

## Background

Contextual ambiguity is difficult to recognize.

Speakers in these contexts are often not aware of the ambiguity at all (Kraljic and Brennan, 2005)

Goal: determine if non-verbal feedback mediated by cognitive load (time pressure) will increase disambiguation.

## Method

### Participants

~16 undergraduate students (per Experiment; mean age: 21 years).

### Stimuli (Exp. 1, 2 & 3)

#### Picture & Pre-recorded Auditory Stimuli



**Container + Object:** "Put the paperclip on the cauldron on the stop sign."



**Container:** "Put the flowerpot on the circle."



**Object:** "Put the hammer on the rectangle."



**Geometric:** moon, circle, rectangle, diamond, octagon, cross, triangle, heart

#### Pseudo-Confederate Response Videos:

**Correct:** Correct object was moved.

**Mixed:** Incorrect objects moved (7/24 trials) + Correct objects moved

## Procedure

### Visual Display

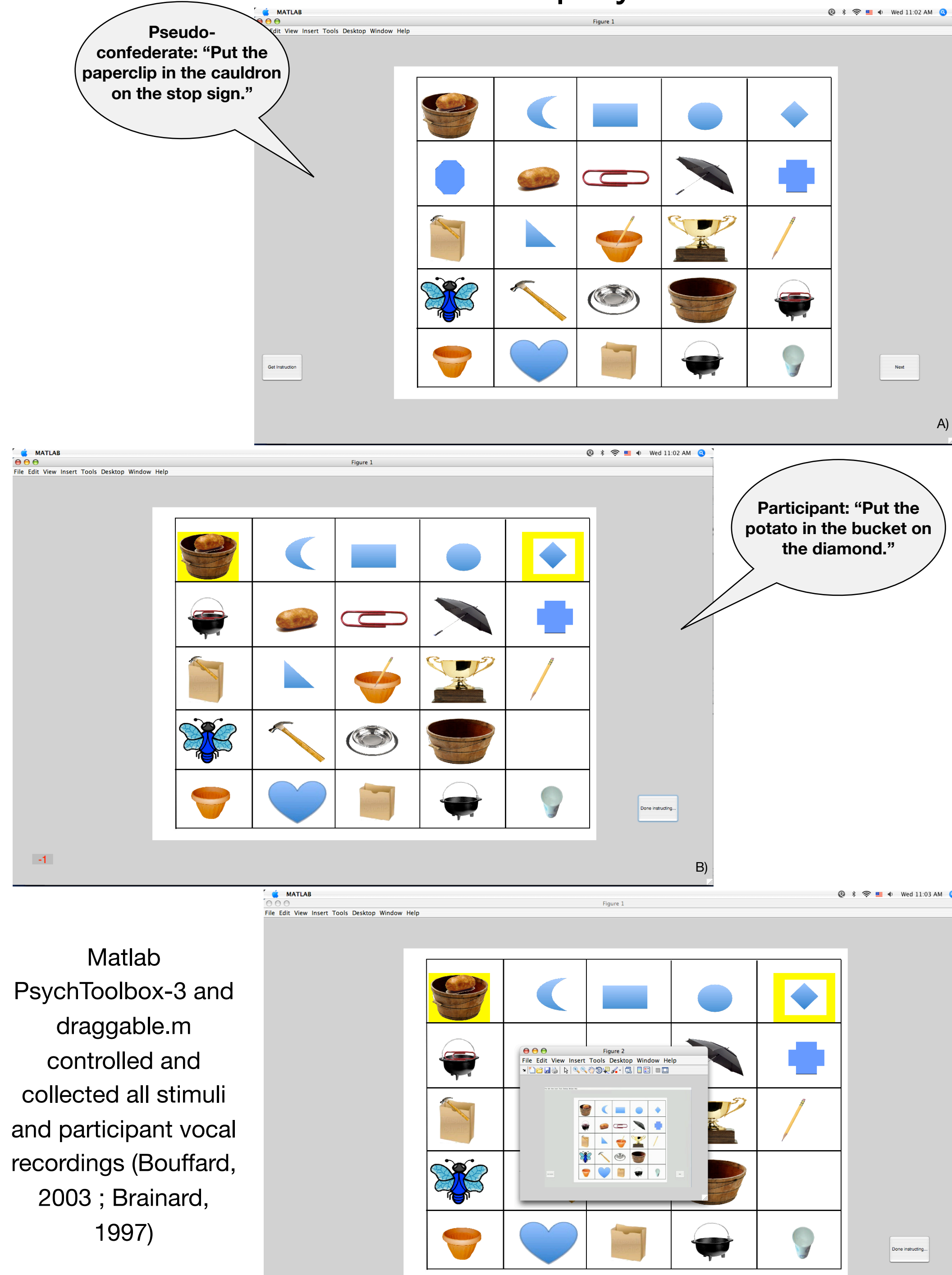


Figure 1. Participant interactive screens with A) objects to be moved, B) highlighted images for instruction and C) the Pseudo-Confederate response (Mixed or Correct).

## Experimental Conditions

### Experiment 1

Miscommunication Cue: Present vs. Absent

### Experiment 2

Time Pressure (Mistake Present vs. Absent)  
Time limit: + 1 (< 7sec instruction)

### Experiment 3

Early Time Pressure  
Late Time Pressure

## Results

Model(s): Mixed fixed/random effects models

Dependent Measure: [p(disambiguation)].

### Experiment 1

(Miscommunication Cue: Present vs. Absent)

•Hypothesis: A visual cue to ambiguity increase disambiguation, relative to no cue at all.

