



# Mid Atlantic Regional Chapter of the American College of Sports Medicine

Annual Scientific Meeting, November 2<sup>nd</sup> - 3<sup>rd</sup>, 2018  
Conference Proceedings  
International Journal of Exercise Science, Issue 9, Volume 7



## Effects of a Multi-ingredient Pre-workout Supplement on the Changes in Hydration Status Following Exercise

Justine E. Fox, Meghan K. Magee, Jonathan M. Kollars, Allison N. McCracken, Marquez R. Norford, Palmer J. Steiner, Joseph L. Andreacci, Kyle S. Beyer. Bloomsburg University of Pennsylvania, Bloomsburg, PA

Caffeine has been shown to have an acute diuretic effect when consumed in moderate to large quantities. Proper hydration status is important for individuals to perform exercise safely and effectively. Therefore, individuals who use pre-workout supplements should choose one that improves performance without negatively affecting hydration status.

**PURPOSE:** To determine the effects of a multi-ingredient pre-workout supplement (MIPS) on the changes in hydration status following exercise. **METHODS:** Fourteen college-aged participants (8 men, 6 women) were tested on two occasions separated by 48 hours. On each day participants consumed either the MIPS or placebo then completed a maximal aerobic treadmill exercise protocol and 10 6-second repeated sprints on a cycle ergometer. During each visit, subjects provided a pre- and post-exercise urine sample to determine urine specific gravity, refractive index, and percent total using a digital fiber optic refractometer. Additionally, bioelectrical impedance analysis was conducted pre- and post-exercise to determine changes in body mass, total body water, intracellular water, and extracellular water. Data were analyzed using a trial $\times$ time repeated measures ANOVA. The alpha level was set *a priori* to  $p \leq 0.05$ . **RESULTS:** Regardless of trial (MIPS or placebo), there was a significant ( $p=0.001$ ) decrease in body mass of  $0.5 \pm 0.4$  kg from pre- to post-exercise. No other main effects of time were noted. Furthermore, there were no significant trial $\times$ time interactions or main effects of trial for any of the tested for variables. **CONCLUSION:** The current exercise protocol elicited an acute decrease in body mass. However, consumption of this MIPS had no effect on fluid loss or changes in hydration status. Therefore, this MIPS should be considered safe to use for individuals interested in taking a pre-workout that does not influence fluid loss.