



# "I think it's a tiger": Does prosody help distinguish different uses of belief verbs?

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## Belief verbs are pragmatically ambiguous

Depending on the context, mental state verbs can - indicate that someone holds a **belief** without necessarily committing to its truth

(1) A: What is this?  
B: I think it's a tiger.

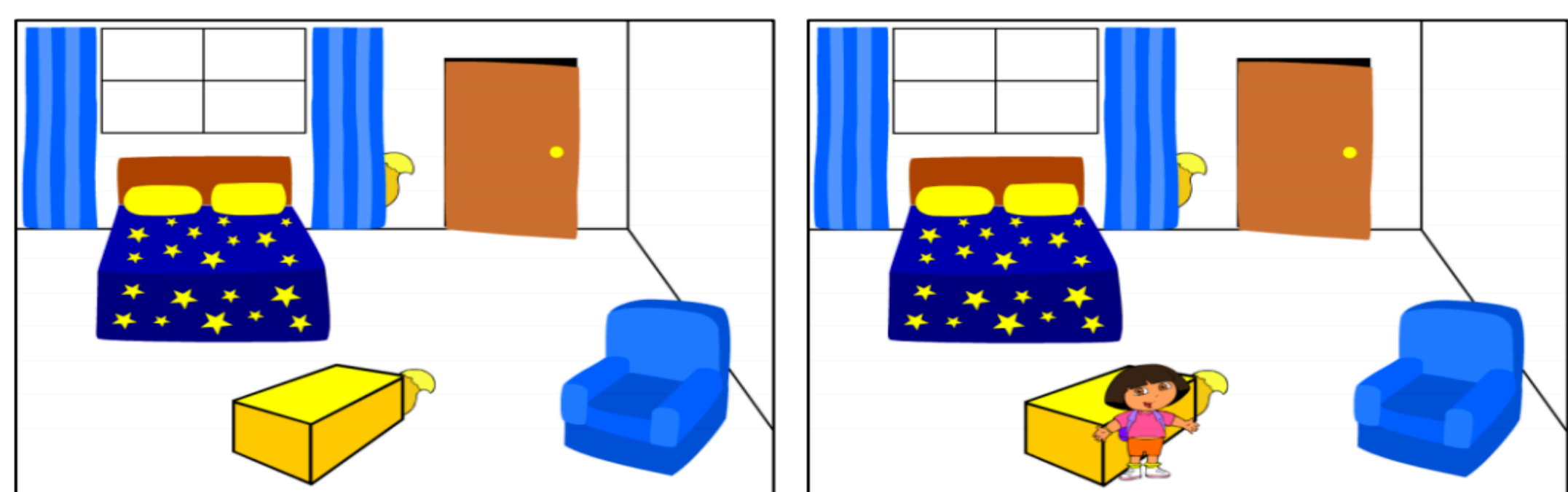
belief

- have a **parenthetical** interpretation, politely softening an assertion (Rooryck 2001, Simons 2007)

(2) A: It's a lion.  
B: I think it's a tiger.

hedge

## Pragmatic hypothesis for explaining why children have difficulty with belief verbs



Lewis et al. 2013

QUD (Where is Swiper?)

Exp: Dora thinks that Swiper is behind the toy box.

Child: No—he's behind the curtain!

Does prosody help distinguishing these two uses?

