INTRODUCTION

How do listeners use prosody to reliably interpret talkers’ belief states [1], especially in light of socio-indexical [2] and within-talker variability [3]?

[Proposal] Listeners make inferences by using prior experiences to build a model about how the prosodic signal is mapped onto talkers’ belief states.

[Prediction] Listeners adapt to new mappings between the input and belief states.

Research question: Are listeners able to adapt their intonation interpretations based on changes in the input?

RESULTS

- Listeners shifted their category boundaries in response to the exposure they received throughout the experiment.
- The shift in the Non-Ambiguous condition could be due to the shift in p(question).
- There were asymmetries as to when listeners adapted most (Question-biasing vs. Statement-biasing, in particular).

CONCLUSIONS AND FOLLOW-UPS

- Listeners are sensitive to changes in how belief states are encoded prosodically and they adapt their interpretations of intonational contours accordingly.
- They may be shifting their expectations as well, as suggested in Non-Ambiguous condition.
- No shift in Statement-Biasing condition. Why?

Ongoing follow-up studies:
1) Manipulating F0 and duration independently.
2) Changing variance of a distribution (cf. the mean shifts in the current experiment).
3) Syntactically marked questions at exposure (e.g., Is it raining?)
   - Can listeners learn variations of intonational information as conditioned on various syntactic structures?
4) Modeling adaption in the ideal-adapter framework [5].

METHODS

- 16 instances of [it’s-X-ing] sentences were recorded
  - Once with a falling, declarative intonation
  - Once with a rising, question intonation, used as two end points of 12-step continua [4].
- Three-phase experiment
- Two-alternative forced-choice task (Question / Statement)
- 180 participants from Mechanical Turk

REFERENCES