

# Imprecision and social identity: how social identity affects meaning resolution

ELM 1

Andrea Beltrama & Florian Schwarz  
University of Pennsylvania



## The question

Precise speakers – e.g., those reporting the time as “2:57” vs. “3 o’clock” – perceived as “educated”, “articulate”; “nerdy” (Beltrama 2018)

**Question.** Do listeners reason differently about standards of imprecision depending on the the speaker’s identity?

### General Hypothesis

- Listeners should lean towards **precise** interpretations with speakers socially expected to be **precise**.
- Listeners should lean towards **imprecise** interpretations with speakers socially expected to be **imprecise**.

## The paradigm

### Persona Manipulation

"Rachel and Arthur are looking for a one-way plane ticket"



Nerdy Characters

"Alex and Eva are looking for a one-way plane ticket"



Chill Characters

### Screen-fit Manipulation

- Which phone is Alex/Arthur looking at?
- Choice between **VISIBLE** and **COVERED**
- **VISIBLE** screen came in 3 conditions



Match

Mismatch

Imprecise

# Experiment 1: within-subjects

## Methods

- 24 items, drawn from three categories
  - Time (Imprecise range: +/- 6-10 min)
  - Price (Imprecise range: +/- \$ 10-14)
  - Distance (Imprecise range: +/- 10-14 miles)
- 24 fillers that didn't contain number words
- Both manipulations administered within-subjects
- 71 subjects recruited on Prolific

## Predictions

Screen choice: VISIBLE vs. COVERED

→ **Prediction:**  
in Imprecise condition, higher number of COVERED choices with Nerdy speakers

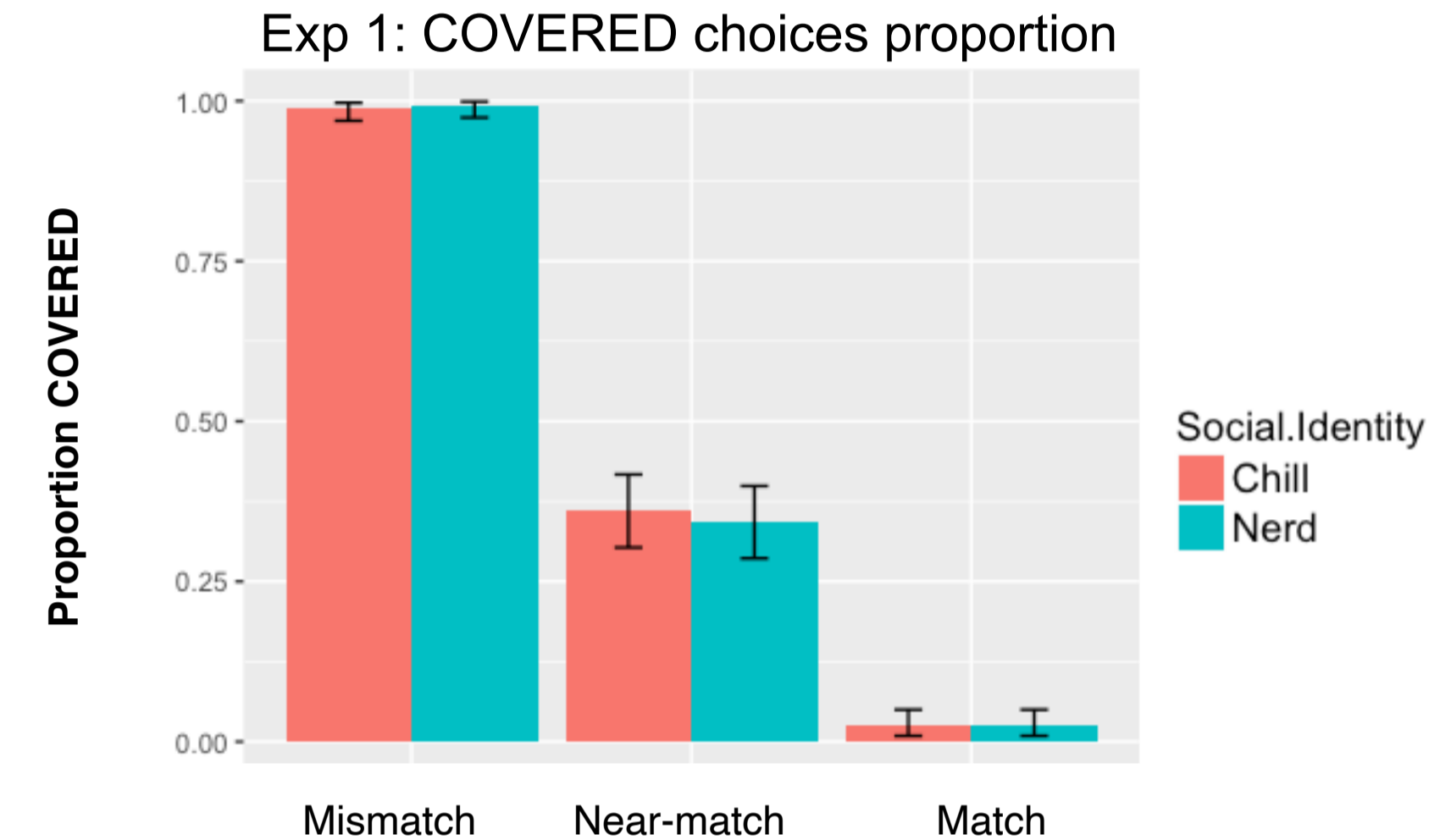
Binomial ME model  
**Fixed effects:** Persona & Screen Fit  
**Random intercepts:** Subject & Item

