*SWACSM Abstract*

# Perceived Fatigue and Physical Activity Enjoyment Following Indoor and Outdoor Moderately Heavy Superset Resistance Training

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ABSTRACT

ACSM has again determined that resistance training (RT) and outdoor activities are two of the top ten worldwide fitness trends for 2023. We previously found that RT outdoors had a significantly lower perception of effort (RPE) compared to indoor RT, despite no physiological differences in heart rate (HR) and energy expenditure (EE). However, no study has examined other feelings during RT in indoor or outdoor settings. **PURPOSE**: To determine how indoor or outdoor environments effect perceptions of fatigue and physical activity enjoyment following RT in recreationally resistance trained adults. **METHODS**: Twenty-three adult participants (n=10 female, n=13 male) completed this study. The Visual Analog Scale Fatigue (VAS-F) measured perceived fatigue and the Physical Activity Enjoyment Scale – Short Version (PACES-S) measured PA enjoyment, and both were measured at baseline and then immediately following an acute session of indoor or outdoor RT. HR was obtained from a chest strap (Polar H10) and EE from a Portable Metabolic Cart (COSMED K5). Randomly in indoor and outdoor settings, participants completed 4 supersets of the reverse lunge and shoulder press exercises using dumbbells at a light (2 sets) and moderately heavy (2 sets) intensity with 1 superset of 6 repetitions per exercise and 1 min rest between supersets. A paired T-test (for HR & EE comparisons) or one-way repeated measures ANOVA with Sidak post-hoc test (for VAS-F & PACES-S comparisons) were used to determine differences ($p$<0.05). **RESULTS**: No significant differences were observed between indoor and outdoor RT for the physiological variables of average HR (129.4±17.2 and 127.75±23.3 bpm, respectively, $p$=0.66) and EE (30.6±11.5 and 28.3±9.9 kcals, respectively, $p$=0.06). Perceived fatigue significantly ($p$<0.0001) increased from baseline (1.13±0.94 arbitrary units, AU's) following indoor (4.54±1.91 AU's) and outdoor (3.99±1.54 AU's) RT, but no environmental differences ($p$=0.36) were observed. PA enjoyment was not significantly ($p$ range: 0.27-0.93) different between baseline (18.73±1.83 AU's) and following indoor (18.18±1.99 AU's) or outdoor (18.36±1.99 AU's) RT. **CONCLUSION**: In recreationally resistance trained adults, moderately heavy superset RT in indoor or outdoor settings does not alter perceived fatigue or physical activity enjoyment.