

Conventions in Prosody for Affective Meanings: Non-canonical Terminal Contours in English Polar Interrogatives

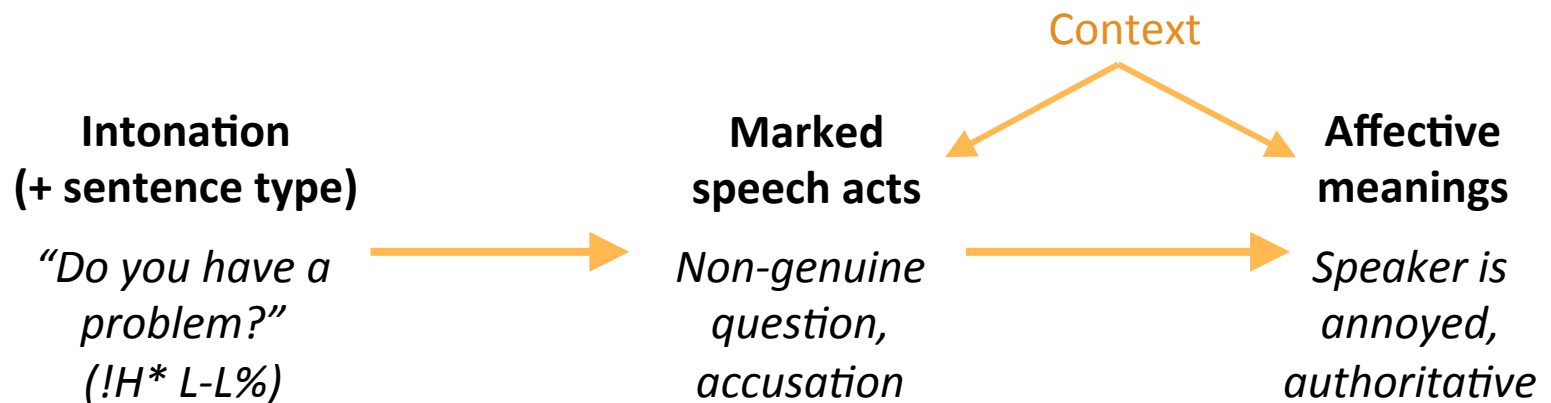
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Introduction

- Intonation serves a variety of linguistic and social functions (Vaissière 2005)
 - Signaling the emotional and **affective state** of the speaker
 - Signaling the **communicative intent** of the speaker (speech act)
- Connections between different functions of intonation

Introduction

- A potential connection between the two functions of intonation
 - An ‘**inferential process**’ arising from pragmatic reasoning (Wichmann 2002; cf. Scherer et al. 1984, Austin 1962)



Introduction

- How does intonation mediate the **connections** between the two types of meanings?
 - Intonational conventions for both?
 - One derivative of the other?
- How does **context** influence different functions of intonation?
 - Context dependence (Cutler 1977, Cauldwell 2000)
 - Context independence (Ward and Hirschberg 1985)

Introduction

- Non-canonical terminal contours in **English polar interrogatives** (mainstream American variety)
 - Non-genuine questions such as **rhetorical questions**, assertions, requests, etc. (Hedberg and Sosa 2002)
 - Negative affects: **being challenging** (Scherer et al. 1984)
 - Mismatch between tune and sentence type
cf. HRTs (uptalks)

The study

- A perception experiment using an English polar interrogative sentence
 - Manipulated in terminal **contours**
 - Embedded in different **contexts**

