is helpful to step back and get a big-picture perspective on this. The Earth is about 4.5 billion years old. The Sun is just 4.57 billion years old. Humans have only been around between 3.5 and 4.5 million years—a very short time.
- By many estimates, in 200 million years, the Earth will become too hot for humans, and in 500 million years, the oceans will evaporate. In another 5 billion years, the Sun will expand to encompass Mercury, Venus, and maybe what is now the Earth’s orbit. The Earth may have moved to a wider orbit by then, in which case everything will freeze. But if not, everything will be vaporized.
- This seems to indicate that not only us, but also our children if we have them—and their children if they have them—and all of history, and all traces of life on Earth will eventually be obliterated. Everyone is going to die, but we live as though we won’t. This unspoken fantasy of immortality keeps us from being connected to

one another. We imagine that it's going to protect us, but it leaves us more vulnerable.

- We don't notice that we're part of a larger order, or a larger ecosystem. We don't notice that we're subject to the same rhythm of birth and death as all other beings. The alternative—realizing that we're in this together—can really unite us. And mindfulness practice helps with this, in part by simply seeing it all changing before our eyes.
- A lot of meditators do hospice work, and some health-care workers are trained in mindfulness meditation so that they can better be with people who are dying. One way that mindfulness meditation helps us do this is to bring home impermanence. The ability to discover and pay attention to the fact that death is real—that everything is falling apart—makes us not so shocked by it. And it allows us to approach these moments with so much more equanimity.
- The Buddha said that mindfulness of death was the most important meditation practice you could do, because it's what can fully liberate preoccupation with the self. And it brings us back most powerfully to appreciating the present moment.
- There are many such practices in the Buddhist tradition. A very simple contemplation that we can revisit during any day is to simply bring up the following thoughts: Death is inevitable, and we don't know when we'll die. Notice how thinking about this reorients your attention.
- Another very simple and poignant practice is to imagine yourself on your deathbed surrounded by the people you love most. Once you conjure up that image, just imagine saying good-bye. It's intense, but it's very real.
- As we explore these various practices, we realize that we're not actually afraid of dying, because we haven't experienced it and we have no idea what it's going to be like. Instead, we're afraid

of the idea of dying—of all of our thoughts and fantasies about it. Who knows what it will actually be like? So, what can we do? We can certainly take refuge in the present moment. So many things that we fear lose their fearsomeness when we can be with them in the present.

- The other thing that we remember is that we're in this together. This is part of simply being alive as a being. It can be helpful to put energy into whatever helps you identify with something larger than yourself—including nature or animals; friends, family, or community; a spiritual teacher; or a religious figure.
- It's said in the Zen tradition that if we can die the big death, which is letting go of the sense of separate self, then there's no need to fear the literal death, because nothing's being lost. These practices can help us not just with our own death and illness, but they can also help us with the death and illness of others.

## Suggested Reading

Halifax, *Being with Dying*.

Kumar, *Grieving Mindfully*.

Rosenberg, *Living in the Light of Death*.

Siegel, *The Mindfulness Solution*, chapter 10.

## Questions to Consider

1. In what ways throughout your life, and even today, have you found yourself living for the future?
2. Spend a few moments considering the five subjects for frequent reflection found in Buddhist traditions. How might you live today differently if you were fully aware that change—including illness, death, and loss—were inevitable?

## Mindfulness Practice

**befriending the changes:** A brief meditation on the impermanence of the body that is useful when we're finding ourselves struggling with the challenges of aging.

# Toward a Science of Wisdom

## Lecture 21

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**W**isdom is important for virtually all of life's pursuits. Wisdom is valuable for everyone, but we particularly notice its presence or absence in leaders—including political leaders, spiritual leaders, and leaders within families. In fact, there seems to be an inverse relationship between thinking of oneself as wise and actually being wise. In this lecture, you will learn what scientists, psychologists, and philosophers say about what wisdom is and how mindfulness practice can help us develop it.

### What Is Wisdom?

- Scientists are starting to grapple with the ancient question of what wisdom is and how it can be developed. They're even trying to identify which brain structures support it.
- Simply by reflecting about wisdom, you may find yourself becoming a little bit wiser. This is in part because wisdom involves maintaining a certain perspective toward life, and exploring what wisdom is and isn't seems to help us develop that perspective.
- Almost every language has a word for “wisdom.” It is the highest human virtue across diverse cultures. Until recently, modern psychologists, and even philosophers, had hardly touched the subject. In fact, they've had a very difficult time even agreeing what it is. It is something that is understood by virtually everyone across cultures but is difficult to define.
- Given the historical paucity of psychological literature on wisdom, scientific psychologists have had to start pretty much from scratch to study it. They began by seeking an operational definition—a way of identifying what wisdom is and isn't.
- They have taken two broad approaches to operationalizing it. One way they have tried to define it is to discover implicit models,

which involves asking people to call to mind a wise person and then describe his or her characteristics. They've done this with subjects from many different cultures. The other way psychological scientists have tried to define wisdom is by looking to ancient cultures. We find quite a variety of perspectives there.

- In addition to implicit theory research and searching the world's wisdom traditions, some scientists have attempted to develop laboratory models for studying wisdom. The most developed of these are from Paul Baltes and the Berlin Wisdom Project, which was conducted at the Max Planck Institute for Human Development in Germany. Researchers generated hypothetical vignettes, or thinking-aloud exercises, and asked subjects to reflect on them. Then, they analyzed the kind of considerations subjects used to respond.
- This is quite similar in methodology to a well-known work by Lawrence Kohlberg that was used to study stages of moral development. While Kohlberg's conclusions have been critiqued for their gender bias, his methods were very innovative. Kohlberg would pose an ambiguous moral problem to people, and then he would see how they respond to it. The participant's answer wasn't critical for measuring the subject's stage of moral development; what mattered was what principles the person used to come up with his or her answer.
- Baltes and his colleagues factored and analyzed the results of hundreds and hundreds of these sorts of exercises. They found that wisdom involved five factors.
  1. Factual knowledge
  2. Procedural knowledge
  3. Life-span contextualism

4. Value relativism
  5. Awareness and management of uncertainty
- The Berlin Wisdom Project's five factors are very individual oriented—they come from an individual psychology perspective. Other investigators have included more of an emphasis on concern for others or the greater social good, coming to the same conclusion in Buddhist psychology that wisdom and compassion are inseparable.

