

UC Merced

Proceedings of the Annual Meeting of the Cognitive Science Society

Title

Can losing the sense of smell affect odor language?

Permalink

<https://escholarship.org/uc/item/4sr476xs>

Journal

Proceedings of the Annual Meeting of the Cognitive Science Society, 43(43)

ISSN

1069-7977

Authors

Speed, Laura
Iravani, Behzad
Lundstrom, Johan N
et al.

Publication Date

2021

Peer reviewed

Can losing the sense of smell affect odor language?

Laura Speed

Radboud University, Nijmegen, Netherlands

Behzad Iravani

Karolinska Institutet, Stockholm, Sweden

Johan Lundstrom

Karolinska Institutet, Stockholm, Sweden

Asifa Majid

University of York, York, United Kingdom

Abstract

A number of studies have explored whether language is grounded in action and perception, however little attention has been given to the sense of smell. Here we directly test whether olfactory information is necessary for comprehension of odor-related language, by comparing language performance in a group of participants with no sense of smell (anosmics) with a group of control participants with an intact sense of smell. We found no difference in comprehension of odor- and taste-related language between anosmics and controls using a lexical decision task, suggesting olfaction is not crucial to semantic representations of odor-related language. However, we did find that anosmics were better at remembering odor-related words than controls, and they also rated odor- and taste-related words as more positively valenced than control participants. We suggest odor-related language is more salient and emotional to anosmics because it reminds them of their missing sense. Overall, this study supports the proposal that odor-related language is not grounded in odor perception.