



**HAL**  
open science

## Multidimensional interpretation of rising and falling tunes for requests and offers

Caterina Petrone, Elisa Sneed German, Kiwako Ito, James Sneed German

► **To cite this version:**

Caterina Petrone, Elisa Sneed German, Kiwako Ito, James Sneed German. Multidimensional interpretation of rising and falling tunes for requests and offers. The 16th Conference on Laboratory Phonology (LabPhon), Jun 2018, Lisbon, Portugal. halshs-01793224

**HAL Id: halshs-01793224**

**<https://shs.hal.science/halshs-01793224>**

Submitted on 12 Apr 2019

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

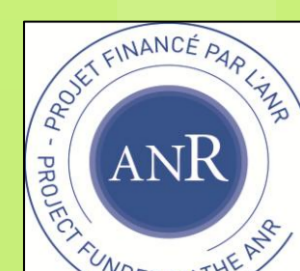
L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

# Multidimensional interpretation of rising and falling tunes for requests and offers

C. Petrone<sup>1</sup>, E. Sneed German<sup>1</sup>, K. Ito<sup>2</sup> and J. Sneed German<sup>1</sup>

<sup>1</sup>Aix-Marseille Univ, CNRS, Laboratoire Parole et Langage, Aix-en-Provence, FRANCE

<sup>2</sup>Ohio State University, Columbus, USA



## Introduction

### 1. Tune meaning

- The semantics of tunes is assumed to be driven compositionally by integrating the meaning of pitch accents and phrasal/boundary tones [1]

Morpheme	Meaning
H*	New items introduced to the discourse, added to mutual belief space.
L*	Already part of mutual beliefs. Saliency-without predication.
H%	Forward reference.
L%	Utterance interpretation without respect to subsequent utterances.

### ALSO evidence for multidimensional interpretations:

- Rising vs. falling tunes convey different affective meanings such as emotional state (e.g., mood) [2], power relations (e.g., dominance vs. submissiveness) [3], sincerity (e.g., willingness to comply) [4], politeness [2], [see also 5]
- Rising vs. falling tunes are linked to illocutionary force (e.g., polar questions are often assumed to have a rising tune by default, but this association might vary with syntax [6])

