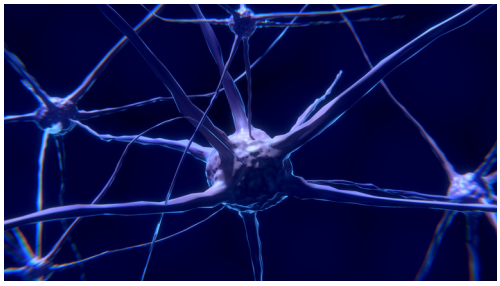
Your Brain and Meditation

- About Your Brain
- What Happens to Your Brain During Meditation
- How Meditation Changes Brain Function
- How Meditation Changes Brain Structure



About The Brain

The brain is a fascinating organ that controls many body functions. It is an information centre that receives and interprets all the sensory information - sights, sounds, smells, tastes, memory, motor skills, vision and so much more.

The brain has many complex parts that work together to help function.

There are roughly 100 billion cells in our brains. Each brain cell is like a mini computer. There are therefore roughly 100 billion mini-computers all working together in our brains.

The human brain can read up to 1,000 words per minute. The human brain cell can hold 5 times as much information as the Encyclopedia Britannica, or any other encyclopedia for that matter.

The human brain constitutes 60% of white matter and 40% of grey matter. The human brain is capable of creating more ideas equivalent to that of the atoms of the universe.

Side note... "...it is estimated that the there are between 1078 to 1082 atoms in the known, observable universe. In layman's terms, that works out to between ten quadrillion vigintillion and one-hundred thousand quadrillion vigintillion atoms." Taken from www.universetoday.com This is the power of your brain!! It creates even more ideas than this.

The brain processes information it is given. It cannot on its own decipher a truth from a lie. It processes information from the environment and what it is told and gives instructions to the body to carry out particular tasks.

Grey matter, named for its pinkish-grey color, is the outer most part of the brain.

It is home to a large number of neurons, which allows it to process information and release new information.

The grey matter throughout the central nervous system enables individuals to control movement, memory and emotions.

What Happens to Your Brain During Meditation

Since the brain processes information it is given, during the act of meditation, the meditator takes control over brain activity, sensations and memories through breathing and relaxation.

The meditator will tell the brain what to focus on during meditation. Focusing on the breath is a common practice and serves to relax the mind and body for the meditation period.

When the mind wanders, the meditator brings it back into focus by paying attention to the breathing or zeroing in on a mantra or phrase.

The more frequent the practice of meditation, the less the mind wanders as it comes into focus for longer periods.

A habit of daily meditation is formed by doing it consistently. It forms a neural pathway in the brain, that becomes a habit and a part of a lifestyle.

How Meditation Changes Brain Function

Research has shown that meditation has an effect on the brain, changing its functions and structure.

Consistent meditation yields measurable effects on the brain.

Meditation involves regulating attention and may lead to increased activity in regions of the brain associated with attention.

Meditation has been shown to result in an increase as well as a decrease in grey matter in the brain.

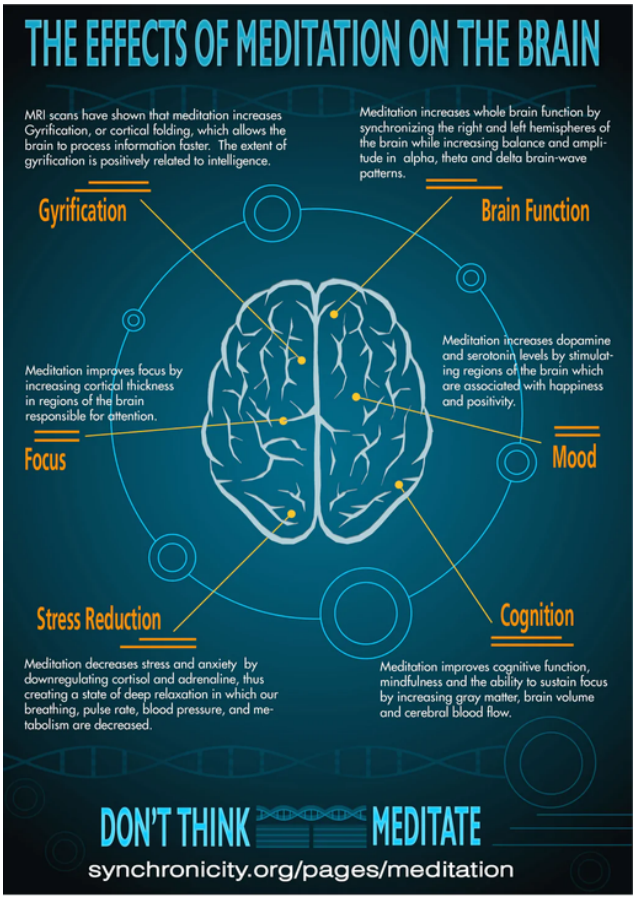
Meditation increases grey matter, thereby strengthening:
memory
perception
learning
attention
self-awareness

