How much does gray matter to your brain?

While your brain is able to process all the visual colors of the rainbow, **it comes down to only two colors that really matter** – gray matter and white matter.

Since you don’t have a brain lid we can pop open, you’ll just have to take the word of science that your brain has both gray and white matter. **Gray matter covers the outer layer of brain tissue** and is composed of brain cells known as neurons. Neuron are the working cells that **carry the nutrients and convert glucose to energy** to run your system. They can vary in grayish tones from brownish to pinkish due to the blood capillary network.

By contrast **white matter resides in deeper parts of the brain** and are the neural messengers that are covered in a white fatty coating *(myelin sheathe*). They act to **speed up messages being sent out**to other parts of the brain and body. When this myelin sheath coating deteriorates, the nerve fibers are unable to communicate messages consistently as found in the condition of *multiple sclerosis*.

How much gray matter you actually have is another story. While the density amount of gray matter relates to intelligence, the actual amount of gray matter can vary across different regions of your brain, it can be determined by your inheritance and your amounts in different areas can change size over time.

Early interpretations linked brain size to intelligence. But, now researchers know that its **not brain size but gray matter size** in different parts of the brain that contributes to

intelligence. According to Dr. Richard Haier, professor of psychology in the Department of Pediatrics, UC Irvine College of Medicine, it’s the patterns of gray matter across brain regions that relate to personal mental strengths and weaknesses.

A new study by psychologist, Britta Hölzel, and colleagues at Massachusetts General Hospital and Harvard Medical School found that **participants who followed a meditation program increased the gray matter** in the brain areas of memory and learning (*hippocampus*) and a decrease in areas related to anxiety and stress (*amygdalae*).

So here’s the good news. If you’re worried that your intelligence is not up to par of might be slipping with age, you now have a means to pump up those gray cells with some meditation.