



Yoga, Meditation and the Brain gain

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ABSTRACT

In research conducted past years it has been now established that the Brain functioning of an individual is situational. It means that the Brain adjusts its functioning and working pattern based on the external treatment it gets. The Blood supply and it is the amount of Oxygen to the brain largely associated with the old age problems and the stroke like conditions. We can improve the amount diet i.e. Oxygen to the Brain by doing some simple breathing patterns and meditation and it is called Yoga. Yoga can supposedly ameliorates depressive manifestation and immune function, as well as diminish chronic pain, reduces stress, and lower blood pressure. These all claims were made by yogis and monks thousands of years ago and these all facts are now supported by scientific researches and results

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INTRODUCTION

The things we think and the things we do have a driving impact on our brain, our attitudes, and ultimately our actuality. Our elders always reminded us of the potential of positive thinking and the philosophy of creating our own reality. From our early childhood we have learned that it all starts with the things we tell ourselves and the way we handle situations. Yoga has helped embed this mindset into hundreds of thousands people's daily practice and life.

We are groomed to think, feel, and react the way that we do when life starts to pour down on us. It's natural to be tough on ourselves and continually search for external solutions. But here's the good news: You already possess all the power, skill, and necessary components needed to completely alter the way your brain works, thus all the power needed to change your life for the better!

The Science behind

There are thousands of books, online quotes, and attending costly seminars will not prove the importance of happy thoughts, and learning to de-stress, deep breathing and slow down, maybe the scientific proofs will convince you to make some small adjustments that come with prevailing effects.

Have a look on this point; our thoughts and actions actually change the chemical framework and constitution of the brain. When we practice deep, slow breathing, relax our muscles, and think positive thoughts, it actually helps in rewiring the brain.

Studies in many universities and institutions have revealed that the specific thoughts you have may differ, but the brain regions involved and the physiological response will be the same. The physiological stress response means an increase in heart rate, increase in the breathing rate, muscle tension, and elevation of cortisol and other stress hormones. A term is coined as " Response factor" , that is the reaction our mind reacts in any

situation of joy and happiness or stress or challenge or struggle or any other conditions the responses we learned from our parents and family member, our brain tends to absorb these on any conditions. And the great thing is that we can change this complexions and our reaction towards these things by altering the mind make-up towards particular things and the secret of doing this is Yoga and meditation. We can practice and change the mindset toward any condition.

The Yoga Connection

Brain and Yoga connection can be easily experienced by just taking some deep breaths or just closing your eyes and sit on the mat. It is all about what we do on Yoga mat and the control over our breathing patterns and the muscle movement while learning to decrease the thought coming to our minds. Yoga is all about taking what we learn on the. These are the techniques that break bad habits, eliminate negativity, and diminish stress, studies have found. The powerful effects of meditation on the brain are often subjects of medical studies and new scientific research is released daily about the practice's neurological benefits. Yoga and meditation decrease stress, depression, and anxiety while increasing happiness and the overall quality of life.

Let's get start!

Individual will have to spare ten to fifteen minutes daily to meditate, bringing your focus inward. It is super simple—just breathe. Sign up for a yoga class in your local community or deepen your current practice. You will not find the change overnight and habits don't change immediately. Stick with it for a month and watch your life transform. You will notice the changes happening in your daily life and lifestyle. Remember, think positive thoughts, take deep slow breaths, and let your muscles (especially the shoulders and jaw) relax.

Yoga and the Stroke

Blockage of the blood supply to the brain leads to the functional impairment of the brain and those results in to the motor and neurological dysfunction; it generally referred as the brain stroke. The previous studies show that aerobic exercise can encourage the recapturing of motor and neurological functions in stroke patients thus can effectively reduce the symptoms of stroke. The results show that yoga practice can effectively

improve the health of the patients. It can promote the recovery of mobility in terms of balance ability, walking ability and ability to stand on one foot; and it can promote the recovery of neurological functions in patients. These findings provide a new theoretical basis and practical enlightenment for the treatment of stroke patients.

Yoga and Meditation: Helps altering the Brain's Stress conditions

Yoga can supposedly ameliorates depressive manifestation and immune function, as well as diminish chronic pain, reduces stress, and lower blood pressure. These all claims were made by yogis and monks thousands of years ago and these all facts are now supported by scientific researches and results. Brain tends to react to discomfort, uneasiness and disorientation in an automatic way, by triggering and prompting the physiological stress response and initializing anxious neural chatter between the prefrontal cortex and the more emotional limbic system. The stress response itself increases the probability of anxious thoughts, like "Oh, I'm not going to hit this one," or "I can't bear this weight any more". And in fact, your anxious thoughts themselves further exacerbate the stress response.

