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## Acute Physiological Responses to Steady State and High Intensity Interval Training

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High Intensity Interval Training (HIIT) has become an increasingly popular mode of exercise, especially with those with the perception of a lack of time to perform the ACSM's recommended 150-250 minutes of cardiovascular training per week (ACSM, 2017). These intervals have been shown to decrease the time spent being active while simultaneously providing similar results to steady-state training to elicit the cardiovascular adaptations. **PURPOSE:** To investigate the changes between steady-state training and HIIT training on respiratory exchange ratio (RER), peak oxygen consumption ( $VO_{2peak}$ ), heart rate (HR) and rate of perceived exertion (RPE) in recreationally trained, college-aged participants. **METHODS:** Eighteen men and women ( $M= 22.6$ ,  $SD \pm 1.89$ ) were recruited for the study. Subjects participated two sessions and were randomly assigned to two groups: Steady-State or High Intensity Interval Training (HIIT) training on a treadmill. Steady State Training consisted of a 3 minute warm-up at 2.0 mph with a 0% grade followed by the Balke Protocol. HIIT protocol consisting a 10-minute warm-up at 3 mph at 0% grade, followed by maximum effort sprints for 30 seconds followed by a 30 second active recovery with sprint intervals beginning at 4.5mph increasing by .5mph after recovery interval. **RESULTS:** No significant differences in RER,  $VO_2$  and HR ( $p > .05$ ) were identified using a paired samples t-test, between treadmill conditions (SS, HIIT). Additionally, there were no significant differences in RPE after conducting a Wilcoxon matched pairs signed-rank test. **Discussion:** The results suggest that, in an area of practical exercise protocols, there is little advantage to training at higher intensities with participants that are only recreationally trained. Most literature has used highly trained subjects which elicited results in disagreement to the current study. **CONCLUSIONS:** Although HIIT protocols are time efficient, there is little evidence, based on this study, to suggest that these protocols are superior to convention training in recreationally trained collegiate students.