Sensitivity to speaker knowledge in online tests of scalar implicature

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Introduction

- **Validity of online methods** in linguistic research has been examined for some tasks such as syntactic judgments, but not much for the tasks of **semantic and pragmatic knowledge**
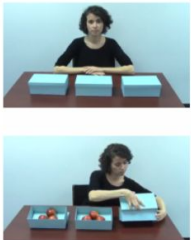
> Can online participants reason about a **speaker's epistemic state** in differentiating core semantic meanings and enriched pragmatic meanings?

Sprouse & Almeida (2010); Sprouse (2011)

Introduction

- We investigate whether online participants take into account the speaker's epistemic state in computing the **scalar implicatures (SIs)**, and whether computing SIs is modulated by testing **modality** (video + text / picture + text / text only)

> Are online participants more sensitive to the speaker's epistemic state when the testing modality resembles an in-person experiment?

Degen & Tanenhaus (2015); Chemla & Bott (2014); Bott et al. (2012); Chemla & Spector (2011); Barner et al. (2011); De Neys & Schaeken (2007); Breheny et al. (2006); Noveck (2001), among others

- <u>Participants</u>:   180 English speakers recruited on Prolific

  + 30 people participating in person

- <u>Between-subject factor</u>: Modality of the stimuli

video + text   picture + text   text only

"Mary sees three boxes. Two of them are open and one is closed. In the first open box there are apples. In the second open box there are also apples. The third box is closed and Mary opens it to look inside."

② Does Mary know what's inside the third box? ('Yes' or 'No')

Mary says, "All of the boxes have apples."

Mary says, "All of the boxes have apples."

④ Do you think that there are apples in the third box? ('Yes', 'No', or 'I don't know')

- <u>Within-subject factor</u>: Speaker's epistemic state + quantifier

	Does the speaker look inside the third box?	What does the speaker say?	Do you think there are bananas in the third box?
Full-knowledge / all	Yes	"All of the boxes have bananas"	Yes
Full-knowledge /some	Yes	"Some of the boxes have bananas"	No
Partial-knowledge / some	No	"Some of the boxes have bananas"	I don't know

Experiment

- <u>Result</u>
  - Significant effect of **knowledge state** on the proportion of "No" in the trials with some (**p < .001**) across modalities
  - No main effect of **modality** on "No" responses ($p = .47$); no interaction ($p = .10$)
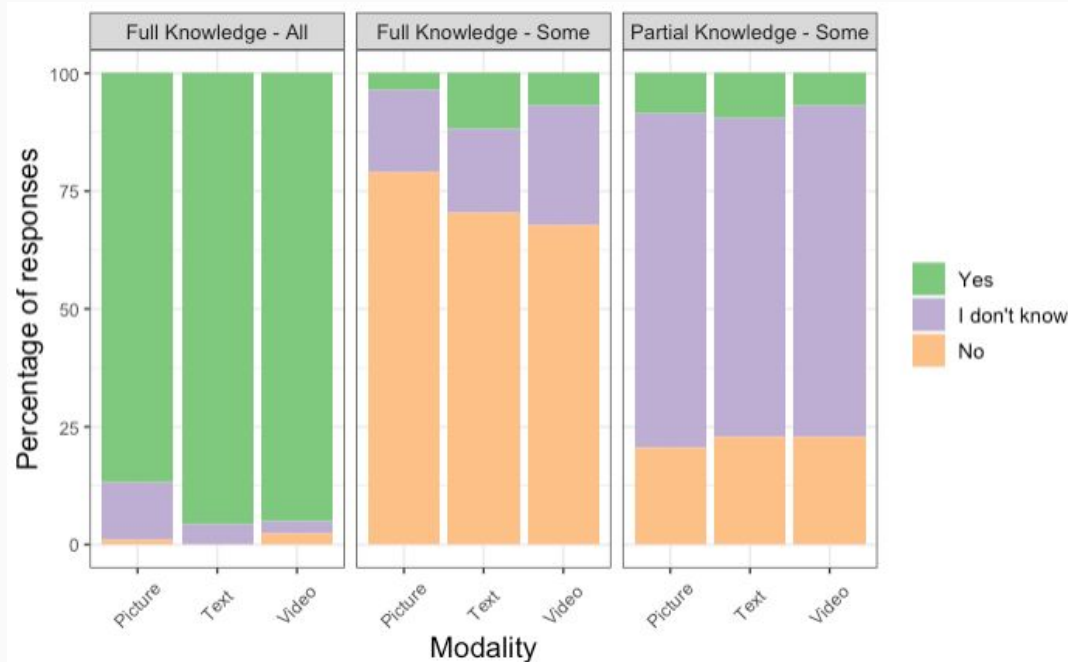
Discussion

- Online participants are just as sensitive to the speaker's epistemic state as in-person participants
- Scalar implicatures seem to be robust that modality of testing make no difference

Reference

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