

INTRODUCTION

- The current study explores the interaction of density and frequency when paired with distractors during a visual search paradigm.
- Distractor word types:
 - Non-pronounceable nonwords (“Nonwords”)
 - Pronounceable nonwords (“Pseudowords”)
- Target word variables:
 - Word Frequency (High / Low).
 - Orthographic Neighbourhood Density (High / Low)
- We predict better performance for conditions with high frequency and low density words and nonword distractors.

CHES	CHEPE	CTEXS	CHESN
CHELT	CHEFF	CHES	CFESS
LF/LD PSEUDOWORD		LF/LD NONWORD	
SLEEN	SLOEP	SLQED	SLEEP
SPEEP	SLEEP	SLFEP	SLEQP
HF/HD PSEUDOWORD		HF/HD NONWORD	



Figure 2. Keys used for manual response.

METHOD

- Participants (N = 29) completed 8 blocks of 20 trials.
- The task was to identify the real word among 3 different distractors (all pseudowords or all nonwords).
- All target stimuli were monosyllabic 5-letter words.
- Stimuli were presented for 1000ms and followed by a visual mask of “X”s.

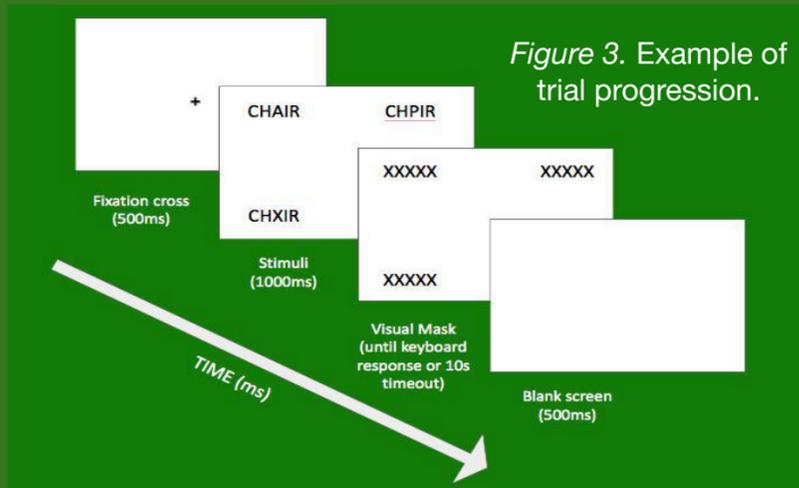


Figure 3. Example of trial progression.

Investigating the effects of orthography, neighbourhood density, and frequency on single word recognition in a visual search task

Olivia Longpre, İpek Çukurova, Amy vanWell & James Tanaka *University of Victoria, Canada*

RESULTS

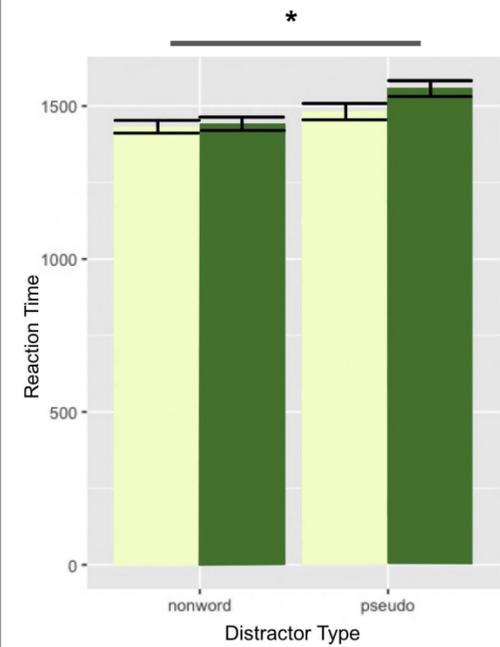


Figure 4. High density target words were found to have faster reaction times than low density target words ($p < 0.05$).

