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# An ERP study of dynamic emotional words processing: valence and source of emotion

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## Abstract

In our laboratory, studies on emotion are based on conceptualization describing different sources, manifestations and consequences of negative, as well as positive emotions (Jarymowicz, 2009; Jarymowicz, Imbir 2010). Namely, our studies distinguish emotions due to automatic affective reactions vs. evaluations based on deliberative thinking. The taxonomy includes eight categories of emotions: (1) four automatic ones (negative and positive: homeostatic vs. hedonic) and (2) four reflective ones (negative and positive due to the ideal self standards vs. general, axiological concepts of good and evil). This study aims to explore the neurobiological basis of processing emotional words connected with our taxonomy. The experimental design contains the stimulation of different types of emotions and the registration of brain reactions. For this EEG is used, especially ERP. We use odd ball paradigm to investigate ERP's after words connected with automatic and reflective source of emotions. Mean amplitude were tested in 120 – 850 ms period after stimulus appeared. We found amplitude differences in early ERP components (N1, P2) to be due to differences in valence and amplitude differences in late ERP components (P3, Early Slow Wave) to be due to different source of emotion.

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