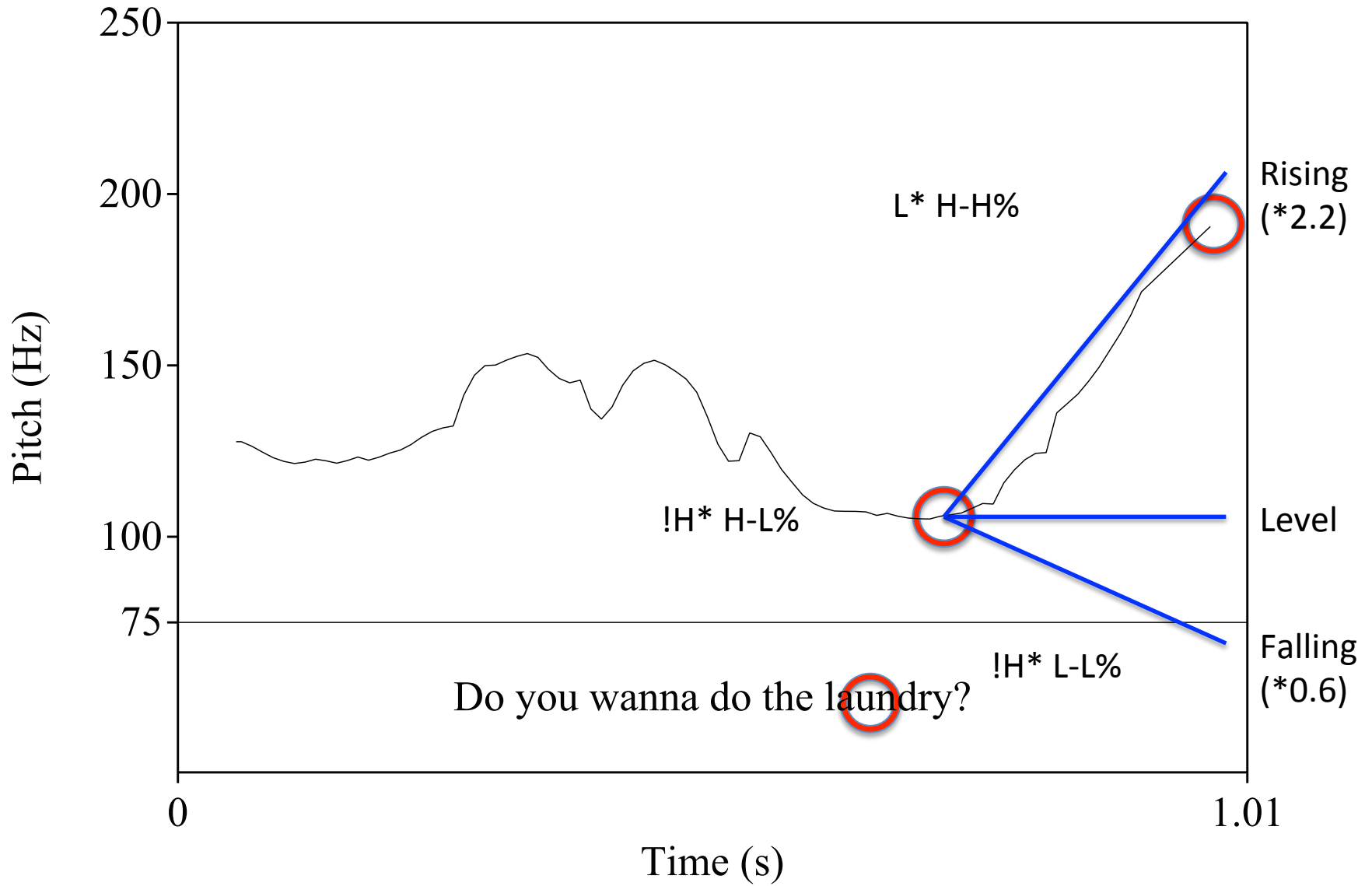
How does context influence the association between intonation and different types of meanings (affective, illocutionary, etc.)?

Methods: stimuli

Do you wanna do the laundry?

- Chosen based on a separate pilot experiment
- Spoken by a Caucasian male native English speaker from the Midwest region of the U.S.

Methods: stimuli



Methods: stimuli

- Contexts for the stimuli

No context	M: Do you wanna do the laundry?
Invitation context	F: I just bought a new batch of fabric softener and it smells so good. I can't wait to try it out. M: Do you wanna do the laundry?
Command / request context	F: I'm going outside to hang out with my friends. M: Do you wanna do the laundry?

Methods: sample trial

(Spoken stimulus played) Listeners responded to:

- Q1: What did the speaker say?
- Q2: How well do the following paraphrases capture the utterance that you've just heard?
 - I want to know whether you want to do the laundry. (**genuine question**)
 - Let's do the laundry together. (**invitation**)
 - Do the laundry. *or* You should do the laundry. (**request**)
- Any other interpretations about the utterance?

