

The effect of experience on the psychophysiological response and shooting performance under acute physical stress of soldiers

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Abstract

Present research studied the psychophysiological response and shooting performance taking into consideration the experience of the soldier after a physical stress protocol, which led to acute fatigue conditions. Sixty soldiers were divided into experienced and non-experienced groups to conduct a high-intensity interval training (HIIT) based on endurance type exercises (10 intervals of 40 m run at maximum intensity with 2 changes of direction and 45 s of recovery). Psychophysiological and shooting performance variables were measured before, during and after the HIIT protocol. Significant increases in heart rate, blood lactate, lower limbs strength, as well as a significant decrease in blood oxygen saturation and body temperature were found in both groups. Shooting performance was affected by experience and fatigue, being more accentuated in non-experienced. Present HIIT protocol elicited a similar psychophysiological response than in previously reported combat manoeuvres, thus proving to be an optimal stimuli approach/intervention for soldier's specific physical preparation.

Keywords

Shooting performance, Shooting accuracy, Soldiers, Experience, HIIT, Fatigue