

## SWACSM Abstract

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### Rating of Perceived Exertion, Average Heart Rate, and Energy Expenditure Following Indoor and Outdoor Moderately Heavy Superset Resistance Training

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#### ABSTRACT

Our lab recently found that light intensity circuit resistance training outdoors had a significantly lower perception of effort (RPE) compared to indoor resistance training, despite no physiological differences in heart rate and energy expenditure. However, no study has examined other intensities or set schemes in differing environmental settings. **PURPOSE:** To determine how indoor or outdoor environments effect rating of perceived exertion (RPE) following light and moderately heavy intensity superset resistance training in recreationally resistance trained adults. **METHODS:** Twenty-three adult participants completed this study (n=10 female, n=13 male; age: 26.1±8.8 yrs; height: 172.2±9.5 cm; mass: 73.4±18.7 kg; RT experience: 5.3±4.8 yrs). Participants wore devices to measure heart rate (Polar H10 chest strap) and energy expenditure (Cosmed K5 Portable Metabolic Cart). 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 (12 repetitions per superset) and 1 min rest between supersets. The OMNI Rating of Perceived Exertion Scale for Resistance Exercise 0-10 RPE scale was used following each superset. A paired T-test was used to determine differences between environmental setting ( $p<0.05$ ). **RESULTS:** No significant differences were observed between indoor and outdoor environments for average heart rate (129.4±17.2 and 127.8±23.3 bpm,  $p=0.67$ ), energy expenditure (30.6±11.5 and 28.3±9.9 kcals;  $p=0.06$ ), as well as RPE during light intensity (2.9±0.9 and 2.9±0.8 arbitrary units/AU's,  $p=0.70$ ) and moderately heavy intensity (6.5±1.7 and 6.3±1.5 AU's,  $p=0.27$ ) supersets. **CONCLUSION:** In recreationally resistance trained adults, light intensity and moderately heavy intensity superset resistance training in indoor or outdoor settings does not alter heart rate, energy expenditure, or perceived effort.