

Abstract für die Arbeitstagung „Psychologie & Gehirn“ in Bochum 25. Mai 2005

P300 amplitude effects of personally meaningful distractors in active oddball tasks

B. Drüner, C. Männel, R. Bösel

Kognitive Neuropsychologie, Freie Universität Berlin

Intrinsically meaningful stimuli capture our attention in a similar way as instructed targets. In previous ERP studies (Perrin et al., 2005), enhanced P300 amplitudes could be observed for items with personal significance (i.e. subjects' own names). We aimed to replicate this P300 effect for task-irrelevant but intrinsically significant items in an active oddball task with task instructions for arbitrary target items.

In two separate 3-stimulus oddball tasks, we used different stimulus categories (exp. 1, symbols of car brands; exp. 2, names of clothing brands). Prior to the experiments, stimuli with the highest personal significance were selected out of a stimulus pool by each subject. These personally meaningful items served as distractors among standard and target stimuli. Targets were chosen out of the stimuli pool by chance and had to be detected during the experimental procedure.

In both stimulus categories, significant P300 amplitudes for targets (instructed significance) as well as distractors (personal significance) could be observed. Targets evoked the highest P300 amplitudes, followed by distractors, in turn followed by responses to standards. These outcomes demonstrate that a P300 effect for intrinsically meaningful stimuli occurs even though attention is drawn toward the task instruction in an active oddball paradigm.