

# Negated contrary adjectives: Disentangling negative strengthening from linguistic acceptability

Nicolas Ruytenbeek

Ghent University (Belgium)



## Introduction

- Negated contraries are ambiguous: e.g., *John is not tall* has a weak (medium/short) and a strong reading, i.e., negative strengthening (rather short)
- Negative strengthening is stronger for positive adjectives (Colston 1999, Fraenkel & Schul 2008)
- Asymmetry between positives and negatives increases for morphological adjectives (cf. Krifka 2014)
- Evidence from polarity scale experiments: explicit ITA
- Evidence from acceptability judgments: implicit ITA
- E.g., Ruytenbeek et al. (2017): implicit (*John is not tall. Peter is short too.*) and explicit ITA tasks

## Research questions

- Ruytenbeek et al. (2017): adjective polarity determined by acceptability judgments
- Tests = negative environments (e.g., *X is not very Y*)
- Polarity tests or ITA tests?
- All these tests involve a negation; negatives less acceptable under negation (Sassoon 2012)
  - Polarity X Morphology interaction driven by linguistic acceptability?
  - Which constructions give rise to negative strengthening?

## Hypotheses

- Effect of morphology more robust for acceptability than for negative strengthening
- Positive correlations between acceptability and negative strengthening judgments
- Stronger negation (e.g., *not at all ADJ*) → stronger negative strengthening

## Method

- Online experiment with French data on Psytoolkit (Stoet 2017)
- 59 native speakers on Prolific (30 female, mean age 32)
- Four types of negative constructions
  - John is not tall.*
  - John is not very tall.*
  - John is not tall at all.*
  - It's surprising how John is not tall.*

Adjectival pairs	English translation	Morphology
<i>bon/mauvais</i>	good/bad	non-morphological
<i>gentil/méchant</i>	kind/nasty	non-morphological
<i>poli/grossier</i>	polite/rude	non-morphological
<i>joyeux/triste</i>	happy/sad	non-morphological
<i>utile/inutile</i>	useful/useless	morphological
<i>juste/injuste</i>	fair/unfair	morphological
<i>heureux/malheureux</i>	happy/unhappy	morphological
<i>sympathique/antipathique</i>	friendly/unfriendly	morphological

## Data analysis

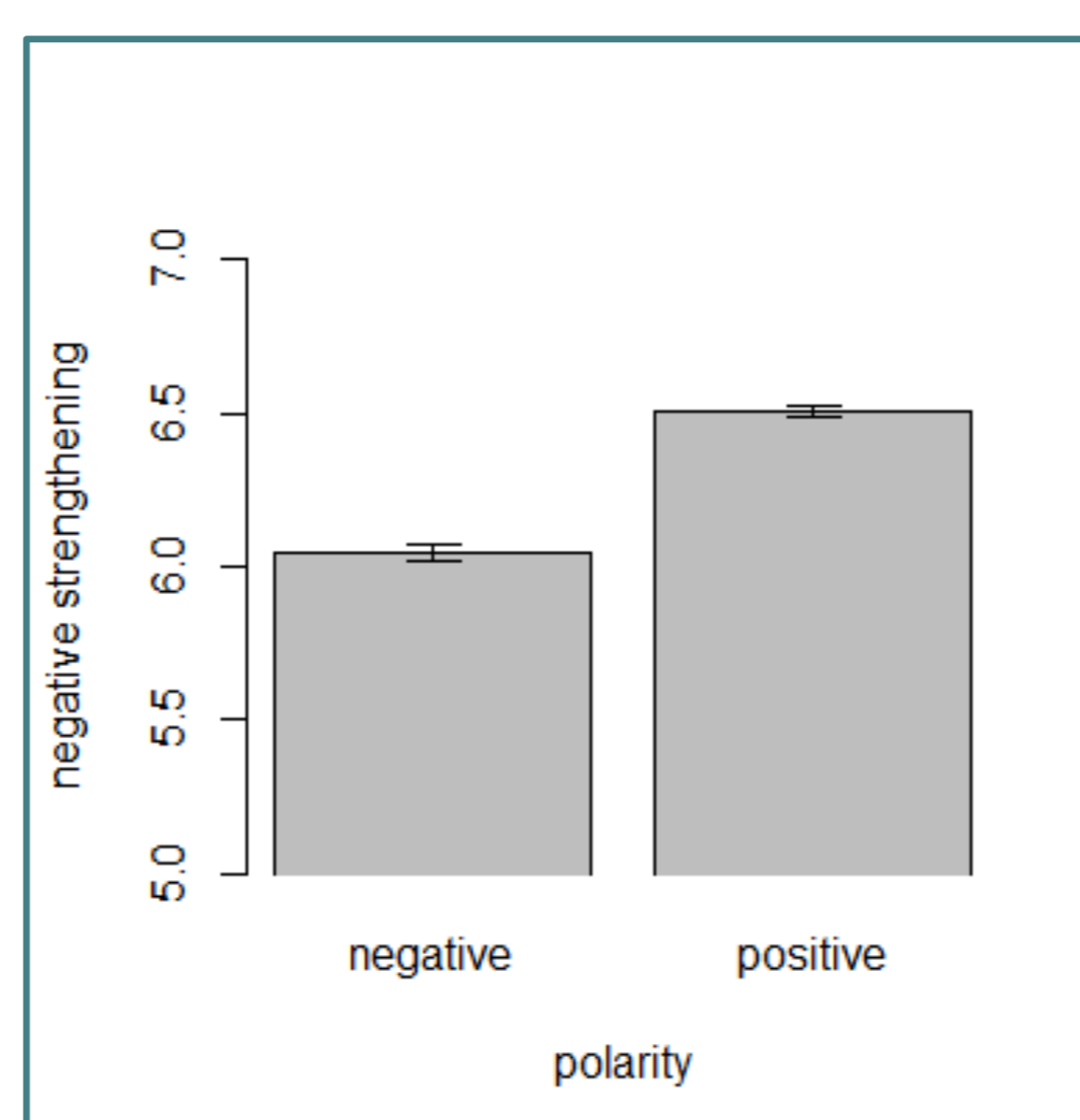
Cumulative link mixed models (Christensen 2018) in R

