

Strength Versus Deficit Educational-based Interventions on Mental Toughness: A Case Study of Female Student-athletes

LINDSAY GUZZETTA¹, GRANT B. MORGAN², ZACHARIAS PAPADAKIS³, & ANDREAS STAMATIS¹

¹Exercise and Nutrition Science; SUNY Plattsburgh; Plattsburgh, NY

²Educational Psychology; Baylor University; Waco, TX

³Human Performance Laboratory, Barry University; Miami Shores, FL

Category: Undergraduate

Advisor / Mentor: Stamatis, Andreas (astam004@plattsburgh.edu)

ABSTRACT

Educational-based psychological skills training (PST) is effective in terms of Positive Psychology outcomes. Mental toughness (MT), a Positive Psychology construct, is positively associated with sports performance via mostly correlational research. Sports training emphasizes working on the weaknesses of the athlete. Positive Psychology is rooted in strength-based interventions. In Applied Sports Positive Psychology, where females are underrepresented, the two approaches appear contradictory. **PURPOSE:** To examine the effects of deficit- versus strength-based interventions on MT levels of female collegiate athletes. **METHODS:** Out of 161 female SUNY Plattsburgh athletes, 95 participated. MT scores were collected via the eight-item, Mental Toughness Index (MTI). Each question (score range: 1-7) represents one key MT dimension (e.g., buoyancy). We had created and successfully pilot-tested eight videos. Scores 1-3 were considered low (deficits) and 6-8 high (strengths). Participants were clustered into two groups. Power analysis yielded a sample size of 34. Group 1 (n=18) received intervention in the form of 1-3 videos based on their deficits, whereas Group 2 (n=18) on their strengths. Due to ceiling effect, we recruited an extra, third group of "strength" participants (n=13) who retook the MTI without any intervention. The data were analyzed descriptively before using a mixed-effects analysis of variance using time as a within-subjects and matched pairs (e.g., block) and group as between-subjects factors. Descriptive statistics, inferential results, and effect sizes were produced and interpreted. **RESULTS:** Prior to the intervention, the total MT scores of deficit and strength groups were 32.8 and 44.2, respectively, while 42.9 and 46.9, afterwards. The increase of the deficit group was statistically significant and large ($F=8.99$, $p=.01$, $\eta^2=.39$). No difference was detected between the two strength groups. **CONCLUSION:** The deficit-based intervention was effective on a large magnitude. Although MT increased, we could not conclude the same for the strength-based intervention, even after adding an extra group. This is the first study to examine the effectiveness of a telehealth education-based PST strength- versus deficit-based intervention on MT.