

Explain one study  
related to localization  
of function in the  
brain essay sample



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Localization refers to the specific area of the brain that is responsible for a specific function. In the 1960s, Roger Sperry and his colleagues experimented with the split brain to determine each hemisphere's function, this knowledge had previously been undiscovered and he went on to receive a Nobel Prize in 1981.

A split brain is a scenario in which the Corpus Callosum connecting the two hemispheres of the brain is severed to some degree meaning the hemispheres cannot work in correlation with each other.

Sperry used a tachistoscope to present visual information to one hemisphere or the other in split-brain patients and recorded whether the patient could recognize the object. The tachistoscope requires people to focus on a point in the centre of their visual field. Because each half of the visual field projects to the opposite side of the brain, crossing in the optic chiasm, it is possible to project a picture to either the right hemisphere or the left hemisphere.

Sperry found that left and right hemispheres of the brain are specialized to certain functions. When Sperry showed objects to a split brain patient's left vision field and right hemisphere, they could not see the object, even though they could pick up the earlier shown object from behind a screen, showing that the right hemisphere does understand. The patient would then question why they were holding the object; this was because the left hemisphere could now see the image in the right vision field.

This showed that the left hemisphere was better in analytical and verbal tasks than the right hemisphere and that the right hemisphere, although

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mute, can perform space perception tasks for example map reading. The right hemisphere also controls the emotions in the mind, although only being able to produce simple words and phrases.

This study demonstrates localization of function because it proves that the right and left hemisphere when isolated are unable to perform tasks to a normal extent or at all.