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# Neural correlates of the unconscious phonological priming: an ERP study.

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## Abstract

This study investigates unconscious phonological priming in the auditory modalities using event-related brain potentials (ERPs). Two monosyllabic Russian words with the same consonants and different vowels (garden [sa:d] and court [su:d]) were selected for the experiment. The aim was to compare repeated priming and alternative priming effects on ERP components. To ensure unconscious perception prime word was modified in duration (cut out 30% of every sound) and masked by sandwiching between 2 identical tones. The amplitude of the tone was five-times higher than the amplitude of the prime word. The target word (375 ms) was presented after second tone 50 ms later. For the control used trials without prime word ( 2 tone with a silence between them before the target word). All trials (192) were presented in pseudorandom order. Subjects didn't detect the prime word between tones. The results demonstrated that repeated phonological priming significantly increases the amplitude of the ERP and reduces the latency period in comparison with ERP parameters on isolated word presentation and control trials. And the alternative priming significantly influences the opposite way: reduces amplitude of the ERP and increases the latent period, compared with ERP parameters on isolated word presentation. The significant data were obtained for N70 and P190 ERP components.

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