Response times before selection

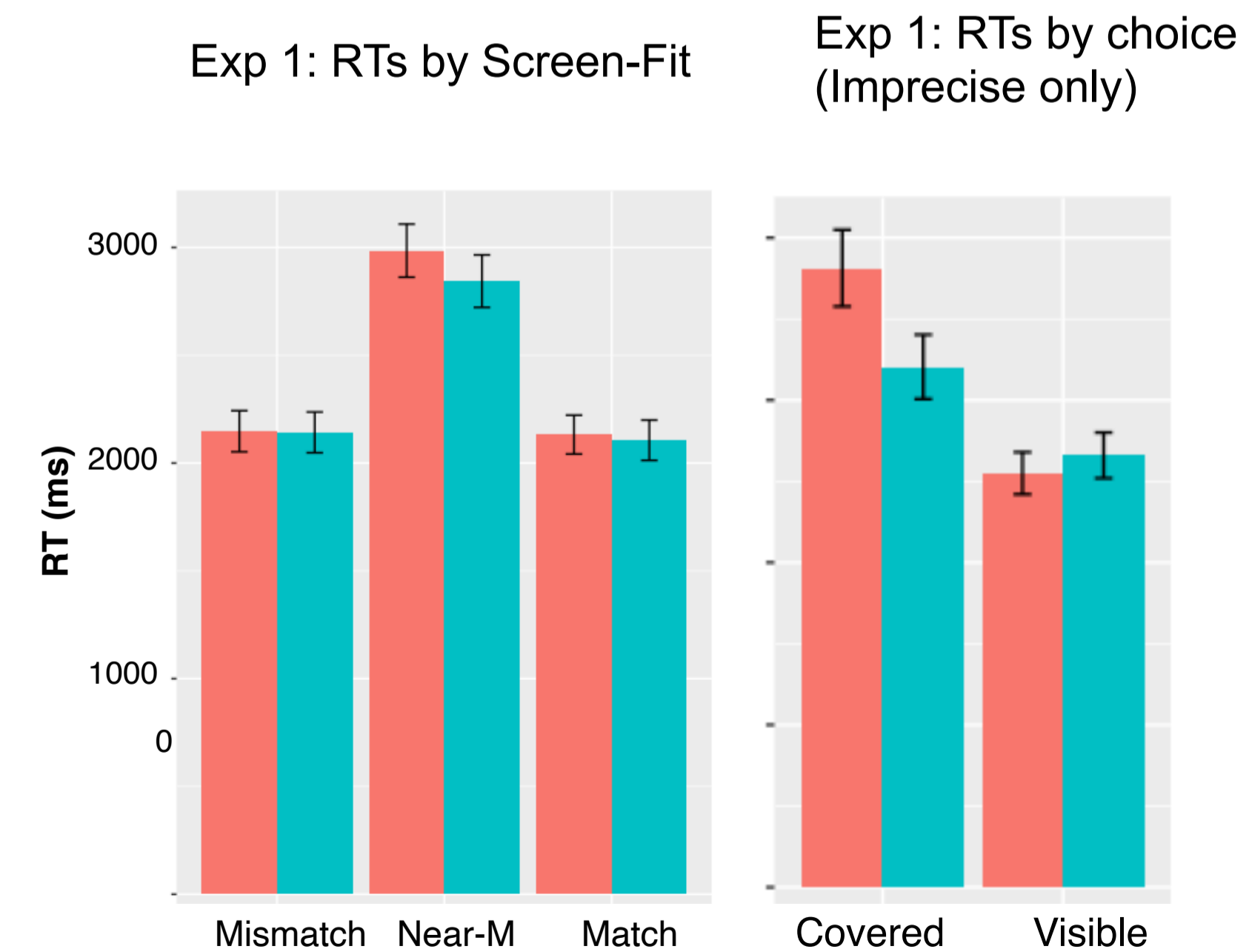
→ **Prediction:**  
in Imprecise condition, COVERED choice should be faster with Nerdy speakers

