TACSM Abstract

The Effect of Sleep Quality and Being Physically Active on Developing Mental Toughness

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ABSTRACT

Mental toughness (MT) has been increasingly associated with successful performance in several stressful and competitive environments (e.g. the military, business, academics, medicine, sports). Being physically active (PA) may compromise sleep quality (SQ). Research has reported conflicting associations regarding PA and MT. Regarding SQ and MT, a bidirectional association has been reported. However, research has not yet focused on the combined effects of PA and SQ on MT. **PURPOSE**: To characterize the association and the effects of PA and SQ on MT. The authors hypothesized that: (a) PA and SQ are negatively associated; (b) PA and MT are positively associated; (c) SQ and MT are negatively associated; and (d) the interaction effect of PA and SQ on MT will be buffering. **METHODS**: Sixty-two participants (age 25.4 ± 6.0 SD) completed inventories related to SQ (Pittsburgh Sleep Quality Index) and MT (Mental Toughness Index). PA data were collected according to American College of Sports Medicine guidelines. Main and interaction effects of the responses were analyzed using factorial ANOVA. Significance was set at $p < 0.05$. All analyses were performed using SPSS©. **RESULTS**: PA was positively correlated with SQ ($r = .009$, $p = .473$) and with MT ($r = .246$, $p = .027$). SQ was negatively correlated with MT ($r = -.470$, $p = .000$). PA ($F_{1,58} = 10.939$, $p = .002$, $\eta^2 = .159$) and QS ($F_{1,58} = 23.051$, $p = .000$, $\eta^2 = .284$) had a main effect on MT. The interaction of PA and QS had a buffering moderating effect on MT ($F_{1,58} = 12.394$, $p = .001$, $\eta^2 = .176$). **CONCLUSION**: Evidence was found for all but the first hypothesis. PA-participants tending to be mentally tougher than the non-PA ones. Poor sleepers, on average, were mentally tougher than the good sleepers. The buffering effect indicates that the non-PA individuals with poor quality of sleep are the mentally toughest ones, followed by PA individuals with poor quality of sleep. Non-PA individuals with good quality of sleep present the lowest MT levels. In regards to developing mental toughness the authors suggest that: a) PA should be prescribed to good quality of sleepers and b) in poor quality sleepers focus should be placed on sleep before PA. Such findings may be useful to exercise and health-related practitioners when prescribing PA in a wide variety of individuals that report sleep quality issues in relation to MT capacities.