### **Developing Wisdom**

- The intention to grow wiser seems to help. In addition, involvement in introspective pursuits helps. So, we might assume that mindfulness meditation, psychotherapy, and being involved in the arts should help.
- Mindfulness practice, by increasing awareness of our own reactions to each moment of our lives, would support using all of our activities as paths to greater wisdom. In fact, we have reasons to believe that it works precisely this way.
- Some of the evidence comes from neurobiological studies. Psychiatrists Thomas Meeks and Dilip Jeste factor analyzed the literature on wisdom and found six factors, or components. Note that this list overlaps with, but has more interpersonal elements than, the factors found by the Berlin group.
  1. Prosocial behavior/attitudes
  2. Social decision making/pragmatic life knowledge
  3. Emotional homeostasis
  4. Reflection/Self-understanding

5. Value relativism/tolerance
  6. Acknowledgement of/dealing effectively with uncertainty/ambiguity
- Meeks and Jeste then tried to identify parts of the brain that have been shown to be active when people exercise each of these faculties. Each one has a putative neurological substrate, and they have several regions in common.
  - Also, all six components of wisdom are related conceptually to meditative practice, and there is particularly strong overlap with neurological changes we see in meditation and three of the wisdom factors or components: prosocial attitudes, emotional homeostasis, and self-reflection/self-understanding. In other words, parts of the brain that are active when we're demonstrating these three components are parts of the brain that are activated during meditation practice.
  - These findings are pretty complicated and, at this point, very tentative. They're complicated in part because neurobiologically, wisdom is perhaps our most top-down process. It integrates, regulates, and draws on so many different inputs and cognitive faculties. But the findings nonetheless suggest that meditation practice may help us become wiser.
  - Robert Sternberg is the leading research psychologist currently studying wisdom. He differentiates between general wisdom and personal wisdom. Personal wisdom involves how wisely we conduct our daily affairs and interpersonal interactions, as opposed to the more general wisdom we display in our thoughts and attitudes toward larger problems.
  - Sternberg is fond of pointing out that many otherwise wise thinkers and leaders seem to be lacking in personal wisdom. In their personal lives, they often seem to act foolishly. For example, Martin Luther

King, Jr., was notoriously unfaithful to his spouse, and the Buddha left his wife and child to pursue enlightenment.

- Of course, these actions can be interpreted differently—perhaps they did these things in service of a greater good. We don't know the particulars or understand the larger causes. In fact, it would be a sign of wisdom on our part to consider these possibilities. But it would also seem that just because a person is wise in one area, it doesn't guarantee wisdom in all realms.
- Perhaps this is also true of enlightenment, which overlaps extensively with wisdom as a construct. Wisdom in Buddhist psychology is the awareness of three marks of existence: *anicca* (impermanence), *dukkha* (unsatisfactoriness), and *anatta* (no enduring, separate self). In Buddhist psychology, deeply understanding these realities is synonymous with having wisdom.



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**In Buddhist psychology, wisdom and compassion are inseparable.**

- Mindfulness practices are designed to bring us insight into these three marks of existence. The following are eight skills that mindfulness practices foster and that can contribute to our developing wisdom. Of course, to develop these, we need to practice doing formal meditation, as well as informal mindfulness practices, regularly.
  1. Stepping out of the Thought Stream: By returning our attention repeatedly to moment-to-moment sensory experience, we gain perspective on our thought processes. We see how thoughts are conditioned by family and culture and how they change with moods and circumstances. We also see our intellectual defenses at work—the resistance that arises in response to unsettling thoughts and our urges to maintain comforting ideas or interpretations. Stepping out of the thought stream supports the ability to entertain multiple perspectives, by not believing in particular thoughts. We can even gain firsthand insight into how the mind constructs a seemingly stable reality out of the ever-changing flux of experience.
  2. “Being with” Discomfort: The capacity to step back and resist the urge for immediate personal comfort is necessary if we’re going to act in the interest of the greater good. This is only possible if we can get beyond our instinctual habit of seeking pleasure and avoiding pain. In addition, this involves not identifying with our discomfort as being about “me.”
  3. Disengaging from Automatic Responses: Whether our automatic responses are instinctual or conditioned through reward and punishment, modeling, and/or classical or operant conditioning, mindfulness practices help us disengage from our automatic responses. We want to be able to observe stimulus-response processes in microscopic detail so that we can experience the arising of a sensation, thought, or feeling, followed by the urge to act in response to it, finally followed by overt behavior. We want to develop the ability to pause, take a

breath, and evaluate whether or not the action would actually lead to desirable results.

4. Transpersonal Insight: This is direct insight into *anatta*. This is closely related to what later Buddhist traditions refer to as *shunyata*, or “emptiness.” Mindfulness reveals that all experience is in constant flux. Our minds relentlessly generate words to organize this flux into what we take as conventional reality. This dissolves the barrier between “me” and “mine” and “you” and “yours,” leading to compassion, another cornerstone of wisdom.
5. Moment-to-Moment Observation of the Mind’s Antics: This illuminates our defenses. We see how we often project onto others, but we have difficulty seeing them clearly. With mindfulness practice, we see all of the stereotyping, judging, jealously competing, idealizing, denigrating, and other not-so-noble things that are part of human interpersonal interactions.
6. Seeing How the Mind Creates Suffering for Itself: The mind is forever making comparisons and judgments, struggling to get things right and then keep them from changing. Attempts to cling to pleasant moments and avoid or push away unpleasant ones inevitably fail, causing endless distress. We see the impossibility of winning consistently.
7. Embracing Opposites: Our dearly held views of reality—“I’m smart,” “I’m stupid,” “I’m kind,” “I’m mean”—are merely mental constructions. Mindfulness practice helps us tolerate the views of others and find cooperative solutions to conflicts. It allows us to embrace different levels of reality simultaneously.
8. Developing Compassion: Several definitions of wisdom include compassion. Mindfulness practices reveal how interconnected we all are. We learn to abide peaceably in the midst of our own suffering, see that everyone else also suffers, and spontaneously feel like helping others.

## Suggested Reading

Hall, *Wisdom*.

Siegel and Germer, “Wisdom and Compassion.”

Sternberg, *Wisdom*.

Sternberg and Jordan, *A Handbook of Wisdom*.

## Questions to Consider

1. What, in your opinion, are the most important qualities of a wise person?
2. What most gets in the way of your acting wisely in your life?

# The Promise of Enlightenment

## Lecture 22

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The arrival of Buddhist teachings in the West is having an important impact: Buddhist teachings are changing Western psychology, and Western science and culture is changing Buddhist teachings. In this lecture, you will learn about the potential benefits of mindfulness practice from the perspective of Buddhist traditions. Specifically, you will learn how mindfulness practice can help us awaken to the psychological freedom known as enlightenment. Buddhist psychology is profound in its implications: Grasp a little, and you'll experience a little enlightenment; grasp a lot, and you'll experience a lot of enlightenment.

