An ERP study of syntactic processing in Spanish young adults

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Abstract

Previous studies on event-related potentials of syntactic processing have focused on syntactic violations while reading sentences. Only a few studies have used auditory stimuli, and those have provided inconsistent results. Therefore, the goal of our study is to obtain indices of syntactic violation on ERP when listening sentences. In the
present study, a sample of young adults have listened several sentences in Spanish while EEG activity was recorded. Half of the sentences were syntactically correct, whereas the other half presented a syntactic violation (a gender disagreement between the subject and the object of the sentence). After listening the sentence, participants had to indicate whether the sentence was correct or not. The results reveal a larger negativity (LAN) from 300 to 500 ms, followed by a larger positivity from 600 onwards (P600) when the sentence presented syntactic violations, similar to the results obtained by reading tasks in healthy adults. Consequently, the task appears to be adequate for studying syntactic processing in special populations, in our case, patients with Williams syndrome, which appear to be deficient in several aspects of language processing, contrary to the assertions of classical literature.

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