Abstract

We provide evidence from a corpus and web-based rating study that scalar implicatures from *some* to *not all* are far less frequent than commonly assumed. Implicature strength is correlated with overt particularity, quantifier strength, and discourse accessibility. These results further call into question the interpretation of response time results as reflecting a delay of pragmatic enrichment processes.

Collecting implicature ratings (question 1)

Materials and procedure

- extracted 1362 occurrences of *some*-NPs from Switchboard corpus (excluding cases of NPs headed by singular count nouns (e.g. *He gave him some list*)
- 243 participants rated similarity of original utterance and comparison utterance with implicature made explicit on a 7-point Likert scale.
  “How similar is the statement with ‘some, but not all’ to the statement with ‘some’?”
- displayed 10 lines of preceding context
- collected 10 ratings for each item

Examples:

- I like some country music.
- I like some, but not all country music.
- It would help them appreciate some of the things we have here.
- It would help them appreciate some, but not all of the things we have here.
- That would take some planning.
- That would take some, but not all planning.

Results

![Graph showing implicature ratings](image)

- more cases below (46.6%) than above midpoint of scale (44.7%, mean = 3.9)
- more lowest (19%) than highest ratings (14.7%)
- fitting mixture of Gaussians to data: optimal model with three components

\[
\mu = 0.28 \\
\sigma = 0.48 \\
\lambda = 0.74
\]

*Suggestion*: the three components reflect three interpretations of *some*: lower-bound, uncertainty (ignorance implicature), and upper-bound.

\[\text{requires further investigation}\]

Conclusion

- *some* - *not all* scalar implicatures are rare (pace Frequency Assumption).
- The strength of scalar implicatures is probabilistically modulated by multiple contextual cues.
- Together, this evidence calls into question the accounts of scalar implicatures that are relatively context-insensitive (Default/Literal-First model) and the interpretation of “costly implicature” (e.g. Bott & Noveck, 2004; Huang & Sneadeker, 2009) results as reflecting a staged interpretation process.
- Future work: examine other scales; examine further cues (e.g. downward-entailing contexts, speaker uncertainty, relevance of alternative); test whether comprehenders are sensitive to the identified cues in online processing.

Introduction

Scalar implicature

Some of the students went to the party.

Lower-bound interpretation: At least one student went to the party.

Upper-bound interpretation (implicature): Not all of the students went to the party.

The Frequency Assumption

Scalar items (*some*) give rise to a scalar implicature more often than not (Bott et al., 2012; Gundel et al., 2007; Horn, 1984; Huang & Sneadeker, 2009).

The questions

1. How prevalent are scalar implicatures really in spontaneous speech?
2. Which cues are comprehenders sensitive to in computing scalar implicatures?

Theoretical importance

1. The Frequency Assumption is a central assumption in Default theories of scalar implicatures (Levinson, 2000).
2. Experimental results showing that scalar implicatures incur a processing cost have been interpreted as evidence that scalar implicatures is a staged process (the Literal-First hypothesis, Huang & Sneadeker, 2009). If the Frequency Assumption does not hold, processing cost may instead reflect a frequency effect.

Cues that affect implicature strength (question 2)

Partitive increases similarity ratings

Quantifier strength increases ratings

Discourse accessibility of embedded NP referent increases similarity ratings

Data analysis

Mixed effects linear regression with by-participant random intercepts:

**Rating**: Partitive + Topicality + InfoStatus + Modification

Partitive (cat.): *some* of the students went to the party

Strength (cont.): *some* of the students went to the party

Discourse accessibility (cat.): main effects and interactions of InfoStatus (cat.): old vs. new embedded NP referent

Topicality (cat.): *some*-NP in subject vs. other position

Modification (cat.): *some of the houses (down the street)* could use new windows

Motivation for investigating these cues were (Hedt and Horn, 1997).

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