### Buddhist Psychology

- Buddhist teachings are not a religion in the Western sense. Rather, they are this 2,500-year-old tradition of introspection evolved into a system for psychological understanding and treatment. Nonetheless, it's a profoundly spiritual practice—at least in one way of understanding the word.
- Attending to one's experience is probably as old as humankind. But doing it in a deliberate and structured way seems to have particularly strong roots in the religious traditions of ancient India, where it's been going on for thousands of years.
- There was an ancient view in the time of the Buddha that informed his understanding—a view that we see in many of the ancient Hindu texts. The view is that conscious awareness is embedded in a sensory system that yields pleasurable and painful experience. Pain is inevitable, and lasting pleasure is unattainable.
- Furthermore, they realized in the Buddha's day that humans have trouble seeing themselves and their world clearly, and this results in what's called *dukkha*, or dissatisfaction. In Buddhist psychology, no explanation is offered for how this came to pass. Unlike in

some other religious traditions, there's no reason for humankind's predicament, and there's nobody around to provide salvation—only an understanding of how suffering is caused through desire and ignorance and how it could be resolved.

- In Buddhist tradition, desire is the deep, hardwired compulsion to pursue pleasure and avoid pain, while ignorance is the unconscious and unexamined nature of our attitudes and assumptions about who we are and the world we inhabit—especially the assumption of being a separate itself. Together, desire and ignorance shape how we construct our reality from one moment to the next, trying with only limited success to find satisfaction.
- Western cultures tend to embrace and honor reason to govern human nature. We see this in our systems of law, social philosophy, even psychology. The ancient Asian traditions were skeptical about reason. They were concerned that it may just be a rationalization for pursuing desires. And they also doubted revealed truth, because they wondered how we know that the first person got it right. The emphasis, instead, is on discovering for oneself, through direct experience. We can find this critique of reason in the West as well.
- The ancient Indian traditions used asceticism and meditation instead of reason. They developed a science of inner inquiry, not outer measurement. Asceticism deprives the mind of what it wants so that we can see the operation of desire more clearly, and meditation allows clear and keen observation, shedding light on processes that are either too subtle or too ubiquitous to notice much of the time.
- The illuminating power of restraint involves resisting, at least for a moment, whatever our urge is. Whether it's to have a drink, visit the refrigerator, or check our smartphone, that moment's resistance illuminates what's happening in the mind at the moment.
- Using asceticism and meditation, the ancient sages discovered that we don't actually see reality, but we construct it. Western cognitive scientists say the same thing. Buddhist psychology stresses how

this happens moment to moment. They say that the mind is a world-building organ that makes order out of chaos, and we construct reality out of all of this data streaming in at breakneck speed.

- They also point out that we spend a lot of time defending illusions. We fear illness and death, and we try not to think about it. We also see other people as objects to fulfill our desires, rather than part of a superorganism that we participate in. And there are all sorts of suffering results.
- One of the reasons that we can't see clearly is because perception is a means to an end. It's a means to pursuing pleasure and avoiding pain. So, our perceptions are distorted by our desires.
- Many of our psychological defenses aren't against instincts; instead, they are to buttress our sense of self. They keep us from noticing that there's no one home, that there's just this moment-to-moment changing experience. But these very defenses help us feel like we're a self cut off from our direct experience and from one another.

## The Mindfulness Cure

- The Buddha saw himself as a physician, and mindfulness was his principal healing technique. He set out very detailed practice instructions. He liked to make numbered lists to help his followers remember various instructions.
- The Buddha's formula began with mindfulness of body, feeling, and mind. First, the idea was to begin by paying attention to body sensations in four postures: sitting, standing, lying down, and walking. He also suggested being mindful of the breath and whatever other body sensations arise and noticing when they're absent and when they're present.
- Next, he suggested mindfulness as a feeling—to notice whether any experience was pleasant, unpleasant, or neutral and to distinguish the feeling response from sensation. The idea was to

notice the feeling reactions to images and thoughts as well as the body sensations.

- The next step was to be mindful of the mind. This meant noticing the arising of what we call the three “poisons” or “fires”: greed (trying to hold on to things), hatred (trying to push things out of awareness), and delusion (zoning out).
- The Buddha provided detailed instructions about how to be mindful of all of the different contents that arise in the mind. He suggested noticing the five hindrances: sense-desire, aversion, indolence, restlessness, and doubt. The task is to observe all of these different elements in the mind when they’re present, when they’re absent, or when they’re just arising.
- He also suggested noticing the five aggregates: materiality (sense contact), perception, feeling, formations (intentions and dispositions), and consciousness. The task is to observe these aggregates as continually arising and passing away, noticing the lack of any unifying agent (self) who sees, feels, and thinks. Instead, there is just this flux of experience.
- In addition, we are supposed to notice the six sense spheres: how the eye sees, the ear hears, the nose smells, the skin touches, the tongue tastes, and the mind thinks. The task is to notice how desire arises out of each of these senses—that we’re always craving more of one sense experience or trying to pull back from another.
- Finally, the Buddha suggested noticing the seven factors of awakening: concentration, mindfulness, investigation present, energy, joy, tranquility, and equanimity. The task is to notice when all of these qualities are present, absent, or arising. Here, unlike the hindrances, we’re working to cultivate these factors.

## Enlightenment

- Mindfulness of these events in consciousness is said to lead to enlightenment. The waking up that the Buddha said can happen if

we follow this course is that greed, hatred, and delusion fall away. Pleasure and pain remain, of course. But pleasure doesn't create the desire for more pleasure, and pain isn't met with aversion or resistance. So, we don't get caught in compulsive or addictive behaviors anymore.

- Rather, the awakened person moves through the world responding to events as they emerge with wisdom and compassion. Lives become an expression of generosity, which is the lack of greed; kindness, which is the lack of hatred; and understanding, which is the lack of delusion.
- There are a number of pitfalls along the path to awakening. Some involve what we might call spiritual materialism. We have this remarkably robust tendency to compare ourselves with others. In fact, it's said to be the last neurotic pattern to fall away before complete enlightenment.