Linear ME model 1  
**Fixed effects:** Persona & Screen Fit  
Linear ME model 2 (Imprecise only)  
**Fixed effects:** Persona & Screen Choice  
**Random intercepts:** Subject & Item (both models)

## Results



- Match and Mismatch conditions at floor and ceiling respectively
- Imprecise condition in the middle
- No effect of Persona



- Choices in Imprecise condition take longer than in Match and Mismatch
- COVERED choices in Imprecise condition take longer than VISIBLE ones
- COVERED choices in Imprecise condition take longer for Chill than for Nerd

# Experiment 2: between-subjects

## Methods

- 24 items, **larger range** of imprecision
  - Time (Imprecise range: +/- 1-14 min)
  - Price (Imprecise range: +/- \$ 6-19)
  - Distance (Imprecise range: +/- 6-19 miles)
- Persona manipulation **between-subjects**
- Questionnaire about participant's information
  - How nerdy do you consider yourself to/ be? **(1-10)**
  - How chill do you consider yourself to be? **(1-10)**
- Using median, participants split into 2 groups:
  - Nerdy vs. Non-nerdy
  - Chill vs. Not-chill
- New factor with two levels:
  - **Ingroup:**  
Participant and character identities matches (Nerd sees Nerd; Chill sees Chill)
  - **Outgroup:**  
Participant and character identities matches (Nerd sees Nerd; Chill sees Chill)
- 192 subjects recruited on Prolific

## Predictions

Screen choice: VISIBLE vs. COVERED

→ **Prediction:**

in Imprecise condition, higher number of COVERED choices with Nerdy speakers

Binomial ME model

**Fixed effects:** Persona & Screen Fit

**Random intercepts:** Subject & Item

Effect of participants' identity:

INGROUP vs. OUTGROUP

→ **Prediction:**

If Persona-based expectations are more available to participants aligning with that persona particular, Persona effect on choices should be stronger in the Ingroup condition.

