

# Quit smoking essay sample

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## Quit Smoking

Many smokers find it hard to quit smoking because many parts of the brain function in a way that reinforces smoking (Noonan, 2011). In particular, nicotine, which is the cigarette's main active component, "acts on nicotinic acetylcholine receptors in the brain" (Noonan, 2011) where the absence of nicotine would cause increased appetite, lack of attention, difficulty in sleeping, irritability, and a craving for cigarettes.

These nicotinic acetylcholine receptors are present in the neurons that are responsible for releasing the neurotransmitter dopamine from the VTA (ventral tegmental area) into the NAc (nucleus accumbens) where the pathway that the dopamine passes through is called the reward pathway. This is because it increases the release of dopamine into the NAc, which reinforces smoking, as the NAc is responsible for reinforcing pleasurable behaviors. Smoking introduces chemicals into the body that causes a euphoric, pleasant, and stimulating response that encourages an individual to continue smoking ("Cigarette Smokers can Quit," 2012). As a smoker tries to quit, the dopamine level decreases in the NAc, which results in cravings for a cigarette, in turn making it hard for smokers to quit smoking.

It should also be noted that aside from the NAc, dopamine is also released into the frontal cortex and into the amygdala and hippocampus when an individual smokes. With the frontal cortex responsible for cognitive functions such as planning and strategic thinking, the decrease of dopamine in the frontal cortex results in the lack of attention. As well, the hippocampus is responsible for memory and learning and as such, a decrease in dopamine at

the hippocampus can trigger cigarette cravings when the individual goes to environments that they associate with smoking. Finally, with the amygdala being responsible for emotional responses, a decrease in dopamine at the amygdala can result in irritability. Moreover, the brain cells that release the body's natural painkillers -- termed opioids -- into the amygdala also contain nicotine receptors and thus, the lack of opioid release into the amygdala can result in the smoker craving for nicotine.

These can also be related to the intrinsic factor called classical conditioning or chemical dependency, which may either be a compulsive behavior or a conscientious action. This means that an individual's behavior towards smoking may depend on their "genetic disposition to succumb to addictions" ("Cigarette Smokers can Quit," 2012).

On the other hand, some of the extrinsic factors that lead to smoking include a belief that smoking can calm the nerves or relieve stress. A person may also smoke due to the excitement that the activity brings, especially when doing it with friends or peers for the first time. Still, factors such as marketing, peer pressure, and social gathering can influence a person to start smoking and keep smoking due to the sense of belongingness that they feel when they engage in activities that their friends also engage in.

Moreover, children whose parents smoke are more prone to start smoking (Bonas, 2005). Similarly, a Scottish study found that girls started smoking as it was associated to leadership in their groups in the same manner that make-up, jewelry, and wearing miniskirts were considered status symbols (Bonas, 2005). As well, a study conducted by the World Health Organization

showed that children between 10 and 16 years old started smoking if they had problems, were lonely, had started drinking alcohol, or had a difficulty talking to their parents (Bonas, 2005).

## **References**

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