Language Modality Affects Responses in Left IFG during Processing of Semantically Ambiguous Sentences

(Blott, Rodd, & Warren)
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Abstract

Ambiguity resolution requires high-level interpretation processes, at least some of which are subserved by the inferior frontal gyrus (IFG), a region that is susceptible to modulation by task demands. This fMRI study investigates the extent to which ambiguity-related activation in IFG is modulated by the specific cognitive-linguistic demands posed by the modality in which a sentence is presented. In the present study, ambiguous sentences and matched unambiguous sentences were presented in three conditions: listening, reading, and rapid serial visual presentation (RSVP). The RSVP modality elicited stronger ambiguity-related haemodynamic responses than the other two modalities, particularly in left anterior IFG. This indicates that the RSVP modality cannot be used as a simple substitute for natural reading without taking into account the additional processing resources it requires.