Strength Versus Deficit Educational-based Mental Toughness Interventions on Mental Health of Female Student-athletes

LINDSAY GUZZETTA[1], ZACHARIAS PAPADAKIS[2], GRANT B. MORGAN[3], & ANDREAS STAMATIS[1], FACSM

[1]Exercise and Nutrition Science; SUNY Plattsburgh; Plattsburgh, NY
[2]Human Performance Laboratory, Barry University; Miami Shores, FL
[3]Educational Psychology; Baylor University; Waco, TX

INTRODUCTION

Educational-based psychological skills training (PST) is effective in terms of Mental Health (MH) outcomes. Mental toughness (MT), a Positive Psychology construct, is positively associated with MH. 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.

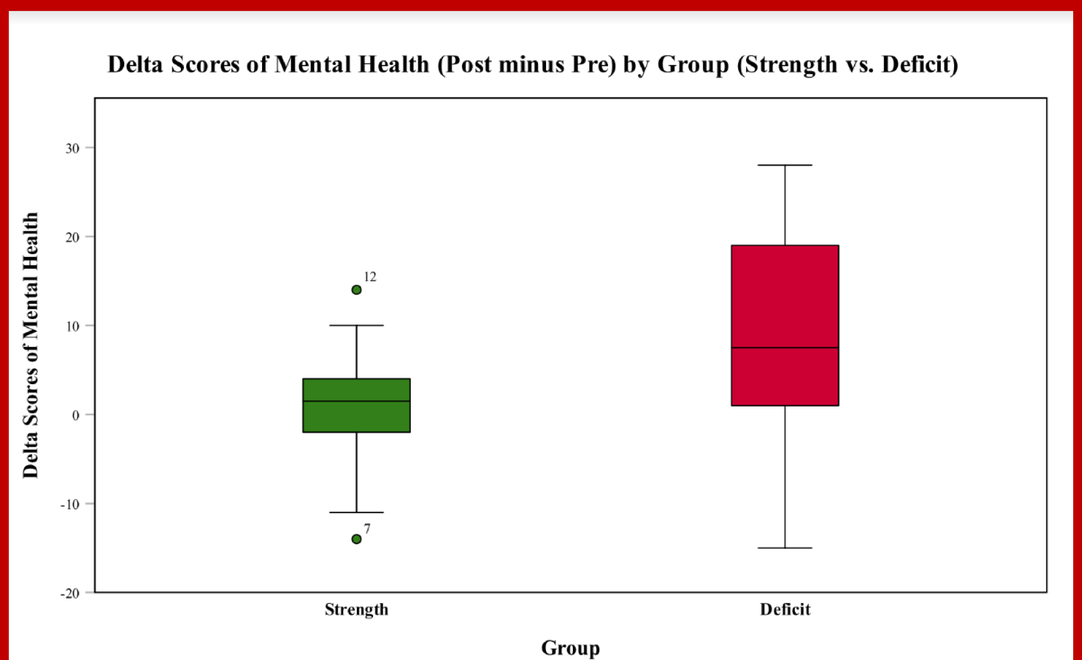
PURPOSE

To examine the effects of deficit- versus strength-based MT interventions on MH levels of female collegiate athletes.

METHODS

Out of the 161 female athletes of a SUNYAC institution, 95 participated. MH scores were collected via the Mental Health Continuum Short Form (MHC-SF) while MT scores were via the eight-item, Mental Toughness Index (MTI). Each MTI question (score range: 1-7) represents one key MT dimension (e.g., Q7: Buoyancy). We had previously created and successfully pilot-tested eight educational PST videos (one per key dimension). MT 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. Descriptive statistics, a two-sided t-test, and an analysis of variance (ANOVA) on the gain scores were produced on SPSS 28.

The deficit-based PST intervention was effective on *mental health*



Corresponding author: Andreas Stamatis (astam004@plattsburgh.edu)
This work was supported by the Greater NY ACSM Chapter (COVID-19 & Health-Fitness Research Competition)

RESULTS

Deficit Group MH scores: M_{PRE} = 43.2, SD = 10.3; M_{POST} = 51.9, SD = 12.5. Strength Group MH scores: M_{PRE} = 52.2, SD = 7.1; M_{POST} = 52.9, SD = 9.4. Gain scores: $\Delta_{DEFICIT}$ = 8.7, SD=11.7; $\Delta_{STRENGTH}$ = 0.7, SD = 7.2. T-test of deficit group: $t(17) = -3.2$, p = .01, d = 0.84. T-test of strength group: $t(17) = -.4$, p = .68, d = 0.09. ANOVA: $F(1,34) = 6.1$, p = .19, η^2_p = .151.

CONCLUSION

Both interventions were effective. Only the deficit-based intervention was significant and of large magnitude. The difference between the groups in the effect of the interventions was also significant and of large magnitude. This is the first study to examine the effectiveness of a telehealth education-based PST strength- versus deficit-based MT intervention on MH.

STATE UNIVERSITY OF NEW YORK PLATTSBURGH
Barry University
Baylor University