

EVENT-RELATED POTENTIALS IN A CROSS-MODAL TEST WITH COMPARISON OF PAIRS OF WORDS

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The aim of our study was to investigate the electrophysiological correlates of brain function during comparing words presented in two sensory modalities.

Methods. The study involved 166 healthy subjects aged 7–16 years. Event-related potentials (ERP) were recorded in all subjects in a two-modal two-stimulus test in the go/nogo paradigm. The first stimulus in the pair was the printed word, the second stimulus was the spoken word. The test subject had to press the button in case of matching words (go-condition) and not press the button if different words were presented.

Results and discussion. After the presentation of the first stimulus, before the presentation of the second

stimulus, a slow negative wave was recorded in the frontal region of the left hemisphere (F7, F3). This wave, apparently, is associated with preparing phonological representation of word.

After presenting the second stimulus, in the go-condition, a positive wave with a maximum at position T5 and T6 in the interval 370–500 ms. In the nogo condition, a positive wave was recorded in the time interval 590–800 ms with a maximum at the positions O1 and O2. In our opinion, these positive waves are associated with the processes of comparing the second stimulus coming from the auditory system with the phonological representation of word stored in working memory.