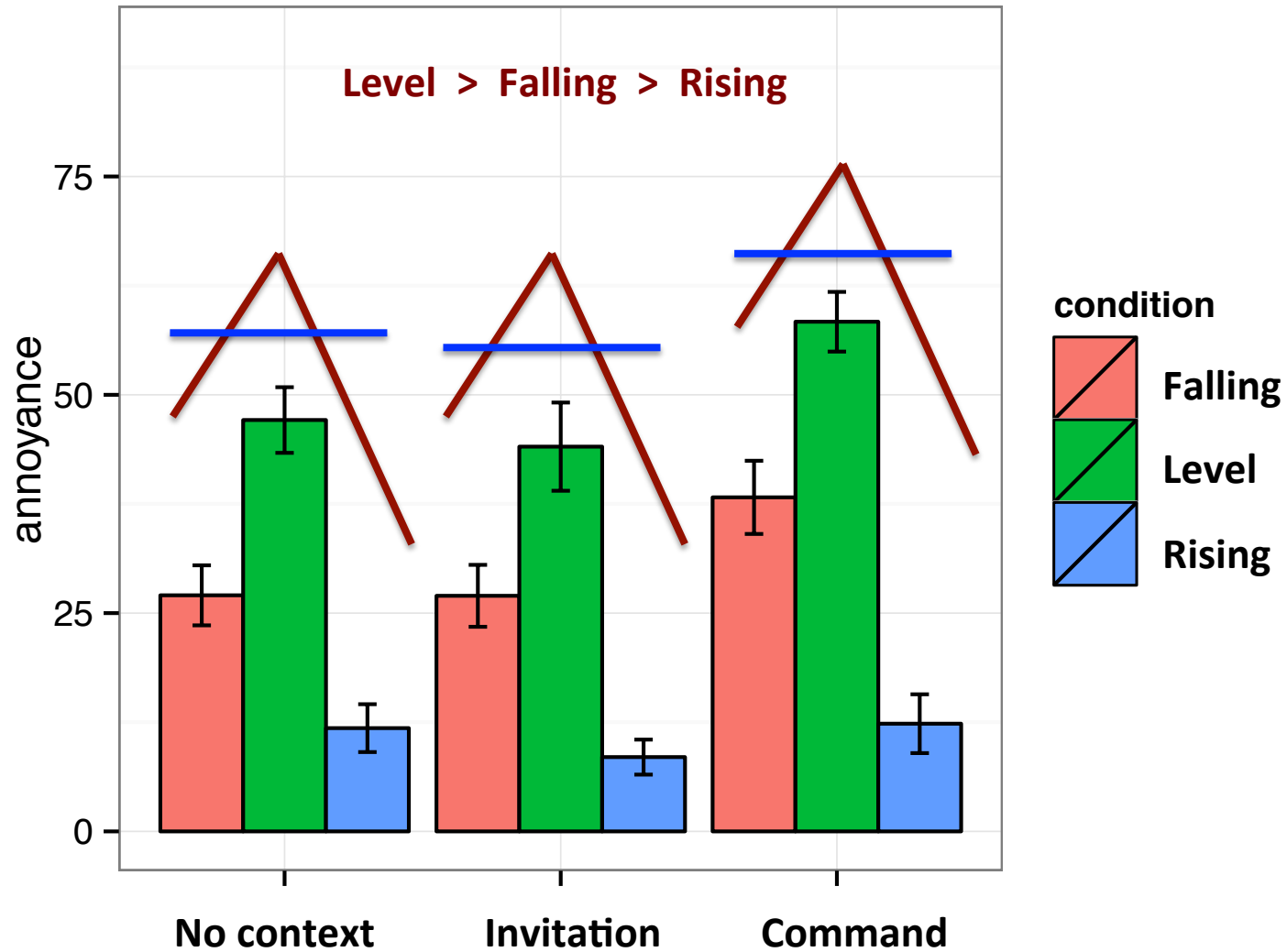
Methods: sample trial

- Q3: Now answer the following questions (rate from 0-100).
 - Q3-1: How **annoyed** does the speaker sound?
 - Q3-2: How **authoritative** does the speaker sound?
 - Q3-3: How **polite** does the speaker sound?
 - Q3-4: What kind of **attitude** does the speaker have **towards the listener** (from very negative to very positive)?
- Any other impressions about the speaker?

