

MEDITATION AND THE BRAIN

Meditation is to the mind what aerobic exercise is to the body. Like exercise, there are many good ways to do it and you can find the one that suits you best.

Studies have shown that regular meditation promotes mindfulness (sustained observing awareness), whose benefits include decreased stress-related cortisol, insomnia, symptoms of autoimmune illnesses, PMS, asthma, falling back into depression, general emotional distress, anxiety, and panic, and increased immune system factors, control of blood sugar in type 2 diabetes, detachment from reactions, self-understanding, and general well-being.

In your brain, regular meditation increases gray matter (neuronal cell bodies and synapses) in the:

The prefrontal cortex (PFC) is the executive center of your brain, important for self-control, complex cognition, future planning, guiding attention, and mood elevation.

The hippocampus is where memories are converted from short-term to long-term storage. It's also important for mood, establishing the context of events, calming down both the amygdala (the alarm bell of the brain) and production of stress hormones like cortisol.

The amygdala serves as the brain's alarm system, triggering feelings of fear and stress. It is central to activating sympathetic nervous system responses of fight, flight, or freeze.

The nucleus accumbens is the brain's reward center, activated by any pleasurable experiences including expectation of future rewards. It's also implicated in the regulation of slow-wave sleep during which cortisol production in the brain is decreased.

The Insula is central to interoception (sense of your own body); self-awareness in general; empathy for the emotions of others.

Meditation is the quintessential training of attention. Getting better control of your attention is the foundation of changing your brain, and thus your life, for the better. The choice to take up a meditation practice is you saying to the world (and yourself): "I'm going to step off the hamster wheel now. This time is for me." Years of research have revealed the benefits of a regular meditation practice. These benefits include:

Regulating the brain (above) by providing increased “experience-dependent-neuroplasticity” in the PFC and throughout the Autonomic Nervous System.

Communication is improved by more attunement, resonance and responsiveness which are the beginnings of empathy.

Emotional balance improves as our zone of emotional tolerance expands and emotional intelligence increases.

Response flexibility improves as we make a space between impulse and action and move from reactive to responsive. This is a central feature of social intelligence.

Insight is the capacity of our mind to create “mental time travel” by integrating past and future into the present.

Empathy or the capacity to see through another person’s perspective is improved. Empathy is the openness to see another person’s mind.

Fear regulation is core to all emotional regulation. Meditation strengthens the calm down responses in the brain.

Intuition helps us “SIFT” (Sensations / Images / Feelings / Thoughts) through experiences by being open to the wisdom of the body, especially the vagal nerve system.

Morality can be seen as a compassion for others active during moments of service to a larger social good that correlated with activity in the Insular region of the brain.

Research has shown a practice of mindfulness meditation for as little as 10-15 minutes a day for six months will show visible improvements to brains damaged by chronic stress.

The basic technique of mindfulness meditation is deceptively simple. To begin, all you have to do is to pay attention to your breath.

Begin by finding a comfortable position where your body can feel reasonably relaxed. If you know any relaxation exercises like deep breathing from the diaphragm or progressive muscle relaxation, you may find it easier at first if you get nice and relaxed before beginning.

Now begin to pay full attention to your breathing. You don’t have to change anything about it, just pay attention to it. Notice all of the physical sensations

associated with it. For example, you might notice the sensation of the air going in and then out through your nose or mouth. You'll probably be able to detect some differences in the way the air feels going in, versus the way it feels going out. On the way in, you'll probably notice that the air is a bit cooler. There may even be a little bit of a tingling sensation associated with it. On the way out, the air will probably have a warmer, softer quality to it. Notice any changes that you might be able to feel in your face as you breathe in and out or changes in and around your sinuses, through your cheeks and eyes. Notice the way the muscles naturally push and pull in your chest, and any sensations in your lungs. Just try to completely attend to any and every aspect of your breathing that you can notice.

Inevitably something will distract you from this simple task. You may find it difficult to block out noises or commotion happening around you. You may also experience inner sensations such as desire, aversion, lethargy, agitation or doubt. Or you will find you have been thinking about "the list" - worries, responsibilities, plans and ideas. This is perfectly okay. As soon as you realize that you are being distracted, simply take note that this has occurred and calmly return to your breathing. Notice the noise, thought or emotion as it arises. Notice the mental state that accompanies that noise as a separate thing. Notice the exact extent or degree of that sensation. Then notice how long it lasts and when it finally disappears. When you have done that, return your attention to breathing.

Just as breathing comes in stages, so do mental states. Every breath has a beginning, a middle, and end. Every mental state has a birth, a growth, and decay. Just rest in the place where you can see these stages clearly.

Keep trying! Don't get frustrated! When you get distracted, you should know that absolutely nothing has been lost. The whole point of this exercise is to train your brain to be able to focus more effectively. Just accept it as a slow and easy process. Some days you will find it easier to focus, and other days it will be harder. Even on the days that it is completely difficult, however, the positive effects of the meditation that we have discussed here will still be taking place—perhaps even more so! The struggle itself is the activity. When you realize that you have been distracted, that, itself, is a realization and then you can return to being mindful.

This is something that you can do in whatever amount of time you have available to you. Ideally, you'll spend some time practicing mindfulness at least once or twice each day.

As your skill increases, you may find that you're motivated to spend even more time meditating. It won't be long at all before you will be able to

comfortably sit for an hour or more, doing nothing but being mindful of your breath or whatever else you have chosen to be mindful of.

In time you will find that nearly anything you do can be done mindfully. When you begin your practice, it will be beneficial to stay in one spot, and pay attention to a simple, natural, effortless process like breathing. But when you have become relatively proficient in this practice, you can begin to branch out into other more complicated forms of mindfulness meditation such as walking or eating mindfully.

If you try this technique for a little while and decide you'd like to get a little deeper into it or would like to have some extra guidance, I recommend the resources listed below as a good place to start. Eventually you may want to join a sitting group or attend a longer meditation retreat.

RESOURCES

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