

Left brain vs. right brain term paper sample

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Right brain vs. left brain

The theory of the function and structure of the brain implies that the brain consists of two sides that are different and they control the brain. The longitudinal fissure is what that splits a human brain into distinct cerebral hemispheres that is the right and the left side. These two hemispheres show a not complete but a strong bilateral symmetry in the ways they both function and how they are structurally made.

Generalizations that are widely being made in the field of popular psychology suggests that these sides have characteristics that are labeled to them.

Normal myth is that the left side is responsible for the logical part of the brain while the right side of the brain is responsible for creative part of the mind. However, these labels should be carefully treated since lateral dominance can be measured and as a result both of the hemispheres take part in the either of the two processes mentioned earlier. Experimental proof supports in small way the correlation of the differences in structure between the two sides which have functional differences that are broadly-defined.

The extent to which the brain specializes its function through its area is however still under investigation. The explanation behind this is because, if a particular area of the brain, or the whole hemisphere is damaged or injured, the functions that it caters for may be taken by a region neighboring it like the contralateral or ipsilateral hemisphere. Therefore when an injury interrupts with the paths that link one region with another region, indirect (alternative) connections might develop to relay the information to and from the areas that are detached, despite the inconveniences occurring.

The right and the left brain in this essay shall be compared at from two

perspectives that are structurally and functionally. Structurally generally, the lateral sulcus in the left brain is longer than the length it is in the right brain. The Wernicke's and Broca's area exist in the left hemisphere only in more than 95% of the total population. A research by a Japanese team with participants from the National Institute for Physiological Sciences investigated on the shape and size of the center of the spatial area memory (hippocampus). The research found out that the synapses were asymmetrical. On one hand the synapses that are produced by terminals in the right hippocampus are complex in shape, bigger and rich in a compound GluR1 which is a subunit of the AMPA-type glutamate receptors. On the other hand, the synapses that receive input from the hippocampus's left area contain a high amount of NR2B which is the subunit NMDARECEPTORS, and they are also small. Therefore, this means that both synaptic molecules and synaptic structure are differentiated between the synapses in the right and left inputs.

The function of the two sides is also another aspect of this comparison. The two hemispheres as explained earlier have both distinct functions as compared to each other. Every cognitive function has left hemisphere and right hemisphere components. It is said that to avoid the antagonism that can occur between the two parts of the brain, a division of labor happens between the right and left. These two sides of the brain control two dissimilar modes of thought.

Over time the right brain has been considered as the lesser of the two hemispheres. Philosophers like Karl Popper and John Eccles (Nobel winner in neuroscience) even described the right side of the brain as 'minor brain'.

Others even thought about the right hemisphere being conscious. While the left hemisphere considerably has been seen as the dominating hemisphere. It has been argued that many humans use their right hand since language laterisation is to the left hemisphere which is the dominant one. However, for those who use their left hands, current proof has indicated that laterisation of language is not that strict to the left hemisphere.

The theory of brain function and structure also implies that of the two modes of thinking each and every person prefers a mode of the two over the other. However, some individuals are whole brained and adapt equally to both modes.

The left brain or hemisphere has been configured to handle various functions of the body. The left hemisphere of the brain controls the right side of the body. The left side uses logic to reason out things. The left brain is responsible for a person highly concentrating on details. The other thing is that it emphasizes on the use of facts to support something or to convince a person one has to use facts. The left brain most commonly is known to influence ones understanding of language as well as the words that he or she uses. In addition ones learning of language is dependent on the left side of the brain. In class it also affects ones capability of learning. Left brained people have been known from research to be proficient in sciences and math. That is they are good at sciences and math related subjects. The left brain also is responsible for ones comprehension or rather the level at which one understands things.

The left hemisphere has more to just the functions mentioned. The other functions include its responsibility to a person's knowing, how they are able

to acknowledge things, and the fact of safety is also one of its functions. In addition it also deals with a person's pattern or order of perception. In relation to a person's pattern/order of perception it enables one to form strategies that they are going to apply when handling cases. The left brain is practical in nature, meaning that it favors one trying out something in real life rather basing beliefs on theoretical knowledge.

Information is processed in the brain's left hemisphere from a part to the whole. To draw conclusions, the left brain collects pieces, arranges and lines them in a logical order. This is evidenced by how left brain students during listening and reading first collect the necessary information required from what they can now make their own conclusions.

The right brain on the other hand has its own functions that are distinct while others may be also shared by the left brain. The right brain controls the left side of the body and its responses. The processes of the right brain are thought to be complex, rapid, spatial, whole-pattern, and suited for music ability and visual imagery. In particular the right temporal lobe controls auditory and visual imagery. Those people who have this part damaged have problems knowing familiar faces, melodies, and pictures, plus also learning to recognize new ones. The right hemisphere is also linked to emotional side of a person. If the front area of the right hemisphere is damaged, the person is unable to express or act on strong emotions. However, if damage is further in the back, that person can show emotion but they cannot notice it in pictures or other people.

Other characteristics that are general to the right-brain hemisphere way of thinking are the ability of creativity rather than analysis, associate things

concretely as opposed to the symbolic way. On one hand the left-brain is used to expressing wholes using abstracts (where a single piece of information symbolizes the bigger thing), on the other hand the right-brain interprets data using analogies- this is where it sees affiliations between the wholes. The functioning of the right-brain is non-rational, non-temporal, intuitive, and holistic where it depends on believing in hunches, hunches, and visual images. In addition, its way of thought is fantasy based, is up for the idea of taking risks, presents a number of possibilities, and is impulsive. It also processes information with regard to what happens in the present and the future and not in the past.

The right brain also shares other functions with the left brain. Normally creativity is credited as the right brain's function, however a recent study showed that left brain has a role to play too. A research conducted by the University of Southern California researchers Lisa Aziz-Zadeh and her fellow researchers studied brain scans of students taking architecture (since they are considered visually creative) by the use of functional, magnetic resonance imaging (fMRI).

In the process of scanning the participants looked at the shapes of both an 8 and a C. They were then told to imagine new images that could be generated from the shapes since is taken to be a creative task.

They also imagined piecing up those three shapes to form a rectangle or square though this was more of a spatial processing task and not creative. Researchers found out that while in the creative task, the left hemisphere of the participant's brain lit up more than the right. This demonstrates that the left hemisphere works cooperatively with the right hemisphere to support

the right brain's creativity.

In conclusion, the left and right brain both have particular functions that they undergo. Despite their differences structurally or functionally they still share some aspects or aid one another in the performance of certain functions during brain damage or not. These functions ultimately contribute to the proper functioning of the human body.

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