•**Result: A mistake cue (30% of C+O trials) increased disambiguation**

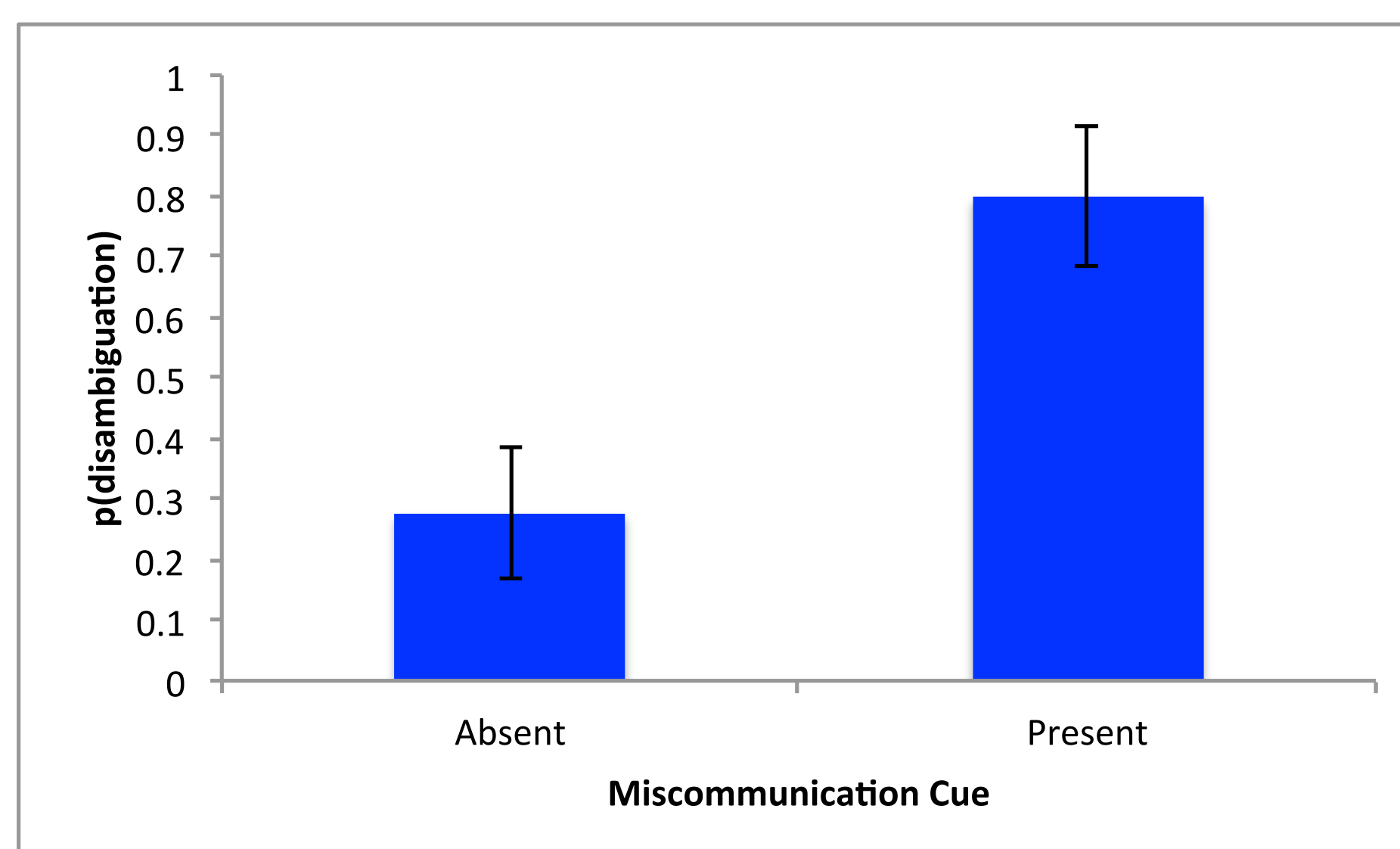


Figure 2. Proportion of disambiguation means and standard errors for the main effect of miscommunication cue (Absent or Present).

