

Relationship between Personality Traits and Postural Stability among Czech Military Combat Troops

Authors : K. Rusnakova, D. Gerych, M. Stehlik

Abstract : Postural stability is a complex process involving actions of biomechanical, motor, sensory and central nervous system components. Numerous joint systems, muscles involved, the complexity of sporting movements and situations require perfect coordination of the body's movement patterns. To adapt to a constantly changing situation in such a dynamic environment as physical performance, optimal input of information from visual, vestibular and somatosensory sensors are needed. Combat soldiers are required to perform physically and mentally demanding tasks in adverse conditions, and poor postural stability has been identified as a risk factor for lower extremity musculoskeletal injury. The aim of this study is to investigate whether some personality traits are related to the performance of static postural stability among soldiers of combat troops. NEO personality inventory (NEO-PI-R) was used to identify personality traits and the Nintendo Wii Balance Board was used to assess static postural stability of soldiers. Postural stability performance was assessed by changes in center of pressure (CoP) and center of gravity (CoG). A posturographic test was performed for 60 s with eyes opened during quiet upright standing. The results showed that facets of neuroticism and conscientiousness personality traits were significantly correlated with measured parameters of CoP and CoG. This study can help for better understanding the relationship between personality traits and static postural stability. The results can be used to optimize the training process at the individual level.

Keywords : neuroticism, conscientiousness, postural stability, combat troops

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