
The use of electroencephalography in language production research: a review

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Abstract

Speech production was long avoided electrophysiological experiments because it was suspected that artifacts caused by muscle activity of overt speech would lead to a bad signal-to-noise ratio in the measurements. Speech production has been assessed with implicit speech production tasks, such implicit or delayed naming. However, covert speech is likely to involve qualitatively different processes than overt speech. Recently, the number of papers that assessed overt speech using electroencephalography (EEG) has been rising. There is an increasing interest and demand for overt speech research within the field of cognitive neuroscience of language. In this presentation we will review available results of overt speech production involving EEG measurements, such as picture naming, Stroop naming, and reading aloud. Although there are potential problems and results should be interpreted with care. Nevertheless, our review indicated that overt speech production can be successfully studied using electrophysiological measures, for instance, event-related brain potentials (ERPs). This new approach may provide exciting new insights to studying speech production.

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