

Who cares about prosody?: Predicting individual differences in sensitivity to pitch accent in online reference resolution

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RESEARCH QUESTION

What underlies **constraint use** in **reference resolution**?

> e.g. pitch accenting

- **Domain-specific** sensitivity?
- **Domain-general** biology plus linguistic **experience**?¹

EYE-TRACKING TASK³

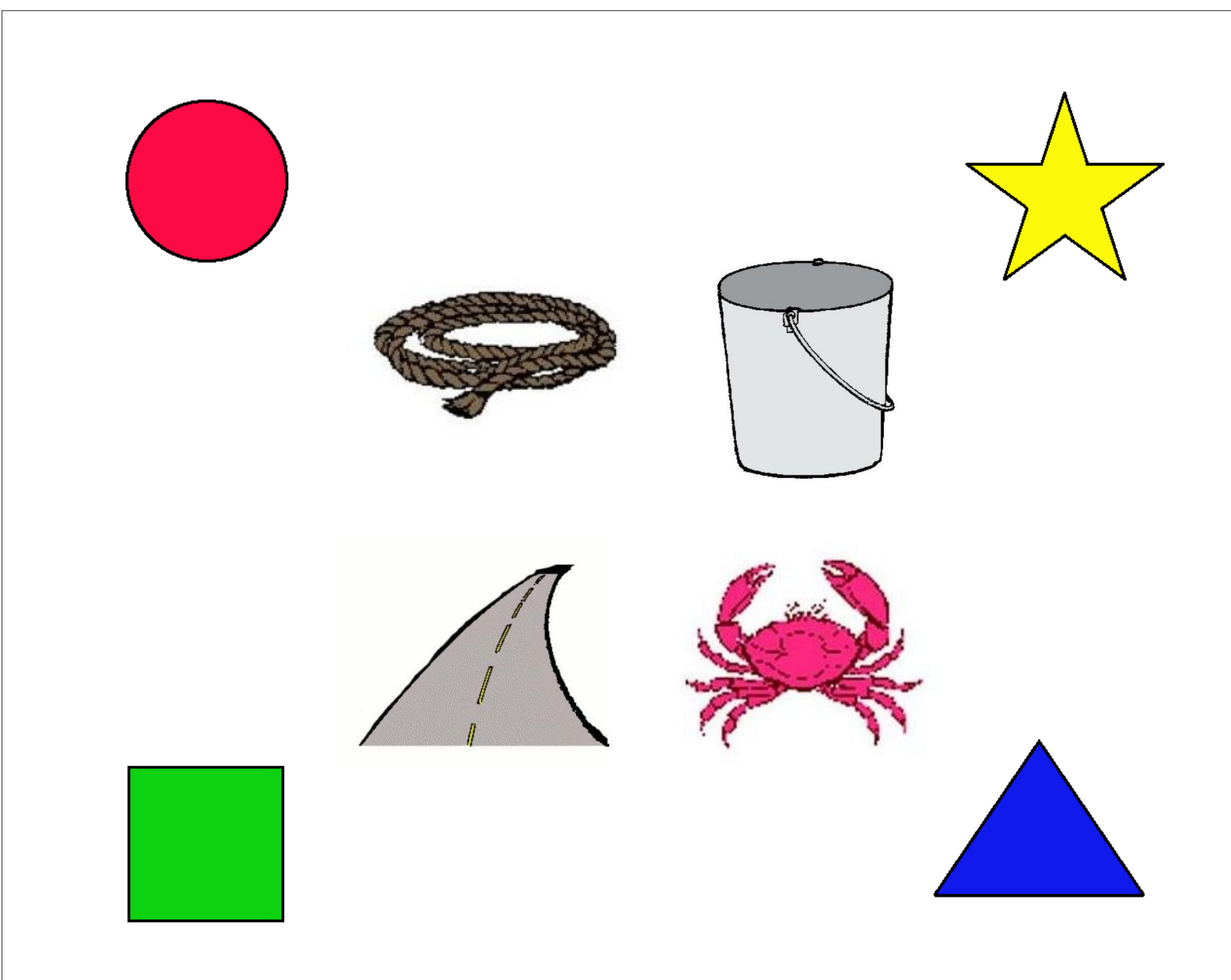
- Critical trials involve cohort competitors

- 1st instruction establishes one referent as given

“Move the (rope/road) below the star.”

