

UC Merced

Proceedings of the Annual Meeting of the Cognitive Science Society

Title

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

Permalink

<https://escholarship.org/uc/item/61t082q2>

Journal

Proceedings of the Annual Meeting of the Cognitive Science Society, 39(0)

Authors

Blott, Lena M.

Rodd, Jennifer M.

Warren, Jane E.

Publication Date

2017

Peer reviewed

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

Lena M. Blott

University College London

Jennifer M. Rodd

University College London

Jane E. Warren

University College London

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.