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Automatic morphosyntactic processing in Portuguese as evidenced by electrophysiological responses

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Our event-related brain potentials experiment aimed to test whether we process morphosyntax as a reflex through combinatory mechanisms, based on abstract features. To ensure that brain responses were automatic and independent of attention, we conducted a multifeature paradigm with passive listening experiment. Participants listened to stimuli that were either grammatical (“eu adoto”, I adopt), contained 1 violation (“eu *adota”, I adopt.3p.sg) or contained 2 violations (“eu *adotam”, I adopt.3p.pl). Results showed that, even though there may have been a contribution of the mismatch negativity response on the first interval we analyzed (150-250ms), there was a sustained, directly morphosyntactic effect on both violation conditions (150ms-450ms) and additional, cumulative negativity on the 2 violations condition. This cumulative effect excludes any interpretation of our data based on pure probabilistic processing as verbs in both violation conditions have zero probability of occurring after the pronoun. Henceforth, our data suggests that we process morphosyntax automatically.