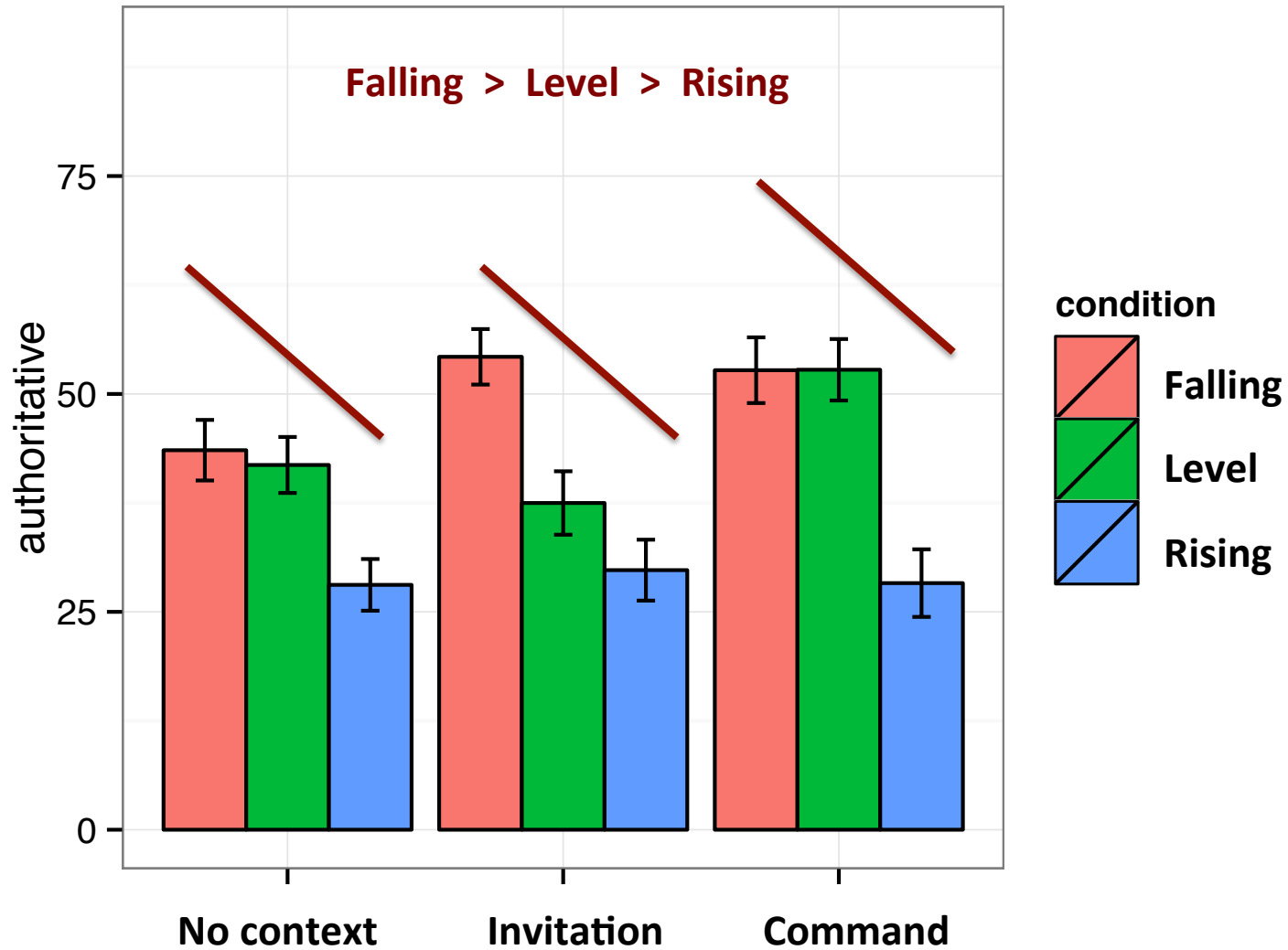
Methods: experiment design

- Conditions: 3 terminal contours * 3 contexts
 - **9 conditions**
- Between-subjects design
 - Each participant participated in a single condition
 - 35 ~ 50 participants for each condition
- A total of 437 participants recruited from Amazon Mechanical Turk

