'Not very' Adj: Vagueness and Implicature Calculation

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Outline

1. background
   - gradable adjectives
   - implicatures with negation and modifiers
2. a puzzle
   - expected implicature present for minimum standard absolute adjectives, but
   - absent for relative standard adjectives!
3. experiments: testing the generalization
4. making sense of the patterns
5. maximum standard absolute adjectives

Introduction

Gradable adjectives

Gradable adjectives (Kennedy, 2007, a.o.):

- Map their arguments onto *degrees* (ordered on a scale).
- Can enter in comparative and superlative constructions, and be modified by adverbs like *very*.
- Two subtypes:

Relative	Absolute (min and max standard)
Vague Context-dependent	Non-vague Context independent
tall, expensive, large...	*wet, open, bent...* *dry, closed, straight...*

Gradable adjectives

Denotation in degree-semantics (Kennedy, 2007):

- $[\![\text{Adj}]\!] \in D_{ed}$ (maps individuals onto degrees)
- $[\![pos]\!] = \lambda g_{ed}.\lambda x_e.g(x) \succ \mathbf{s}(g)$
- **s** is a context-sensitive function mapping gradable adjectives to degrees (thresholds, often written θ).

Example: "Al is tall"

$$[\![pos\ \text{tall}]\!](a) = [\![\text{tall}]\!](a) \succ \mathbf{s}([\![\text{tall}]\!])$$

Implicatures from modifiers

Restrictive modifiers in negated and downward-entailing contexts give rise to systematic implicatures
(Simons, 2001, Katzir, 2007, a.o.):

(1) a. John didn't vote <u>for Nader</u>.
b. $\rightsquigarrow$ John voted.

(2) a. Everyone <u>who danced</u> sang.
b. $\rightsquigarrow$ Not everyone sang.

Implicatures from modifiers

Minimum standard gradable adjectives with modifier *very*:

(3) a. The kitchen floor is not very wet.
b. $\rightsquigarrow$ The kitchen floor is wet.

Relative adjectives seem to lack this implicature (Horn, 1989), and possibly even imply its negation (4c):

(4) a. John is not very tall.
b. $\not\rightsquigarrow$ John is tall.
c. $\overset{?}{\rightsquigarrow}$ John is **not** tall.

(except when *very* is stressed)

Generalizations

X is not very Adj $\rightsquigarrow$ **X is Adj** when **Adj** is minimum standard; but

X is not very Adj $\not\rightsquigarrow$ **X is Adj** when **Adj** is relative.

Not obvious through introspection whether the stronger implicature **X is not very Adj** $\rightsquigarrow$ **X is not Adj** exists for relative adjectives

Experiment

Goal

Goals of the experiment:

- Test whether the generalizations really hold
- Get a more precise characterization of the inferences
  (e.g., how does the interpretation of *not very tall* compare to that of *not tall*?)

Materials

Minimum standard adjective: *late*

- Context: Mary comments on newly hired employees, who were all expected at 9.00am for their first day of work.
  (subjects respond by agreeing or disagreeing with Mary)
- 13 times of arrival from 8.39am to 9.48am.
- 7 constructions: "X was late," "X was not late," "X was very late," "X was not very late," "X was early," "X was not early," "X was on time"

Materials

Fact: Donna showed up to work at 8:48am.

Mary said: "Donna was not very late."

Continue

Materials

Relative adjective: *tall*

- Context: Mary comments on men of different heights. (subjects respond by agreeing or disagreeing with Mary)
- 13 heights form 5 ft 3 in (160cm) to 6 ft 10 in (208cm).
- 7 constructions: "X is tall," "X is not tall," "X is very tall," "X is not very tall," "X is short," "X is not short," "X is neither tall nor short."

Materials

Fact: Alex is 6 ft 2 in.

