

Intonation affects rate of scalar inferences: production and perception data from English

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The Nutshell

- Premise: Work on scalar inference (SI), especially inter-scale variation [8], mostly uses written materials, masking effect of (implicit) intonation
- Main Findings: Contour choice varies across scales + SI rate varies by contour
- → **Implications:** Without controlling intonation, unclear if SI rate differences are directly driven by manipulation of interest or mediated by intonation

Background

- 1. Scalar Diversity Likelihood of SI varies robustly across scales \rightarrow what factors explain it? [8, 5, i.a.]
- 2. **Intonational Contours** Rise-fall-rise (RFR) argued to convey uncertainty [9] or incompleteness [1, 4]
 - \rightarrow decrease of SI rate expected

Contrast: RFR highlights stronger alternatives [3]

 \rightarrow increase of SI rate expected

Production

Sample Item

Emma: Was the winner ecstatic?

Was the winner happy? (same)

(strong)

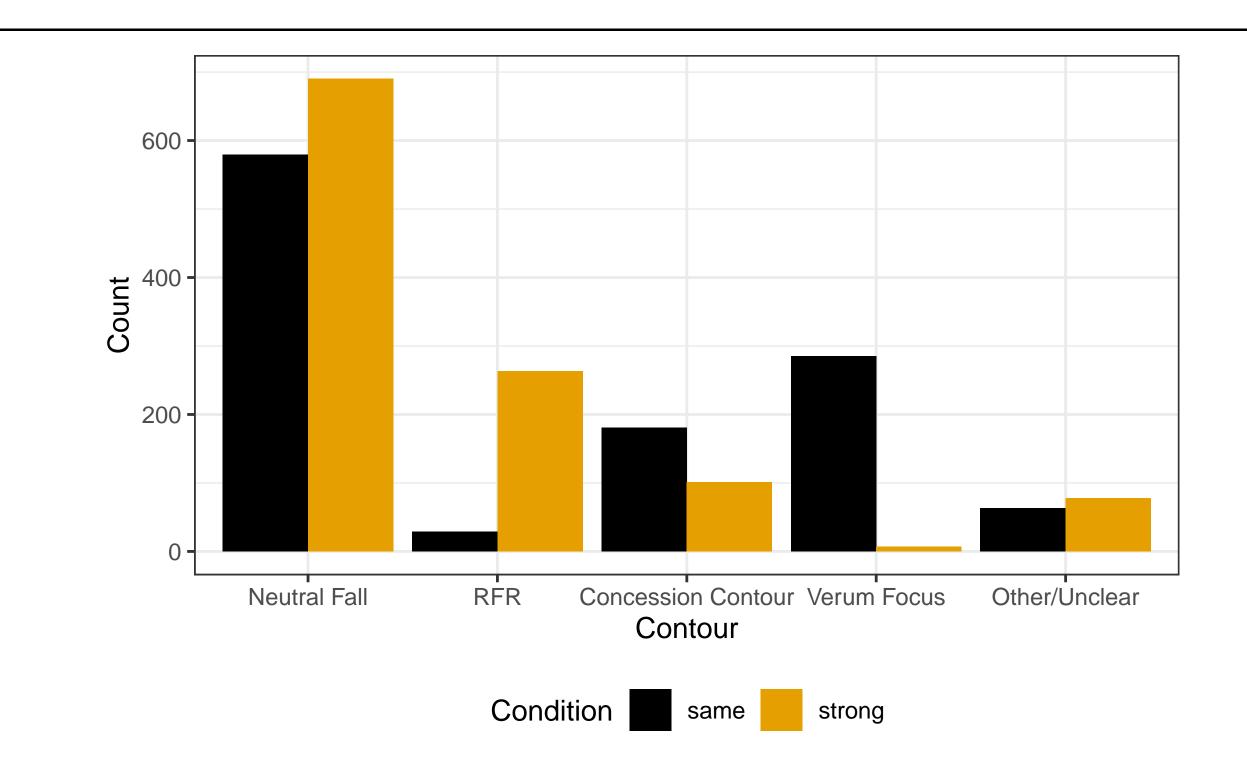
You: She was happy.

