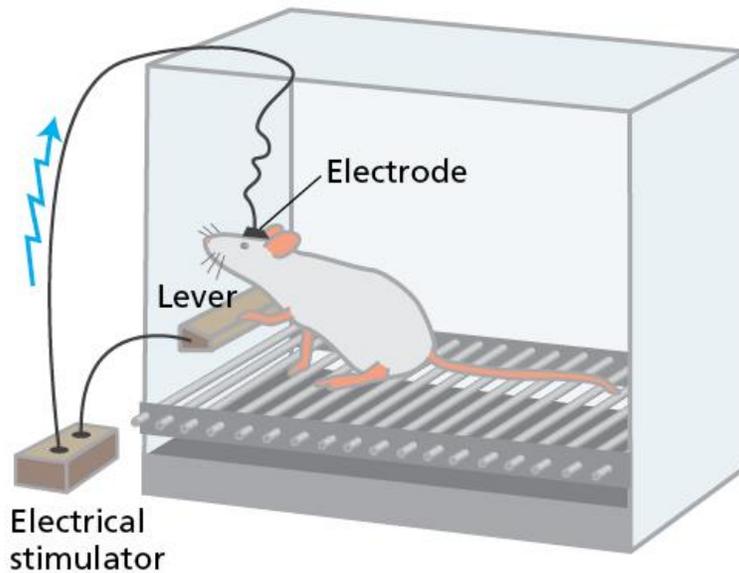


**Daily Life with Christ-60. Understanding brain addictions (1)—the power of the nucleus accumbens, the PLEASURE CENTER.**



It is undeniable that even the most faithful and God-loving Christian can find himself suffering from brain addiction. These addictions play havoc on the spiritual life as the believer's rationality and free will are hijacked by his physical sense appetites which find their source in what has become his pathological brain.

The fact that a spiritual being can be enslaved by his physical cravings is not surprising given that all human beings, even regenerated ones, are hylomorphic beings, which means that there is an intimate and inextricable connection between the physical body and the immaterial soul. The classical Christian view is that man is soul/body (an immaterial and immortal soul from God that animates the body). This view is in radical contrast to modern Cartesian views, where man is essential his invisible soul, and the body is just more or less the vehicle by which he operates—like a ghost in the machine. Because of the prevalence of Cartesian views, many Christians mistakenly deny the powerful influence of their material bodies on their immaterial souls and immaterial minds. Given that the body so powerfully affects the soul, it is not surprising that Scripture repeatedly instructs the believer to abstain from illicit lusts: 1 Thessalonians 4:3, “For this is the will of God, your sanctification: that you should abstain from sexual immorality; 4 that each of you should know how to possess his own vessel in sanctification and honor, 5 not in passion of lust, like the Gentiles who do not know God.” Possessing one's own vessel is all about having control over the physical appetites. The ability to possess one's own vessel is undermined every time commits an illicit/irrational act (thought, word, or deed). With every act, good or evil, we habituate the nature of our vessel, which will then influence (or control) our immaterial minds.

One can readily see the inextricable two-way connection between the immaterial mind and the physical brain: the mind affects the brain and the brain affects the mind. For example, consider how a person goes from dominance of rationality in the pre-frontal cortex to dominance of sense desires and loss of rationality/inhibition when he becomes inebriated. Countless individuals do things when they are drunk that they would never have done if sober. In sum, the inebriated brain has taken over dominance of the immaterial rationality. This hijacking is not only true of alcohol, it occurs in many other forms of addictions such as nicotine, drugs, porn, food, video games, et al. What's more is that this repeated activity, habituation, physically changes the structure of the brain. The person actually becomes less rational and more sensate—more like an animal rather than a rational human being made in the image of God.

In the last essay, I outline three key areas of the brain for this study: the pre-frontal cortex, the nucleus accumbens, and the ventral tegmental area (see diagram in previous essay). Let us consider the nucleus accumbens—THE PLEASURE CENTER. The nucleus accumbens is associated with liking, or enjoyment. Direct stimulation of this area is so pleasurable that both rats and humans will self-stimulate it over and over for hours if given the opportunity. There have been a multitude of experiments in which electrodes were implanted in the pleasure centers of the brains of mice, rats, monkeys, and human beings. These electrodes were connected to levers where the patients could stimulate their own pleasure center in brain by pressing the lever, producing pleasure and excitement. In fact, humans would repeatedly press the button more than 1,000 times and even complain when the lever was taken away, asking for just a few more button presses. Stimulating the pleasure center also has been found to be chosen over sleep, taking care of children, food, and sex. This explains the activity of a drug addict who seeks another high even though it will destroy his life, family, and friends. His sense appetites have hijacked his rationality. In experiments with rats, an electrified grid that would produce a powerful shock was placed between the rat and the lever. Yet, the rat would endure the painful shock to get to the lever, which would excite the pleasure center of his brain. However, when an electrified grid was placed between the rat and food, the rat would starve to death rather than traverse the grid. The pleasure stimulus was more powerful than any natural and very powerful pleasure to eat. We see similar activity in human beings. (For modern attempts to use electrode treatments for addictions such as gambler's brain, see <https://calvinayre.com/.../brain-stimulation-curb-problem-gam...>).

This overstimulation of the nucleus accumbens leads to the destruction of capacity for pleasure. For example, addictive drugs overstimulate the nucleus accumbens, meaning that they produce activity levels that are well beyond the normal range. If this kind of overstimulation happens a lot, it can eventually lead to a numbed pleasure response, because the nucleus accumbens will begin to inhibit the brain regions that are stimulating it. In a drug addict who is repeatedly overstimulating the nucleus accumbens with his or her drug of choice, the brain will produce dynorphin which will keep turning down the stimulation, and over time, the addict will feel less pleasure from the drug. The high won't be as rewarding. And the addict will require more and more stimulation to get the same level of reward. Eventually, the addict needs to take the drug just to feel normal. This is what is meant by a numbing of the pleasure response. The nucleus

accumbens is becoming less sensitive to all types of stimulation, not just stimulation from addictive drugs. Moreover, everyday pleasures, such as seeing a friend or reading a book, might also feel numb. They won't provide the same level of pleasure they once did. In fact, because everyday pleasures don't activate the nucleus accumbens as directly or as strongly as drugs do, addicts can eventually reach a point where the drug is the only way they can feel good. However, as this process occurs, how much drug addicts like the drugs declines over time. But how much they want the drug doesn't. In fact, drug cravings tend to increase even though the pleasure derived from the drug is declining. The same is true of food addictions. The more one eats, the less pleasure from the taste of food one enjoys.

The universal fact in all beings is the desire for happiness, be that happiness licit or illicit. God has so designed us that we will always seek what we think will bring us happiness. We will find our chief happiness in God or in things of this world. While we are free to choose the things of this world, we are not free from the consequences. Brain addiction is but a vivid example of the power of pleasure over our lives. Let us redouble our efforts in avoiding those pernicious desires and seeking our happiness in God and thus live a robust, flourishing, and mature human and Christian life. It is by finding our happiness in God that enables us to enjoy the pleasures of life as gifts from our Greatest Good. We cannot serve God and mammon (Matt. 6:24). It comes down to life in God: Psalm 16:11, You will show me the path of life; In Your presence is fullness of joy; At Your right hand are pleasures forevermore.

On the Glory Road,

Pastor Don