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**Enlightenment, or psychological freedom, can be achieved through Buddhist psychology.**

- As we start working on this path, thoughts like “look how selfless I am!” arise, and we can start getting hooked on the enlightened role. It’s also very easy to become attached to some of the positive effects of mindfulness. We start to crave clarity, and we start seeking higher states of consciousness. Worst of all, we start feeling superior to others that we imagine are less awake or aware than we are.
- The path is not really about getting somewhere. This is very paradoxical. Even though there’s a pathway to awakening, the way we tread this path is by simply being in the moment and working on accepting what’s going on right now.
- Different Buddhist traditions emphasize different aspects of the path, and they use different techniques to try to create the transformation of mind that occurs. Mindfulness practice is actually one of several, but it’s usually considered the foundational practice.
- There are dangers along the path to waking up. Some people experience a sense of fragmentation, dissolution, or aggrandizement. Because of these possible difficulties in traditional practice, some mindfulness practices were kept pretty esoteric.
- People can get into trouble if they have sudden awakenings without the foundations of maturity. This can happen during intensive meditation practice. It can even happen when they’re in proximity to a guru, or a spiritual teacher. People can even get into trouble with the mania of bipolar illness. There’s also the danger of interpreting one’s experience narcissistically.
- In addition, people become very attached to getting high. Some of these states can feel really energizing and illuminating, and we can start to see awakening as a state of consciousness, or a state of mind, rather than a stage of development. Nowadays, it’s better to be a decent human “being with” limited spiritual awakening than someone with profound awakening but limited maturity who has difficulty getting along with others.

- It's possible to have spiritual awakenings in all sorts of traditions and not to advance very far developmentally. When people like this get into challenging situations, they can regress from their enlightened position to a much more immature position.
- What's missing from Buddhist psychology—from this path to enlightenment? Traditionally, these are solitary practices that were developed by monks, nuns, and hermits. So, there was very little examination of projection, interpersonal skills, or systemic phenomena. And advanced practice often didn't prepare practitioners very well for interpersonal life.
- Unless we practice in interpersonal contexts, our interpersonal issues are likely to remain unresolved. So, we need to cultivate interpersonal awareness, affect tolerance, and restraint by practicing interpersonally. And realizations that are developed in one realm may not translate to other realms.

## Suggested Reading

Batchelor, *Buddhism without Beliefs*.

Goldstein and Kornfield, *Seeking the Heart of Wisdom*.

Kornfield, *After the Ecstasy, the Laundry*.

Olendzki, “The Roots of Buddhist Psychology.”

## Questions to Consider

1. What are some of the pitfalls of pursuing mindfulness practice as part of a spiritual path? How have you encountered these challenges?
2. How do you imagine an enlightened person would act in everyday life? Do you think that enlightenment is a thoroughgoing transformation, touching all aspects of a person's life, or do you suspect that people can be more or less enlightened in different realms at different times?

# Mindful Ethics as a Path to Freedom

## Lecture 23

This lecture will address an aspect of practice that is essential for supporting mindfulness but that has often been left out of Western psychotherapies: ethical behavior. In this lecture, you will learn why it has been neglected and how it can help us be more aware and fulfilled. When we commit unethical acts, in fantasy or in reality, paying mindful attention to the whole process can transform our behavior. Being mindful of the moment-to-moment experience of unethical behavior can help us act more ethically.

### The Role of Ethics in Buddhist and Western Psychologies

- In Buddhist psychology, ethical training is a critical component of the Eightfold Path. It's the foundation of a treatment plan designed to create well-being. In Western psychology, ethics have been seen as more the province of religious traditions. "Scientific" psychology likes to distinguish itself from religion with its strong ethical focus. Furthermore, therapists often see ethical strictures as a source of psychological distress.
- Psychotherapists put a lot of effort into trying to help their patients feel comfortable with sexual and aggressive feelings, wants, and impulses of all sorts that may not be socially sanctioned. They work hard to help their patients or clients not view their inner experience as sinful. So, many therapists avoid ethical discussions that they worry will make people less comfortable with these aspects of their mammalian nature.
- At its extreme, mental health researchers and professionals may associate morality with sexual inhibition, dishonesty, and inability to freely express needs and wants, threatening a hallmark value of many modern societies: individual freedom.

- Recent research developments are challenging this position. We're discovering that there's a bilateral relationship between morality and well-being: Happier people act more ethically and more ethical behavior leads to greater happiness.
- While in all Buddhist traditions people are encouraged to behave ethically, contemporary Buddhist psychology emphasizes a kind of "personal research" approach. It's actually close to the kind of approach taken in Western psychology and psychotherapeutic traditions. It is about developing an empirically derived ethics—not one passed down in doctrine or from a divine source but, instead, one that comes from an attitude of *ehipasiko*, or an attitude of "come and see for yourself."
- The idea is to examine in your own experience what happens when you act ethically and what happens when you don't. The goal is to be a lifelong learner, developing ever-increasing moral sensitivity and greater capacity to live in alignment with this awareness.
- This is actually one understanding of the law of karma that we find in both Buddhist and Hindu traditions. Karma has often been viewed as though there is some system keeping track of our good and bad behavior, rewarding us with good fortune for ethical behavior and punishing us for unethical behavior.
- Another view, held by many Buddhist traditions, sees it as simply the law of cause and effect. It is the observation that certain actions tend to lead to suffering for ourselves and others, while others tend to alleviate this suffering. We're charged with discerning which is which.
- In Buddhist framework, morality is actually the behavioral manifestation of good reality testing. As our vision becomes clearer, we naturally act more ethically.

## **Deriving Morality Empirically**

- One way in which we might embark on deriving morality empirically is by considering some traditional ethical guidelines,

but using them as tools of inquiry rather than hard-and-fast rules. These are sometimes described as “training wheels” that we can use until wisdom and compassion develop sufficiently to guide our action.

- In the Buddhist tradition, there are five ethical precepts, or training guidelines for lay practitioners. (Monks, on the other hand, have hundreds of detailed rules designed to both support their meditation practice and keep the community harmonious.) While sometimes treated as prohibitions, many Buddhist traditions see the five precepts more as guidelines for living skillfully. They frame a discipline, which when undertaken, helps to calm and focus the mind, allowing for the development of what has been called moral sensitivity.
- Thich Nhat Hanh’s formulation of these is to pair restraint, the traditional prohibition, with ethical action. It starts with the first of the five precepts, which is restraint from killing. He expands this to include compassionate action, reverence for life, and working to prevent others from killing.
- The second traditional precept is restraint from stealing. This is expanded to mean concern for equity and generosity; not possessing anything that should belong to others; sharing our time, energy, and material things with those in need; and working to stop social injustice.
- The third precept involves sexual misconduct. Of course, this is defined differently in different cultures, but it basically means skillfulness with sexual energy and protecting the safety and integrity of individuals, couples, families, and society. It also involves respecting my commitments and the commitments of others.
- The fourth precept is restraint from lying. This simply involves using honest and skillful speech. (Right speech is one component of the Eightfold Path.) This includes cultivating loving speech, deep listening, and refraining from uttering words that can cause division or discord.