Given your response, do you think Emma would conclude that the winner was not ecstatic? "Yes"/"No"

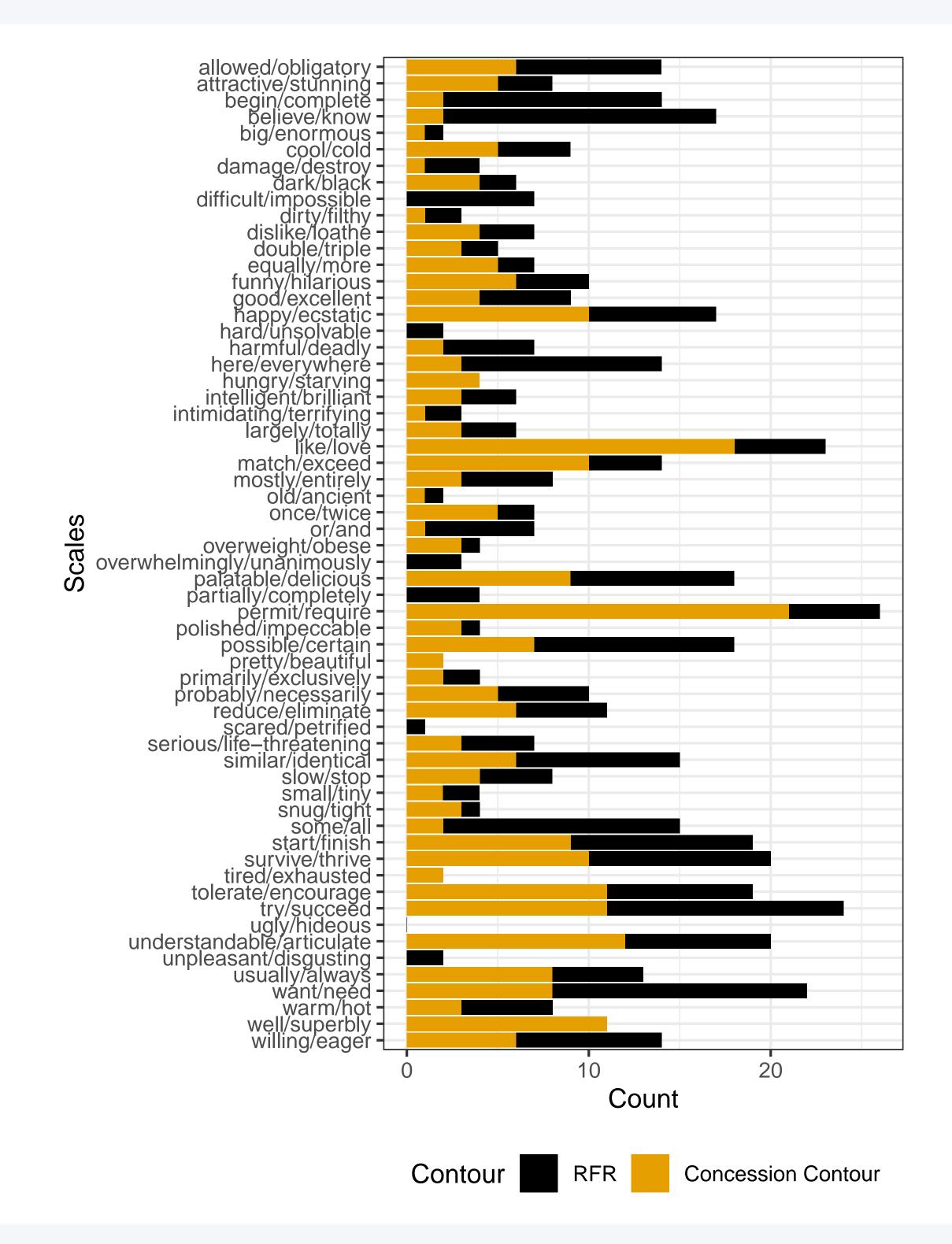
Method (participant N=37)

- 60 scalar predicates from [7] plus 20 fillers
- Participants read dialogue, listened to audio of Emma, recorded reply, then answered question
- Recordings manually annotated for contour

