Arousal and activation in a pistol shooting task

Vaez Mousavi S. M. K.* PhD, Naji M.¹ MSc, Hassanzadeh N.¹ MSc

*Department of Physical Education & Sport Sciences, Faculty of Military Basic Sciences, Imam Hossein University, Tehran, Iran
¹Department of Physical Education & Sport Sciences, Faculty of Military Basic Sciences, Imam Hossein University, Tehran, Iran

Abstract

Aims: Precise pistol shooting is influenced by arousal, which has been recently defined as an individual’s energetic state at a particular time and is measured by skin conductance level. On the other hand, task related activation has been defined as the change in arousal, from a resting baseline to the task situation. Present study was performed in order to investigate whether previous theories on functional differentiation between arousal and activation could be generalized from laboratory tasks to military skills.

Methods: This quasi experimental study was performed on 21 military elite shooters including 4 women and 17 men with mean age of 34 years who voluntarily took part in the study, in year 2009. Skin conductance level was recorded as an index of arousal. Several performance measures including scores, inter-shot intervals, and the total shooting time were also electronically recorded. Data was analyzed using inferential statistical methods including repeated measures analysis of variance and stepwise linear regression analysis by SPSS 16 software.

Results: There was a linear negative correlation between activation and all three performance measures. Arousal didn’t have correlation with any of performance measures.

Conclusion: Findings of present field study support previous laboratory results and shows that quality of task performance, regardless of its type, is affected by activation and not by arousal.

Keywords: Arousal, Activation, Electro-Dermal Activity, Pistol Shooting Task, Skin Conductance Level
شکل ۳ میانگین امتیازات کمبود که هر شرکت کننده تحت تاثیر انگیختگی و فعالسازی در نمودارهای ال و ب بین ۳ امتیاز زبانی بین ۱ و ۳ به راه نیاورد در مقابل انگیختگی و فعالسازی در نمودارهای ب و ب، تا کل زمان امتیاز برای هر تیترندار در مقابل انگیختگی و فعالسازی در نمودارهای ال و ب و ت و چ رسم شده است. برای نشان دادن رابطه بین معنی مستقل و وابسته، یک خط رگرسیون در داده‌های فعالسازی کشیده شده و برای نشان دادن قدرت این رابطه، ضریب نمی‌باشد از آن نوشته شده است.

نتایج

میانگین سه‌پاره، از میکروسیمین در جمله پایه به ۷/۱/۰ در حالات پایه به ۷/۱/۹ میکروسیمین در صفحه پایه. آماده برای اجرای دکلی افزایش یافته که نمادگر افزایش کلی در سطح انگیختگی بود (F<)<1، F<0/001 p<0/001. این افزایش در شکل ۲ نشان داده شده است که به عنوان فعالسازی تهیه شد. میزان همبستگی سطح پایه و سطح فعالسازه انگیختگی زیاد نبود.

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