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**Ethical behavior can be learned from one's family, but it has been neglected in modern times.**

- The fifth is restraint in using intoxicants. The positive formulation of this is to simply be aware of consumption and consume in a way that cultivates good health, both physical and mental, for myself, my family, and my society. It involves practicing mindful eating, drinking, and consuming of all sorts, including avoiding the consumption of toxic food and drink and also toxic TV programs, magazines, books, films, and conversations.
- In the Buddhist tradition, these ethical precepts are part of a threefold training. Buddhist training requires attention and effort in three dimensions: concentration (*samadhi*), insight (*prajna*), and moral action (*sila*). These are interdependent; each one potentiates the other two.
- Undertaking the precepts creates a calming, settling effect in one's life that aids concentration. Greater concentration leads to more insight, which in turn deepens and refines our understanding of and ability to embody the moral precepts. *Sila* (morality practice) pushes

and develops our understanding, while also being an expression of our understanding.

- Each precept represents a continuum, offering the opportunity to attend, practice, and learn with increasing refinement in wisdom and skillful means. Practicing with the precepts involves reflection, intentionality with behavior, and awareness of cause and effect.
- Practice involves taking care with a light touch. Most of us discover that precepts are actually impossible to keep—which helps cultivate humility. So, we undertake five precepts knowing that we'll regularly fail, and we commit to paying attention to what happens when we keep, or don't keep, the precepts.
- Each time, we learn more about the causes, conditions, and outcomes of our behavior. We need willingness to begin again, time after time—much like trying to simply be with the breath in meditation practice.

### How Do Ethical Violations Cause Suffering?

- Most people discover that violating the precepts leads to a lot of personal suffering. There are many levels of suffering, and they can be arranged from coarse to subtle. At a very coarse level, there is fear of external consequences. “I’ll get caught and punished”; “people will judge or reject me.”
- A little subtler is the feeling of not living up to what psychologists call the ego ideal, which is the ideal self-image. This is somewhat variable across cultures. Many of us think of ourselves as “bad” for having, or acting out of, lust, greed, anger, or jealousy.
- More subtle yet is noticing the suffering of others and feeling empathy or compassion. Also quite subtle is noticing the stress or tension associated with pursuing desire. All unethical behavior involves pursuing desire—for example, killing to enjoy the taste of meat or vanquishing an enemy or stealing to enjoy having

something that doesn't belong to us, or lying to enjoy either being seen in a positive light by others or getting material gain.

- Notice that tension, or lack of peace, is associated with all of these. Meditation can be quite painful after unethical action. Ultimately, seeing that the fruits of unethical behavior (getting the ill-gotten goods) isn't sustaining. It doesn't feel deserved, is transient, and perturbs the mind.
- This empirical approach is, of course, different from what we see in many cultural traditions. As such, we can feel uneasy approaching ethics with so much value relativism. To deal with this, it can be useful to step back and look at the various ways that we humans organize ourselves to create greater harmony.
- Often, we employ a notion of sin, and we use this notion to try to get one another to act ethically. Implicitly, problematic behavior is understood to be the end point of a chain of events. We're often taught to try to cut off unethical behavior as early in the chain as possible.
- The chain begins with sensory experience—seeing, hearing, touching, tasting, or experiencing some mental content. This leads to the desire to increase pleasure or decrease pain, which in turn gives rise to an urge or impulse, which ultimately gives rise to the behavior. To gain control over our behavior, we're often taught to interrupt this chain of events as early as possible.
- To at least some extent, we've almost all been encouraged to limit tempting sensory inputs. Usually, this is most pronounced around sexuality. We learn not to stare at others we might find to be attractive, and we might learn to dress modestly to not tempt others. At a little later stage in the chain, we attempt to interrupt the sequence by trying to clamp down on the urge or impulse when it has already arisen—to declare the urges as sinful.

- Many of us learn a mix of these first two approaches. The first approach leads to living in fear of certain stimuli. We experience tension or constriction as we work to keep sensations and perceptions out of awareness. The second approach creates fears of losing control. What if we were to give in to a forbidden impulse? People can become afraid of all sorts of urges, including sexual attraction toward the wrong partner; desires for money, power, or status; and temptations to lie or steal.
- A third approach, for which mindfulness practice can lend support, is to notice and accept stimuli in our environment, notice and accept the urges that arise in response to those stimuli, but be able to freely choose whether or not to act on those urges.
- How can we work mindfully with sinful thoughts and feelings? We begin by reflecting on how different cultures approach a problem, and we recognize how they all naturally strive for moral behavior—including social harmony and justice.
- So, it becomes a practical challenge: How can we best ensure our own ethical behavior? Might it be okay to maintain ethical behavior but allow not-so-ethical-seeming sensations, feelings, thoughts, and urges into awareness?
- Mindfulness—awareness of present experience with acceptance—can help us notice and accept these sorts of mental contents. And, paradoxically, it seems that if we can accept such mental contents, we're actually less likely to act on them.
- This is because when we get to know our wishes and reflect on their likely consequences, they're less likely to take us by surprise. Many people are afraid to do this, fearing that if we give our minds too much leeway, our behavior will get out of control. But, in reality, just the opposite happens: We gain more freedom of choice.

## Suggested Reading

Hanh, *Creating True Peace*.

\_\_\_\_\_, *For a Future to Be Possible*.

Morgan, “Compassion and Wisdom.”

\_\_\_\_\_, “Practical Ethics.”

## Questions to Consider

1. What are the five ethical precepts for lay practitioners in Buddhist traditions? Do they make sense to you as guidelines for living life?
2. Which precepts do you find most challenging to adhere to? What happens in your mind, and in your relationships, when you don't adhere to one or more of them?

## Mindfulness Practice

**ethical reflection:** A useful practice to support developing mindful ethics.

**five in five:** A program for integrating the five ethical precepts of Buddhist traditions into our lives, by focusing on one precept each week for five weeks.

# The New Science of Happiness

## Lecture 24

The relatively new field of positive psychology seems to be confirming what ancient wisdom traditions have long suggested: There is a reliable path to well-being. And it involves living in the moment and being connected to and caring for others. Modern research is also confirming the ancient teaching that walking this path requires continued intention and effort. Otherwise, we just drift back to our set point. This is one of the many reasons why it is so vital to engage regularly in mindfulness practices.