• **Result: Learning over time, increased disambiguation.**

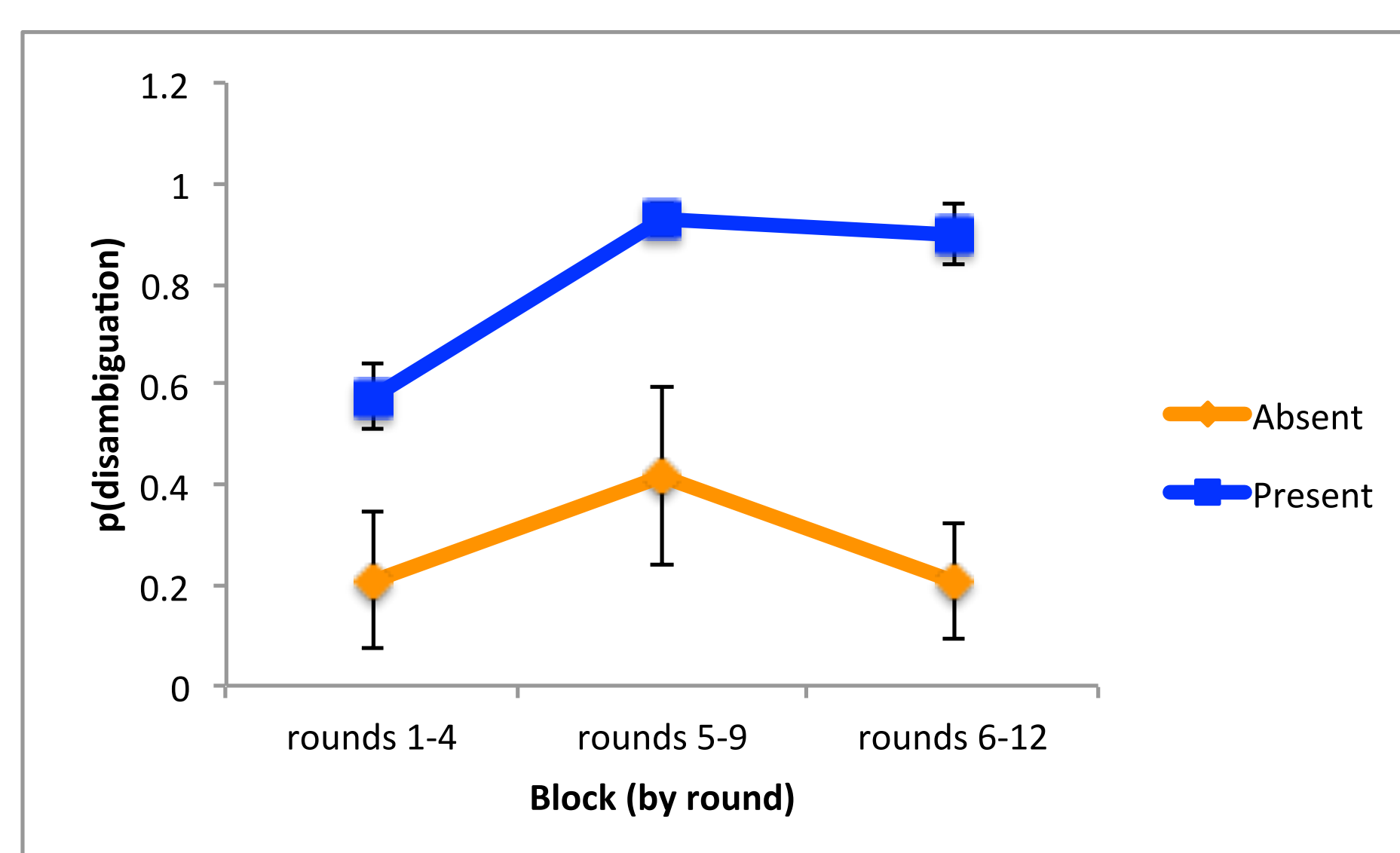


Figure 3. Proportion of disambiguation means and standard errors for the Block (rounds) x Miscommunication cue (Absent or Present) interaction.

### Experiment 2

(Time Pressure: Present vs. Absent)

•Hypothesis: Time pressure should have an effect on monitoring miscommunication and planning productions.

•**Result: Time pressure reduces the likelihood an interlocutor will disambiguate**

