

The secret life of the brain essay example

[Health & Medicine](#), [Alcoholism](#)



Teenagers start to experience very unique mental experiences considering that their brains have reached a size close to their maximum. Teenagers' brains, however, still require some ripening and consequently some functions such as judgment are not fully developed. For this reason, adolescence is commonly associated with confusion and despair and if these emotions are not properly addressed, devastating consequences can be seen. For instance, illegal substance and alcohol abuse are frequently observed in adolescents as a response to the continuous search for identity and self acceptance. Moreover, complicated disorders such as schizophrenia have a higher incidence during adolescence than during other stages of life. Affected patients start to hallucinate and experience very disturbing and bizarre visions of completely unreal objects and persons, which leads to a major loss of concentration and focus. In the long term, the conditions affect patients' ability to properly thinking. Researchers have invested much effort to try to understand conditions like this one but just until very recently some clues started to unveil. It appears that schizophrenia is mostly associated with the malfunctioning of the pre-frontal cortex, a region of the brain that undergoes considerable change during adolescence. In fact, the whole brain during adolescence is furiously changing in various aspects including chemistry and physical stress. Even though schizophrenia is manifested during adolescence, some evidence suggests that changes during early childhood might be responsible. The continued loss of mind peace sometimes forces patients to commit suicide. Our brains are the real windows to interact with the world surrounding us and are what guides our senses and perception. This is evidenced in malfunctioning brains, which are

capable of replacing real sounds and images with strange beings that make weird noises. It has been suggested that a chemical called dopamine could be responsible for a flawed functioning of some regions of the brain. In normal brain cells dopamine triggers chemical and electrical responses by its direct contact with specific receptors. Abnormal cells exhibit an aberrant overstimulation of the receptors by dopamine, which leads to a cascade of wrong signals. This partially explains why psychotic disorders (e. g., schizophrenia) are usually accompanied by a misperception of reality. Fortunately, some pharmacological treatments are available for patients suffering from these conditions. These medications act by blocking the dopamine-activated receptors, and in the long term the amount of available dopamine is considerably reduced. Not every patient has a proper response to the pharmacological compounds because some of the psychotic disorders are extremely resilient.

Unfortunately, the neurological disorders discussed thus far are not the only dangers a teenage brain may experience. During this stage, humans have the propensity to experience with a number of mind altering substances like hallucinogens and alcohol. Millions of adolescents in the U. S. are experiencing addiction problems. Scientists have started to analyze into detail the impact of the presence of these substances on the neuron cells. Apparently, these substances look alike the normal neurotransmitters, which are useful for sending information from one brain cell to the other. Under normal conditions, an important amount of neurotransmitters are produced when a pleasant situation takes place. As a result, one may feel in a very comforting state of rewarding. What these substances do is to artificially

increase the levels of neurotransmitter by blocking the sites where it is naturally re-absorbed for further use. This creates an abnormally altered state of pleasure and happiness colloquially called “ being high”. The person creates a necessity or desire for being high more often and that’s what develops the addiction. Another substance that creates physical and psychological dependence in teenagers is alcohol. High levels of alcohol produce difficulty in speaking and loss of concentration. Some individuals may have an increased tolerance to alcohol and for them there is a higher risk of becoming an addict. Additionally, a propensity to alcoholism is present in some people’s DNA and therefore can be inherited. The impact of intensive drug use on one’s health can be devastating and life long lasting, especially in regard to brain integrity. Teenagers affected by addiction have the chance to rehabilitate by entering institutions where experts help them to recover by attempting self-discovery and acceptance group therapies.