### The Pursuit of Happiness

- In recent years, a new field of psychology has developed that is focused on researching pathways to well-being, and what it is discovering about human happiness dovetails remarkably well with what we've learned through studying and practicing mindfulness.
- Clinical psychology developed after World War II essentially to treat all of the soldiers who were returning home from the battlefield with mental health difficulties. Its focus paralleled psychiatry—treating disorders.
- In 1998, after studying depression for many years, a leading psychologist named Martin Seligman coined a new term: positive psychology. And that initiated the formal study of the science of happiness. One of the first questions this new discipline investigated is, what are the ramifications of happiness, or well-being? How might it affect our health or capacity to be effective in our lives?
- They quickly discovered that happiness is indeed good for our health. Studies show that positive mental attitudes reduce the risk or limit the severity of cardiovascular disease, pulmonary disease, diabetes, hypertension, colds, and upper respiratory infections.

- Just as anger or sadness tends to bring about predictable cognitive and behavior patterns, such as loss of intellectual ability and limited life activities, happiness brings about the opposite. This is known as the broaden and build model, which was proposed by Barbara Fredrickson. She found that happiness boosts several aspects of cognition, including clarity, accuracy, creativity and concentration, and it supports our ability to play and our connection with others.
- The U.S. Declaration of Independence guarantees the right to life, liberty, and the pursuit of happiness. But there's a problem with pursuing it like it's some sort of fugitive. It turns out that people who are happy don't actually think about it a lot—they aren't pursuing it. This is the inverse of the paradox that occurs with so many symptoms of psychological distress: What you resist persists. Instead, this paradox is as follows: What you pursue flees. An alternative attitude is learning to let be and let go.
- Just as our bodies have set points in regard to our weight, we have set points for happiness. We have certain levels of well-being that we tend to return to after either positive or negative experiences—after good or bad fortune. There are a lot of things that everybody thinks work but don't. For example, almost everyone thinks that wealth, education or high IQ, and sunny days will make them happier, but this is not the case. Research shows that even being young doesn't work.
- What also doesn't work is indulgence and pleasure and status seeking. Almost everybody knows that some of these can cause trouble, including drugs or alcohol, sex, work, power, and food. Even achievement, which most people assume is a good thing, can fail us.
- On the other hand, asceticism and passivity—the opposite of an achievement orientation—generally don't work either. Ultimately, the Buddha had to find a middle way between pleasure seeking and asceticism. This middle way begins with finding balance between

the two poles. It's not always easy to identify; it's easy to err in either direction.

## Positive Psychology

- Positive psychology research suggests that the attitudes and activities that mindfulness practice engenders work to make us happy. And it starts with training the mind to “be here now.”
- Practicing bringing our attention repeatedly to the present moment trains the mind to be in the present. And when the mind is in the present, it can appreciate moment-to-moment experience.
- When scientists have tried to identify sources of well-being that are not subject to the hedonic treadmill, one that comes up repeatedly is savoring. This is simply noticing and appreciating what’s happening here and now.
- With mindfulness practice, we discover that to fully savor, we need to be willing continuously to let go. Otherwise, we can get caught in one of the more comic forms of *dukkha*, which is the mind’s tendency to complain and to feel dissatisfied. It’s called the *dukkha* of change or impermanence: As soon as we’re no longer complaining that something is not to our liking—when our experience is just right—we realize that it won’t last and start complaining about that.
- Mindfulness practice can help us savor experience in the moment, enjoying it in the moment while understanding its fleeting nature, allowing it to arise and pass like all phenomena, and knowing that it’s impermanent. It’s only by letting go, over and over, that we can find more lasting well-being.
- In recent years, there has been a shift in the field of positive psychology. In the early days, the emphasis was on how to experience pleasure, including savoring pleasure. Now, engagement is showing itself to be much more important for well-being.

- Psychologist Mihaly Csikzentmihalyi initiated and popularized the term “flow.” In athletic terms, people often use the word “zone,” as in being “in the zone,” to represent a flow experience. In flow experiences, there’s no hedonic treadmill, and we’re experiencing gratification rather than pleasure. There’s reduced self-consciousness, so we’re not involved in a lot of self-referential thought. Flow occurs when our strengths engage challenges in an even balance. We don’t necessarily feel pleasure, but we feel gratification.
- Mindfulness supports engagement by bringing full attention to what’s happening in the present moment, by helping us step out of the thought stream, and by loosening our attachment to pursuing pleasure and avoiding pain.

## **Gratitude and Forgiveness**

- Of all the specific interventions designed by positive psychologists, the most powerful involve gratitude. Fortunately, mindfulness practice also supports gratitude by helping us appreciate our interconnection. This helps us appreciate others’ roles in our good fortune by reducing “selfing”—reducing our preoccupation with pride, with “me” being the star of the show—and by allowing us to open up and feel tender and vulnerable.
- Gratitude involves having a tender heart and being touched by the caring or help of another. One example of a gratitude intervention is a gratitude visit, which involves writing to someone to whom you feel gratitude, but whom you’ve never adequately thanked, and then visiting him or her. Research shows that doing this only once makes people measurably happier and less depressed one month later. Other studies found that just sending a letter, without a visit, also works.
- A close relative of gratitude is forgiveness. This, too, can be enormously freeing. When we can’t forgive, we hold onto resentment. Forgiveness needs to be done thoughtfully, though.

- There are several potential pitfalls. Letting go of grudges before we're really ready can be counterproductive. Anger then festers. The premature closing down of affect eventually causes us to suffer symptoms as the feelings seek expression. Also, communicating forgiveness to someone who thinks he or she has done no wrong can lead to difficulties as the person rejects the forgiveness, interpreting it as containing an unfair accusation.
- But done at the right time, forgiveness can deepen well-being, and mindfulness practice can support forgiveness because it helps us see events through the lens of dependent origination. This is about asking what factors and forces led the other person to do what he or she did and asking, would I really have acted differently if I had the same genetics and the same environmental history as this person?
- As we learn to see our own thoughts, feelings, and behaviors as impersonal events, we see that others' actions are also impersonal events. We therefore blame less and understand the dynamics of the situation better. This leads to freedom from the past and the ability to open to relationships in the present.

## Meaning and Connection

- Another area that has been shown not to be subject to the hedonic treadmill is meaning and connection. This means engagement for the benefit of something larger than ourselves. It's a positive-sum game—everyone gains, and nobody loses.
- Chris Peterson, a founder of the positive psychology movement, said that virtually all of the happiness exercises that have been



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**Mindfulness practice supports both gratitude and forgiveness.**

tested and shown to be successful by positive psychologists make people feel more connected to others.

- There's a lot of research into meaning and connection that shows that performing acts of altruism or kindness increases happiness. For example, five acts per week showed very measurable gains. In fact, these acts are especially powerful if they are all done in a single day.

