Why the Things We Love Are Hurting Us: An Analysis of the Amount of Screen Time on Dopamine

Ulman, Hana
Coffey, Hannah
Hill, Brandon

It is unquestionable that our generation is infatuated with technology, however, as it becomes increasingly prevalent in our daily lives, we must question whether this excessive usage is affecting us. Research has proven that extensive amount of time spent on iPads, smartphones, computer, laptops, etc, negatively affects our body. The purpose of our experiment is to prove that the amount of time spent on electronic devices significantly affects the neurotransmitter dopamine, found in the brain. Through various statistical tests, we proved that the amount of time (0-2, 2-4, 4-6, & 6-8+ hours) spent on an electronic device significantly affects dopamine. Our methodology is as follows. First each participant completed a basic information sheet indicating: gender, age group (high school, college, or adult), amount of screen time and sleep (0-2, 2-4, 4-6, & 6-8+ hours), and then participated in 3 tests. The mood assessment test was based off of a 3 point scale. There were 10 negative moods and 10 positive moods. (1-not at all, 2-somewhat, 3- a lot) Next, the participant completed the Stroop Effect Test which measures attention, instead of reading the word, participants were asked to name the actual color, (which appeared differently than the printed word). Then they completed a control test where colors and words matched. Subjects were timed. Finally, participants were assessed on their immediate short term memory. They were shown a series of numbers and letters, given 5 seconds to memorize what they could remember. A percent correct was taken. From testing over five hundred subjects and performing various t-tests and One Way ANOVA's, we have shown that there is a significant difference between 0-2, 2-4, 4-6, & 6-8 hours of screen time.

Awards Won: