



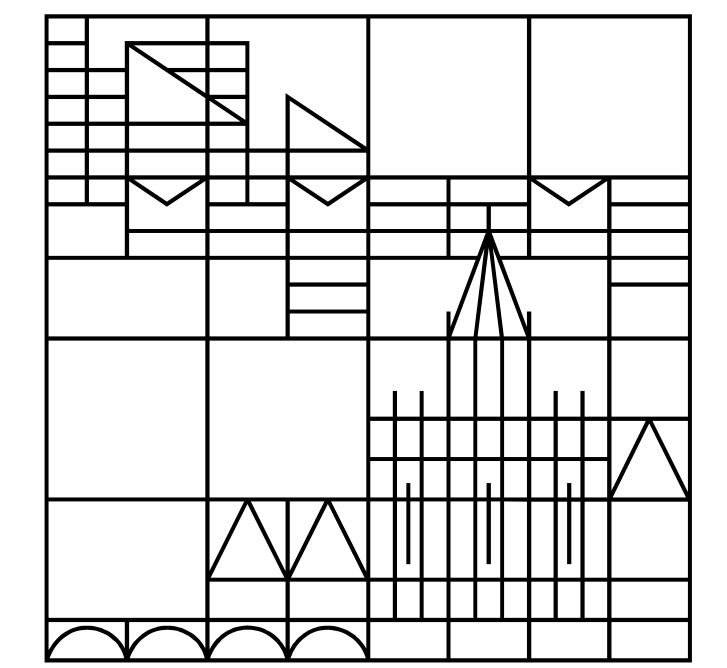
# The prosody of verb-first constructions in German:

## A comparison of information-seeking questions,

## rhetorical questions and exclamatives

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### Background:

- Sentence form does not fully predict pragmatic function: German verb-first (V1) sentences may either express neutral information-seeking questions (ISQ), rhetorical questions (RQ) or exclamatives (EX).

### Motivation:

- Studies by Wochner et al. (2015) and Neitsch et al. (2017) reveal some prosodic properties of V1 RQs in comparison to ISQs that have been associated with the expression of surprise (Kehrein 2004, Kohler & Niebuhr 2007, Niebuhr et al. 2010)
  - Lower initial pitch
  - Breathier voice quality
  - Segmental lengthening
- Suggests a comparison of RQs and expressions of surprise, e.g., exclamatives in a production study

### ISQ

**Kann die Lene malen? Can Lene paint?**

Speaker signals a cognitive deficit/ knowledge gap  
Speaker does not know the answer  
(Groenendijk & Stokhof 1985, Meibauer 1986)

### RQ

**Kann die Lene malen?! Can Lene paint?!**

Speaker asserts the opposite polarity of what is asked (Han 2002)  
Answer is already known to the speaker and known/ inferable for the addressee  
(c.f., Biezma & Rawlins to appear, Caponigro & Sprouse 2007, Ilie 1994)

### EX

**Kann die Lene malen! Can Lene paint!**

Speaker expresses an attitude of surprise rather than assertiveness (c.f., Lauer et al. 2015, Rett 2008, 2011, Roguska 2007, Rosengren 1992)  
Speaker signals that what was mentioned in the discourse violates her/ his expectations (Rett 2011)

### Research Questions:

1. How specific are the prosodic cues for certain pragmatic functions (ISQ versus RQ versus EX)?
2. Are there phonological and phonetic differences and/ or similarities between RQs and EX?

### Materials & Methods: Production Study

- **Participants:**
  - 8 monolingual native German speakers
  - (4 female,  $\bar{X}$  = 25.1 years)
- **Stimuli:**
  - 48 target string-identical target V1 interrogatives (16 RQ, 16 EX, 16 ISQ), 24 filler trials, 4 practice trials
  - The target trials had the same metric structure.
  - All trials were embedded in short but informative contexts.
  - All constituents of the target utterance were given in the context to prevent focal accents.
- **Procedure:**
  - Pragmatic type (RQ, EX, ISQ) was manipulated within subjects.
  - Context situations and target sentences were presented on computer screen.
  - Participants were presented with the context situations before the target utterance was added to the same slide by pressing a button on a button box (self-paced).
  - All trials were uttered as naturally as possible.

### Results:

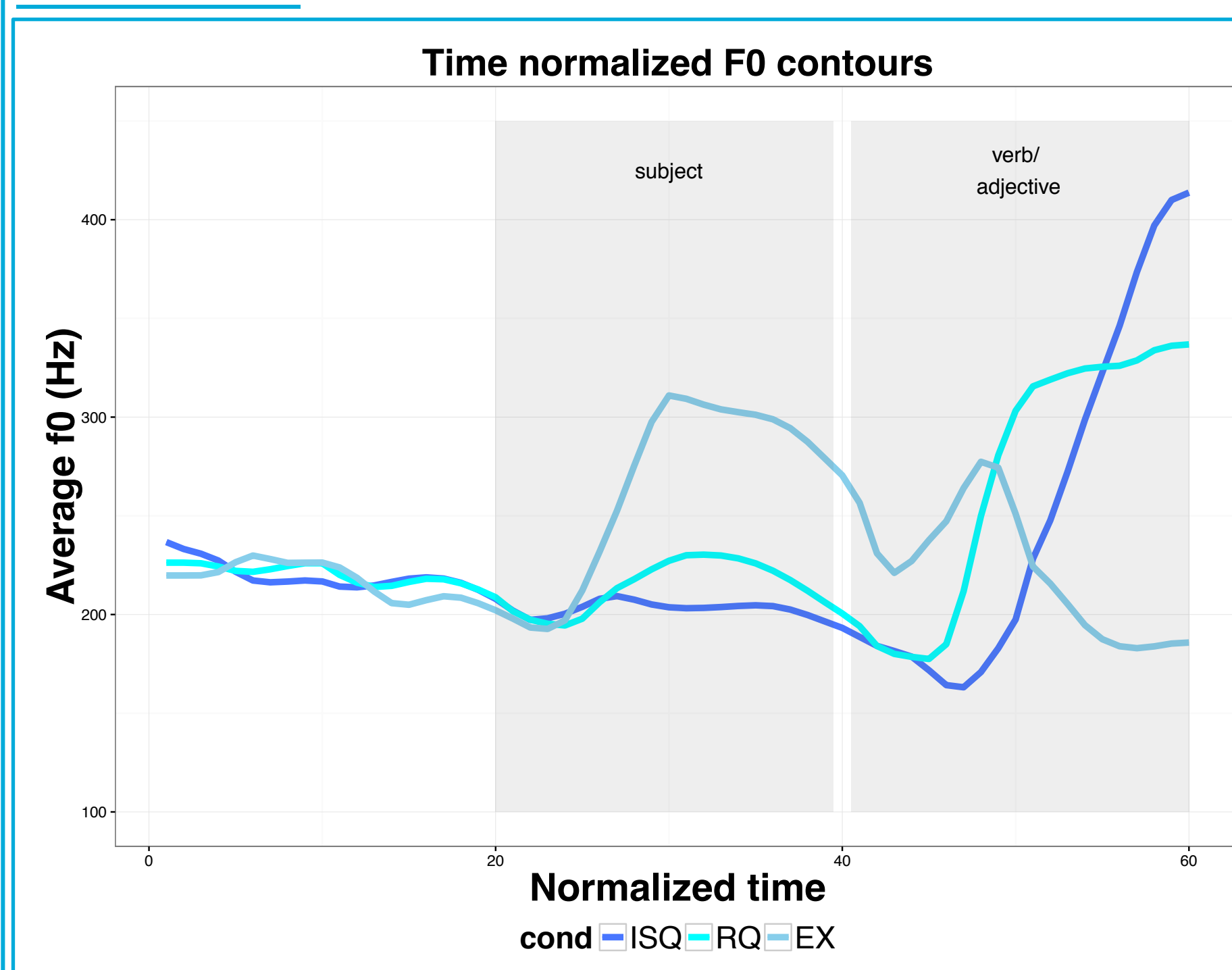


Figure 1. time-normalized contours of *Kann die Lene malen* ("Can Lene paint"), produced by female speaker.