Production: Results

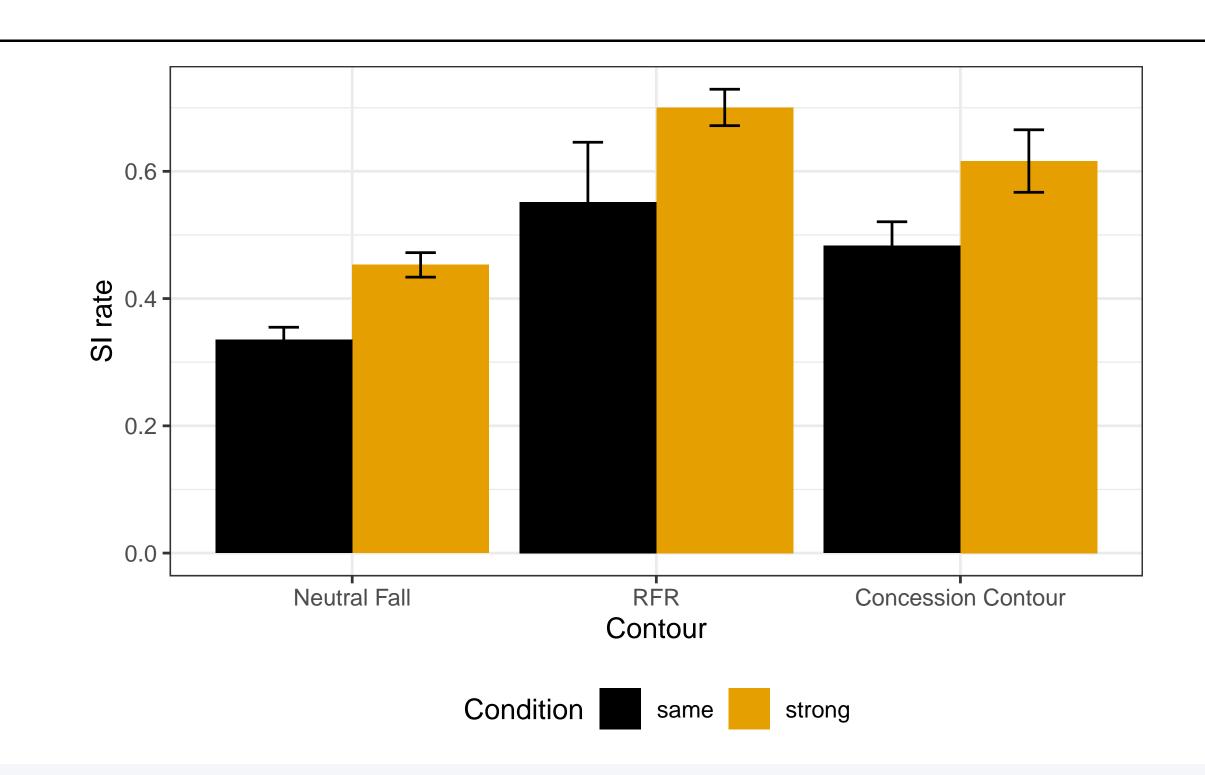


- RFR almost exclusively in 'strong'
- Verum Focus in 'same' [6]



RFR not produced evenly across scales

Production: SI Rates

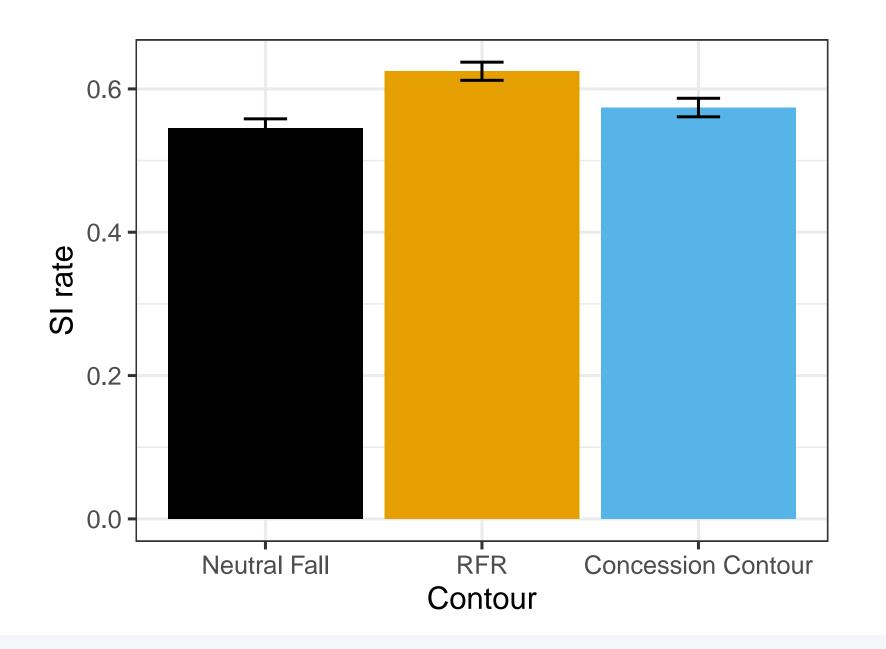


- Higher SI rates in 'strong' (p < 0.001, replicating [7])
- Higher SI rates with RFR compared to Fall (p < 0.05)
- → Support for accounts of RFR like [3], see also [2]

Perception

Method (participant N=73)

- Same items as Production, but only 'strong'
- Intonation of reply manipulated as extra factor
- Participants listened to dialogue (without seeing it), then answered question



- RFR higher SI rate than Fall (p < 0.01), CC in between
- → Replicates pattern from Production, supports [3, 2]

References: [1] Constant (2012), L&P; [2] de Marneffe & Tonhauser (2019), Questions in Discourse; [3] Göbel & Wagner (2023), ELM2; [4] Goodhue et al. (2016), NELS46; [5] Gotzner et al. (2018), Front. in Psych.; [6] Höhle (1992), Informationsstruktur und Grammatik; [7] Ronai & Xiang (2022), LSA2022; [8] van Tiel et al. (2016), JoS; [9] Ward & Hirschberg (1985), Language