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### **The Effect of Acute Exercise on Mood Following a Cognitive Test Battery**

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Research indicates that acute bouts of aerobic exercise improve mood. For example, research has shown that exercise may mitigate or reduce angry mood, reduce levels of anxiety, and improve measures of depression. However, most research in this area has assessed mood immediately after a bout of exercise. It is unknown how exercise affects mood when measured after a challenging cognitive test battery. **PURPOSE:** The purpose of this study was to determine if an acute bout of self-perceived hard cycling improves mood immediately after a cognitive test battery. Moreover, we wanted to determine if sex mediated the effect of exercise on mood. **METHODS:** This was a within-subjects design that required college-aged students (n=19; 10 females) to visit the laboratory on two days, exactly one week apart. On day one, each participant completed either 20 minutes of exercise on a cycle ergometer or quiet seated rest in a counterbalanced order. On day two, participants underwent the other condition. Prior to exercise, rating of perceived exertion (RPE) was explained and subjects were told to exercise at an RPE of 15. RPE and heart rate were monitored every five minutes during exercise to ensure an RPE of 15 was being maintained. Upon completion of the exercise test or quiet seated rest, participants completed the Rey Auditory Verbal Learning Test (RAVLT) and a cognitive battery test in the Automated Neuropsychological Assessment Metrics (ANAM) Test System. The end of the cognitive portion of the ANAM test included Mood Scale II (assessing vigor, happiness, depression, anger, fatigue, anxiety, restlessness). Mood comparisons were made using a two-way ANOVA (exercise condition x sex). **RESULTS:** We observed no significant main effects of exercise condition (exercise vs. rest) or sex for any dependent variables of interest ( $p > 0.05$ ). We observed a trend toward a significant main effect of exercise for anger (rest =  $12.67 \pm 3.977$ ; exercise =  $19.44 \pm 6.161$ ;  $p = 0.08$ ) and anxiety (rest =  $9.56 \pm 2.04$ ; exercise =  $17.94 \pm 4.84$ ;  $p = 0.09$ ). **CONCLUSION:** Self-perceived hard cycling (RPE 15) does not significantly influence mood in college-aged males and females.