

# [Cerebral lateralization and function essay](https://assignbuster.com/cerebral-lateralization-and-function-essay/)

Studies have been conducted on cerebral lateralization and functionality of the human brain. Many studies have revealed there are no substantial differences of the left and right hemispheres of the human brain (Pinel, 2009). Some functional differences have shown one hemisphere may be slightly dominating for functional differences (Pinel, 2009). “ It is widely believed that the left hemisphere has exclusive control over language and the right hemisphere has exclusive control over emotion and creativity” (Pinel, 2009, p. 411).

However, research indicates language functions have substantial activity in the left and right hemispheres of the brain (Pinel, 2009). Cerebral lateralization research has several methods help gain better understanding of the functions of the brain. The sodium amytal test is one method used in cerebral lateralization research. With this test researchers can access language abilities before neurosurgery (Pinel, 2009). In the amytal test, sodium amytal is injected into a patient’s carotid artery of the neck (Pinel, 2009).

This injection anesthetizes the hemisphere on the side of the injection and allows the other hemisphere capacities to be assessed for language abilities (Pinel, 2009). The dichotic listening test method of cerebral lateralization allows the use of healthy individuals (Pinel, 2009). During the dichotic listening test, “ three pairs of spoken digits are presented through earphones: the digits of each par are presented simultaneously, one to each ear” (Pinel, 2009, p. 402-403).

For example, the person taking the test may hear six, nine, four in one ear and at the same time hear the numbers three, five, two in the other ear (Pinel, 2009). Te dichotic listening test show most individuals show left-hemisphere dominance for hearing because the right ear registers slightly more (Pinel, 2009). Functional brain imaging techniques can record brain functions during activates (Pinel, 2009). During a subjects activity the positron emission (PET) or functional magnetic imaging (fMRI) can measure brain activities (Pinel, 2009).

SPECT studies show very nicely what happens in various parts of the brain when you try to activate them” (Amen, 2000, p. 14, para. 3). In language tests the brain imaging methods have shown the left-hemispheres is more active (Pinel, 2009). Another cerebral lateralization method uses lesion studies. Two “ large-scale lesion studies clarified the relation between the cerebral lateralization of speech and handedness” (Pinel, 2009, p. 403). The results suggest that the left hemisphere dominance for language abilities for most dextral and the majority of sinestral subjects involved in the studies (Pinel, 2009).

Cerebral lateralization and functionality studies do not show compeate function differences in the right and left hemispheres (Pinel, 2009). However, many studies show some functional differences where one hemisphere may be slightly more dominate (Pinel, 2009). Language abilities have shown slightly stronger relation in left hemisphere activities in conducted studies (Pinel, 2009). Cerebral lateralization research shows how different methods of research help gain a better understanding of the different functions of the brain.