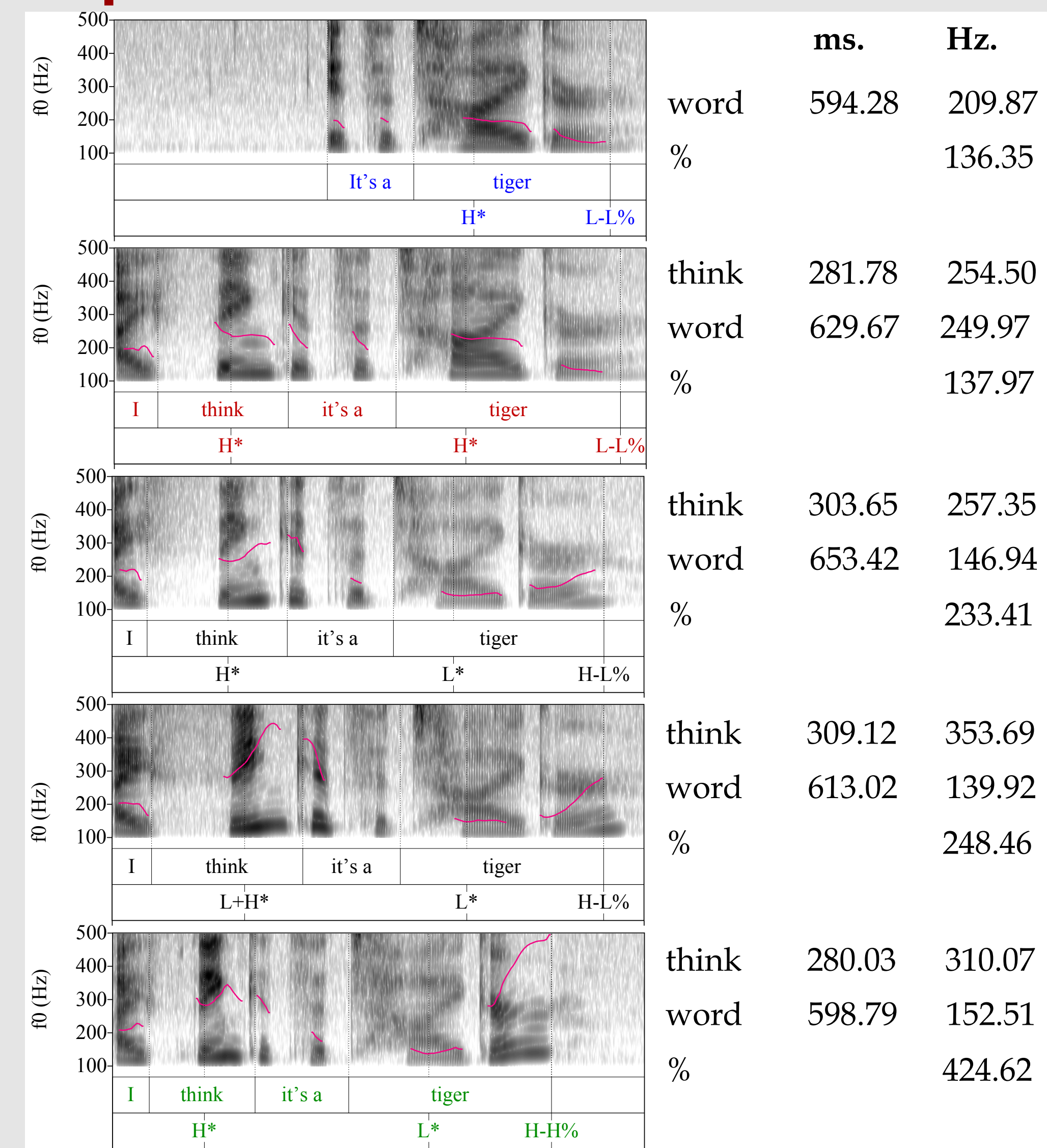
Kurumada (2013) provides evidence that prosody helps in a similar pragmatic contrast: *It looks like a ZEBRA* (and is) vs. *It LOOKS like a zebra* (but isn't)

Experiment 1 tests 5 tunes in isolation for how certain the speaker sounds.

Experiment 2 tests whether listeners used the prosodic differences when determining a speaker's intent in context.