Meditation decreases grey matter in the area of the brain associated with stress, resulting in a reduction to stress reactivity.

7 Ways Meditation Can Actually Change The Brain
Alice G. Walton
Senior Contributor, Forbes
2015

[Through results of a meditation study, the brain]...was found to increase cortical thickness in the hippocampus, which governs learning and memory, and in certain areas of the brain that play roles in emotion regulation and self-referential processing...

...There were also decreases in brain cell volume in the amygdala, which is responsible for fear, anxiety, and stress – and these changes matched the participants' self-reports of their stress levels, indicating that meditation not only changes the brain, but it changes our subjective perception and feelings as well.



How Meditation Changes Brain Structure

Meditation has been shown to thicken the pre-frontal cortex - white matter in the brain. This brain center manages higher order brain function, like increased awareness, concentration, and decision-making.

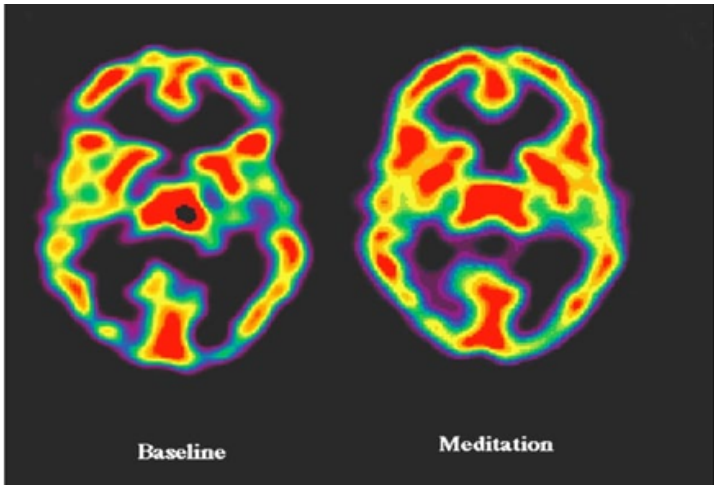
Changes in the brain show that with meditation, higher-order functions become stronger, while lower-order brain activities decrease.

Some of the brain regions activated during meditation are actually different in people who meditate regularly, and evidence suggests that the changes can occur in as little as eight weeks.

Performing an activity such as meditation consistently for 90 days, results in the brain forming what is known as a neural circuit or pathway, as it registers this as a habit. The brain is trained to perform this task and it becomes routine.

A neural circuit is a population of neurons connected by what are known as synapses, to carry out a specific function when activated.

Neurons are nerve cells that send messages all over your body to allow you to perform functions from breathing to talking, eating, walking and thinking.



Here are two functional brain scans from various sources. It shows a baseline scan versus one that practices religion and meditation.

These show metabolic activity—red is most active, black is inactive. The one done while meditating shows a different pattern of metabolic activity.

According to Medical News Today, the scanned brain from meditation shows "increased activity in the frontal lobes of the brain. These areas are linked with increased focus and attention, planning skills, the ability to project into the future, and the ability to construct complex arguments. Also, both prayer and meditation correlate with a decreased activity in the parietal lobes, which are responsible for processing temporal and spatial orientation."

As seen in this lesson, meditation affects brain function and structure. These activities are a result of how the brain works naturally,

Changes with the brain are powerful and prove what is possible when we truly engage it.

This is how our awesome God designed us. We can only do this naturally because of His infinite wisdom, power and creativity.

As we will see later in the course, this is only what happens naturally. When God and His infinite power are added to the equation, as amazing as this may seem, there is so much more.

Module 2 Activities

- Brain Training for Meditation
  - How to train your brain for meditation - laying the foundation

- Brain Training On Habits
  - Good habits to form and bad habits to kick, for best Godly meditation practice

- 90-Day/12-Week Neural Pathway Formation Guide
  - To help take you through the process over the period