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## The Cardiorespiratory Response of Qigong Performed at Different Intensities

Roise Hartman, Danielle Patterson, Rachel Kriebel, Megan Groff, Jenna Kelsey, Sarah Zigarelli, H. Scott Kieffer, FACSM. Messiah College, Mechanicsburg, PA

Qigong is a traditional Chinese mind-body exercise that incorporates the components of concentration, focused breathing, body posture, and slow coordinated movements to improve balance and fitness. **PURPOSE:** The purpose of this study was to compare the cardiometabolic response of two different intensities of Qigong. **METHODS:** Ten subjects ( $19.6 \pm 0.69$  yrs) volunteered and attended a familiarization session to learn the stances and forms of a Qigong sequence, 8 Piece Brocade, at lower and higher intensities. For the lower intensity, the subjects stood with an open-stance to maintain postural stability and performed movements that emphasized bending/rotation of the axial skeleton and ROM movements of the appendicular system. The higher intensity exercises used similar movements; however, the center of gravity was lowered in many of the stances (e.g. half squat position) and the arms extending the ROM. During data collection, the participants performed the Qigong sequence with a video developed specifically for this project that included 8 minutes at low intensity, a 5-minute break, and 8 minutes at higher intensity. Oxygen consumption ( $VO_2$ ) was collected continuously using breath-by-breath analysis and heart rate was recorded at the end of each minute. The data were analyzed using paired t-tests ( $p < 0.05$ ) for each of the 8 progressive movements. **RESULTS:** The results indicated that the Qigong sequence used in this study achieved mean MET levels of  $1.96 + 0.31$  and  $2.68 + 0.43$  for low and high intensity, respectively. 5 of the 8 movements demonstrated a higher MET ( $\Delta$  range = 1.8 to 4.42) and HR b/min ( $\Delta$  range = 5.4 to 24.2) for higher intensity ( $p < 0.05$ ). In addition, the cumulative calories Kcals used for the 8-min set was significantly different for low intensity ( $20.30 + 2.87$ ) vs high intensity ( $25.90 + 3.73$ ). **CONCLUSION:** The Qigong set of exercises used in this study showed a significant cardiorespiratory and metabolic response for the different intensities; however, the lower MET values achieved for both intensities categorize this mind-body activity as low intensity exercise, as indicated by the ACSM Position Stand. As such, Qigong may be appropriate for special populations that require lower intensity exercise or for apparently healthy individuals seeking a mind-body exercise to accumulate prescribed  $MET \cdot \text{min} \cdot \text{week}^{-1}$ .