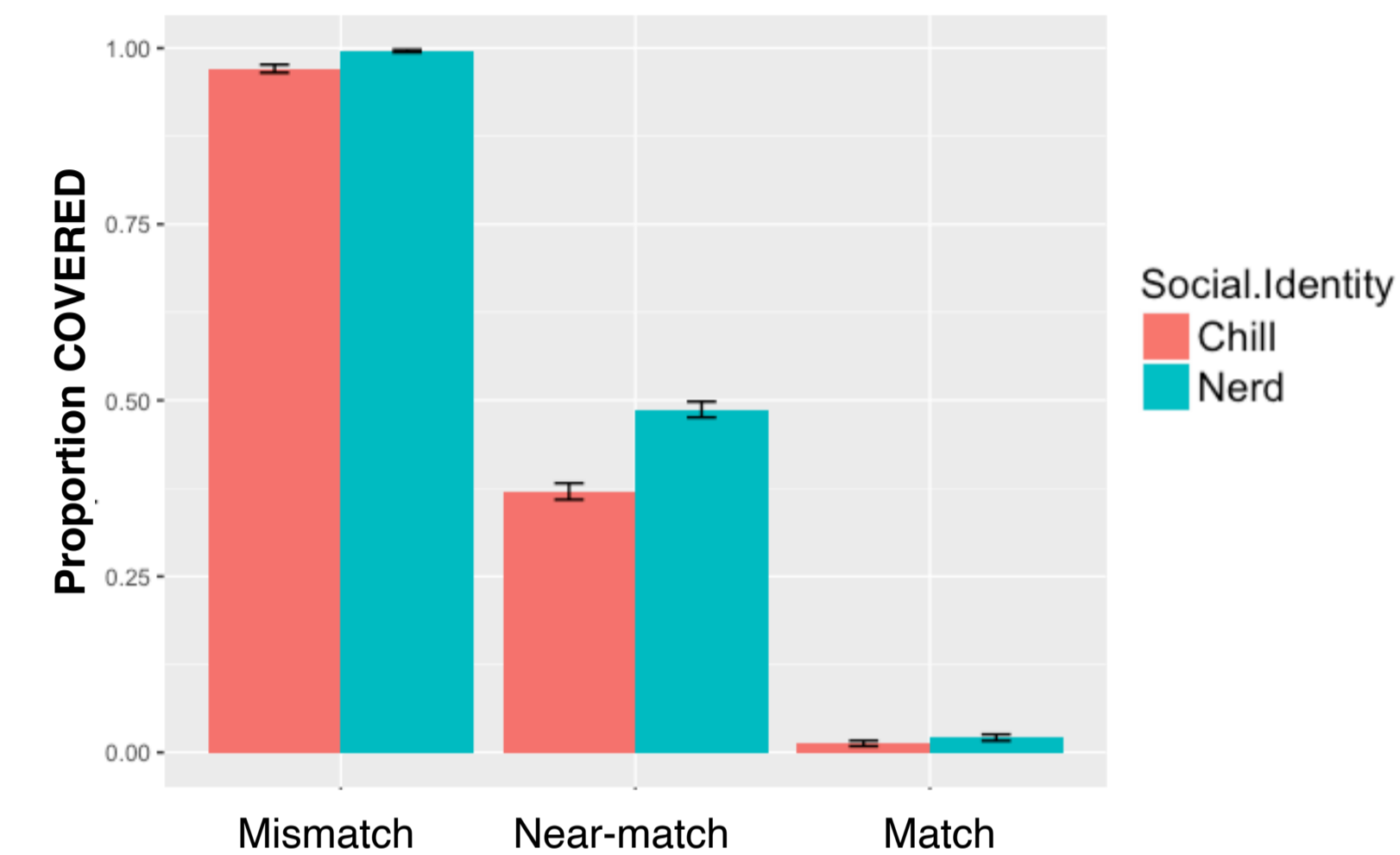
Binomial ME model

**Fixed effects:** Ingroupness & Screen Fit

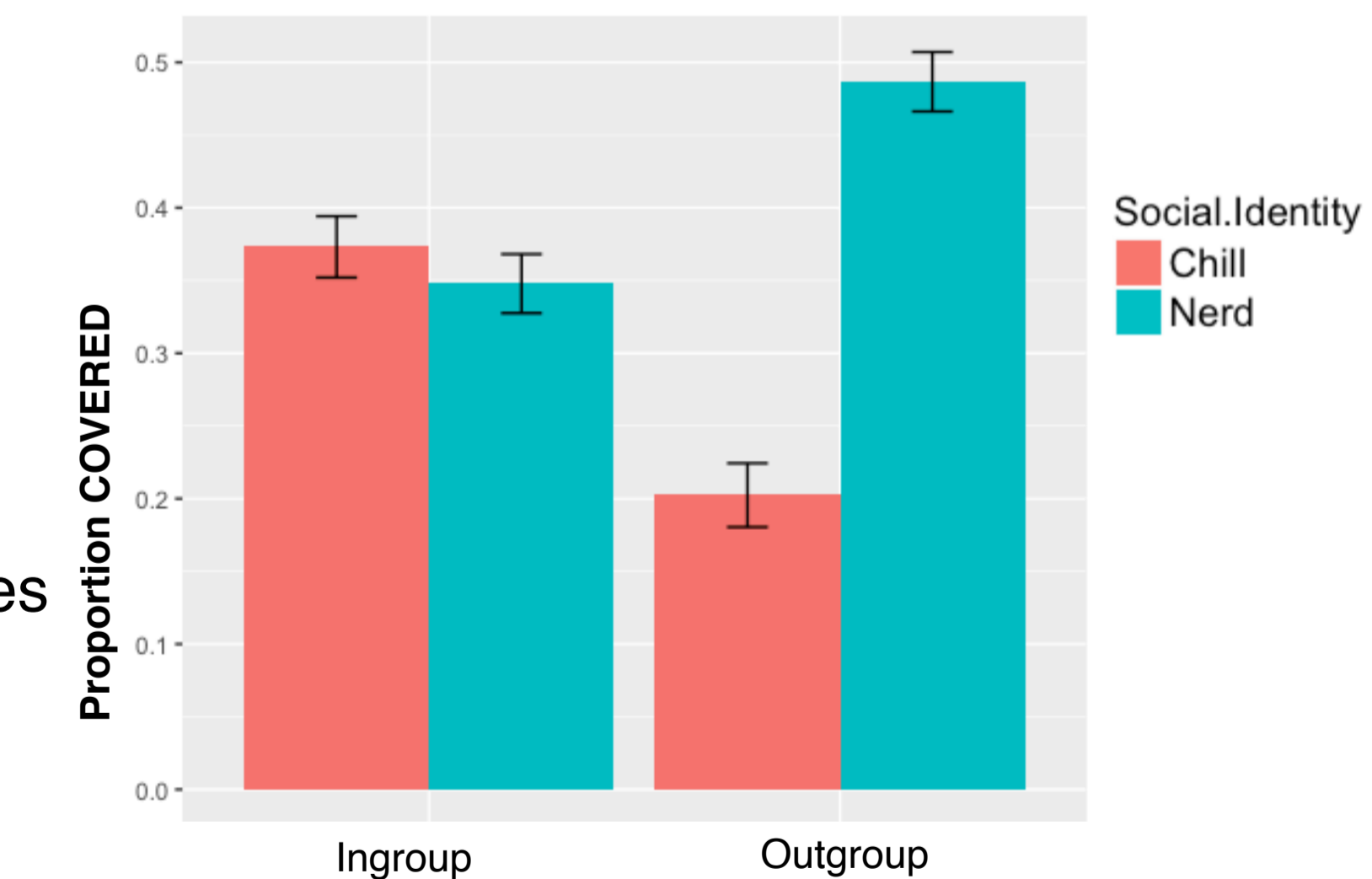
**Random intercepts:** Subject & Item

## Results

Exp 2: COVERED choices proportion across Participants



- Match and Mismatch conditions at floor and ceiling respectively
- **Persona Effect:** COVERED rate higher with Nerdy speakers, as predicted
- No RT effect (not discussed here)



- Persona effect only present when participants' and characters' persona **don't** align
- INGROUPNESS doesn't facilitate effect of persona on imprecision resolution

## Conclusions

- Pragmatic reasoning about imprecision is shaped by social information about the speaker
- Effect observed both on offline choices and response times, though not consistently across designs
- Persona effect is further modulated by the social identity of the comprehender: it's considerably stronger when the respondent's and the character's persona don't align
- Promising angle on the study of meaning interpretation and communication at the interface of pragmatics and sociolinguistics.

## Next steps

- More detailed analysis of response times
- Participants' identity information analyzed as continuous (as opposed to categorical)