- 2nd instruction:
 - > Refers to **given** or **new** referent
 - > Is **pitch-accented** or **deaccented**

“Now, move the (rope/ROPE) above the square.”



GROWTH CURVE ANALYSIS⁴

Get individual differences in:

- Overall rate of fixations
- Benefit from **consistent prosody**:

Accented New

Deaccented Given

INDIVIDUAL DIFFERENCE MEASURES

5 measures:

LEXICAL SENSITIVITY²

Sensitivity to verb bias in **self-paced reading**

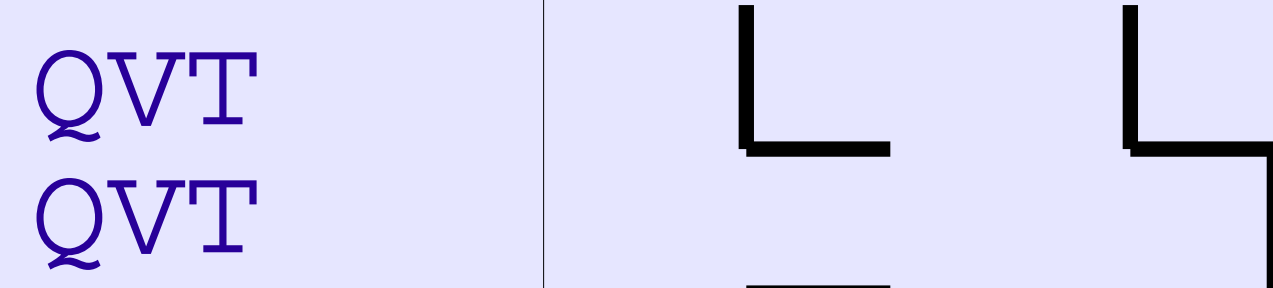
Difference in effect of disambiguating complementizer for:

Direct object-biased verbs: (disambiguation should be *more* helpful)
 “The primary suspect established (that) the alibi had been a total lie.”
 Sentential complement-biased verbs: (disambiguation should be *less* helpful)
 “The film director suggested (that) the scene should be removed completely.”

Has predicted use of referential context constraints²

PERCEPTUAL SPEED⁵

2 tasks: **Letter & pattern** comparison



Judge if **same** or **different**
 Measure: # of correct trials in 2 min.

INHIBITORY CONTROL⁶

Color-word Stroop task
 Computer paced

black

Name ink color, ignore word meaning
 Measure: # of correct trials out of 30

WORKING MEMORY^{7,8}

4 span tasks

- Reading span
- Listening span
- Alphabet span
 - > Recall words in alpha. order
- Minus 2 span
 - > Recall digits while subtracting 2

