

The human brain



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Manahan 1As a topic for my research paper, I have chosen the brain, namely because my knowledge about it is limited. What I do know is that it is an organ in the body that contacts and obtains information from other parts of the body. I take without proof that the size of the brain is that of a person's fist. In addition, I believe that the brain contains divisions, with each division owning its separate purposes, and when combined, they allow the brain to function. Also, I believe that the brain has a strong connection with sleep. Thus, I have brain stormed three questions about the brain: 1) is my definition of the brain correct If not, what is the actual definition of a brain 2) What are some interesting facts and myths about the brain 3) Is there a connection between the brain and sleep If so, what it is it Last of all, I hypothesize that the brain possesses many secrets that can benefit a person's overall health. To start with, the brain is the organ that serves as the body's control center (Striedter). The brain is apart of the nervous system and it: constantly receives information from the senses about conditions both inside and outside the body, rapidly analyzes this information and sends out signals that control the body's muscles and glands, and stores information from past experiences, making learning and remembering possible (Striedter).

Also, the brain is the organ of the mind because it is the source of all thoughts, moods, and emotions (Striedter). Although the standard definition of the brain might seem simple, there lies far greater complexities and mysteries about the brain yet to be discovered. Manahan 2 The human brain however, has the most highly developed brain of any living creature (Striedter). The human brain is separate from the brain of every other living

creature. This is because the human brain allows people to use language, solve difficult problems, and create works of art (Striedter). In order to do these things, it takes much organization, and this is why the human brain has three main divisions: (1) the cerebrum, (2) the cerebellum, and (3) the brain stem (Striedter). Along with the divisions of the brain, there exist a myriad of functions that the brain has the ability to perform. Scientific studies have revealed much about the working of the human brain, and what these studies provide insight to include how the brain: senses the environment, controls movement, regulates bodily processes, remembers and imagines events, regulates emotion, controls attention and consciousness, makes decisions, and produces language (Striedter).

So far, my research reveals that the separate parts of the brain allow the brain's complex functions to be carried out and that the brain of humans is most developed. Secondly, there lie intriguing facts and myths relating to the brain that may serve useful to common knowledge. One fascinating fact about the brain includes how the average human brain consumes fifteen watts of energy, and surprisingly, this amount of energy counts for about sixteen percent of the body's total energy use (Striedter).

Another tidbit of information reveals the speed of the messages sent by the brain – a neuron's electrical impulse lasts about a thousandth of a second and may travel down an axon faster than one hundred meters per second (two hundred twenty miles per hour) (Striedter). The speed of a neuron's electrical pulse varies because it depends on whether the axon the impulse is traveling on is covered with a non-myelinated or myelinated sheath, which quickens the speed of the information being retrieved. In

addition, the comparisons of brains between different organisms may prove quite baffling. The brain of an elephant is sixteen thousand times larger than the brain of a mouse and contains about eight hundred times more neurons (Striedter)! The size of the human brain might be placed somewhere in between that of an elephant's and a mouse's; however, the human brain makes its true mark in its intelligence. Albert Einstein's brain was proven to be of average in overall size. Yet one study reported that a portion of his brain, which was believed to be connected to mathematical ability, was about fifteen percent larger than the average. Some scientists believe that this difference may account for Einstein's genius (Striedter).

In hand with such facts exist fallacies. For instance, it is untrue that human beings only use about ten percent of their brains (Striedter). Neuroscientists aren't certain how this common myth originated (Striedter). However, studies have demonstrated that all areas of the brain are active, although not all of the time (Striedter). The statement that the left side of the brain is logical, while the right is creative is also a fallacy (Striedter). If the myths of the brain are cleared up, then people's understanding about the brain might become so defined as to inspire these people to use their brains better and increase their overall health. In unison with all these facts and myths, there are amazing ways in which the brain works that all human beings should come to know.

Gabrieli, Ochsner, and others base one example on research findings "we can exert control even under the most difficult circumstances thanks to our powers of reappraisal (Restak 129). Not only can human beings change the activation of their brains, but they can also alter their brain's chemistry,

according to a research study involving professional actors (Restak 130).

Both an actor study and a research on mental appraisal illustrate the powerful effects we can exert on our own brain function by reappraisal (Restak Manahan 4130). In essence, anyone can revoke anything external simply by thought.

Change one's thoughts and one changes their brain; change his or her brain and they change their feelings (Restak 131). A person might not be able to change all of the distressing events around them, but he or she can change their attitude about them and thereby enhance their brain function and mental health at the same time (Restak 131)! Accompanying the environment, human beings have the ability to control their empathy.

Human beings can become more emphatic by inducing positive changes in their brains (Restak 116). By concentrating and practicing on areas of weakness, the mind can be trained to subdue shortcomings (Restak 116). Likewise, the mind has the ability to set itself strongly on desires with the use of goals. Goals can be supported in our brains, can guide our behavior, and can act like primary rewards (Montague 100).

Prioritization shows that goals provide a natural way to order the level or precedence of their error signals (Montague 93). In summary, a better understanding of the brain allows human beings to use their brains effectively and efficiently. Another aspect of the brain is its connection with sleep. Why is sleep so important in the first place In the situation of adolescents, teenagers need to maintain good sleeping habits to be able to function in school, drive cars and maintain energy for other activities (Novitt-Moreno). The function between sleep and brain activity is strong because the

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small clusters of brain cells, the raphe nuclei, send out impulses that order other areas of the brain to rest (Novitt-Moreno).

Additionally, sleep specialists believe that for maximum daytime alertness, most adolescents actually need about need nine hours of sleep each night (Novitt-Moreno). In truth, the sleeping brain, according to scientists at the University of Arizona, processes and organizes bits of information that a person accumulated during the day, and this allows people to shift short-term memories into long-term storage and keeps important information from being lost (Novitt-Moreno). The brain does not actually rest while human beings sleep because some parts of the brain are actually more active than they are during waking hours (Novitt-Moreno). Scientists believe that deep sleep may also be necessary for building protein and restoring the control of the brain and nervous system over the muscles, glands, and other body systems (Martin).

The positives of adequate sleep surely overpower the negatives of deprived sleep. People with deprived sleep have difficulty concentrating, especially when working on boring or routine tasks (Martin). People who get enough sleep are more able to stay awake and alert during the day, even during quiet and routine tasks (Martin). Sleep is something that we all need to do, just like drinking and eating. A well-rested body and brain will help us perform at our peak when encountering all of the physical and mental challenges that our day may bring. So when planning a busy schedule, we should make sleep a priority, not an option (Novitt-Moreno).

From the beginning, I knew little of the brain. My knowledge took me as far as size, supposed connection with sleep, and its blatant function ??“ it sends and receives signals to and from other parts in the body. After my research, I confirmed my original definition as the brain being the organ serving as the control center of the body and it receiving and sending signals (Striedter). I also discovered different facts and myths about the brain and its strong connection with sleep in response to my original questions, making my research rather productive. Throughout my research, I determined how the brain is a more complex organ in the human brain than I had once deemed it to be; therefore, it is a beneficial attribute to manifest the secrets of the brain in order to increase our overall health. With everything accounted for, my learning experience benefited my health. My new acquired knowledge has brought me a new perspective.

Manahan 6In other words, I have taken a new vantage point that has cleared eyebrow-wrinkling questions and accomplished an effective way of viewing my own circumstances. Therefore, the search of knowledge about the brain has proven useful toward my daily life.