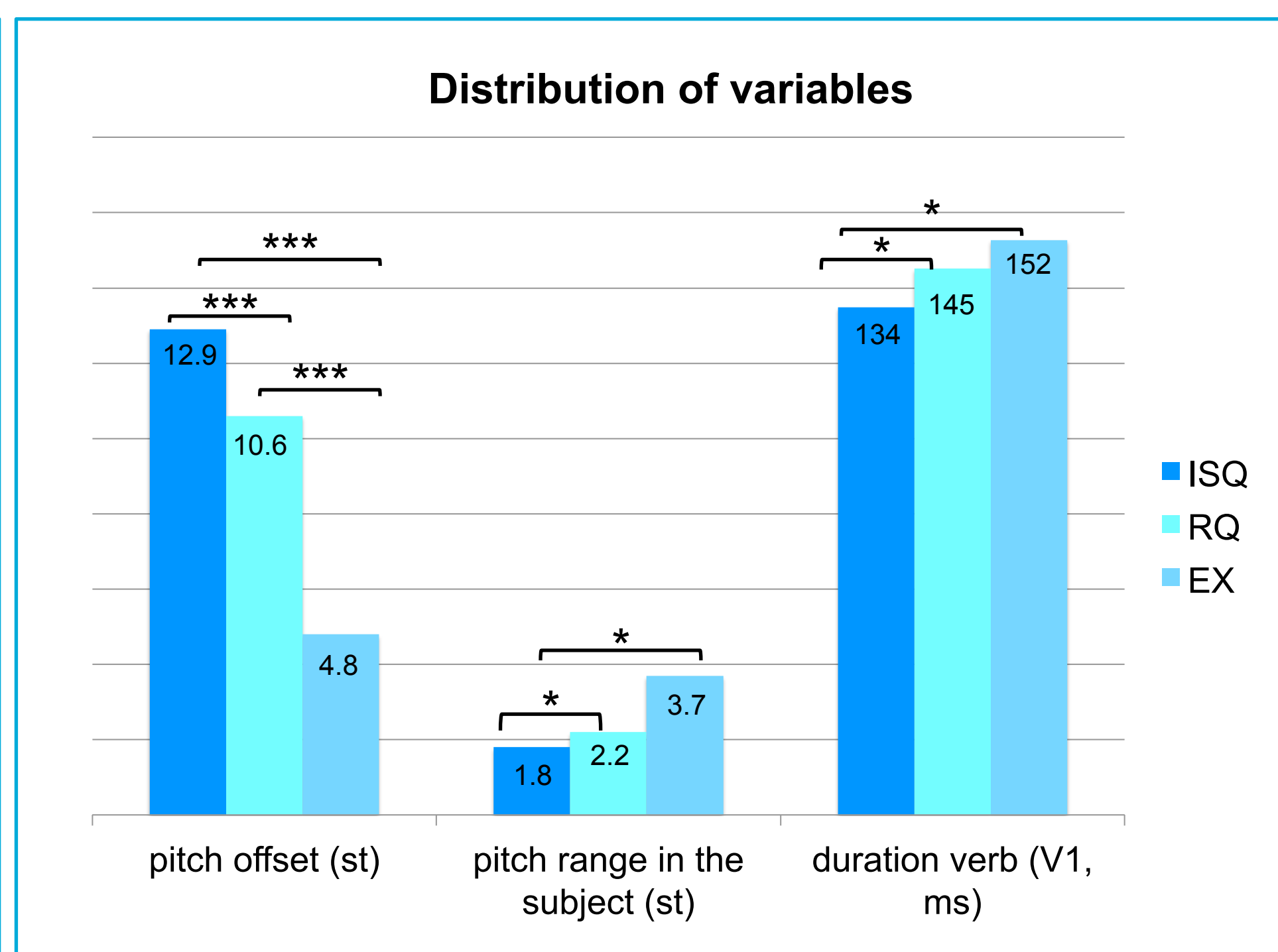


Figure 2. Acoustic realization in the three sentence types (\*:  $p < 0.05$ , \*\*\*:  $p < 0.001$ ).

ISQ	RQ	EX
Nuclear configuration		
L* H-^H% (86%) L+H* L-% (2%)	L* H-^H% (57%) L* H-% (23%) <b>(L)+H* L-% (16%)</b>	<b>(L+)</b> H* L-% (56%) L* L-% (19%) <b>L+H* H-% (13%)</b> <b>L* H-^H% (8%)</b>
Prenuclear accents associated with the subject NP		
H* (90%)	H* (76%) L+H* (9%)	H* (59%) L+H* (28%)
Pitch offset of final rises (st)		
12.9st	10.6st	4.8st
Pitch range in the subject (st)		
1.8st	2.2st	3.7st
Duration of verb in V1 (ms)		
134ms	145ms	152ms

Table 1. Distribution of the most frequent nuclear configurations and pre-nuclear accent types and phonetic variables. **Bold:** final rises in EX and falls in RQs.

### Discussion:

- Two scales for the classification of the pragmatic function of verb-first sentences with regard to prosody:
  1. **Interrogativity scale**  
Phonetically and phonologically manifested in the pitch excursion of the offset of the utterances and in the choice of the type of boundary tone.
  2. **Emphasis scale**  
Visible in the durational values of the verb in V1 position and the pitch range in the pre-nuclear field.
- In both scales RQs are placed between the two extremes (ISQs, EXs) → reflects mismatch between form (questions) and function (assertive-like), which has been reported for RQs (c.f., Han 2002, Rohde 2006)

