SUPRAMAXIMAL WALKOUTS PROTECT AGAINST PERFORMANCE DECREMENTS EXPERIENCED IN REPEATED SETS OF BACK SQUATS IN RESISTANCE-TRAINED MALES

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INTRODUCTION

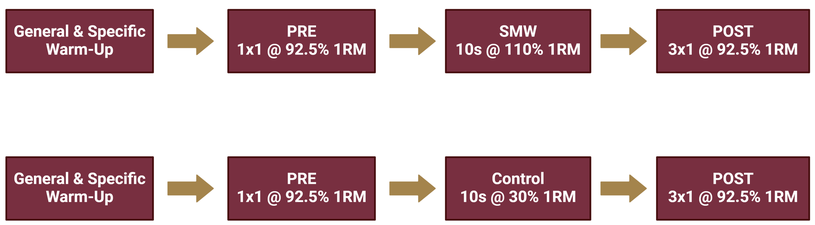
- Post-activation performance enhancement (PAPE) involves the use of voluntary muscle contractions (i.e., conditioning stimulus) to improve subsequent muscular performance
- **Supramaximal walkouts (SMW)** are a variant of conditioning stimulus commonly used by strength athletes, yet data on the efficacy of this approach are lacking
- To perform a SMW, an individual loads a barbell with a load greater than their 1RM, un-racks the bar with this load, walks out of the rack and positions themselves as if prepared to begin the squat descent
  - Instead of performing the movement, the individual performs an isometric hold (~5-10 s) before re-racking the bar

PURPOSE

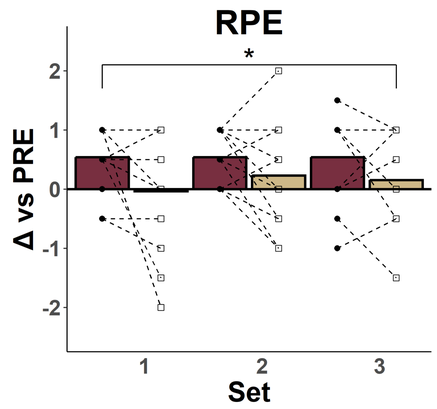
- The purpose of this study was to determine the influence of performing SMW on subsequent heavy back squat performance in young resistance-trained men.

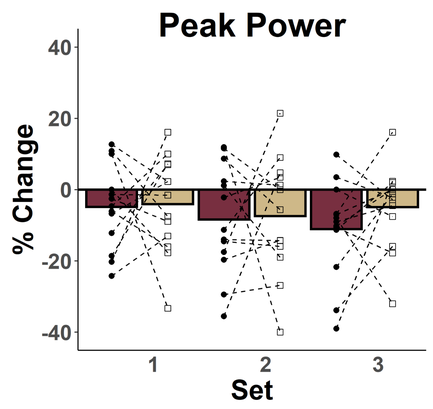
METHODS

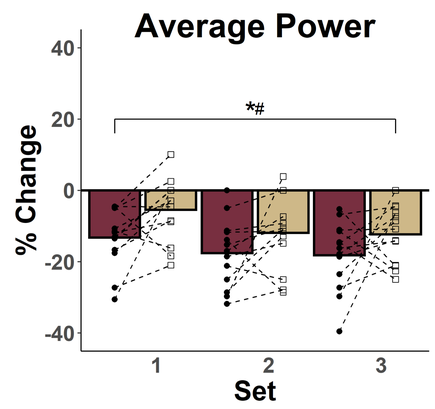
- Randomized, counterbalanced, crossover study design
- 13 resistance-trained males (age 23.2 ± 3.0 yrs; body fat 14.9 ± 6.9%, 1RM back squat 2.1 ± 0.4 kg/BW)
- 2 Trials: 1 SMW, 1 CON (Submaximal)
- RPE, Peak & Average Power, Peak & Average Velocity, sEMG (Gluteus Maximus & Vastus Lateralis) assessed during each of set
- % Change (from PRE) calculated for each POST set for each variable
  - % Change = (POST – PRE) / PRE
  - Two-way ANOVAs (condition x time) were used to assess the % change between sets in each variable

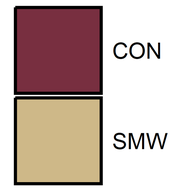


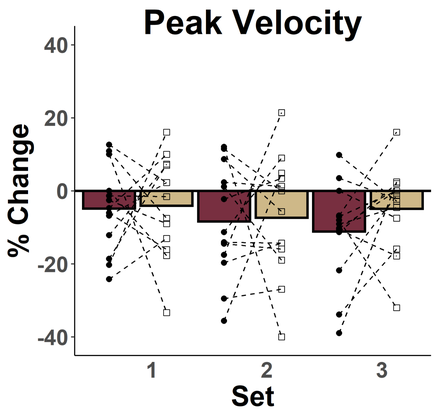
RESULTS

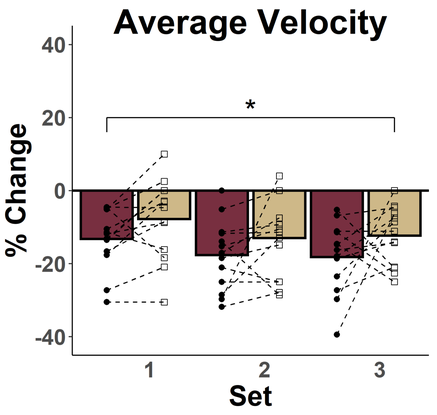


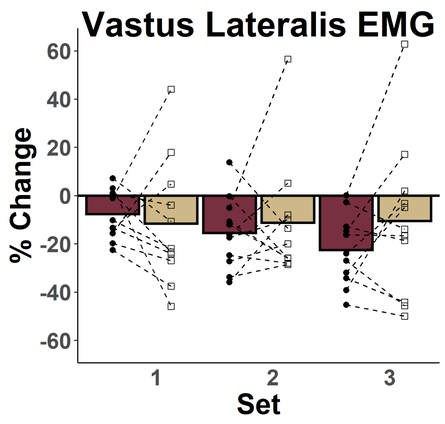


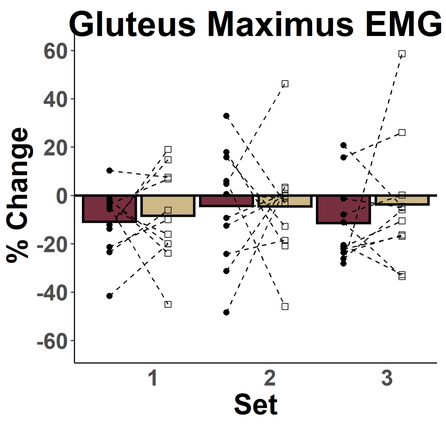












∗ Main effect of condition ($p < 0.05$); # Main effect of time ($p < 0.05$)

PRACTICAL APPLICATION

- SMW may have the ability to help maintain performance over multiple sets of back squats.
- SMW may also help reduce perceived exertion during back squats.
- These data suggest that SMW may be a beneficial strategy for athletes and/or other individuals looking to improve their back squat performance in an acute setting (e.g. competition, heavy training session).

CONCLUSION

- Performing SMWs at 110% 1RM may help attenuate decrements in performance and elevations in RPE that occur with multiple sets of back squats.
- These improvements do not appear to be attributable to changes in muscle activation patterns.