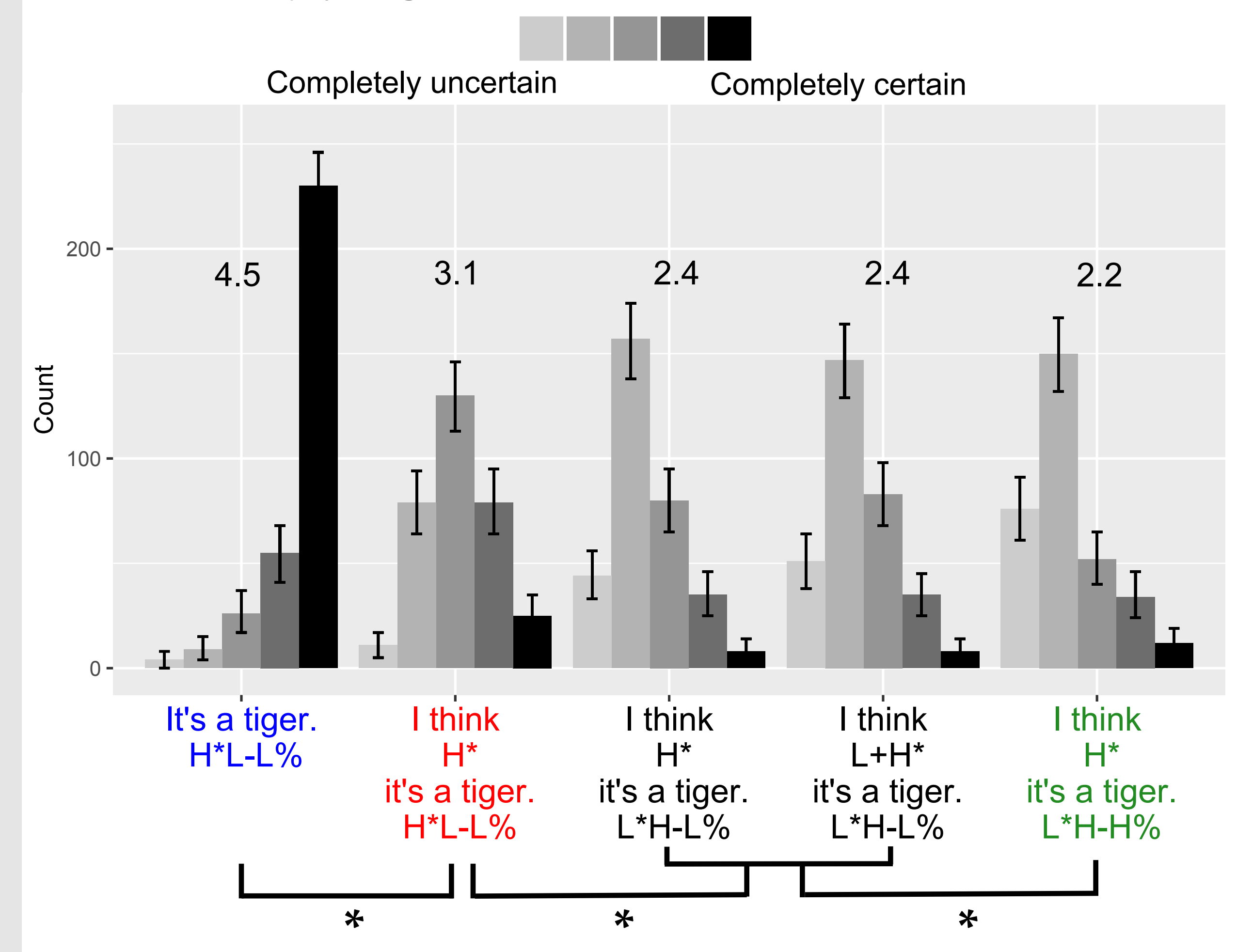
Thanks to Laura Wagner for her big help on this project, to Laurie Maynell and Julie McGory for the recordings, and to our RAs Marissa Granitto, Faith Stagge and Claire Shank.

