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The Physiological Response to Stress Induced by Caffeine Intake and Virtual Reality

Throughout the year of 2017, I worked with college freshman to assess the relationship between caffeine and physiological stress while also accounting for sex of participants. Caffeine has a physiological effect on the body that is similar to reactions of stress by increasing heart rates among consumers. As stress is known to be situational, an Oculus Rift was utilized to place participants on a simulated roller-coaster in order to induce stress and support the notion that virtual reality can provoke similar physiological responses to that of true environments. While I hypothesized that females would report higher levels of stress than males, results showed that males reported higher levels of stress due to higher cortisol reactivity present in males over females. Significant results were shown supporting the hypothesis that participants who consumed caffeine reported higher levels of stress directly after the simulation. Continuing on with this study into my honors thesis, I am distinctly focusing on cortisol levels via saliva samples from participants as the dependent variable in this study. The first hypothesis, stating higher cortisol levels will be reported with participants who consumed caffeine than participants who did not, will remain. The second and third hypotheses will remain, with the exception of hypothesizing that males will report higher cortisol levels than females due to males containing higher cortisol reactivity indexes.