## Results

### Negative strengthening (all items)

Positives > negatives

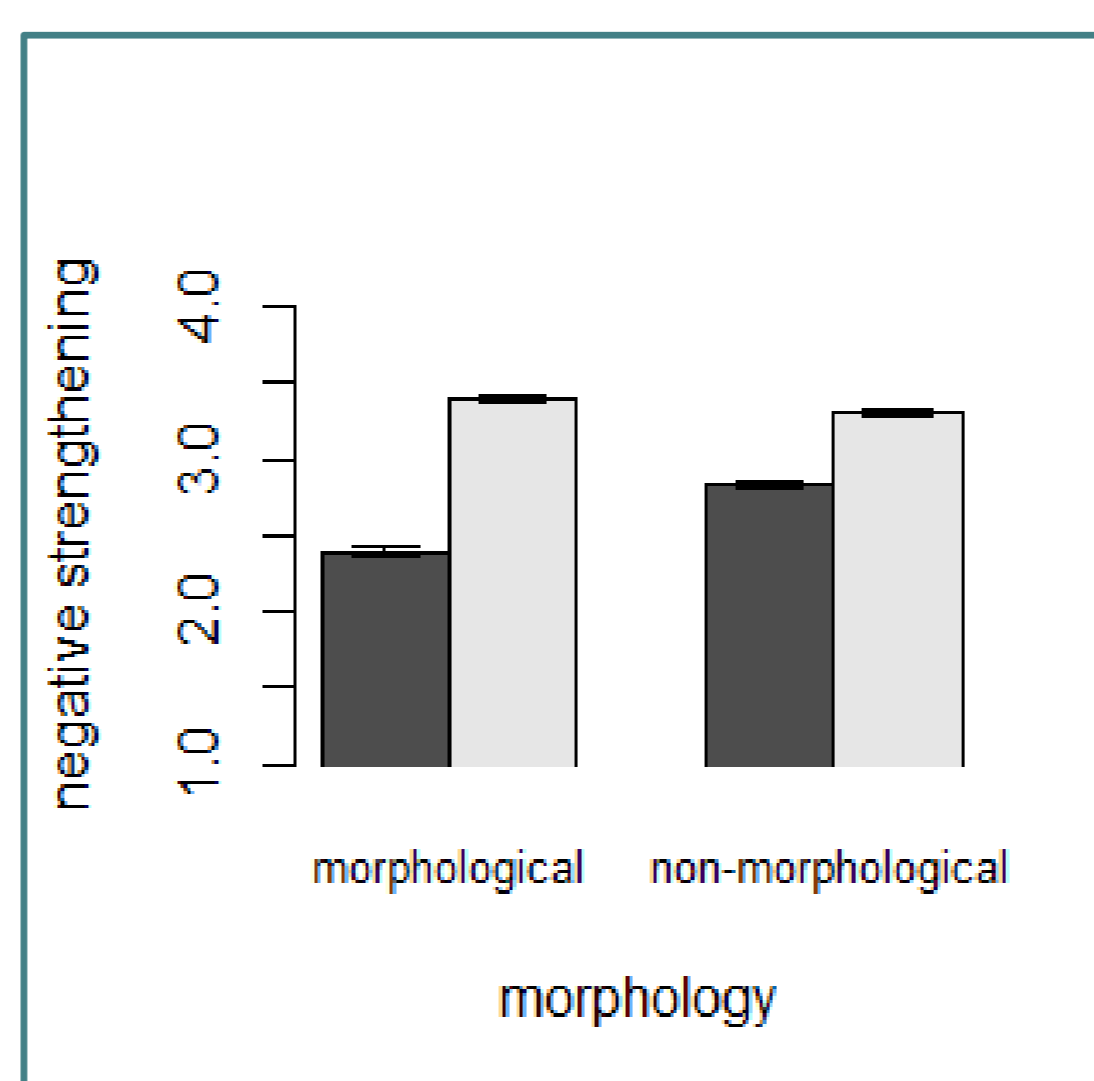
- Main effect of Polarity ( $B = 1.18$ ,  $SE = .22$ ,  $z = 5.24$ ,  $p < .001$ )
  - No main effect of Morphology ( $B = -0.19$ ,  $SE = .24$ ,  $z = -0.79$ ,  $p = .43$ )
  - No Polarity X Morphology interaction ( $B = -0.42$ ,  $SE = .31$ ,  $z = -1.37$ ,  $p = .17$ )
- Not at all ADJ > how not ADJ > not very ADJ > not ADJ*