## Suggested Reading

Gilbert, *Stumbling on Happiness*.

Seligman, *Authentic Happiness*.

Siegel, *Positive Psychology*.

\_\_\_\_\_, *The Mindfulness Solution*, chapter 11.

Styron, “Positive Psychology and the Bodhisattva Path.”

## Questions to Consider

1. What are the avenues you usually pursue to find happiness? Are any of these subject to the hedonic treadmill (needing more and more to sustain a given level of well-being)?
2. How might you use the lessons of positive psychology research to focus your energies on more reliable pathways to fulfillment?

## Mindfulness Practice

**bodhisattva to-do list:** In Buddhist traditions, bodhisattvas are enlightened beings who devote themselves to alleviating the suffering of others. Even if we're not enlightened, this exercise can improve our and others' well-being: List two to three things that you're going to do for others each day of the week. This can be done for many people or only a few. Small, routine things are fine. Then, during the week, try to do them consciously. Jot down what worked best. Forgive yourself for whatever you didn't do. Check things off

the list as you would check them off of any other to-do list. Before bed, reflect for a few minutes on your activities of the day. In the coming weeks, gradually integrate bodhisattva items into your ordinary to-do lists.

**gratitude letter:** A proven technique for generating well-being through cultivating gratitude.

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Orsillo, S. M., and Roemer, L. *The Mindful Way through Anxiety: Break Free from Worry and Reclaim Your Life*. New York: Guilford Press, 2011. A self-help guide to using mindfulness practices to work with anxiety.

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Pollak, S. M., Pedulla, T., and Siegel, R. D. *Sitting Together: Essential Skills for Mindfulness-Based Psychotherapy*. New York: Guilford, 2014. A professional guide to using different mindfulness practices under different circumstances that contains a wide variety of practices with suggestions for their application.

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Shapiro, S. L., and Carlson, L. E. *The Art and Science of Mindfulness: Integrating Mindfulness into Psychology and the Helping Professions*. Washington, DC: American Psychological Association, 2009. A professional text exploring the integration of mindfulness practices into psychotherapy.

Shubiner, H., and Betzold, M. *Unlearn Your Pain, Second Edition*. Pleasant Ridge, MI: Mind Body Publishing, 2012. A self-help guide to using mindfulness practice to work with chronic pain disorders.

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Siegel, R. D., ed. *Positive Psychology: Harnessing the Power of Happiness, Personal Strength, and Mindfulness*. Boston: Harvard Health Publications, 2011. A report prepared for general audiences reviewing current findings

in positive psychology, including the relationship among happiness, mindfulness, and self-compassion.

Siegel, R. D., and Germer, C. K. “Wisdom and Compassion: Two Wings of a Bird.” In C. K. Germer and R. D. Siegel, eds. *Wisdom and Compassion in Psychotherapy: Deepening Mindfulness in Clinical Practice*. New York: Guilford Press, 2012. A detailed conceptual exploration of what exactly are wisdom and compassion.

Siegel, R.D., Urdang, M.H., and Johnson, D.R. *Back Sense: A Revolutionary Approach to Halting the Cycle of Chronic Back Pain*. New York: Broadway Books, 2001. A self-help guide blending functional restoration rehabilitation with mindfulness practice to recover from chronic back pain, neck pain, and other stress-related problems.

Sternberg, R. J. *Wisdom: Its Nature, Origins, and Development*. New York: Cambridge University Press, 1990. The pioneering text exploring the scientific study of wisdom.

Sternberg, R. J., and Jordan, J., eds. *A Handbook of Wisdom: Psychological Perspectives*. New York: Cambridge University Press, 2005. An anthology providing an overview of the scientific study of wisdom.

Styron, C. W. “Positive Psychology and the Bodhisattva Path.” In Germer, C. K., Siegel, R. D, and Fulton, P. R., eds. *Mindfulness and Psychotherapy*. 2<sup>nd</sup> ed. New York: Guilford Press, 2013. A professional exploration of the relationship between the findings of positive psychology and the idea of a bodhisattva path—commitment to the well-being of others.

Surrey, J. L., and Jordan, J. V. “The Wisdom of Connection.” In C.K. Germer and R.D. Siegel, eds. *Wisdom and Compassion in Psychotherapy: Deepening Mindfulness in Clinical Practice*. New York: Guilford Press, 2012. A professional exploration of the implications of mindfulness for relationships, with an emphasis on developing interpersonal wisdom and compassion.

Surrey, J. L., and Kramer, G. "Relational Mindfulness." In C. K. Germer, R. D. Siegel, and P. R. Fulton, eds. *Mindfulness and Psychotherapy*. 2<sup>nd</sup> ed. New York: Guilford Press, 2013.

Tillich, P. *The Eternal Now*. New York: Charles Scribner's Sons, 1963. A classic text on the difference between loneliness and solitude.

Williams, M., Teasdale, J., Segal, Z., and Kabat-Zinn, J. *The Mindful Way through Depression*. New York: Guilford Press, 2007. A self-help guide to using mindfulness practices, along with cognitive behavioral techniques, to work with depression.

### **Internet Resources**

[www.mindfulness-solution.com](http://www.mindfulness-solution.com). This website offers free audio recordings of variations of the practices presented in this course, as well as additional mindfulness practices. It also contains links to listings of meditation centers all over the world, where you can locate opportunities to learn from and practice with other people. Some of these follow Buddhist paths, while others are associated with different spiritual and cultural traditions.

[www.backsense.org](http://www.backsense.org). This website offers charts that are useful for following a mindfulness-based program to work with chronic pain disorders.

## Mindfulness Practices

### Supplemental Audio Tracks (~90 minutes total)

**breath practice (introduced in Lecture 2):** A foundational formal meditation practice. This can be done initially as a concentration, or focused-attention, practice. Once some concentration develops, it can be expanded to be an open-monitoring, or choiceless-awareness, practice. Duration: ~29 minutes.

**loving-kindness practice (introduced in Lecture 4):** A foundational practice for cultivating acceptance, both toward the contents of our own minds and toward other people. This can also be expanded to include people who upset us at a given moment, which can help us connect with them. Duration: ~22 minutes.

**mountain meditation (introduced in Lecture 8):** A foundational equanimity practice designed to help us find stability and perspective when faced with instability in our emotional or external lives. Duration: ~9 minutes.

**breathing together (introduced in Lecture 10):** A powerful interpersonal practice that can help develop feelings of connection and mutual compassion with another person. It can be done either with a partner or by picturing a partner. Duration: ~22 minutes.

