

# Structure and components of the nervous system



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Running head: the nervous system The nervous system The nervous system is divided into central nervous system and peripheral nervous system depending upon their anatomy and functions. The two most important components of the central nervous system are brain and spinal cord. The brain plays key role in controlling behavior (Carlson, 2011). The brain reacts in response to external stimuli passed on by the components of peripheral nervous system. The PNS comprises of somatic and autonomic divisions. The somatic divisions are made up of sensory neurons that are involved in passing external stimuli to the brain from skin, muscles and joints. The autonomic division is made up of motor neurons which connect skeletal muscles with the central nervous system, thereby coordinating and controlling functioning of various organs. The brain and spinal cord together control all body functions, behavior as well as body movements in coordination with the peripheral nervous system. The CNS and PNS are interdependent for effective functioning. Besides these, various parts in the brain are involved in memory-related activities because of which the brain is very important part as memory leads to cognition and human learning. The brain also aids in reasoning, thinking, recognizing and other cognitive activities (Carlson, 2011). Yet, the brain receives stimulus for memory from the sensory neurons of the PNS. The spinal cord's function is to coordinate muscle movements and cause body or muscle reflexes to external and internal stimuli. All these functions are carried out through structures within each component that are highly complex and are made up of nerve cells or neurons. Hence, the most important components of CNS are brain and spinal cord and that of PNS include sensory and motor neurons. References

Carlson, N. (2011). Foundations of behavioral neuroscience (8th ed.). Boston, MA: Pearson Education.