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Authors
Raynal, Lucas
Clément, Evelyne
Rämä, Pia
et al.

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Adults' Processing of Overextensions Reflects Category Violation. An ERP study

Lucas Raynal
Paris Descartes, Paris, France

Evelyne Clément
Université CY Cergy Paris, Cergy, France

Pia Rämä
Paris Descartes, Paris, France

Emmanuel Sander
University of Geneva, Geneva, Switzerland

Louise Goyet
Paris 8, Saint Denis, France

Abstract

A previous research by Raynal et al. (2021) has demonstrated that unconventional verb extensions based on abstract similarities (i.e. semantic approximations) elicited a reduced N400 compared to pseudoverbs in preschoolers. Whereas this result reveals young children's analogical abilities, the current study aims to shed light on the specificity of mature metaphorical processing. To do so, the design of the previous research was replicated with adults. Participants saw images of actions (e.g., peeling an orange) followed by an auditory presentation of sentences containing either a conventional verb (e.g., peeling), an approximate verb (e.g., undressing), a superficially related verb (e.g., pressing) or a pseudoverb (e.g., rauging). We found that approximate verbs elicited a strong N400 response, followed by a reduced Late Negative Component (LNC) compared to pseudoverbs. These findings suggest that mature metaphorical reasoning involves a category violation followed by a reinterpretation process allowing one to recategorize the source and the target concepts through a common abstract concept.