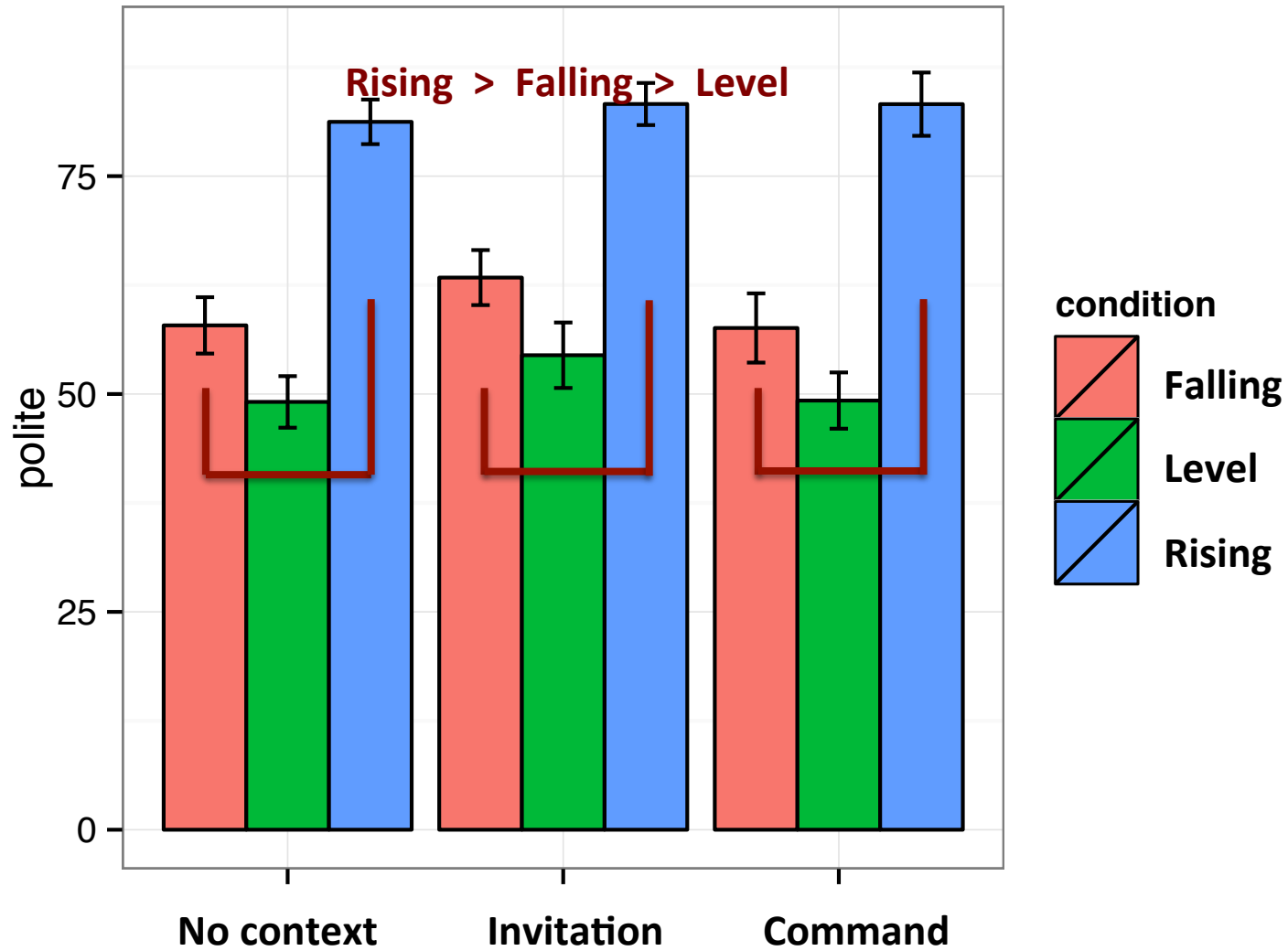
Results: annoyance



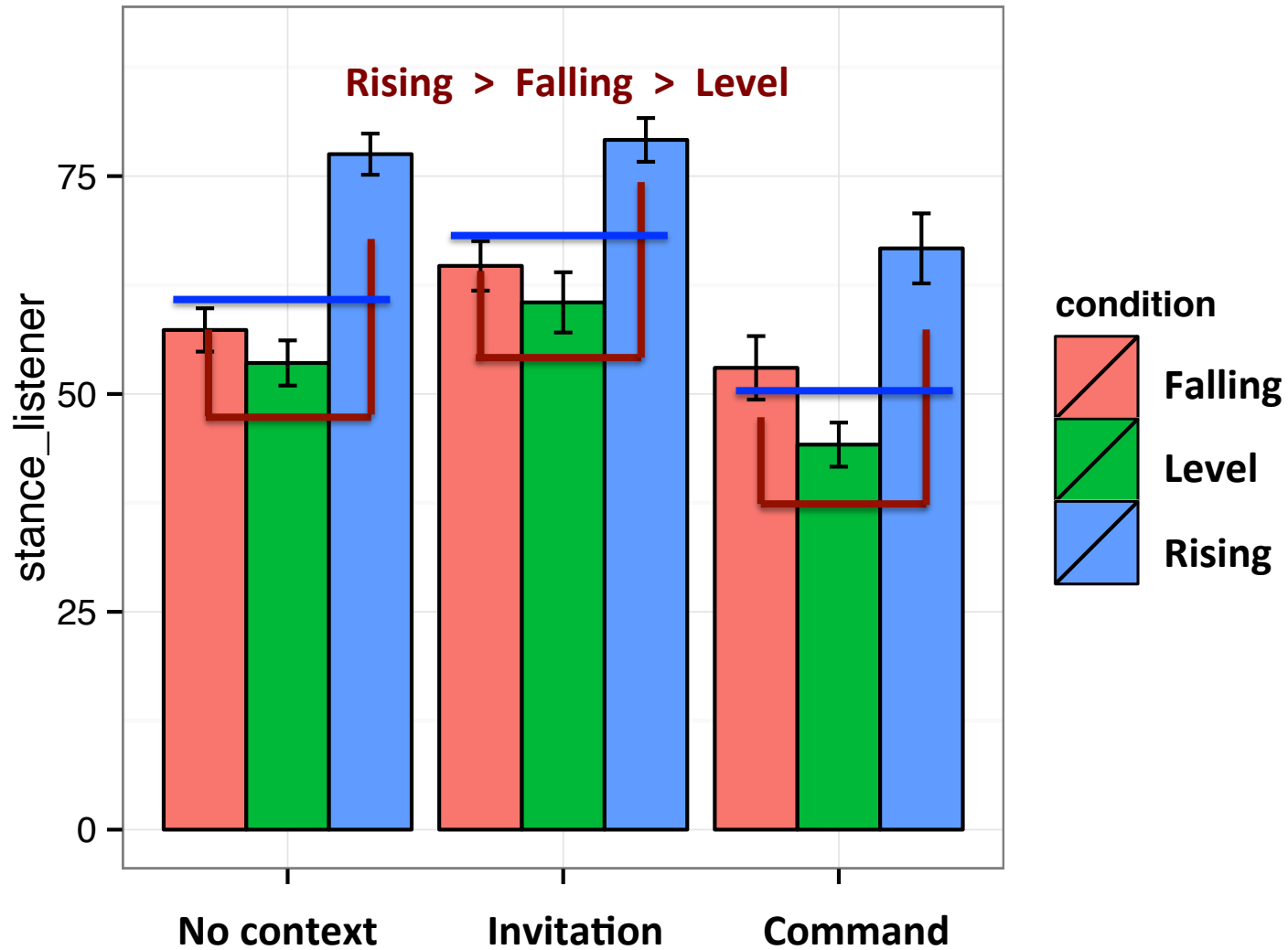
Results: authoritativeness



Results: politeness



Results: positive stance



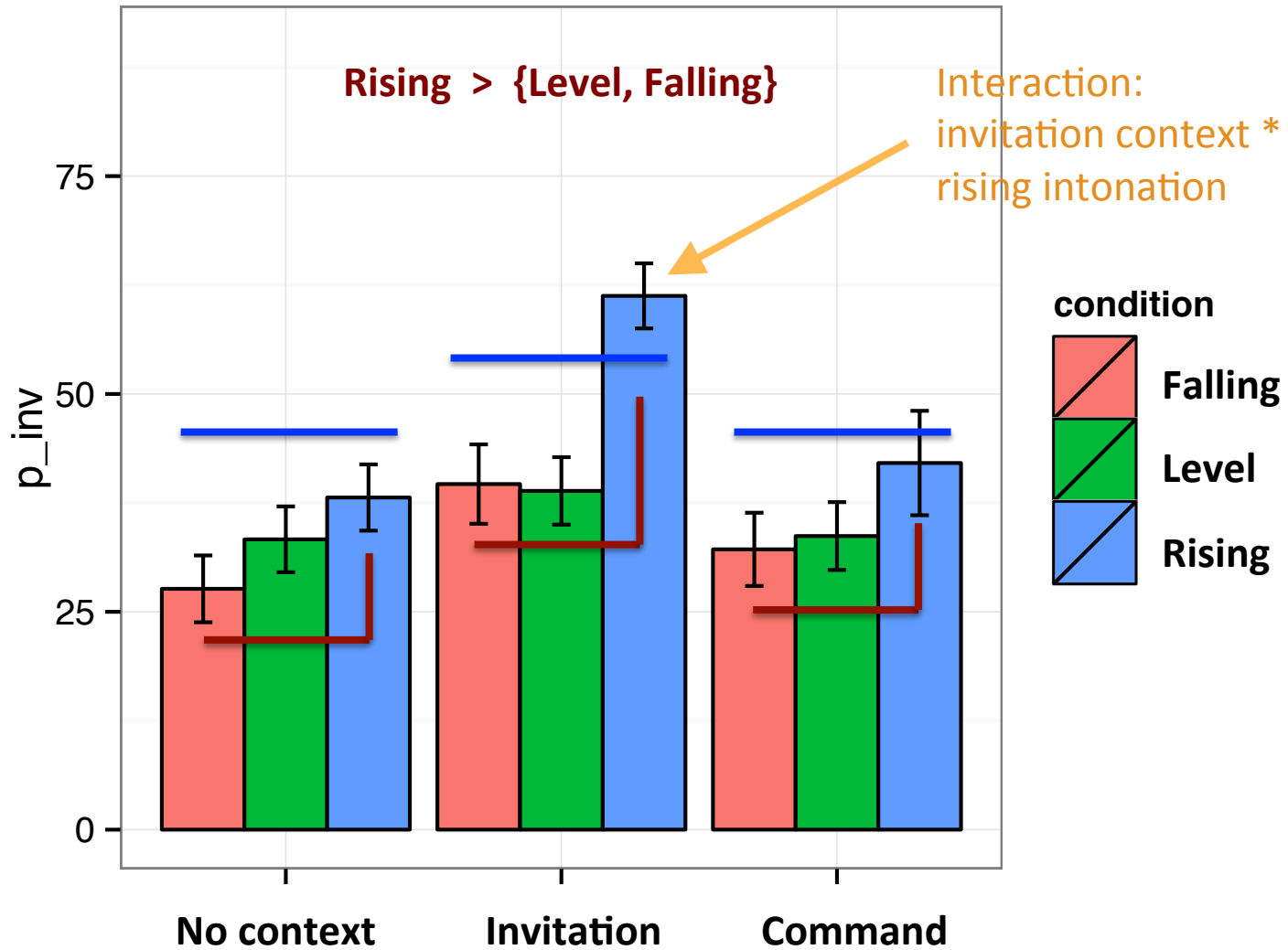
Results: affective meanings

- A series of regression models with:
 - Each of the **affective meanings** as the main dependent variables
 - Two factors, **intonation** and **context** manipulations, as independent variables
- Intonation: significant for all affective meanings; three-way distinctions for all
- Context: marginally significant for some affective meanings (e.g. invitation: higher positive stance)

