

The Effect of Mental Preparation in Muscular Movements

Andrew A. Ginsberg¹, Calvin Lu¹, Margaret Dumm¹, Brenda Vega², Nia Johnson³, Bradley D. Hatfield¹. ¹University of Maryland, College Park, MD, ²University of California Berkeley, CA, ³Fisk University, Nashville, TN.

The phrase 'warm-up' often is used in conjunction with a physical activity like a sport or workout, and refers to physical preparation. The benefits of being physically prepared have been well documented, whereas the importance of mental preparation in movement is less understood.

PURPOSE: To determine if mental preparation, psyching (PSY) will contribute to higher muscular performance (knee extension) compared to distracted conditions, mental arithmetic (MA) and reading comprehension (RC). **METHODS:** 23 participants (11 females, 12 males), between 19-30 years of age, were required to have a minimum of one year weight training experience. The Biodex Quick Set Isokinetic Dynamometer measured force production. The study consisted of two visits. Visit one consisted of informed consent, a background questionnaire and Biodex practice trials. Participants engaged in a dynamic warm-up with nine practice trials for familiarization. Visit two included the same warm-up and exposure to three different conditions (PSY, RC, and MA). Conditions consisted of three trials (total of nine) with a rest interval between each trial. During each trial, a 20-second task period was provided (PSY, RC, MA). For each trial, participants determined their rate of perceived exertion by using the Borg RPE scale. Participants also rated their rate of focus after each trial based on a scale of 0-100, with 0 being the least and 100 the most focused. **RESULTS:** Force production averages within each participant for PSY (156.64 N*m) were higher compared to RC (143.32 N*m) and MA (145.52 N*m). A significant difference existed between PSY and RC (0.001), PSY and MA (0.012) and no significant difference for the distractions (RC and MA). Participants rated their perceived exertion (RPE) with higher ratings for the PSY (16.50) condition in comparison to RC (15.45) and MA (15.02). There was also a significant difference between PSY and RC (0.044), between PSY and MA (0.005) and no significant difference between the distractions (RC and MA). Averages demonstrated a higher focus on RC (83.53) and MA (84.86) compared to PSY (81.67). **CONCLUSION:** PSY appeared to produce higher force averages and a higher perceived exertion in comparison to RC and MA. The study suggests promising results in psyching preparation as a method to increase muscular performance and enhancement.