### Acceptability ratings (all items)

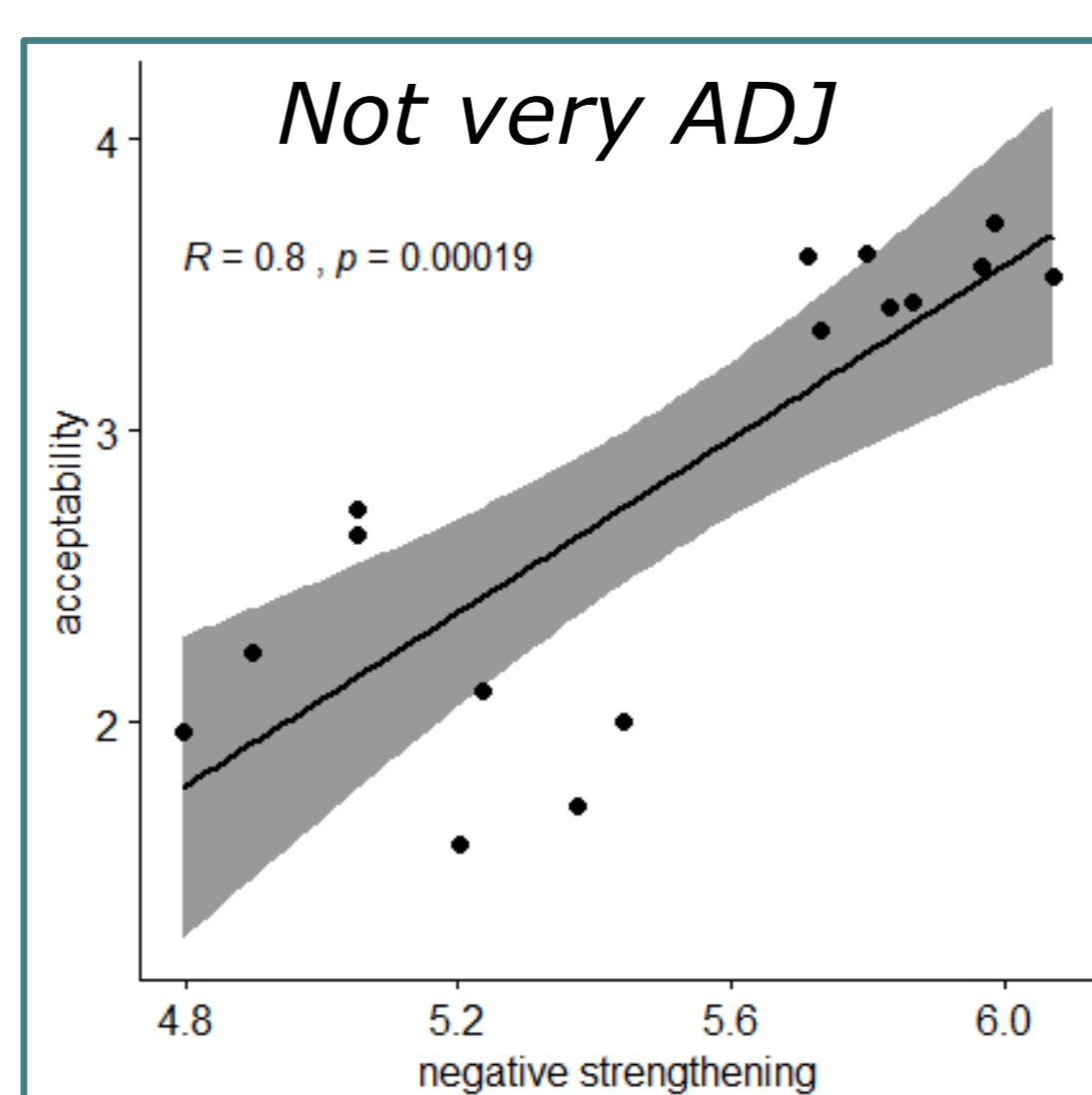
Positives > negatives

- Main effect of Polarity ( $B = 2.52$ ,  $SE = .18$ ,  $z = 13.62$ ,  $p < .001$ )
- Morphological > non-morphological adjectives
- Main effect of Morphology ( $B = 1.09$ ,  $SE = .25$ ,  $z = 4.27$ ,  $p < .001$ )
  - Polarity X Morphology interaction ( $B = -1.49$ ,  $SE = .25$ ,  $z = -5.90$ ,  $p < .001$ )
- Not ADJ > not at all ADJ > not very ADJ > how not ADJ*



### Correlations (averaged by adjective)

- .58 for *not ADJ* ( $t(14) = 2.70$ ;  $p = .017$ )
- .80 for *not very ADJ* ( $t(14) = 5.01$ ;  $p < .001$ )
- .75 for *how not ADJ* ( $t(14) = 4.30$ ;  $p < .001$ )
- .64 for *not at all ADJ* ( $t(14) = 3.13$ ;  $p < .01$ ).



## Discussion

- Morphology impacts acceptability, not negative strengthening
- Different constructions → different response patterns
- Negative strengthening strongest for *not at all ADJ*
- Possible confound variables
  - Mixed presentation of judgments, not in blocks
  - Stimuli used as fillers (e.g., *X is ADJ*)

## Conclusions

- Acceptability & negative strengthening: positively correlated
- Polarity effects more robust than morphology effects
