Speaker likeability influences utterance acceptability: Social context modulates tolerance for pragmatic violations in adults

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Introduction

Scalar Implicature (SI)

- Much of what we communicate in conversation is implicit
- If a speaker says *"Some students passed the test,"* listeners often infer that *not all* the students passed
- This **pragmatic inference** arises because communication is typically cooperative (Grice, 1975)
- Cooperative speakers are expected to deliver strongest (most informative) utterance (Levinson, 2000)
- If speaker uses weak form (*some*), we infer that they were not in position to use stronger form (*all*)
- SIs have become central testing ground for investigating how implicit meanings are computed and how pragmatic communication abilities develop (see Katsos & Cummins, 2012 for a review)

Binary sentence judgment tasks (e.g., true/false)

- Adults frequently reject underinformative (UI) statements, e.g., *Some elephants are mammals* (Dieussart et al., 2011)
- In contrast, children under seven years old reliably accept them (Noveck & Reboul, 2009)
- Rejection is thought to indicate that pragmatic inference has been computed
- Acceptance is taken as indication that only literal interpretation has been computed
    → Do young children lack pragmatic competence or cognitive resources to generate *not-all* inference?

Pragmatic Tolerance

- Katsos and Bishop (2011) used graded rather than binary response option
- When presented with three different reward sizes, children gave smaller reward to speaker for UI statements than for optimal statements
    → Young children are able to detect violations of informativeness, but have a greater tolerance for pragmatic violations than do adults

Research Questions

1. Does pragmatic tolerance also play a role in adult judgments?
2. If so, can social factors modulate adult comprehenders' tolerance for pragmatic violations?
3. Does the number of available response options influence degree of tolerance?

Predictions

- If computation of SI is solely dependent upon pragmatic skills and cognitive effort, then attributes of speaker should not affect participants' willingness to accept or reject UI statements
- Alternatively, if SI computation is sensitive to social context, then participants may be more tolerant of pragmatic violations produced by certain speakers relative to others

Methods

204 participants recruited via MTurk and were asked to tutor an 8-year-old student on a biology exercise

Experiment 1: Binary Judgment Task (N=98)

"That's right", "Not quite"

Experiment 2: Ternary Judgment Task (N=94)

"That's right", "Not quite", "That's wrong"

Task: Evaluate statements and provide feedback

Statement Conditions

T1	(2)	All birds are parrots	False	
T2	(2)	All cats are birds	False	
T3	(2)	All parrots are birds	True	Fillers
T4	(2)	Some birds are parrots	True	
T5	(2)	Some cats are birds	False	
T6	**(10)**	**Some parrots are birds**	**?**	

Post-Task Survey

- 3 multiple-choice questions to assess attentiveness to speaker characteristics
- Speaker likeability rating (7-point Likert scale)
- 8 demographic questions