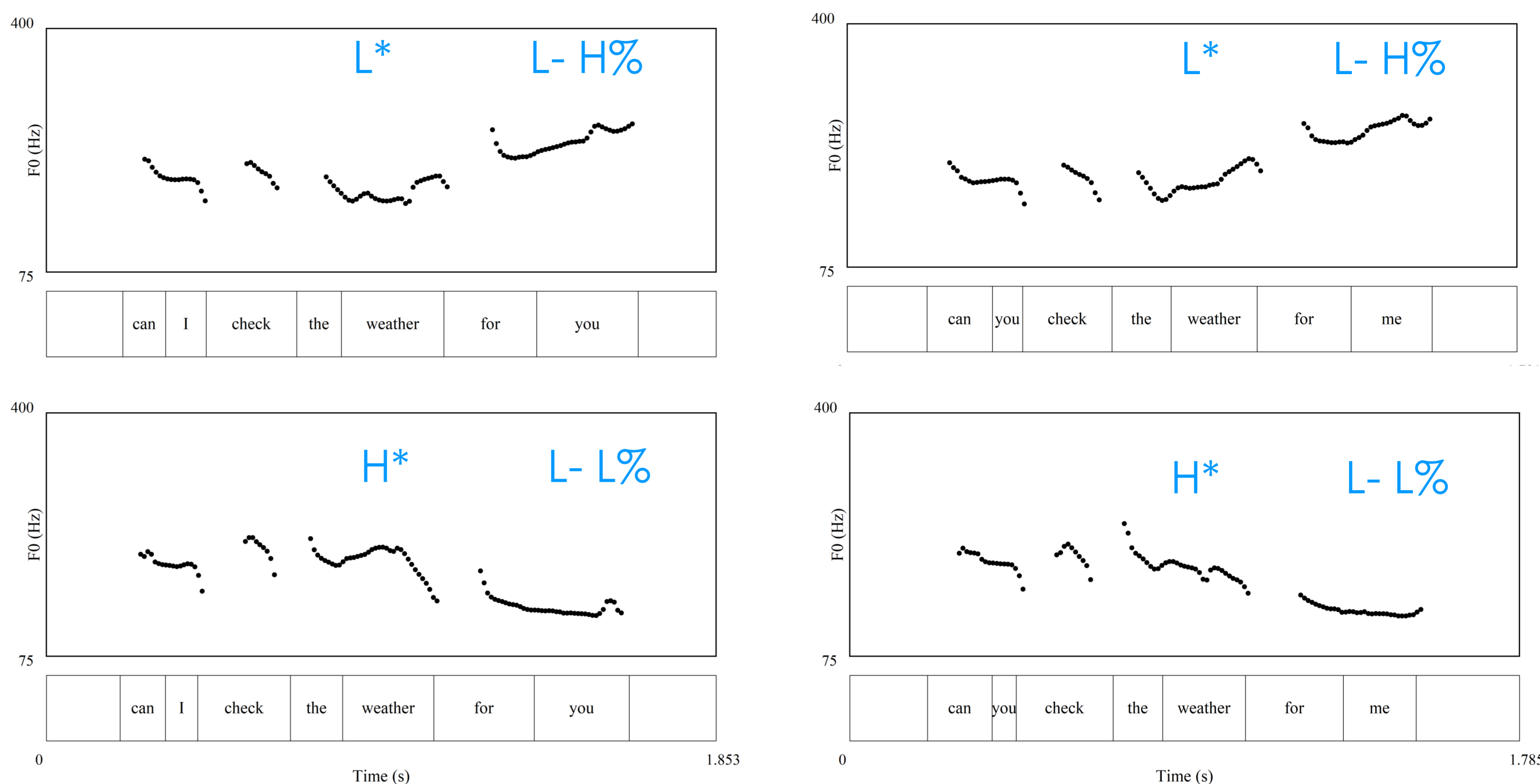
### 2. Requests and offers

- Socially relevant speech acts (i.e., exchanges with consequences for perceived politeness, sincerity, power, entitlement, [e.g., 7])
- Both may be explicitly marked as polar questions with virtually identical syntax (e.g., Can I/you ...?)
- In American English (AE), tune modulates stance, mood, authority, and politeness for requests [6]
- In Catalan, tune for requests and offers is also associated with social factors [5].

### Questions

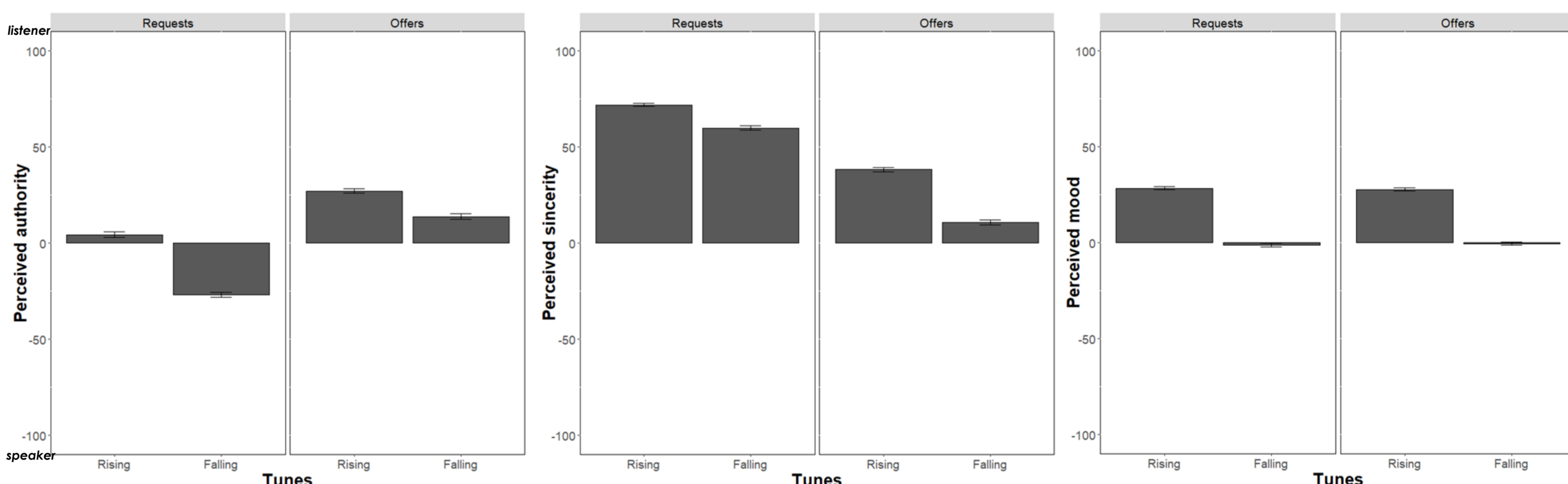
- What is the effect of rising vs. falling tune on affective meaning for AE utterances which are ostensibly rising "by default"?
- Do these effects depend on the type of speech act being performed (requests vs. offers)?