Despite all the types of stressful situations a person can be in (running away from a wild animal, finishing those files by 6 o'clock) the nervous system has just one stress response. The distinct thoughts you have may differ, but the brain regions involved, and the physiological response will be the same. The physiological stress response means (Tachycardia) increase in heart rate, increase in breathing rate, muscle tension and increase levels of cortisol and other stress hormones. The fascinating thing about the mind-body interaction is that it works both ways. For example, in case of stress your muscles will tense (get ready to run away in any life threatening situation ,like run away from a wild animal), and this will lead to more negative thinking. Relaxing those muscles, particularly the facial muscles, will push the brain in the other direction, away from stress, and toward more relaxed thoughts. Similarly, under stress, your breathing rate increases. Slowing down your breathing pushes the brain away from the stress response, and again toward more relaxed thinking.

How Yoga Changes the Brain

Now the question arises what happens to the brain while we practice yoga and meditation? What are the physiological changes that happening in the brain when we do the yoga? Yoga Floods the Brain with Relaxation- When we don't have enough GABA in our brains, we feel anxious or depressed; medications and yoga work by upping GABA levels. Surprisingly, the increase in GABA was correlated with self-reports of decreased anxiety. Studies suggest how yoga might be used as a supplement treatment to mental-health conditions such as anxiety and depression, and point to how yoga positively impacts the brain.

Yoga Improves Regions of the Brain that Manage Pain

Yoga has also been shown to improve pain tolerance. A study conducted by a group of pain experts found that, compared to matched controls, yogis could tolerate pain twice as long. This subjective difference was correlated with distinct brain differences in both of these groups: The yoga practitioners had larger insular gray matter volume than those who didn't do yoga. The insula is a region of the brain in the cerebral cortex that helps regulate body temperature and maintain homeostasis; is related to perception and self-awareness; and has a role in regulating the parasympathetic nervous system, the branch of the nervous system that helps us feel calmer and more relaxed.

Yoga Protects Against Age-Related Decline

Yoga and meditation can improve the conditions of the individual of the same condition and same age; results are surprising that the patients with some age related brain complications were greatly benefited by meditation and Yoga as compared to those who were on only medical treatment. Results indicated that, as hypothesized, long-term practice of yoga and meditation buffered against age-related decline. Both yogis and meditators had higher average scores on fluid intelligence tests than controls. Studies such as these are essential in understanding not only that yoga works, but also how it works. These findings add to a growing body of research on how yoga might be beneficial not just for healthy people, but for clinical populations—those suffering from depression, anxiety, even dementia.

Yoga Changes Brain Wave Activity

Various brain wave activities are linked with different cognitive, psychic and emotional functioning. For example, *alpha waves* (8-13Hz frequency) are low magnitude signals that occur when a person is resting but still alert. Alpha waves are associated with decreased pain and discomfort, but also related to increased retention retrieval, improved word recognition, and the discernment of calmness. *Beta waves* (12-38 Hz) occur during heightened states of consciousness, and are related with active concentration. *Theta waves* (4-7 Hz) occur in the presence of repetitive jobs and tasks or when someone has established a relatively foreseeable routine. They are linked to short-term memory functioning. Like alpha waves, theta waves are associated with reduce anxiety.

CONCLUSION

Although the studies were of varying quality, there is general support for yoga practices (movement, breath exercises and meditation), being associated with positive brain states. Changes in alpha brain waves associated with decreased pain and increased calmness were found after breathing, meditation and posture-based yoga practices. Increases in beta wave activation, which is linked with improved task performance, were related primarily to breathing based yoga (*pranayama*). These included practices designed to achieve both activation (e.g. *Kapalabhati*) and relaxation (e.g. *Anuloma Ujjayii*).

There is growing evidence of the relationship between regular yoga practice and improved mood, memory, and decreased perceptions of pain. Much of these experiences are controlled by the amygdala - a small, relatively round structure just adjacent to the hippocampus. The amygdala is the integrative center for emotions, emotional behavior, and motivation. When considering brain waves from the perspective of attention, concentration and relaxation it is easy to see why the relationship between yoga and meditation practices and brain waves presents an interesting proposition.

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