

# SKIPPING SYNTACTICALLY ILLEGAL “THE”-PREVIEWS: THE ROLE OF PREDICTABILITY

MATTHEW ABBOTT<sup>1</sup>, BERNHARD ANGELE<sup>2</sup>, Y. DANBI AHN<sup>1</sup>, & KEITH RAYNER<sup>1</sup>

<sup>1</sup>UNIVERSITY OF CALIFORNIA SAN DIEGO

<sup>2</sup>BOURNEMOUTH UNIVERSITY



## WORD SKIPPING DURING READING

1. Readers frequently skip words that are short and frequent<sup>1,2</sup> or predictable<sup>3</sup>
2. Readers also skip parafoveal previews of high-frequency words more often than low-frequency 3-letter words even when they are syntactically infelicitous<sup>4,5</sup>
  - (A) There was a massive **ant** infestation in..
  - (B) There was a massive **the** infestation in..
  - (C) There was a massive **all** infestation in..
3. There is a cost to skipping, with longer fixations following skipped words, but this cost is even greater after skipping an incorrect preview
4. If the target word is highly predictable, will parafoveal information of a different word block skipping decisions?

## PRESENT STUDY

- 37 UCSD undergraduates read 40 sentences
- 2 constraint (high vs. low Cloze target word) x 2 parafoveal preview (correct vs. *the* preview) design

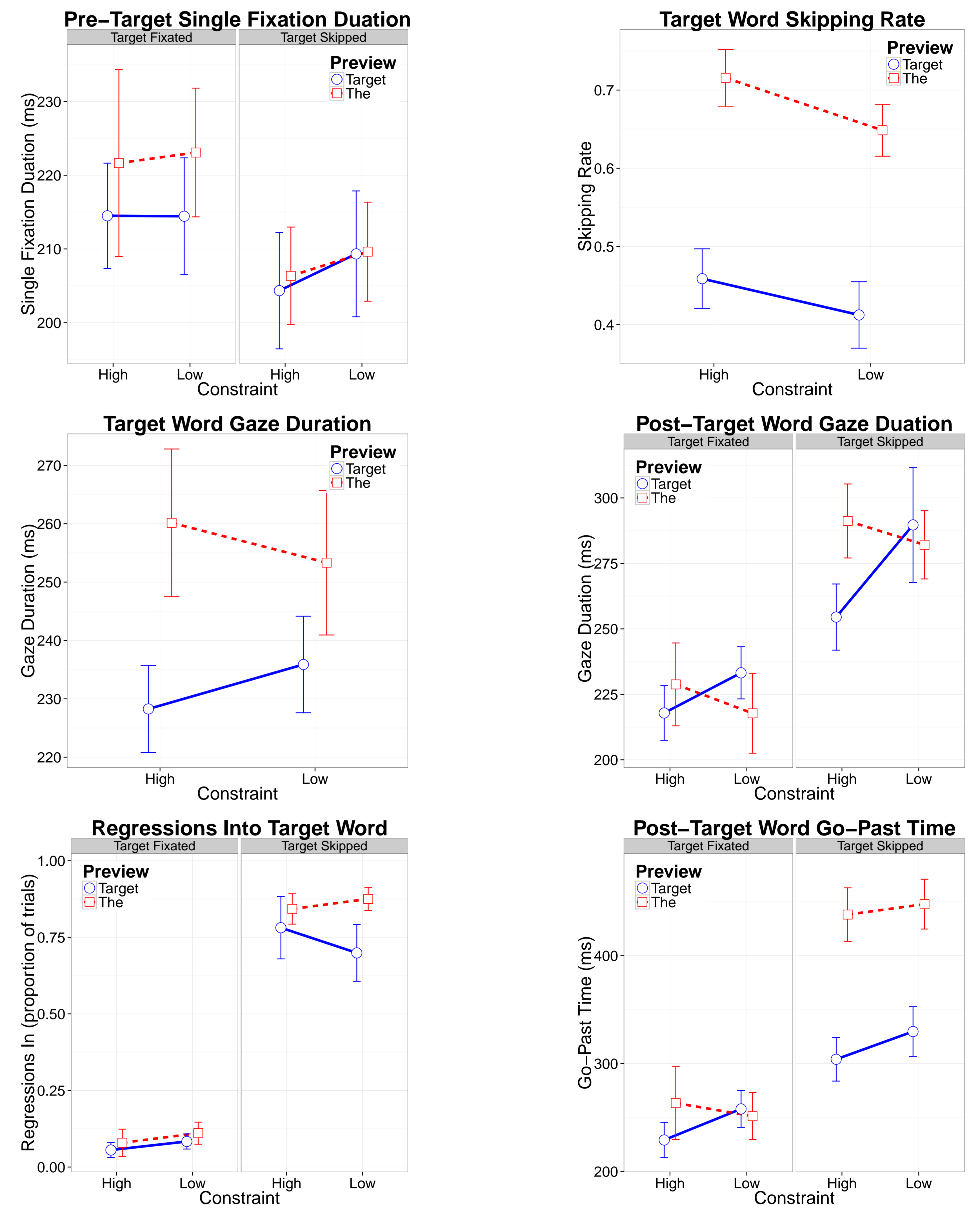
| Cloze | Sentence (   indicates boundary)                         |
|-------|--|
| High  | Jane used the scissors to carefully  <b>cut</b> scraps.. |
| High  | Jane used the scissors to carefully  <b>the</b> scraps.. |
| Low   | Jane used the machine to carefully  <b>cut</b> scraps..  |
| Low   | Jane used the machine to carefully  <b>the</b> scraps..  |

- Target word cloze probabilities: 0.77 for high constraint targets, 0.05 for low constraint targets
- Position of target in sentence did not differ between conditions
- Parafoveal preview controlled using the boundary paradigm<sup>6</sup>: on all trials the target word (*cut*) replaced the preview (e.g., *cut* or *the*) after readers' eyes crossed the boundary
- Display changes completed in 4ms on average (range 0-7ms)
- 10.53% of the data was removed due to improper display changes

## REFERENCES

1. O'Regan, J. K. (1979). Eye guidance in reading: Evidence for the linguistic control hypothesis. *Perception & Psychophysics*, 25, 501-509.
2. Drieghe, D., Pollatsek, A., Staub, A., & Rayner, K. (2008). The word grouping hypothesis and eye movements during reading. *JEP: LMC*, 34, 1552-1560.
3. Balota, D. A., Pollatsek, A., & Rayner, K. (1985). The interaction of contextual constraints and parafoveal visual information in reading. *Cog Psych.*, 17, 364-390.
4. Angele, B., Laishley, A., Rayner, K., & Liversedge, S. P. (2014). The effect of high- and low-frequency previews on and sentential fit on word skipping during reading. *JEP: LMC*, in press.
5. Angele, B., & Rayner, K. (2013). Processing *the* in the parafovea: Are articles skipped automatically? *JEP: LMC*, 39, 649-662.
6. Rayner, K. (1975). The perceptual span and peripheral cues in reading. *Cog Psych.*, 7, 65-81.

## RESULTS



## DISCUSSION

- Readers skip the word *the* more often than other 3-letter words
- Skipping of *the* often proceeds even when the context indicates that another word should occur in that position with high probability
- Constraint may boost the baseline rate of skipping short words - *the* was skipped more often in high than in low constraint sentences
- Information from the sentence context and the parafovea both appear to influence skipping, but integration lags behind
- While readers are likely to regress to any skipped word, processing difficulty is most apparent after skipping an infelicitous word