
Tracking the Time-course of Spoken Word Production with Event-Related Potentials

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Abstract

For over four decades Cognitive Neuroscientists has used event-related potentials (ERPs) to augment the temporal resolution of traditional behavioral measures such as reaction time in what is now a substantial body of work aimed at providing a better understanding of perceptual, cognitive and even linguistic processes. Used in this way ERPs offer the advantage of allowing the investigator to explore both the fine-grained time-course of information processing, but also to gain more direct insight into the brain systems involved in processing. Such studies have yielded important new insights into a host of mental and neural phenomena. However, until recently one area of traditional language use that has not been studied nearly as often using ERP techniques is language production. The primary reason for this is that movement of the articulators during speech production results in substantial electrical artifact that makes examination of the comparatively small changes in electrical brain activity very difficult. I will discuss this limitation and its ramifications, as well as review a number of recent studies that have attempted to circumvent speech artifacts during ERP language production experiments.

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