*SWACSM Abstract*

# Comparing Exercise Intensity as a Percentage of the Age-Estimated Heart Rate Max Among Walking, Jogging, and Skipping

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ABSTRACT

**BACKGROUND:** Heart rate (HR) intensity in walking and running has been extensively studied. However, exploring the intensities of other activities such as skipping has been skipped over. Skipping is a playful activity usually performed in short bouts. The intensity and feasibility of skipping for several minutes is unclear. Studying HR during skipping may reveal that it is a novel and useful form of aerobic exercise. **PURPOSE:** The aim of this study was to compare HR intensity among walking, running, and skipping. **METHODS:** Ten participants gave verbal and written consent and self-reported biological sex, age, height, and mass (5 male, 5 female; 26.90 ± 9.43 yrs; 168.66 ± 9.37 cm; 72.64 ± 7.73 kg). Participants then wore a Polar H10 HR monitor with chest strap to record mean HR and max HR during the protocol: 5-min self-paced walk, 5-min seated rest, 5-min self-paced run, 5-min seated rest, and 5-min self-paced skip. Mean HR and mean HR as a percent of age-predicted max (%max) were compared across the three activities by using two separate one-way repeated-measures ANOVAs. Population effect sizes were estimated as partial omega squared ($\omega p^2$; large effect > 0.14). For both ANOVAs, the post-hoc tests were pairwise comparisons among the three activities by using dependent-samples *t*-tests with Bonferroni adjustments. The α-level for all statistical analyses was 0.05. **RESULTS:** Both mean HR and %max significantly differed among the three activities (mean HR: $F = 145.62$, $p < 0.001$, $\omega p^2 = 0.91$; %max: $F = 162.57$, $p < 0.001$, $\omega p^2 = 0.92$). Mean HR was 103 ± 17 bpm during walking (%max = 54.2 ± 8.2%), 155 ± 17 bpm during running (%max = 81.6 ± 6.7%), and 170 ± 20 bpm during skipping (%max = 89.6 ± 8.5%). Mean HR and %max were significantly higher during skipping than walking (+67 bpm/+35%, $p < 0.001$,) and running (+15 bpm/+8%, $p < 0.001$). **CONCLUSION:** The data suggest that skipping is a significantly more intense exercise than walking and running when performed for several minutes. Thus, skipping can be used as a form of vigorous exercise. Participants' high HR during skipping may have been caused by the novelty of the exercise. Skipping intensity in avid skippers should be a topic of focus in our future research.