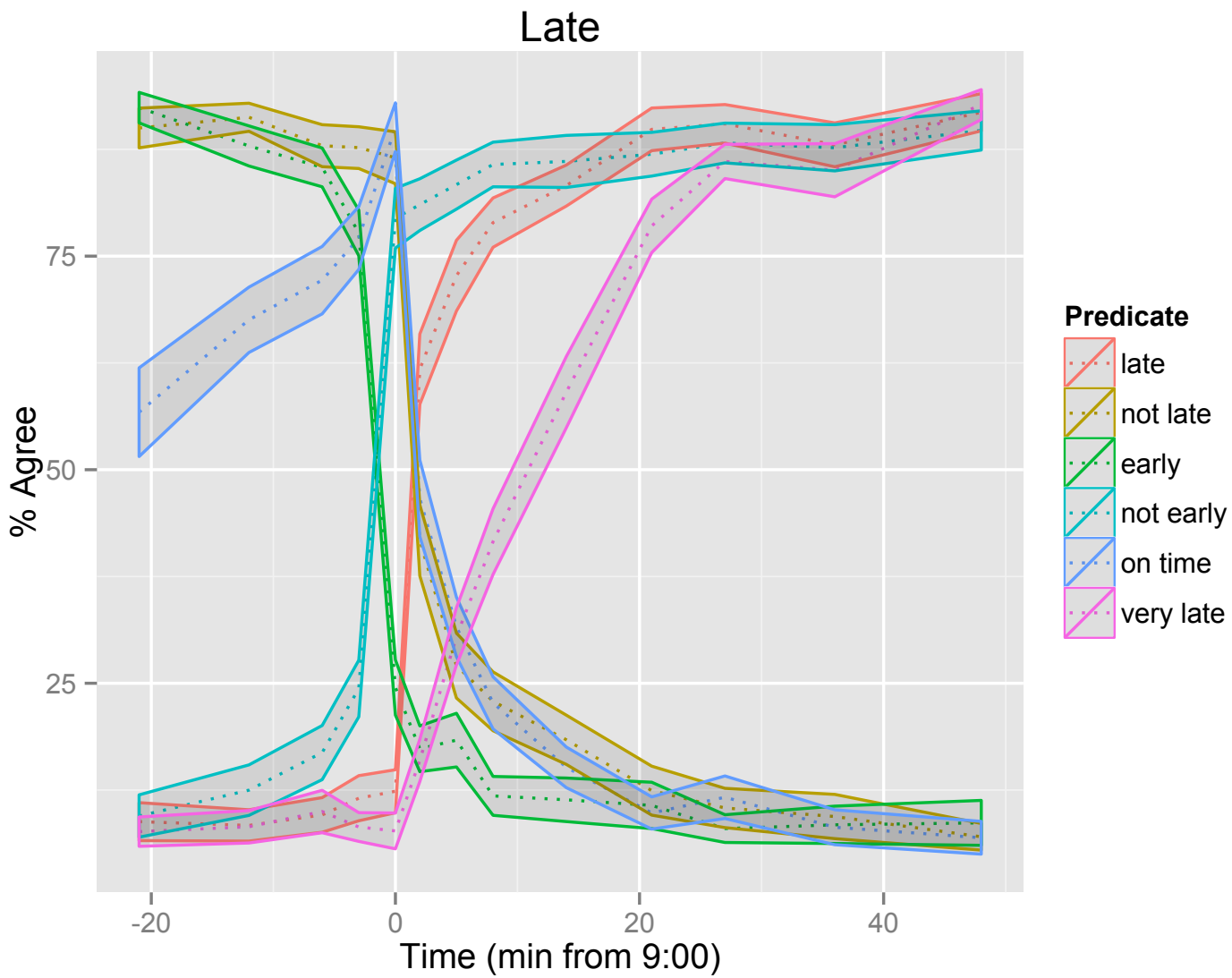
Mary said: "Alex is tall."