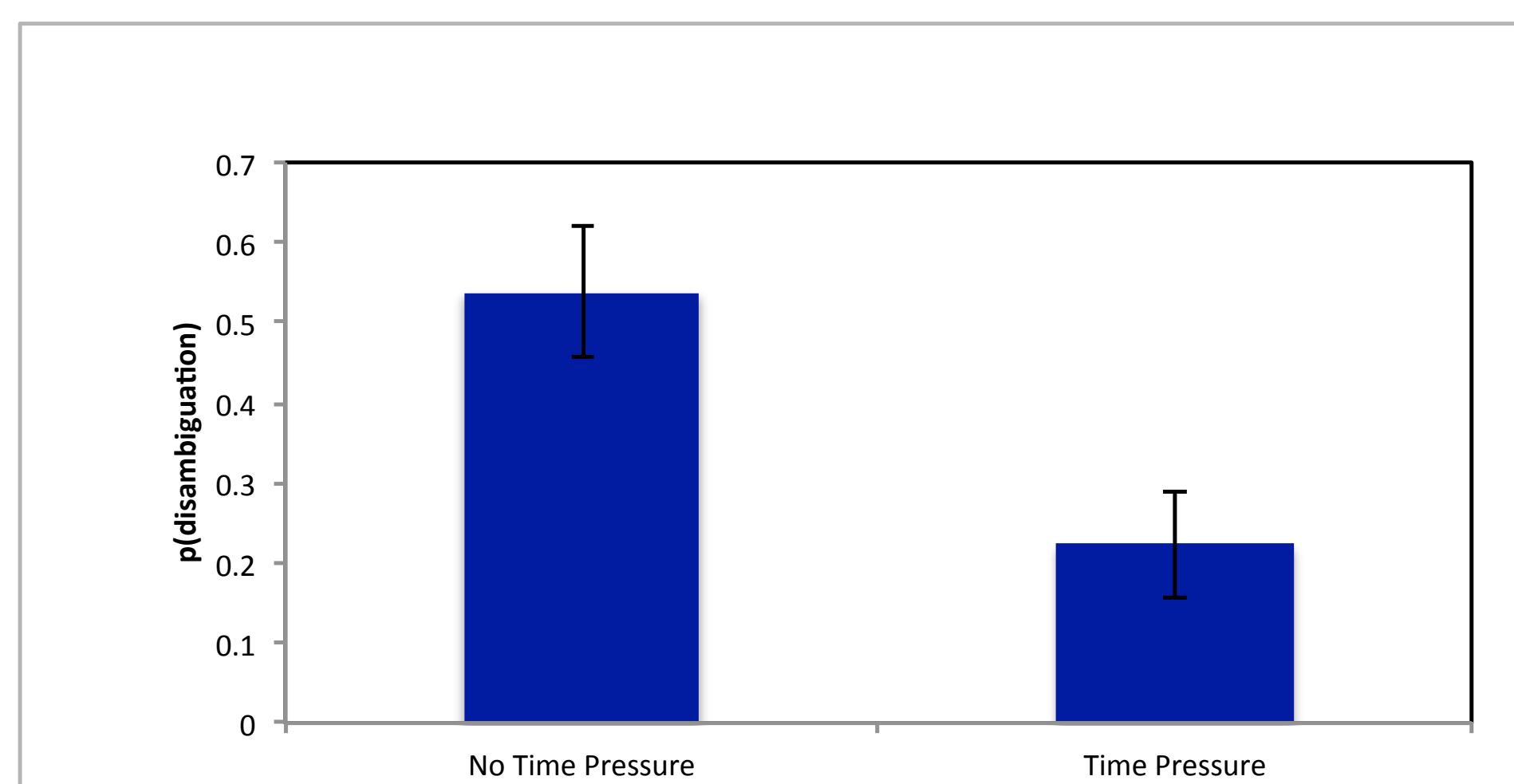


Figure 4. Proportion of disambiguation means and standard errors for the main effect of Time pressure (Absent or Present).

## Experiment 3

(Varying Time Pressure: Early vs. Late)

•Hypothesis: Time pressure may only hinder production execution, but monitoring and production planning may still occur.

•**Result: Time pressure reduces the likelihood an interlocutor will disambiguate**

