

Sex Specific Responses to Perceptually Regulated Work-to-Rest Ratios during Resistance Training

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ABSTRACT

Recovery has long been an important training variable, receiving increased attention within the scientific literature. While there has been considerable attention to intersession recovery, less is known about optimizing intrasession recovery. Additionally, growing evidence suggest women may experience relatively less fatigue with greater acute recovery as opposed to men when exercising at similar intensities. However, relatively little is known regarding the impact of self-regulated within session recovery between men and women during resistance training. **PURPOSE:** Therefore, the purpose of the research is to examine the sex specific responses to perceptually regulated work-to-rest ratios during strength training. **METHODS:** Participants (n = 14; 7 men, 7 women) completed two sessions. Session one consisted of obtaining each individual's one-repetition maximum (1RM) for squat (SQ) and bench press (BP) using the National Strength and Conditioning Association standardized procedures. Following a minimum of 48 hours of recovery, participants performed 5 sets of 6 repetitions at 80% of their 1RM for SQ and BP (experimental session). Immediately following each set of work (SW), rating of perceived exertion (RPE) using the OMNI RPE scale for resistance training was recorded. Participants utilized the Perceived Recovery Status (PRS) scale to guide their recovery. Participants were instructed that when they reach a '7' (out of 10) begin their next set. Following completion of the SQ participants were given 15 minutes before completing the same procedure for the BP. **RESULTS:** Results from an 1-Way ANOVA, indicate no statistically different (SQ: SW1 =0.88; SW2 p=0.18; SW3 p=0.53; SW4 p=0.19; BP: SW1 =0.09; SW2 p=0.07; SW3 p=0.28; SW4 p=0.25) time to recovery between men (SQ: SW2 109.6 ± 40.4; SW3 136.9 ± 37.4 ; SW4 191 ± 82.5; SW5 178.7 ± 79.7; BP: SW2 137.3 ± 45.9; SW3 173.6 ± 88.3; SW4 170.6 ± 133.5; SW5 194.7 ± 133.1) and women (SQ: SW2 115.6 ± 89.9; SW3 109 ± 36.5 ; SW4 111 ± 53.9; SW5 122.6 ± 69.4; BP: SW2 94.4 ± 39.3; SW3 102.1 ± 88.3; SW4 109 ± 56.2; SW5 127.4 ± 54.4). However, there was a large effect size of sex time to recovery as calculated by Cohen's *d* (SQ: SW1 *d* =0.09; SW2 *d*=0.74; SW3 *d* =1.19; SW4 *d* =0.76; BP: SW1 *d* =1.02; SW2 *d* =1.15; SW3 *d* =0.65; SW4 *d* =0.72). While no statistical difference was found, the self-selected recovery time between men and women indicated women self-select shorter recovery periods on both SQ and BP, with no differences in volume of work. **CONCLUSION:** These findings support the notion that women may experience either relatively less fatigue during exercise or can recovery from similar intensities faster than men. Further work is needed to determine optimal work-to-rest ratios between men and women during resistance training and what implications this may have on training adaptations.