P01-408

INVESTIGATION OF THE EFFECTS OF EMOTIONAL CONTEXT AND PSYCHOSOCIAL STRESS ON RESPONSE INHIBITION

P.Z. Álmos[1], G. Csifcsák[1,2], B. Andó[1], M. Gergelyfi[2], T. Sándor[2], A. Bacskai[1], E. Kurgyis[1,2], Z. Janka[1]

[1]Department of Psychiatry, University of Szeged, Faculty of Medicine, [2]Institute of Psychology, University of Szeged, Faculty of Arts, Szeged, Hungary

Introduction: Response inhibition (RI) is a basic component of human behaviour responsible for suppressing actions or thoughts which are inappropriate in a certain context. This cognitive function is well-studied in laboratory conditions, but there is limited data how it is influenced by emotional context and psychosocial stress.

Objectives: The effect of emotional factors on RI can be investigated with an emotional go/nogo task, while psychosocial stress can be induced with the Trier Social Stress Test (TSST). Electroencephalography (EEG) is an excellent method for studying the neural correlates of RI: the two major event-related potentials (ERPs) implicated in the process are the frontal N2 and P3 components.

Aims: In this respect, our aim was to investigate how psychosocial stress and emotional context modulate these ERPs.

Methods: Seven healthy adult volunteers performed emotional go/no go tasks while brain responses were recorded by EEG. The task was carried out on two different occasions: at baseline condition and after moderate psychosocial stress induced by the TSST.

Results: We successfully replicated the robust go vs. nogo effect on the frontal N2 and P3 amplitudes. However, ERPs were not affected by positive or negative emotional context in the baseline condition. In contrast, after TSST a significantly enhanced valence effect was observed on the go-related N2 amplitude and a greater go vs. nogo N2 latency difference was detected.

Conclusions: These findings highlight the importance of the stress-regulating system on emotionally modulated RI and render this paradigm a promising tool for investigating RI in anxiety and mood disorders.

https://doi.org/10.1016/S0924-9338(11)72119-8 Published online by Cambridge University Press