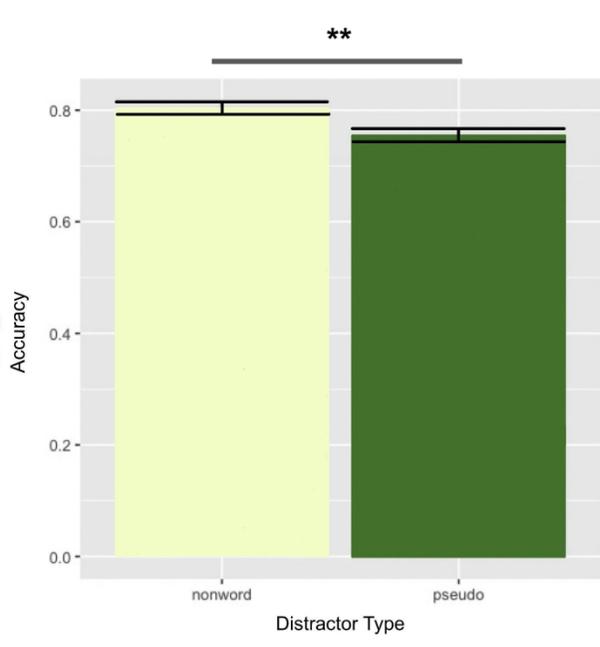


Figure 5. Nonword distractors had higher accuracy than pseudoword distractors ($p < 0.001$).

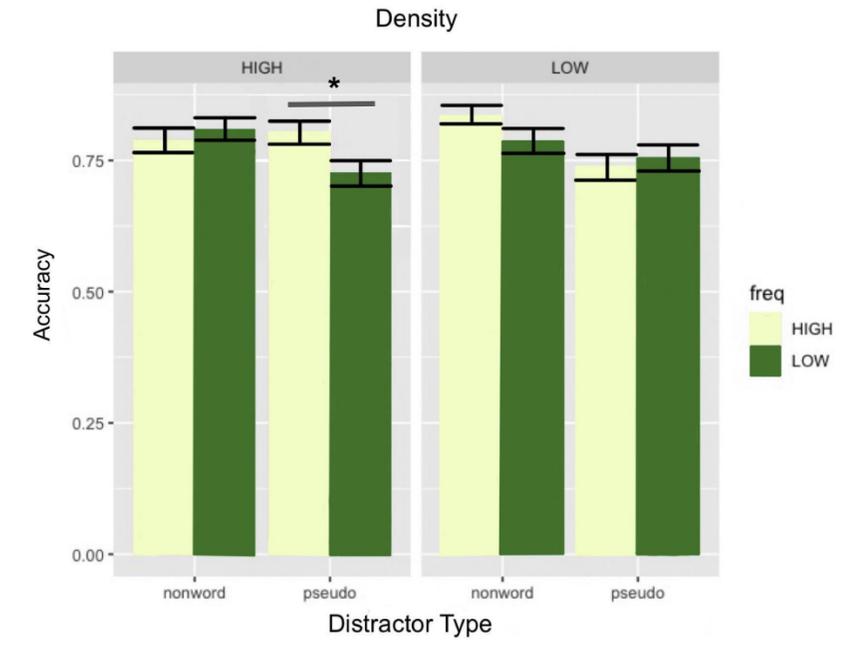


Figure 6. High density and high frequency target words paired with pseudoword distractors had significantly better accuracy than other conditions ($p < 0.001$).

DISCUSSION

- The fastest and most accurate response times seen for high density target words, this was an unexpected finding.
- Reaction time was faster and accuracy was higher when targets were paired with nonword distractors.
- A target word high in both frequency and density is advantageous in accuracy in pseudoword distractor conditions.
- These findings point to the utility of visual search paradigms for single word recognition.

ACKNOWLEDGEMENTS

- We would like to thank James Tanka, Alison Campbell, Amy vanWell and the Different Minds Lab for their guidance and support in helping us navigate this experiment.

REFERENCES

Balota et al. (2007). *The English Lexicon Project*. ; Duyck et al., (2004). *Behavior Research Methods, Instruments & Computers* ; Keuleers & Brysbaert, (2010). *Behavior Research Methods* .