VOCABULARY

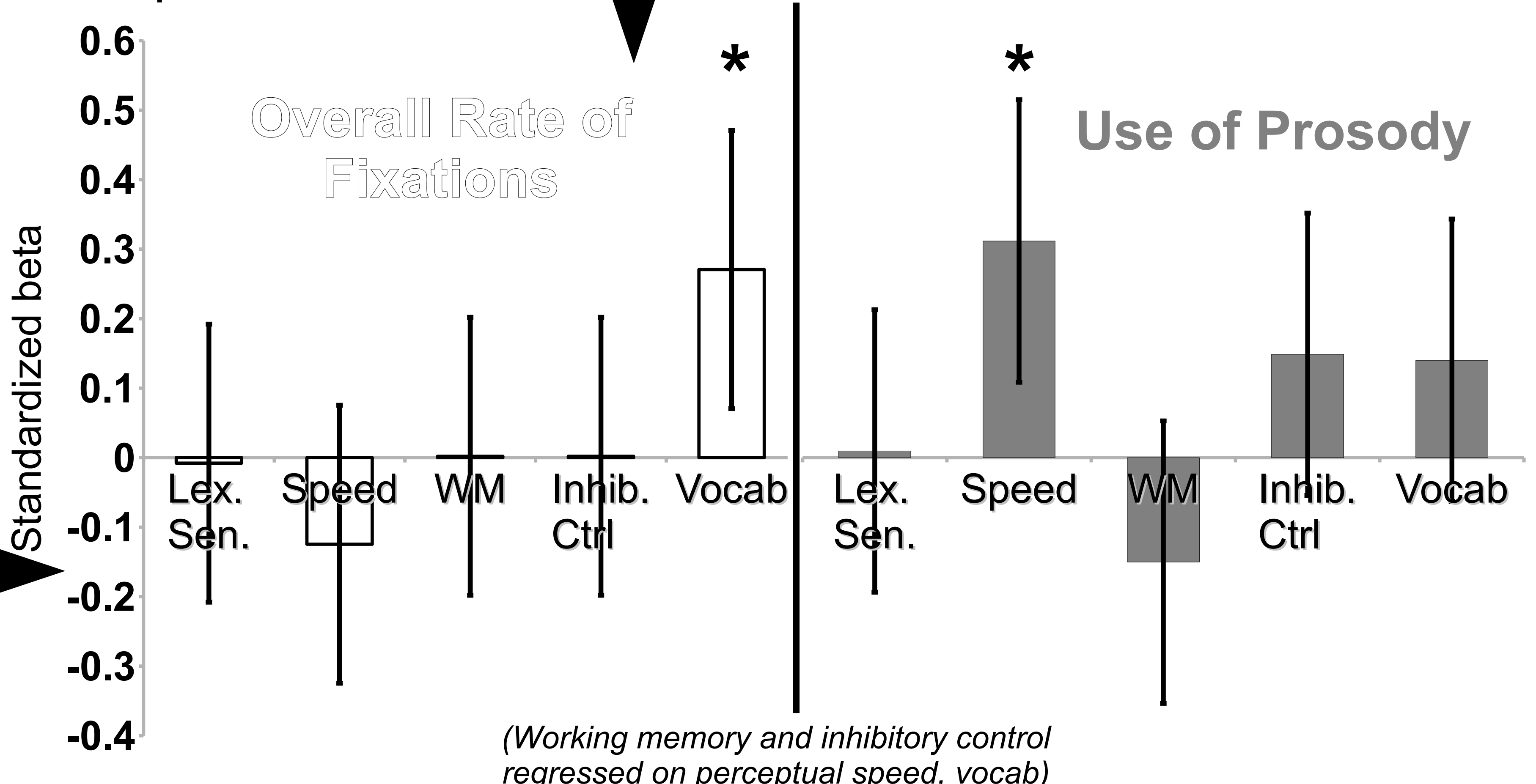
Extended Range Vocabulary Test⁹
 Choose which of 4 words is most similar in meaning to probe

- TEMERITY**
- (A) rashness
 - (B) timidity
 - (C) desire
 - (D) kindness

Measure: # of correct trials out of 48

RESULTS

What predicts individual differences in reference resolution?



- Overall rate of fixations predicted by **vocabulary**
- **Use of prosody** predicted by **perceptual speed**
- Consistent with role of basic biological factors & experience¹
- No evidence for **specific sensitivity** to constraints

ACKNOWLEDGMENTS & REFERENCES

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⁹ Ekstrom, R., French, J. W., Harman H. H., & Derman, D. (1973). Kit of factor-referenced cognitive tests [manual]. Princeton, NJ: Educational Testing Service.

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