22. SWACSM Abstract

Analysis of Comparative Enjoyment Following High to Moderate Intensity Upper Body Cycling and Lower Body Cycling in Lean and Obese

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ABSTRACT

The combination of utilizing differing aerobic exercise prescriptions such as arm cycling and traditional leg cycling at varying exercise intensities may affect an individual's enjoyment of exercise. **PURPOSE**: This study compared levels of perceived enjoyment obtained following isocaloric arm and leg cycling trials performed at heavy and moderate intensities among lean and average (LA) and overfat and obese individuals (OFO). **METHODS**: Participants included 36 young adults divided into two groups based on their Fat Mass Index (FMI) (LA=4.6±1.7 FM kg/m^2, OFO=9.9±3.5 FM kg/m^2). They completed a combination of four arm and leg cycling isocaloric trials at moderate and heavy intensities based on their mode-specific ventilatory threshold and maximal power output attained during maximal ramp tests. Participants remained seated for 10 minutes following each 100 kcal isocaloric trial before completing the Physical Activity Enjoyment Scale questionnaire (PACES). A higher PACES score indicates greater enjoyment (range=18–126). To determine the effect of mode (arm x leg cycling), intensity (heavy x moderate), and FMI (LA x OFO) on PACES score, likelihood linear mixed-effects models were fitted. Assumptions of residual normality and homoscedasticity were visually verified using q-q plots and model predicted scores vs. residuals plots, respectively. PACES score was modeled using participant as a random effect, and mode, intensity, and FMI as fixed effects. Fixed effects were analyzed for significant main effects and interactions via F tests. Alpha was set at 0.05. **RESULTS**: No significant interactions were found between mode, intensity, and FMI ($p>0.05$). PACES scores following arm cycling at heavy intensity (104±16), arm cycling at moderate intensity (100±18), leg cycling at heavy intensity (102±13), and leg cycling at moderate intensity (103±20) had no significant interaction. No main effects were found between LA (103±17) and OFO (102±17) groups. **CONCLUSION**: In conclusion, neither mode nor intensity or FMI affected PACES scores for LA or OFO groups. Therefore, individuals should explore a variety of aerobic exercise options to identify individual preferences. Future research should investigate the chronic effects of body composition on exercise mode and intensity on enjoyment levels.