Continue

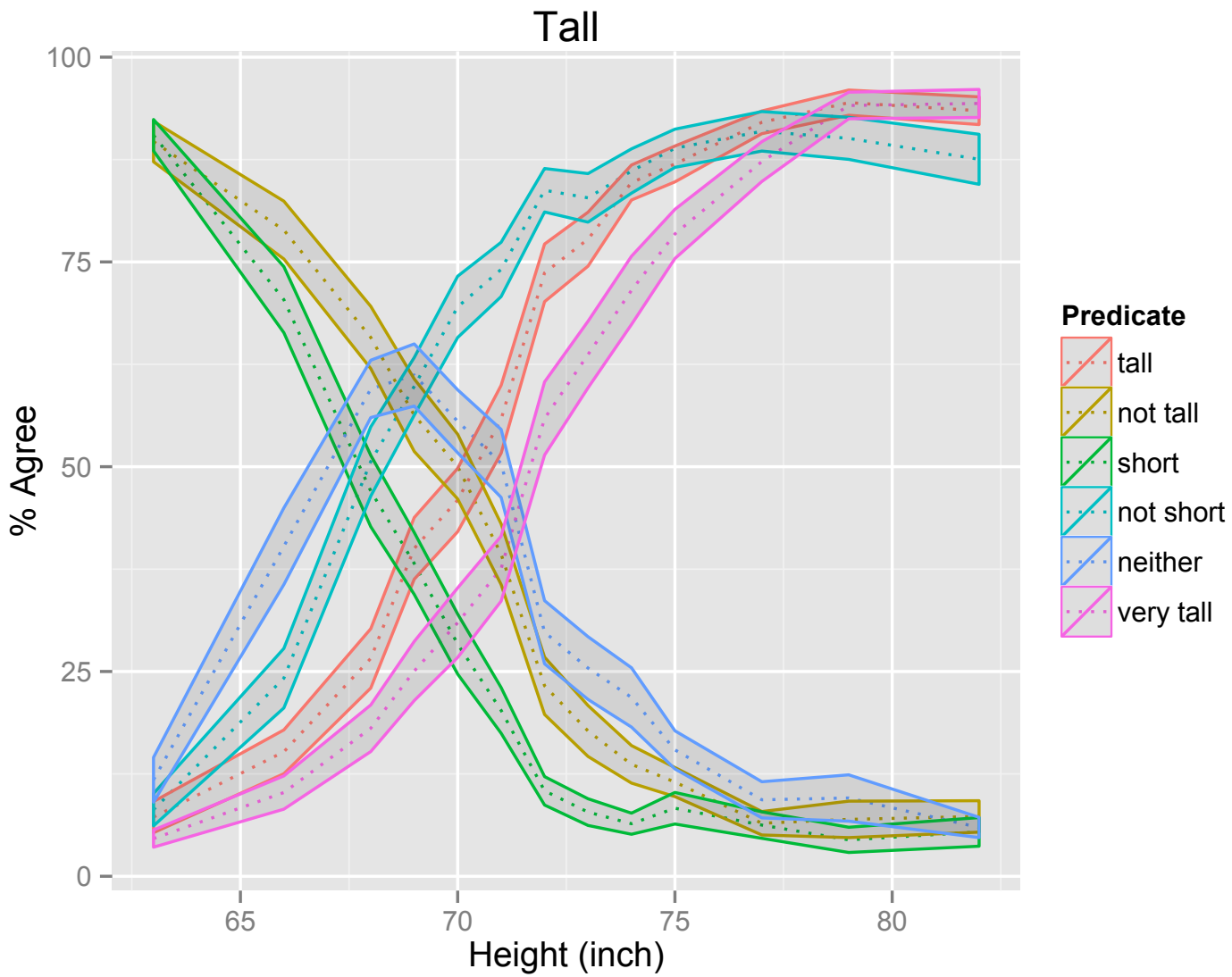
Participants

- Participants recruited in Amazon Mechanical Turk
  (age range: 19 - 60, 2 excluded for not being native speakers)
- 35 participants in the *late*-version, 36 in the *tall*-version.