## Materials



- 96 request-offer pairs recorded with rising [L\* L-H%] and falling [H\* L-L%] tunes by two female native speakers of AE;
- Syntactic form of requests and offers was held constant. The use of modal verbs in requests has been shown to be common in ordinary conversation, and is used when the speakers treat the contingencies surrounding the request as fulfilled, making the request unproblematic [7].

## Results



### The falling tune:

- Evokes higher speaker AUTHORITY ( $t=8.82, p<.001$ ), less SINCERITY ( $t=-11.44, p<0.001, p<.01$ ) and less happy MOOD ( $t=-16.45, p<.001$ )
- Raises speaker AUTHORITY to a greater degree for requests ( $t=3.6, p<.001$ ) and lowers SINCERITY to a greater degree for offers ( $t=-4.67, p<.001$ ).

## Hypotheses

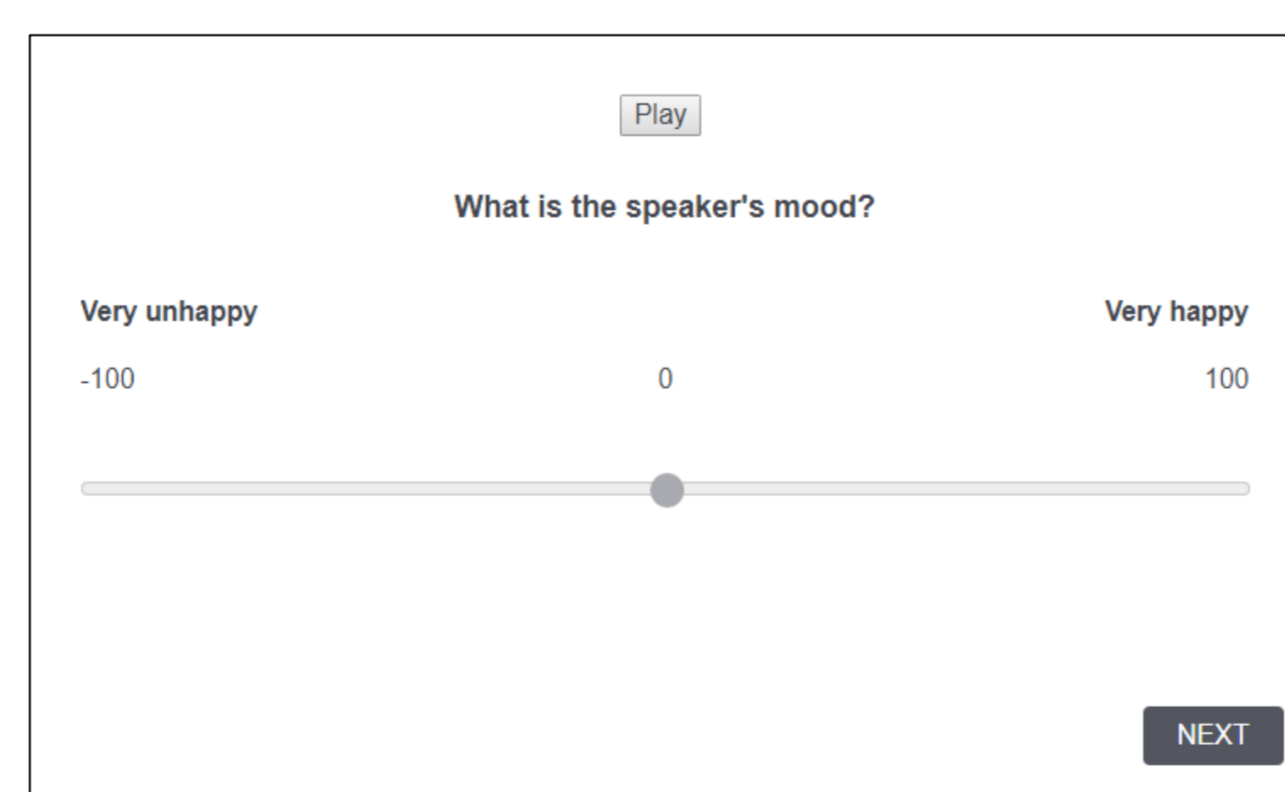
- In both requests and offers, the falling tune, as an intonational deviation from the default rising tune, will signal higher speaker authority and negative judgments of speaker mood.
- The falling tune will affect perceived speaker sincerity, but only for offers.

