

62 **PSYCHOMOTOR AND PHYSIOLOGICAL RESPONSES TO PROLONG WALKING IN THE HEAT IN HYDRATED AND DEHYDRATED CONDITIONS AMONG RELAXATION-TRAINED ARMY RESERVED PERSONNEL**

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The present study examined the effects of prolonged walking in the heat on choice reaction time, heart rate and rectal temperature among army reserved personnel. Using purposive sampling, 23 male reserved army personnel were recruited for this study and they were randomly assigned into hydrated and dehydrated groups. The experimental protocols consist of two experimental sessions (pre- and post-relaxation training). Within each session, subjects were required to walk on a treadmill for 3 h while wearing a backpack of 20 kg. Measurement of parameters was performed four times (0, 1, 2 and 3 h). In between the experimental sessions, subjects underwent eight sessions of 30-min progressive muscle relaxation trainings. The difference in the measured parameters between the group across the testing sessions and trials were analysed using a three-way repeated measure analysis of variance. The results indicated an interaction effect between the groups across experimental trials in choice reaction time. Hydrated group performed significantly faster in choice reaction time test in trial 1 (0 h) of the second experimental session. For heart rate, only main effect of group was found. Heart rate of the dehydrated group was significantly higher than the hydrated group across the experimental trials. Although not statistically significant for the rectal temperature, a pattern exists indicating that the hydrated group exhibited lower rectal temperature across the experimental trials. In conclusion, our study highlighted that prolonged walking in the heat imparted a significant load on the heart rate in reserved army personnel. Our findings suggest that the army personnel should maintain hydration status during prolonged walking in the heat to reduce stress on the heart at least after every hour of exercise. Contrary to our expectation, progressive muscle relaxation training did not produce any significant effects on the measured parameters in our study.