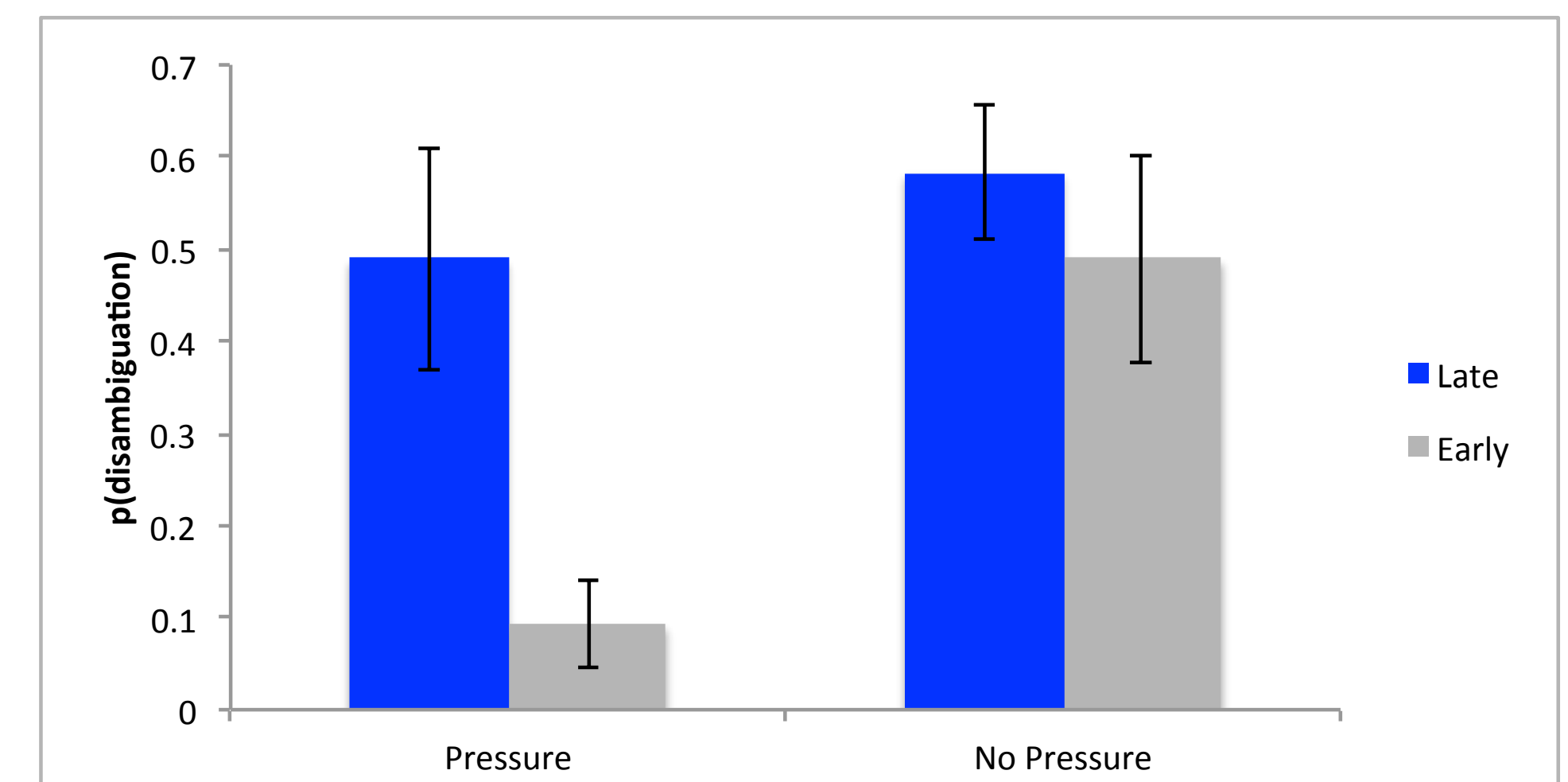


Figure 5. Proportion of disambiguation means and standard errors for the main effect of Early vs. Late time pressure.

## Discussion

- Language does not always help communication.
- When language fails, non-linguistic feedback is helpful.
- Except when cognitive load hinders its integration for disambiguating (e.g., time pressure).
- An "ease of production" strategy was elicited when the production system is loaded (Horton & Gerrig, 2005; Roßnagel, 2000).
- Cheap and simple strategies win when the system is taxed (Horton & Keysar, 1996; Shintel & Keysar, 2009).
- However, interlocutors will monitor and adjust their behavior towards the needs of their audience.
- Once the best strategy is formulated, it should persist.

## References

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## Acknowledgments

Special thanks to the undergraduate research assistants Ronni Jupson, Caitlin Mills, and Amy Roche, and graduate researchers Gina Caucci, Kristy Snyder-Tapp and Monica Riordin for their invaluable contribution to this study. This project was supported by a grant from the National Science Foundation to Rick Dale and Roger Kreuz (NSF HSD-0826825)