## Experiment 1: tunes in isolation



Adult participants were asked to rate how certain the speaker sounded (N = 54; 30 items, 6 of each contour).

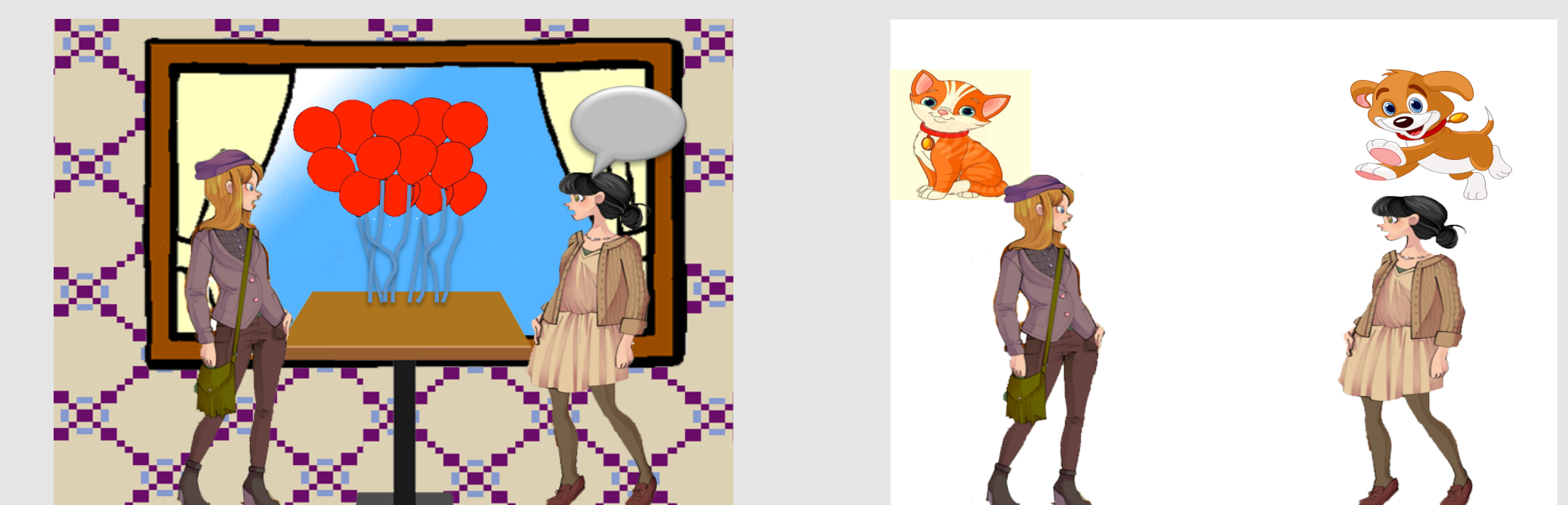
## Certainty judgments for each contour



## Experiment 2: tunes in context

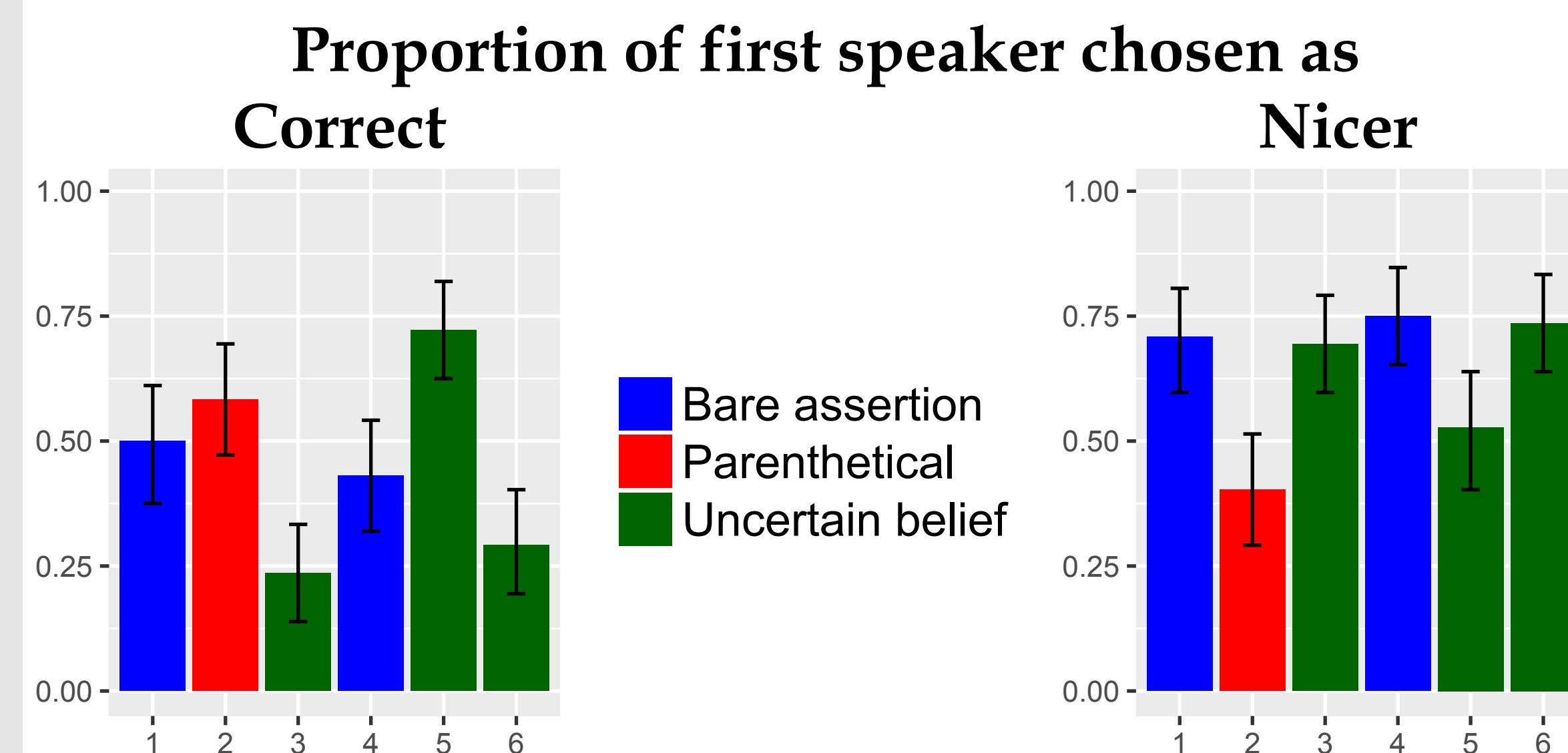
6 conditions, balancing speaker order

1	Diane:	Look! There's a tiger.	Betty:	It's a lion.
2	Diane:	Look! There's a tiger.	Betty:	<i>I think it's a lion.</i>
3	Diane:	<i>Look! I think it's a tiger?</i>	Betty:	It's a lion.
4	Betty:	Look! There's a tiger.	Diane:	It's a lion.
5	Betty:	Look! There's a tiger.	Diane:	<i>I think it's a lion?</i>
6	Betty:	<i>Look! I think it's a tiger?</i>	Diane:	It's a lion.



Adult participants were asked who was correct, and who was nicer (N = 24; 18 trials, 3 in each condition)

- For **bare assertions**, we expect no preference for who is correct or nicer.
- Where one uses **uncertain-belief** prosody, we expect listeners to trust the other more.
- **Parenthetical think**, which is used to make claims, should pattern like bare assertions, but rated nicer.



Prosody disambiguates the two uses of *think*.

Listeners recognize the tunes and apply them in social context. They make pragmatic inferences to judge speaker commitment, and the intent to be polite.