- Future research: other designs and negative constructions

## References

- Christensen, R. H. B. 2018. Ordinal - Regression Models for Ordinal Data. R package version 2018.8-25.
- Colston, H. 1999. 'Not good' is 'bad', but 'not bad' is not 'good': An analysis of three accounts of negation asymmetry. *Discourse Processes* 28 (3): 237-256.
- Fraenkel, T., & Y. Schul. 2008. The meaning of negated adjectives. *Intercultural Pragmatics* 5(4): 517-540.
- Krifka, M. 2007. Negated antonyms: Creating and filling the gap. In U. Sauerland and P. Stateva (eds.), *Presupposition and implicature in compositional semantics*, 163-177. Houndmills: Palgrave Macmillan.
- Ruytenbeek, N., S. Verheyen, and B. Spector. 2017. Asymmetric inference towards the antonym: Experiments into the polarity and morphology of negated adjectives. *Glossa: A Journal of General Linguistics* 2 (1): 92.
- Sassoon, G. W. 2012. The double nature of negative antonymy. *Proceedings of Sinn und Bedeutung (SuB)* 16: 543-556.
- Stoet, G. 2017. PsyToolkit: A novel web-based method for running online questionnaires and reaction-time experiments. *Teaching of Psychology* 44 (1), 24-31.