## Methods

- Online survey on 240 participants randomly assigned to 24 presentation lists
- Statistics: mixed models with maximal random structure (N=22677).
- Rating task:

Target request/offer sentence:

Can [you/I] check the weather for [me/you] ?



AUTHORITY question (for both request and offer):

**Who does the speaker think has more authority in this situation?**

The speaker/listener ----- The listener/speaker

SINCERITY question:

(For request)

**Does the speaker want the listener to check the weather for her?**

(For offer)

**Does the speaker want to check the weather for the listener?**

Not at all/Very much ----- Very much/Not at all

MOOD question (for both request and offer):

**What is the speaker's mood?**

Very unhappy/happy ----- Very happy/unhappy

## Discussion

### The falling tune ...

- Conveys a negative assessment of mood across requests and offers
- Leads to a larger degrading of listener authority (i.e., relatively stronger authority of the speaker) for requests than for offers
  - More "deviant" from the social norm for requests than for offers?
- Conveys how sincere the speaker is in making an offer but does not seem to affect the perceived sincerity of the speaker's request.
- In the future, we will test how the presence of the discourse background and knowledge of speaker-listener power relationships further modulate utterance assessments.

### References

- Pierrehumbert, J., & Hirschberg, J. 1990. The meaning of intonational contours in the interpretation of discourse. In P. Cohen, J. Morgan, & M. Pollack (Eds.), *Intentions in communication*. Cambridge: MIT Press. pp. 342-365
- Scherer, K. 2003. Vocal communication of emotion: A review of research paradigms. *Speech Communication*, 40, 227-256.
- Gussenhoven, C. 2002. Intonation and interpretation: phonetics and phonology. In B. Bel & I. Marlien (Eds.), *Proceedings of Speech Prosody*. Aix-en-Pce: Université de Provence. pp. 47-57.
- Roberts, F., Francis, A., and Morgan, M. (2006). The interaction of inter-turn silence with prosodic cues in listener perceptions of "trouble" in conversation. *Speech Communication*, 48, 1079-1093.
- Astruc, L., Vanrell, M., and Prieto, P. (2016). Cost of the action and social distance affect the selection of question intonation in Catalan. In: *Intonational Grammar in Ibero-Romance: Approaches across linguistic subfields*. John Benjamins Publishing Company, pp. 91-114.
- Jeong, S. & Potts, C. 2016. Intonational sentence-type conventions for perlocutionary effects: An experimental investigation. In M. Moroney, C. Little, J. Collard & D. Burgdorf, *Proceedings of SALT 26*. pp. 1-22.
- Curl, T. & Drew, P. 2008. Contingency and Action: A Comparison of Two Forms of Requesting. *Research on Language and Social Interaction*, 41, 129-153.