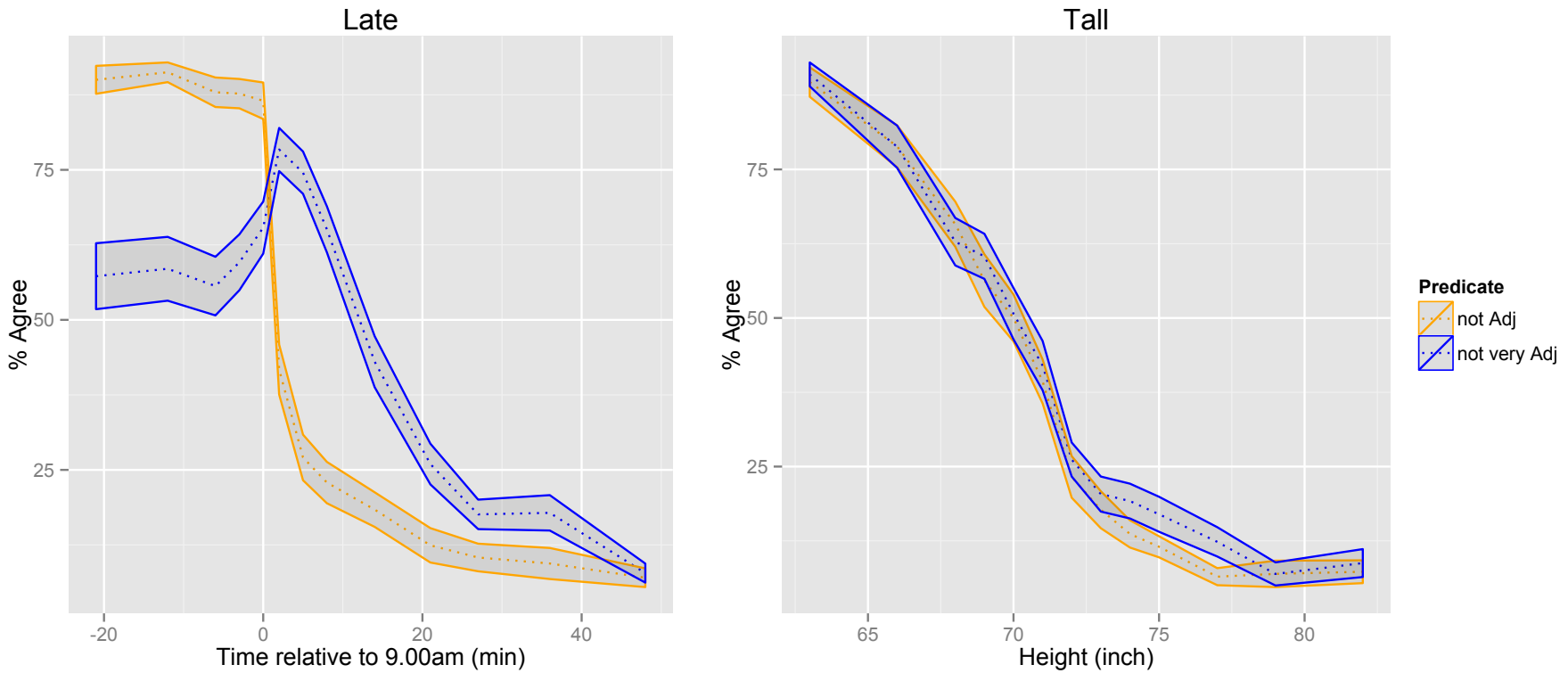
Results: *late* controls



Results: *tall* controls



Results: targets



Results – summary

- *late* – minimum standard absolute adjective
  - *not late* shows sharp decline in acceptance in region just beyond threshold (here, 9:00am)
  - *not very late* shows highest acceptance in same region
  - *late* acceptance also increases in this region
- *tall* – relative standard adjective
  - *not tall* shows gradual (mostly smooth) decline in acceptance as height increases
  - *not very tall* displays virtually same response profile as *not tall*
  - *tall* acceptance increases as height increases – **opposite** pattern as *not very tall*

Results – summary

Conclusions:

- *not very late* has an implicature "late", but
- *not very tall* does not have a corresponding implicature, and in fact
- *not very tall* is almost synonymous with *not tall*.
  (but weaker than *short*!)

Theorizing about the results

Manner implicatures from modifiers under negation
(Simons 2001; Katzir 2007)

(5) a. John did not vote for Nader. ($\rightsquigarrow$ John voted)
b. John did not vote.

1. You assert (5a).
2. I observe that (5b) is a stronger and briefer (structural) alternative, but that you did not assert it.
3. Therefore, you must not believe (5b).
(or else you would have said that instead)
4. Therefore (assuming you are an opinionated authority), I infer (5b)'s negation – "John voted."

Theorizing about the results

The same logic works for *John was not very late*,

but seems to break down for *John is not very tall*.

Main Question: Why?

Theorizing about the results

fact: *tall* is vague but *late* is not

fact: *very* itself is vague

therefore: *John is not very tall/late* are both vague assertions;

but: the potential implicature *John was late* is not vague while the potential implicature *John is tall* is vague.

- Something problematic about strengthening a vague assertion with a vague implicature?!
- One possibility: because of uncertainty about both θ_{tall} and θ_{very}, range of heights that **clearly** count as "tall but not very tall" is very small (or non-existent) – in related cases Chemla & Romoli (2015) argue (roughly) that implicatures that would be 'too strong' are not computed

Maximum standard absolute adjectives

- **intuition:** maximum standard absolute adjectives pattern like relatives

(6) a. The glass is not very full.
b. $\not\rightsquigarrow$ The glass is full.

(7) a. The floor is not very clean.
b. $\not\rightsquigarrow$ The floor is clean.

- puzzling because maximum standard adjectives are not (obviously) vague!
- possible that maximum standard adjectives can be coerced into having relative-like meanings when modified by *very*

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