**stepping into fear (introduced in Lecture 13):** An exercise that we can use to develop experiential approach, rather than avoidance, when struggling with anxiety. This can help increase our capacity to bear anxious feeling, freeing us from the need to avoid activities that stir anxiety. Duration: ~11 minutes.

## **Practices Demonstrated within Lectures**

**apple meditation (Lecture 11):** A version of eating meditation suitable for children that uses a vivid object of awareness and encourages reflection on the interrelated nature of all things.

**befriending the changes (Lecture 20):** A brief meditation on the impermanence of the body that is useful when we're finding ourselves struggling with the challenges of aging.

**bell in space (Lecture 11):** An easily accessed mindfulness practice for children. They can be given the instruction to count the bells (which may help younger children to remain attentive) or simply to listen to them.

**bodhisattva to-do list (Lecture 24):** In Buddhist traditions, bodhisattvas are enlightened beings who devote themselves to alleviating the suffering of others. Even if we're not enlightened, this exercise can improve our and others' well-being: List two to three things that you're going to do for others each day of the week. This can be done for many people or only a few. Small, routine things are fine. Then, during the week, try to do them consciously. Jot down what worked best. Forgive yourself for whatever you didn't do. Check things off the list as you would check them off of any other to-do list. Before bed, reflect for a few minutes on your activities of the day. In the coming weeks, gradually integrate bodhisattva items into your ordinary to-do lists.

**breath awareness (Lecture 2):** A brief version of a foundational formal meditation practice.

**breathing on purpose (Lecture 11):** A variation of a foundational formal meditation practice adapted to the language and attention span of younger children.

**eating meditation (Lecture 3):** A foundational practice that can be done either as a formal meditation (using a raisin or larger quantity of food) or as an informal practice (just paying attention to the process of eating during daily life).

**equanimity phrases (Lecture 7):** Simple reminders that can help us to “be with” another person who is in pain, even if we can’t make that pain go away.

**ethical reflection (Lecture 23):** A useful practice to support developing mindful ethics.

**five in five (Lecture 23):** A program for integrating the five ethical precepts of Buddhist traditions into our lives, by focusing on one precept each week for five weeks.

**giving and taking (*tonglen*) (Lecture 7):** A compassion practice that can help us connect with a person or an animal that is suffering.

**gratitude letter (Lecture 24):** A proven technique for generating well-being through cultivating gratitude.

**greeting exercise (Lecture 7):** A very brief compassion practice that can be helpful when we’re about to interact with someone with whom we feel some tension.

**loving-kindness practice (Lecture 4):** A brief version of this foundational practice for cultivating acceptance, both toward the contents of our own minds and toward other people.

**loving-kindness practice for children (Lecture 11):** An adaptation of this foundational practice for cultivating acceptance using language and imagery suitable for children.

**mindful intoxication (Lecture 16):** An exercise designed to increase our awareness of our use of intoxicants. This is not recommended if you’ve already learned that you have difficulty with an intoxicating substance and are trying to be abstinent.

**R-A-I-N (Lecture 17):** A brief practice designed to help us “be with” and investigate challenging emotional or physical states.

**self-compassion letter (Lecture 7):** An effective exercise for generating self-compassion, particularly when we're feeling shame about something we've done or a perceived shortcoming.

**soften, soothe, allow (Lecture 7):** A self-compassion exercise designed to help us find a loving relationship toward mental or physical pain that we find ourselves tending to resist.

**stepping into fear (Lecture 13):** A brief exercise to practice experiential approach, rather than avoidance, when struggling with anxiety.

**three breaths (Lecture 11):** A very brief exercise suitable for children to help them notice their experience in the present moment.

**three-minute breathing space (Lecture 18):** Developed as part of mindfulness-based cognitive therapy, this exercise can help us step out of the thought stream and bring our attention back to the sensations of the present moment at any time during the day. It's particularly useful when we're feeling stressed or overwhelmed.

**urge surfing (Lecture 16):** An exercise developed as part of the mindfulness-based relapse program designed to help us ride out urges toward unwanted behaviors, such as excessive drinking, overeating, gambling, or speaking unskillfully.

**wake up your senses (Lecture 11):** A brief practice for children designed to help them step out of the thought stream and become conscious of bodily sensations.

**walking meditation (Lecture 3):** A foundational formal meditation practice that can be done initially as a concentration, or focused-attention, practice. Once some concentration develops, it can be expanded to be an open-monitoring, or choiceless-awareness, practice. After spending some time doing formal walking meditation, we naturally find it easy to use walking as an informal practice whenever walking in daily life.

**what defines me? (Lecture 4):** A brief exercise that can help us see the domains or dimensions of our personalities we use to develop a sense of adequacy or self-esteem. Useful for loosening the grip of these preoccupations.

**what is the meaning of my life? (Lecture 18):** An exercise designed to help us identify what really matters to us in our lives so that we can redirect our energies toward meaningful pursuits.

**who am I? (Lecture 4):** A brief exercise that can help us notice how our self-concept may limit our psychological freedom.

**yes and no (Lecture 4):** A simple, brief exercise that can help us see more clearly our tendency to resist contents of the mind and shift to a more accepting attitude.

## Obstacles to Mediation Practice

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To gain the benefits of mindfulness, it's important to practice regularly. Sometimes, we get discouraged when we encounter obstacles. The following are some suggested remedies to common difficulties you may encounter during sitting mindfulness meditation, such as the breath practice.

- **Sleepiness:** In Zen traditions, students are encouraged to try sitting at the edge of a very deep well or a high cliff! Less radical solutions include opening the eyes to let in light, which suppresses melatonin production and makes us less sleepy, or practicing standing up, or switching to walking meditation instead.
- **Physical pain:** Try initially bringing your attention to the discomfort, allowing the breath to be in the background. See if you can develop an attitude of curiosity or interest in the sensations rather than resisting them. The pain may transform by itself. Also, if you're sitting on a meditation cushion, raising the cushion will often keep the legs from "falling asleep," or becoming painful. But there's no need to be stoic; if you're very uncomfortable, feel free to change positions.
- **Restlessness:** Try bringing your attention to the sensations of restlessness—usually muscle tension in the body. See if you can develop an attitude of curiosity or interest in the sensations rather than resisting them. If they persist in making it difficult to continue meditating, try shifting to walking meditation.
- **Unwanted feelings:** Very often, feelings that we've pushed out of awareness at other times will return when we begin meditation practice. Try to open to those feelings as the combination of bodily sensations, thoughts, and images that they are. Simply attending to them with open curiosity will usually make them easier to bear and allow them to transform naturally.