Cognitive Capacities of the Sociolinguistic Monitor: Evidence from Event-Related Potentials

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Event-related potentials (ERPs), electroencephalogram recordings time-locked to stimulus onset, have been used for several decades to investigate language processing. Because ERP measures have exquisite temporal resolution (Luck, 2005) and do not require an overt behavioral response (Kutas & Delong, 2008), they provide a mechanism for characterizing the cognitive processes involved in language comprehension. Experiments have identified different ERP components which have been interpreted to reflect different functions of language processing. These include semantic integration (e.g., Kutas & Hillyard, 1980; Kutas & Hillyard, 1984) and thematic processing (Friederici & Frisch, 2000), as well as syntactic processing and repair (e.g., Hagoort, Brown, & Osterhout, 1999). Work by Van Berkum et al. (2008), suggests that voice inferred stereotypical information (e.g., age, gender, dialect) is integrated into the unfolding sentence interpretation by the same mechanisms that subserve lexical-semantic integration. These findings highlight the utility ERP methodology may serve in investigating the perception of sociolinguistic variation.

In an on-going experiment, we used ERP methods to investigate the cognitive capacities of the sociolinguistic monitor (Labov et al., 2008). Specifically, we sought to address whether information conveyed through sociolinguistic variation is subserved by the same mechanisms that support lexical-semantic integration. 280 passages were developed such that each passage consisted of a context with 4 occurrences of an -ING verb, followed by a single, sentence-final target -ING verb. Contexts were either all FORMAL (velar) or all INFORMAL (apical). The target word was either CONSISTENT or INCONSISTENT with the preceding context. In addition, the target could be a HIGH CLOZE word highly predicted by the context or a LOW CLOZE alternative. Passages were read by 6 native speakers of English and digitally edited to create 8 versions of each stimulus.

Results will be discussed in relationship to the sociolinguistic literature as well as psycholinguistic models of sentence processing.

References