

Brief History of Science-Based Mindfulness in US

Mindfulness Worksheet

Date / Time:

So far today, have you brought kind awareness to your:

Thoughts? Heart? Body? None

To begin this Meditation, please bring kind awareness to

- why you chose this topic
- how your belly, chest, and head each feel when you reflect on this topic
- the emotions that you can associate with these visceral feelings
- the positive or negative impact of any stories you believe in regarding this topic
- the fact that many others are feeling similarly about this topic as you
- how you might feel with increased awareness around this topic
- when you can apply increased mindfulness to this topic in your day-to-day life



The history of mindfulness within the US is relatively brief with the first formalized programs being introduced in the 1970's. This short summary of the history shares information on many of the major contributors who have increased the scientific understanding of mindfulness.

The current practice of Mindfulness is primarily based on elements of Buddhist Zen and Vipassana traditions and the practice of Sati, moment to moment awareness of present events. While many who practice mindfulness also embrace the Buddhist teachings, there is a growing movement of differentiating out the religious elements while retaining the science-based mindfulness approaches through the measures of psychology and neuroscience.

In his 1890 book, Principles of Psychology, William James, the father of modern psychology, stated, "The faculty of bringing back a wandering attention over and over again is the very root of judgment, character and will." He extended the thought by stating, "an education which should improve this faculty would be the education par excellence." This connection to a core understanding of mindfulness practice serves as a fitting precursor to the science that is now being accomplished.



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A key early scientific finding that greatly influences modern understanding of mindfulness came from Canadian psychologist Donald Hebb and his work on brain cells activating in response to each other. The famous saying, “Neurons that fire together, wire together” is from his work presented in his 1949 book, *The Organization of Behavior* (he actually used the word cell instead of neuron). This Hebbian Theory understanding of neurons that interact with each other was a precursor to the current understanding of neuroplasticity, the brain’s ability to create new neural connections over time.

In his 1975 book, *The Relaxation Response*, Dr. Herbert Benson, founder of Harvard’s Mind/Body Medical Institute, detailed a link between meditative practices and better health, especially for those suffering from hypertension. He was key in demystifying meditation for the mainstream population.

In 1975, the Insight Meditation Society was formed in Barre, Massachusetts by Dr. Jack Kornfield, Sharon Salzberg and Joseph Goldstein, three individuals who had studied mindfulness in the Buddhist tradition in Asia and desired to open a teaching center in the US. These three individuals have been key leaders in building the Buddhist based Mindfulness community and have also been instrumental in supporting the scientific pursuits. Jack Kornfield, along with others, also founded the Spirit Rock Meditation Center in Marin County, California in 1988, one of the largest and most well known meditation retreat centers.

In 1979, Dr. Jon Kabat-Zinn, a doctor at the University of Massachusetts Medical Center, created the first formalized meditation program for use in medicine when he introduced the MBSR-Mindfulness Based Stress Reduction program. He had studied mindfulness under Thich Naht Hahn and other Buddhist masters, and took the core teaching to create MBSR, segmenting the religious elements in order to create a secularized program based on science. The program was designed for chronic illness patients to help them to deal with their illness and manage their pain. The program has grown in use throughout the world and still utilizes the same basic structure that was originally introduced.

In 1984, Dr. Richard Davidson joined the faculty at the University of Wisconsin-Madison and established a neuroscience research lab that in 2008 became known as the Center for Healthy Minds, which is the leading research institute in the field of mindfulness. In 1992, Davidson met the Dalai Lama who challenged him to study the neuroscience behind meditation. Davidson, a longtime meditator, dedicated efforts and became a leading researcher in the field of affective neuroscience.

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In 1996, Davidson's center was the first to use fMRI technology to show the activation of the amygdala in reaction to stimuli. In 2001, the lab began studying the brains of Buddhist monks, starting with Matthieu Ricard, and later Mingyur Rinpoche and others to document the affects of long-term meditation on the brain. In 2004, Davidson and the research team were the first to discover the markers of neuroplasticity, recognizing that the brain can rewire and grow throughout life. In 2007 the lab mapped brain differences to show that areas of attention and emotion can change with intentional training. In 2014, the first major study directly linking how different types of meditation can directly influence the mind, body and well-being was published by Davidson, Ricard, and Dr. Antoine Lutz. In 2017, the center published research showing that meditation based stress reduction can change the regulation of the genes that influence the biological mechanisms of aging. Also in 2017, Davidson collaborated with other scientists to publish a statement from the American Heart Association explaining that meditation has a benefit on cardiovascular systems. Davidson is also the Chief Scientific Advisor of the Mind and Life Institute (and it's annual Summer Research Institute), created by the Dalai Lama and others to further the connection between mindfulness and science.

In 1995, Dr. Daniel Goleman, Psychologist and researcher, published his book, *Emotional Intelligence*, and followed this with a number of subsequent books on the topic. His work had a basis in mindfulness and he has been a key contributor in the general adoption and the scientific research of mindfulness. He was a cofounder of the movement known as SEL-Social and Emotional Learning for school systems that integrated much of the work from Emotional Intelligence. He partnered with long-time friend Richard Davidson throughout the years on many studies and in 2017 they co-wrote the book *Altered Traits*, which covers in detail the history of the research and findings of mindfulness.

In 1998, Dr. Tara Bracht, another noteworthy individual in the history of Mindfulness in the US, founded the Insight Meditation Community of Washington, DC. She has been a leader in integrating Buddhist based mindfulness into clinical psychology practice.

Dr. Rick Hanson, a psychologist, neuroscientist and author, is a Senior Fellow of the UC Berkeley Greater Good Science Center. His 2009 book, *Buddha's Brain*, detailed meditations positive affect on the brain. His 2013 book, *Hardwiring Happiness*, detailed the connection of mindfulness enhancing neuroplasticity within the brain, and his 2020 book, *NeuroDharma* furthers this understanding.

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Dr. Kristin Neff, a professor of Educational Psychology from the University of Texas at Austin, is a leading researcher on the topic of Self-Compassion in the tradition of Loving-Kindness meditation. Her 2011 book, *Self-Compassion* details the correlation between self-compassion and health, leading to more productive lives.

Dr. Daniel Siegel is the co-Director of the Mindful Awareness Research Center at the UCLA School of Medicine. He is also the Executive Director the Mindsight Institute, an educational organization that offers seminars that focus on the development of mindsight in families. In his 2012 book, *The Developing Mind*, Siegel introduces the field of Interpersonal Neurobiology. He works extensively with schools in helping teachers, parents and children to realize the benefits of mindfulness.

Dr. Judson Brewer is the director of research at the Mindfulness Center at Brown University. He has been a leader in the use of fMRI brain scanning technology to measure the long-term effects of mindfulness. He discovered that a specific part of the brain, the posterior cingulate cortex (PCC) is where mental activities like being distracted, mind-wandering, self-thought, choice-liking, guilt and craving are based. His research discovered that mindfulness meditation quiets the PCC and has used this to help people overcome addictions and anxiety through the use of apps that his team began creating in 2018. He also developed a neurofeedback process to help learn to control PCC activity.

Notes:

