

Introduction

Referential Expectations:

- Speakers should use only the necessary and sufficient information to uniquely refer (Grice, 1975)
- However, in spontaneous speech speakers produce more information than necessary (Nadig & Sedivy, 2002; Engelhardt, Bailey & Ferreira, 2006; Degen et al., 2017), and less information than necessary only in supportive contexts (Brown-Schmidt & Tanenhaus, 2008)
- Two hypotheses:
 - 1) People are only sometimes Gricean
 - 2) People adapt their expectations to speakers and contexts

How do we adapt our pragmatic expectations?

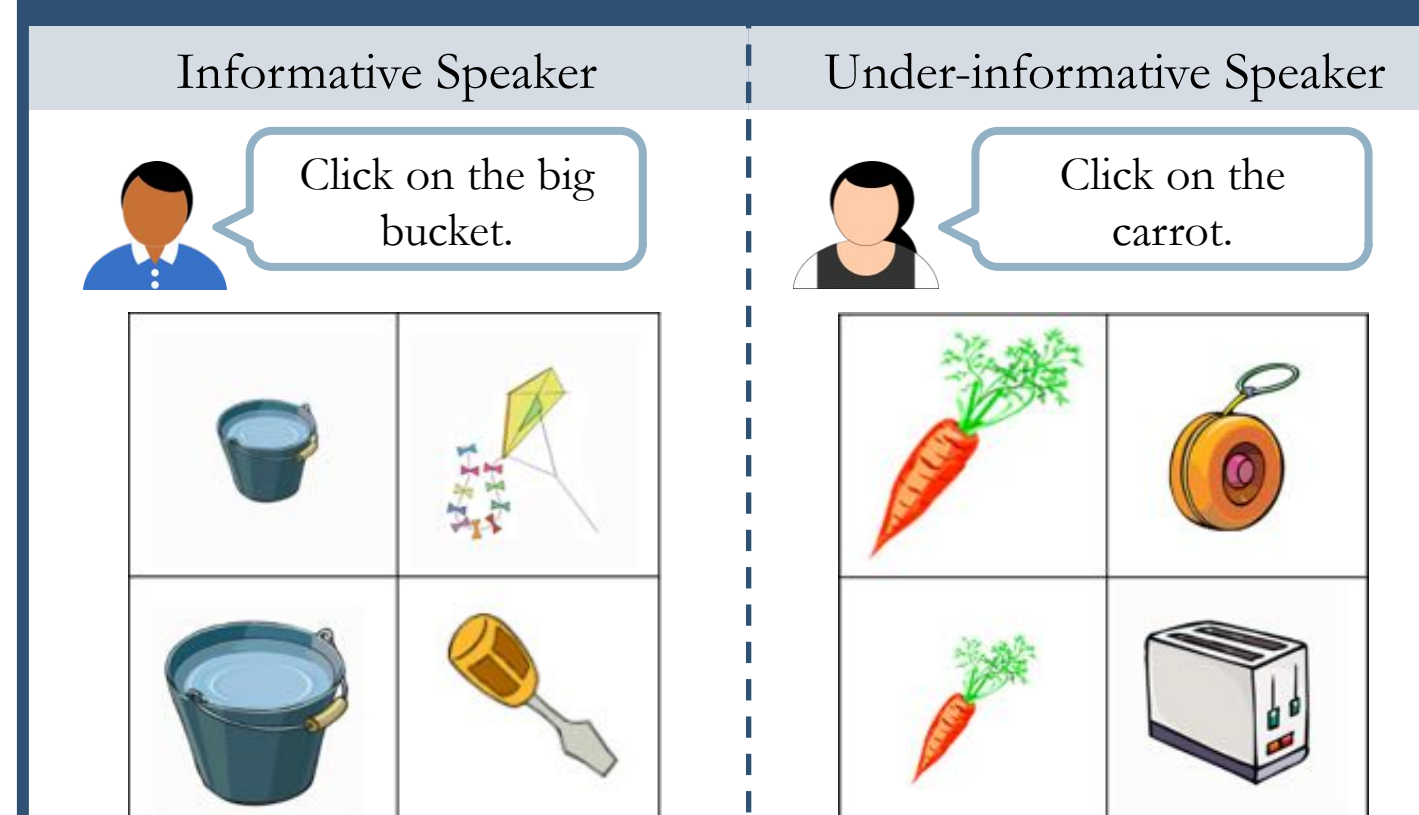
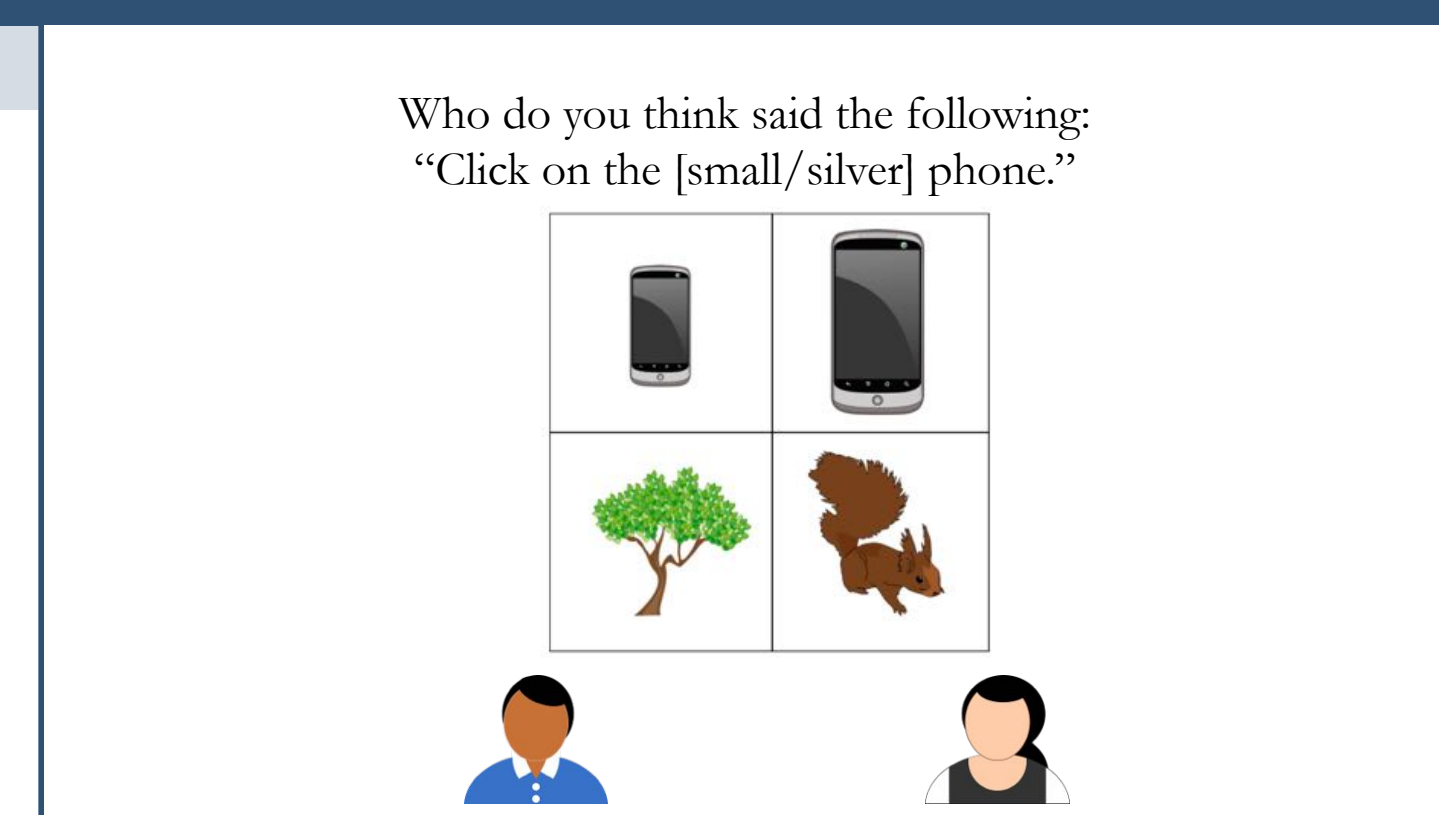
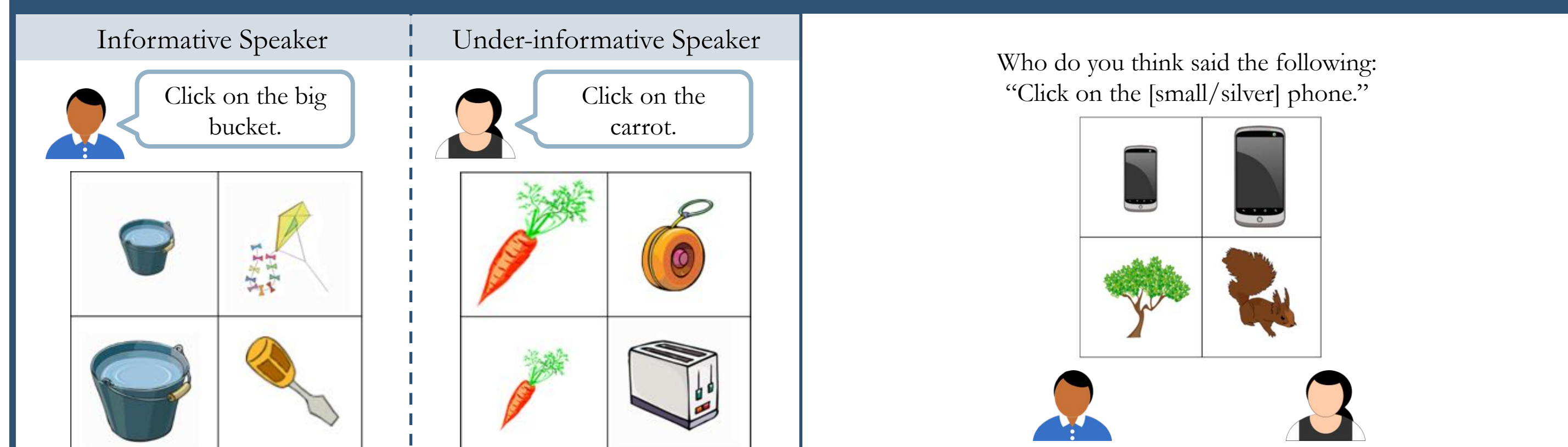
- Updating p(referential expression | referent, **speaker**, **context**...)
- Only faithfully keeping track of the statistics may lead to over-fitting the estimate to uninformative data (e.g., mistakes)
- Rational listeners may leverage
 - 1) **statistical structure of the input**: What kinds of utterances are more or less likely?
Pogue et al., (2016): Listeners readily adapt their expectations in response to a priori less likely, hence more informative, input.
 - 2) **sampling assumptions**: How is the data sampled and how reliable is the evidence?

Main Question: Are listeners appropriately adapting their expectations based on the evidence? Can they consider evidence beyond the linguistic signal?

General Methods

Exposure Phase

Generalization Phase

<p>Informative Speaker</p> <p>Click on the big bucket.</p> 	<p>Under-informative Speaker</p> <p>Click on the carrot.</p> 
<p>Who do you think said the following: "Click on the [small/silver] phone."</p> 	

Experiment 1

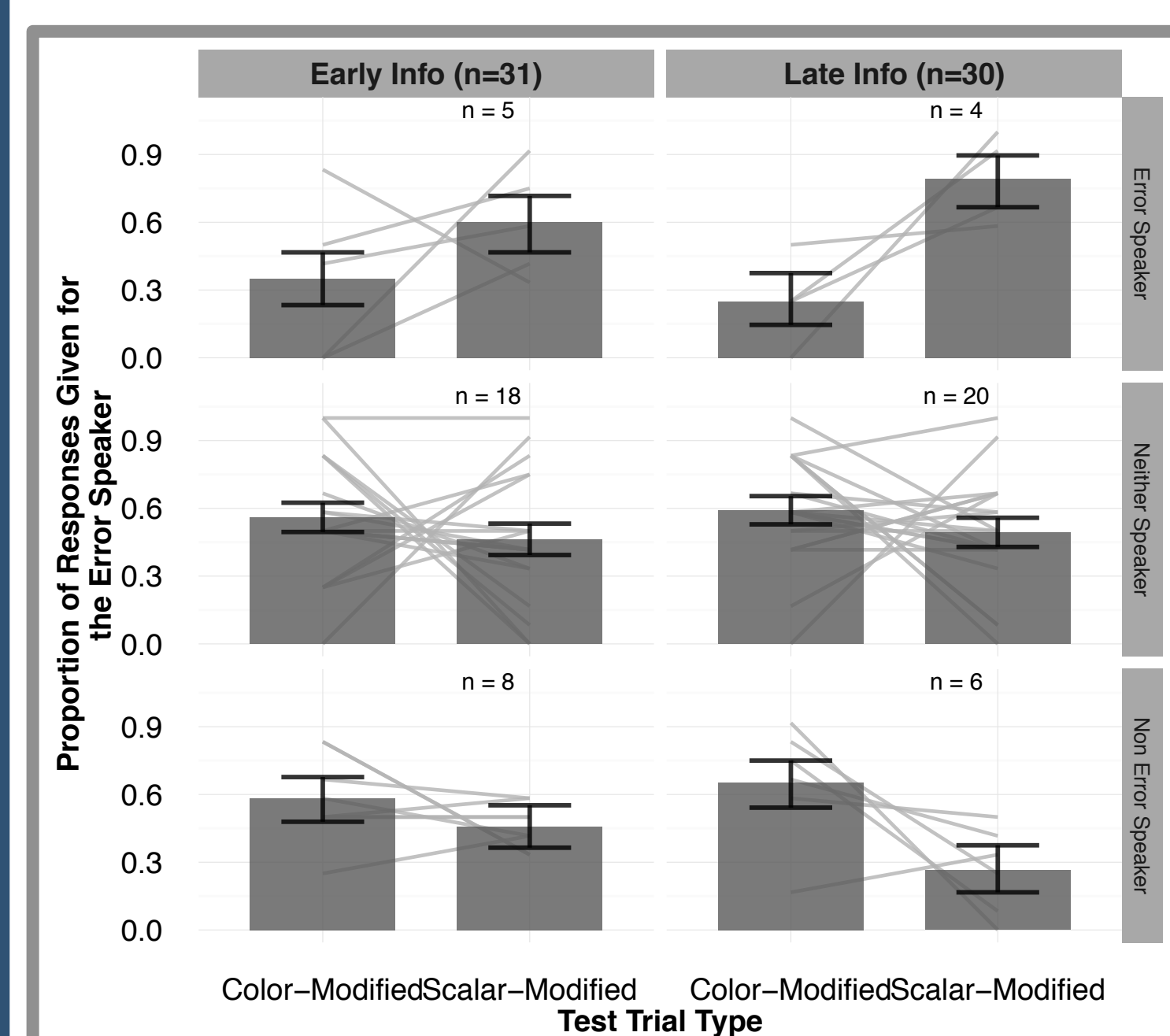
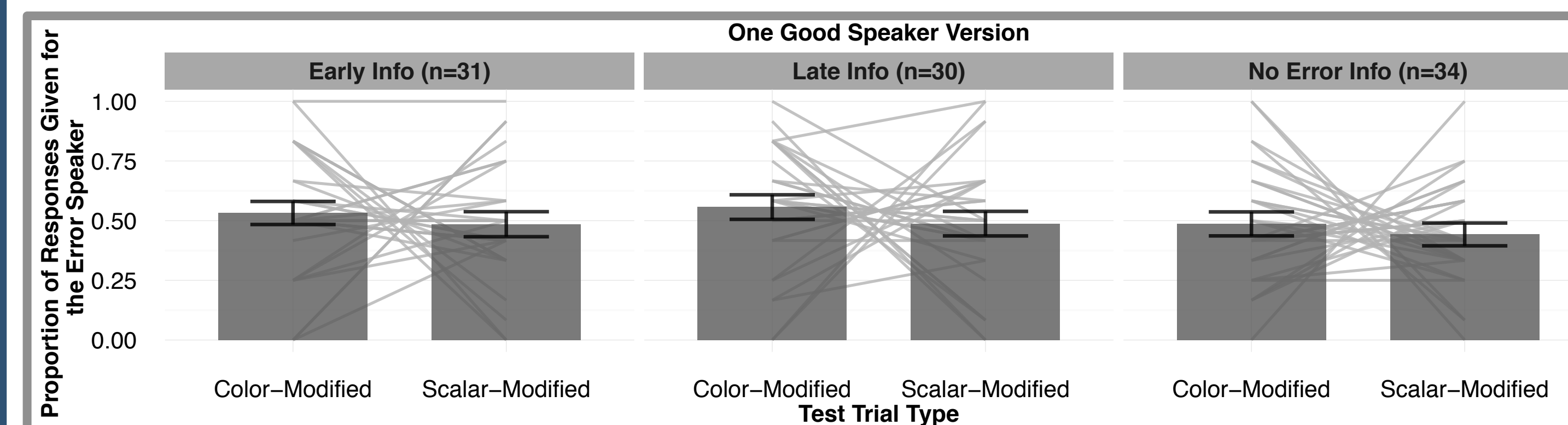
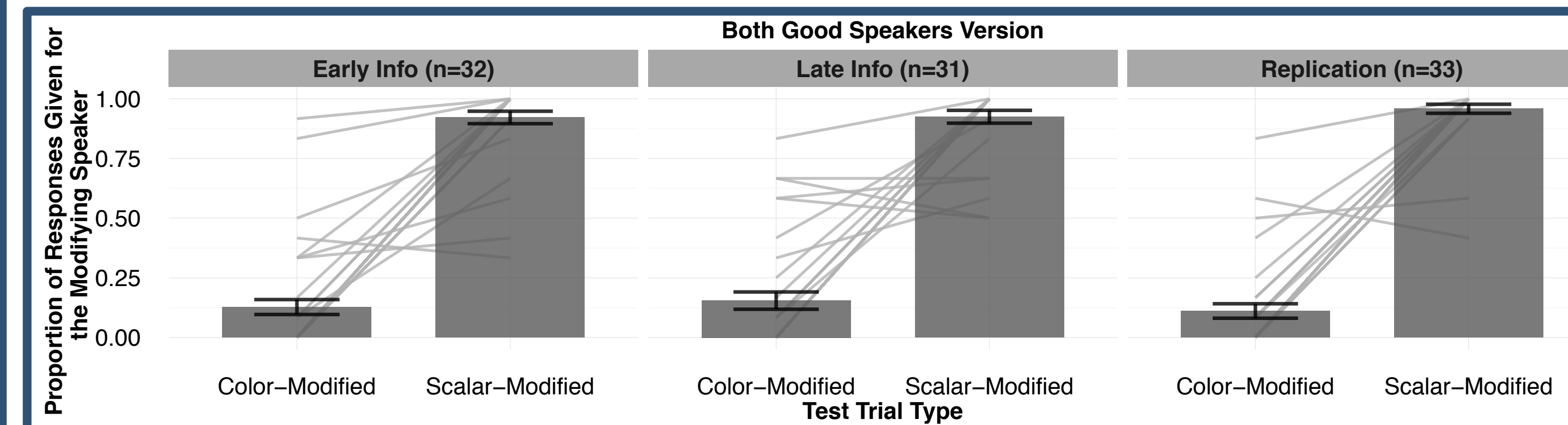
Does explicit correction of assumed context cancel speaker-specific pragmatic generalization?

2 Versions:

- **Both Good (n=96)**: an error notice suggests that an otherwise under-informative speaker is actually sufficiently referring
- **One Good (n=95)**: error notice "fixes" one of the speakers

3 Conditions:

- Early Info: error notice before exposure
- Late Info: error notice after exposure
- No Error





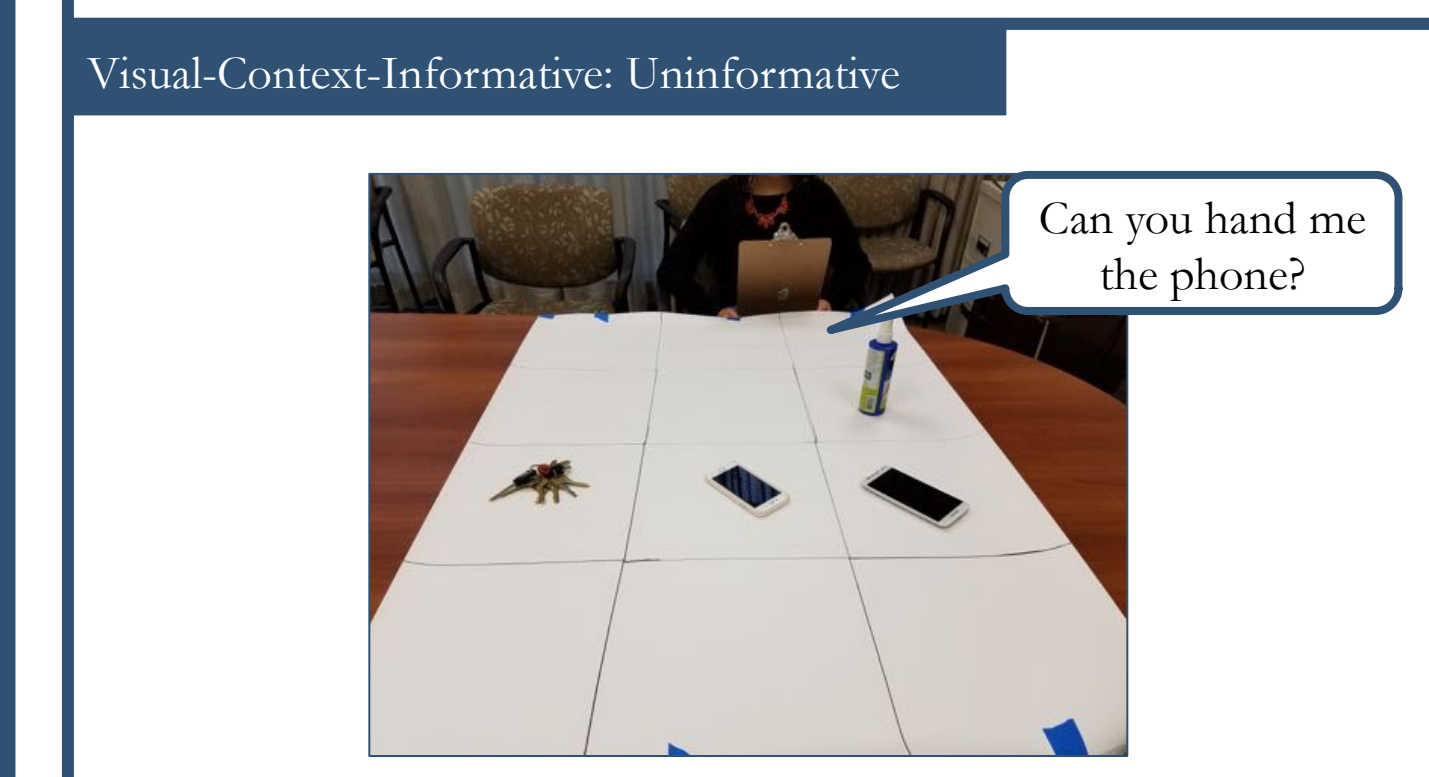

- Overall significant effect of test trial type ($p < .001$) for Both Good, but not One Good
- Suggests that top down information is not sufficient to cancel speaker-specific attributions, even if notified before exposure
- Some suggestion from secondary analysis, that it might be possible if the listener thinks the top down info is believable

Experiment 2

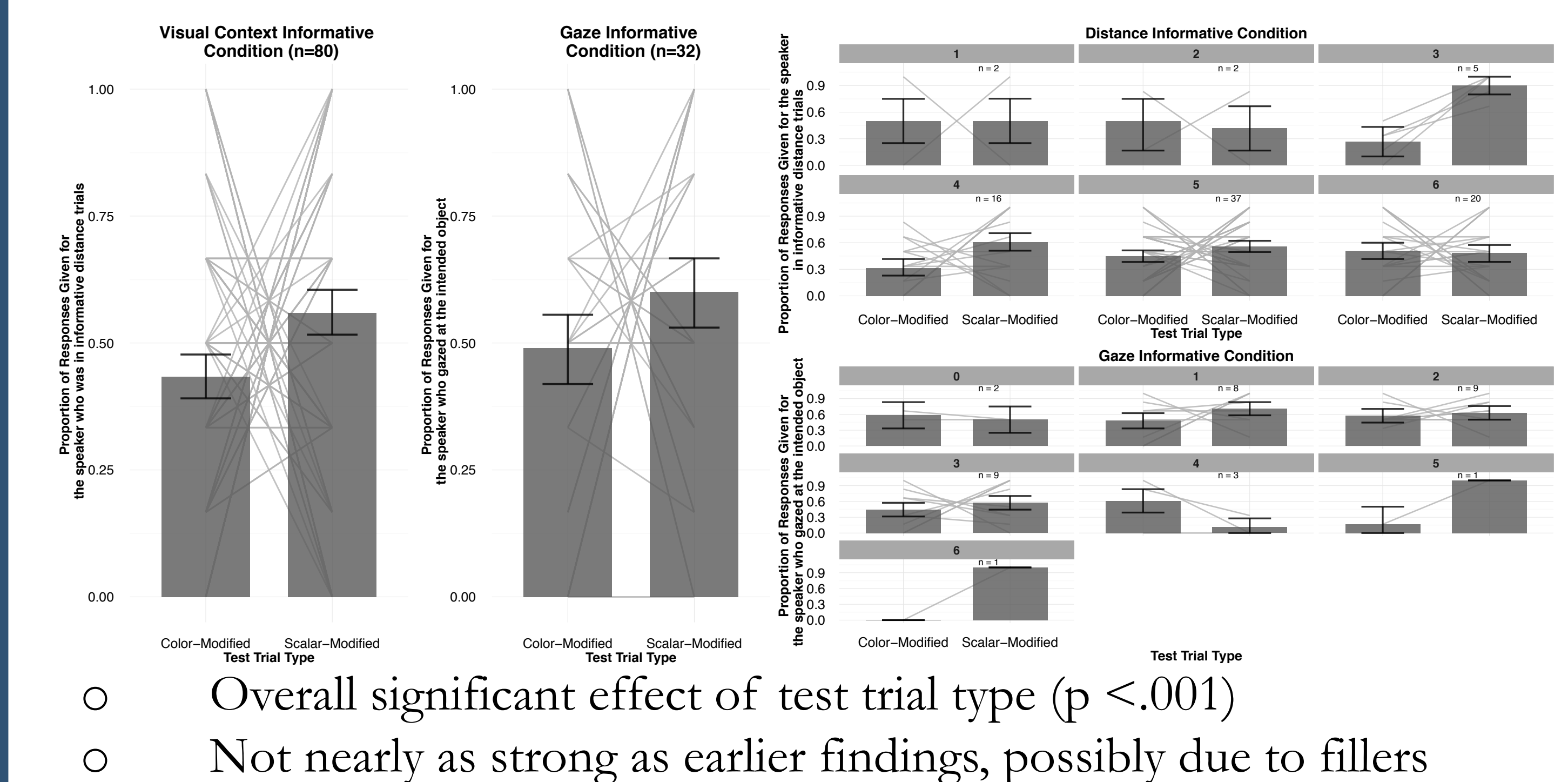
Does context-based attribution happen if plausible context is given visually?

- Visual-Context Informative (n=80): the location of the target with respect to the listener makes the instruction under-/informative
- Gaze Informative (n=32): the speaker does/not provide an informative gaze cue in addition to their instruction

Exposure (6 critical, 6 fillers per speaker)

<p>Visual-Context-Informative: Informative</p> 	<p>Gaze Informative: Informative</p> 
<p>Visual-Context-Informative: Uninformative</p> 	<p>Gaze Informative: Uninformative</p> 

Generalization (12 trials)



Main Findings: It's not that people are only sometimes Gricean; they can leverage various distributional assumptions and beliefs about the sampling process of the data to modulate their expectations appropriately. Listeners integrate contextual information to explain seemingly under-informative sentences, maintaining the informativity assumption for a given speaker. But they do not necessarily consider explicit information as sufficient to override expectations from evidence.