Speaker Conditions

Sympathetic

"Bobby's teacher has told you that Bobby is an adorable, funny, outgoing, 8-year-old boy with an unfortunate developmental disorder. Like most children with this disorder, Bobby is eager to interact socially with the people around him but he is hindered with significant speech and language delays. Although Bobby is now a reasonably good communicator, he still lags significantly behind his age-matched peers."
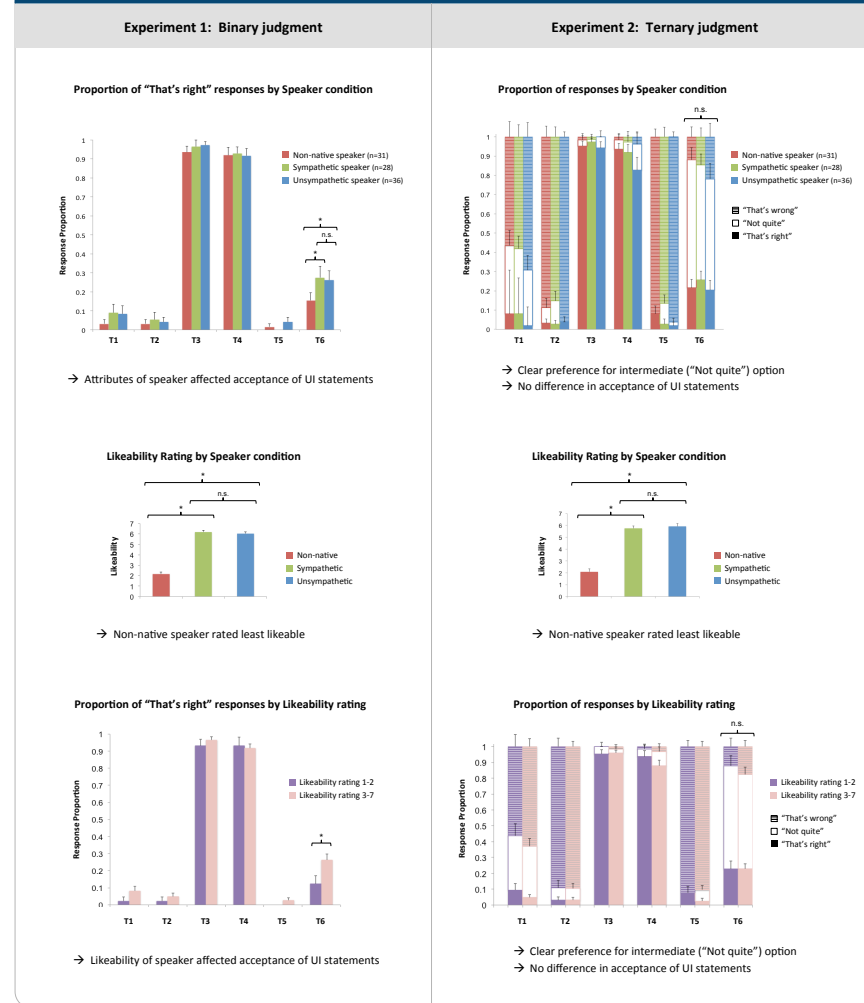
Unsympathetic

"Bobby's teacher has told you that Bobby is a very difficult and obnoxious 8-year-old boy who is often suspended from school because of his repeated violent outbursts. For example, he recently broke a 5-year-old girl's arm and then laughed at her while she cried. His teachers have told you that Bobby learns best when given clear and direct feedback on tests and assignments."

Non-native

"Bobby's teacher has told you that Bobby is a bright, friendly, 8-year-old boy from Brazil who speaks Gazuungu, an Amazonian language that is known for a number of unusual features. In particular, Gazuungu has no "amount words" for generic quantities less than 10, so it has no equivalents for English words like "some". Instead, quantities less than 10 must be described using exact numbers. Bobby already knows quite a bit of English but he would like to learn to speak it perfectly. Bobby is patient and does not mind being corrected because it means he is learning."

Results

Experiment 1: Binary judgment

Proportion of "That's right" responses by Speaker condition

→ Attributes of speaker affected acceptance of UI statements

Likeability Rating by Speaker condition

→ Non-native speaker rated least likeable

Proportion of "That's right" responses by Likeability rating

→ Likeability of speaker affected acceptance of UI statements

Experiment 2: Ternary judgment

Proportion of responses by Speaker condition

→ Clear preference for intermediate ("Not quite") option
→ No difference in acceptance of UI statements

Likeability Rating by Speaker condition

→ Non-native speaker rated least likeable

Proportion of responses by Likeability rating

→ Clear preference for intermediate ("Not quite") option
→ No difference in acceptance of UI statements

Discussion

Many studies take rejection of UI statement as evidence that the comprehender has computed an SI and acceptance as evidence that they have not

Experiment 1

- In a binary judgment task, adult comprehenders accept UI statements even in cases where they recognize it as non-optimal
- Unlike patently false or true statements, UIs are neither completely wrong nor completely correct — when forced to select between two inapt options, social factors tip balance so that participants accept UI statements more often for certain speakers
- However, social factors only influenced judgments on UI items, where pragmatic and literal meanings diverge

Experiment 2

- A ternary judgment task allows participants to clearly indicate that UI utterances are intermediately acceptable between patently true and false statements — with a more apt response option, participants are not as affected by social aspects of speaker
- More work is needed to establish what aspects of social context are most influential for binary judgments, and to determine why children are less likely to reject pragmatically infelicitous statements than adults

Conclusions

1. Pragmatic tolerance can contribute to variability found in adult responses to UI utterances
2. The processing of scalar inferences is sensitive to social information about the speaker
3. Manipulating social context modulates acceptability rates of UI sentences for binary judgments, but not for graded judgments
    → Results argue against a strictly competence- or resource-based view of pragmatic judgments
    → Results raise concerns about the widespread use of binary choice tasks for investigating pragmatic processing
    → Binary judgment tasks should be used with care

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