Arbitrary Metrics in Mental Toughness Research: A Pilot Study of Female, NCAA, Division I Basketball Players and Their Strength and Conditioning Coach

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ABSTRACT

Over the past two decades, *mental toughness* (MT) has become one of the most popular concepts in the field of positive psychology and more particularly, in both basic and applied sport psychology. However, the dependence on *arbitrary metrics* remains one of the major disapprovals of MT research as a whole. Although recently relationships of MT and objective performance indicators have been investigated (e.g., race time), arbitrary metrics still appear inadequate to support answers when it comes to the actual meaning and practicality of self-reported MT scores. Multi-rating, via cross-verification from various sources, can increase the validation of scores of psychological constructs. **PURPOSE**: Use multi-rating as an alternative to avoid the pitfalls of arbitrary metrics and focus on the inter-rater meaning of the MT scores, rather than on the pure score of the underlying construct. **METHODS**: A Big Ten women's basketball team (*n* = 11) and their strength and conditioning coach (SCC) were recruited. The Mental Toughness Index (MTI) was used for data collection. MTI consists of eight items with scores ranging from one (i.e., *False, 100% of the time*) to seven (i.e. *True, 100% of the time*). Based on SCC's recommendations, two assessments have taken place so far: one in pre-season (i.e., Time 1: September 2019) and one in season (i.e., Time 2: December 2019). After the Institutional Review Board (IRB) approval, MTI was uploaded on Qualtrics and all players received individualized links via email. The participants were then able to go online and submit their answers. To compare the MTI ratings across time and rater, a mixed effects ANOVA model was estimated in SPSS along with a plot of average MTI scores and correlations between the rankings of players from the players themselves and the SCC. **RESULTS**: On average, players rated themselves higher on MT than their SCC did. The average MTI scores differed between the players' self-perceptions versus the SCC's perception (*F* = 4.3, *p* = .05), regardless of when the MTI was completed. The scores did not change significantly across time. The correlations between the MTI ranks were .65 at Time 1 and .71 at Time 2. **CONCLUSION**: These preliminary findings suggest that the MT rankings were similar between players and the coach, despite the fact that players tended to score themselves about 7 points higher than the SCC. MT researchers may need to consider multi-rating as a possible remedy of the inherent methodological limitations of arbitrary metrics. These results not only support the continuation of this research, but also similar, future efforts (e.g., more than two raters, different sport, longitudinal design). Limitations include limited number of assessments and small sample size.