

Mindfulness Can Improve Memory

Neuroscientists shattered the old belief that the human brain is an unchanging, static organ. But various studies have revealed that our brain has the capacity to reorganize itself through forming neural connections. This is known as neuroplasticity, and it has no virtually no limits. They discovered that despite age, disease, or injury, the human brain can compensate for any damage by restructuring itself. To put it simply, our brain is capable of repairing itself. Studies also support the idea that mindfulness can significantly help in the brain's development. It specifically helps in the process of neuroplasticity. It is really amazing to know that we can change our emotions, feelings, and thought processes through neuroplasticity and mindfulness. There are three major studies that show how mindfulness can rewire the human brain through neuroplasticity. Even though mindfulness meditation is linked with a sense of physical relaxation and calmness, practitioners claim the practice can also help in learning and memory. With her team of researchers from Massachusetts General Hospital, she conducted the program to explore the connection between mindfulness and the improvement of cognitive functions. The program was composed of weekly meditation sessions as well as audio recordings for the 16 volunteers who practiced meditation alone. On average, the participants practiced meditation for around 27 minutes. The underlying concept of mindfulness meditation for research was on achieving a state of mind in which the participants suspend their judgment and just focus on feeling sensations. The researchers were amazed by the result. Primarily, the study participants revealed that they experienced significant cognitive advantages that were proven in their responses in the mindfulness survey. This Harvard study reveals that neuroplasticity, through practicing meditation, can play an active role in the development of our brain. Millions of people around the world suffer from depression. A Psychiatry Professor at the University of Toronto, used a research grant from the MacArthur Foundation to explore the advantages of mindfulness towards alleviating depression. The study involved patients suffering from depression, with 8 out of 10 having experienced at least three episodes of depression. Following the stress reduction sessions, around 30% of participants who experienced at least three episodes of depression did not relapse for more than a year, in comparison to those who followed prescribed other therapies such as antidepressants. A study has become a precursor to studies sponsored by Oxford and Cambridge Universities in the United Kingdom, with both studies generating similar outcomes. A study conducted at Carnegie Mellon University has revealed that the practice of mindfulness, even for 25 minutes a day, can alleviate stress. One group of study subjects was asked to undergo a short meditation session composed of 25 minutes of mindfulness for three days. This group was asked to do some exercises designed to get them to concentrate on their breathing while turning their focus to the present moment. During the evaluation phase, all the participants were asked to complete math and speech tasks in front of evaluators who were asked to look stern. All participants reported their stress levels increased and were asked for saliva samples to measure the levels of the stress hormone cortisol. The group who was asked to practice mindfulness meditation for at least 25 minutes for three days reported less stress during the task, showing that practicing mindfulness even in the short term can increase the body's ability to handle stress. It is interesting to note that the same group showed higher levels of the stress hormone, which was

not expected by the researchers. The research concluded that when participants learn mindfulness meditation, they have to actively work on the process – particularly in a stressful situation. The cognitive task may feel less stressful for the individual, despite an elevated cortisol level. The team is now focusing on automating the mindfulness sessions to make it less stressful while reducing cortisol levels. Aside from the benefits described above, mindfulness meditation provides great benefits for our emotional, mental, and physical health. Those who practice mindfulness meditation show changes in specific areas of the brain that are associated with empathy. Mindfulness meditation decreases our reactivity to our emotions. A study conducted in the Massachusetts General Hospital revealed that mindfulness reduces the size of the amygdala, which is responsible for fear, anxiety, and aggression. Mindfulness meditation can help us avoid negative thoughts, which our brain usually resorts to once left on its own. In 2007, a study was conducted among students who were taught meditation strategies. Mindfulness is also now used to ease symptoms of anxiety and depression. Many psychotherapists now prescribe mindfulness meditation for patients who are suffering from depressive episodes. A study published in the Journal of Psychological Science revealed that students who practiced meditation before taking an exam got better results compared to students who did not. The study discovered a link between mindfulness and better cognitive function. Mindfulness increases the activity in the anterior cingulate, which is the part of the brain responsible for memory, learning, and emotional regulation. It also increases activity in the prefrontal cortex that is responsible for judgment and planning. Mindfulness is linked to improved concentration and longer attention span. Mindfulness also increases the brain's neural connections and has been proven to fortify myelin, which is the protective tissue that surrounds the neurons responsible for transmitting signals in the brain. Deep breathing can deactivate our sympathetic nervous system, which is responsible for our fight or flight response. It also activates the parasympathetic nervous system that is responsible for our rest and digest mode. Mindfulness decreases the level of cortisol in the body. This stress hormone increases levels of stress and encourages hypertension. In one study, participants who practiced mindfulness meditation reduced their risk of heart attack by more than five years and also reduced their blood pressure. Mindfulness allows our mind to become aware of what we eat and has been used for weight loss programs. Mindfulness is also responsible for increasing telomerase, which is believed to help in the decrease of cell damage. This shows that meditation can help boost our immune system.