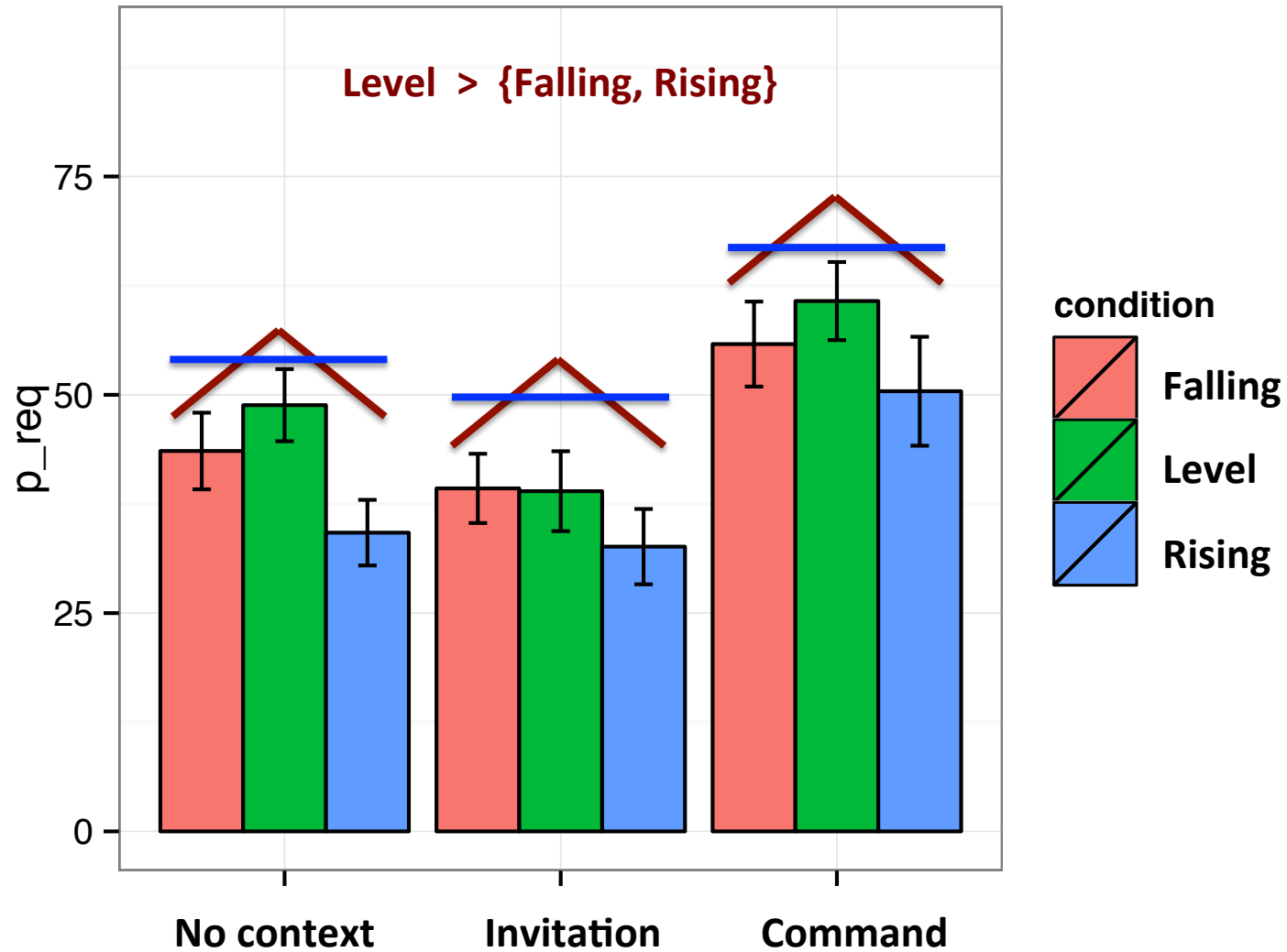
Summary: affective meanings

- Annoyance, impoliteness, negative stance:
 - Level > Falling > Rising
- Politeness, positive stance, non-annoyance:
 - Rising > Falling > Level
- Authoritativeness:
 - Falling > Level > Rising
- Weak effects of contexts

Results: invitation interpretation



Results: command interpretation



Results: speech acts

- A series of regression models with:
 - Each of the **speech acts** ratings as the main dependent variables
 - Two factors, **Intonation** and **context** manipulations, as independent variables
- Intonation: significant but less graded distinctions; smaller effect sizes
- Context: significant; large effect sizes

Summary: speech acts

- Command interpretation:
 - Level > {Falling, Rising}
- Invitation interpretation:
 - Rising > {Falling, Level}
 - Interaction with invitation context
- Heavily influenced by context manipulations

Discussion

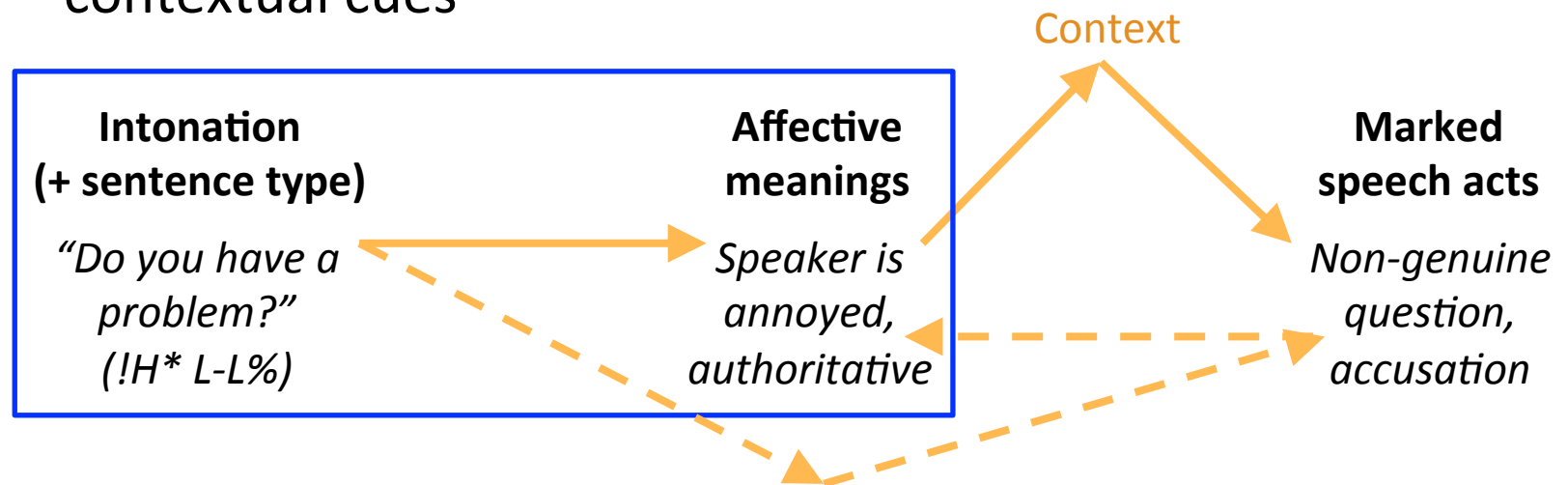
- Conventionalized nature of intonation in signaling affective meanings
 - No simple generalization between affect and F0
 - Sentence type may be relevant (Scherer et al. 1984)
- Close connection between affective meanings and speech acts
 - Invitation & politeness, positive stance
 - Command & authority, annoyance

Discussion

- Intonational conventions on affective meanings remain consistent across different contexts
- Intonational effects on speech acts are less stable, and are constrained by (and interact with) context

Conclusion

- The existence of intonational **conventions** on affective meanings
 - Make reference to sentence types in their operations
 - May disambiguate speech acts by giving additional contextual cues



Thank you!

Full references and acknowledgements
can be found in the paper.

Questions, comments, and feedbacks
are always welcome:

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Appendix: no context, rise

