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# Bilinguals are affected by form-related priming when reading sentences in L2.

## Competition between form-related words in bilingual sentence reading: Effects of language proficiency.

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### BACKGROUND

- Form-related priming leads to inhibitory effects in monolingual sentence reading (Paterson et al., 2009).
- These effects are affected by the distance between prime and target and by reading skills (Frisson et al., 2014).
- We extended this to bilinguals.

### METHODS

48 Norwegian-English bilinguals (advanced)

128 sentence pairs with form-related or unrelated prime, manipulating target-prime distance and overlap

Short – End	The scary house was <b>brown</b> [blue] with a golden <b>CROWN</b> painted over the door.
Short – Begin	He counted up to <b>seven</b> [eight] knights that could <b>SEVER</b> the dragon's head.
Long – End	The alarm had a red <b>patch</b> [stamp] that I noticed far too late after opening the <b>HATCH</b> to the cellar of the house.
Long – Begin	Drinking the old <b>paint</b> [juice] caused Leif to experience lasting and severe stomach <b>PAINS</b> and he was rushed to the hospital.

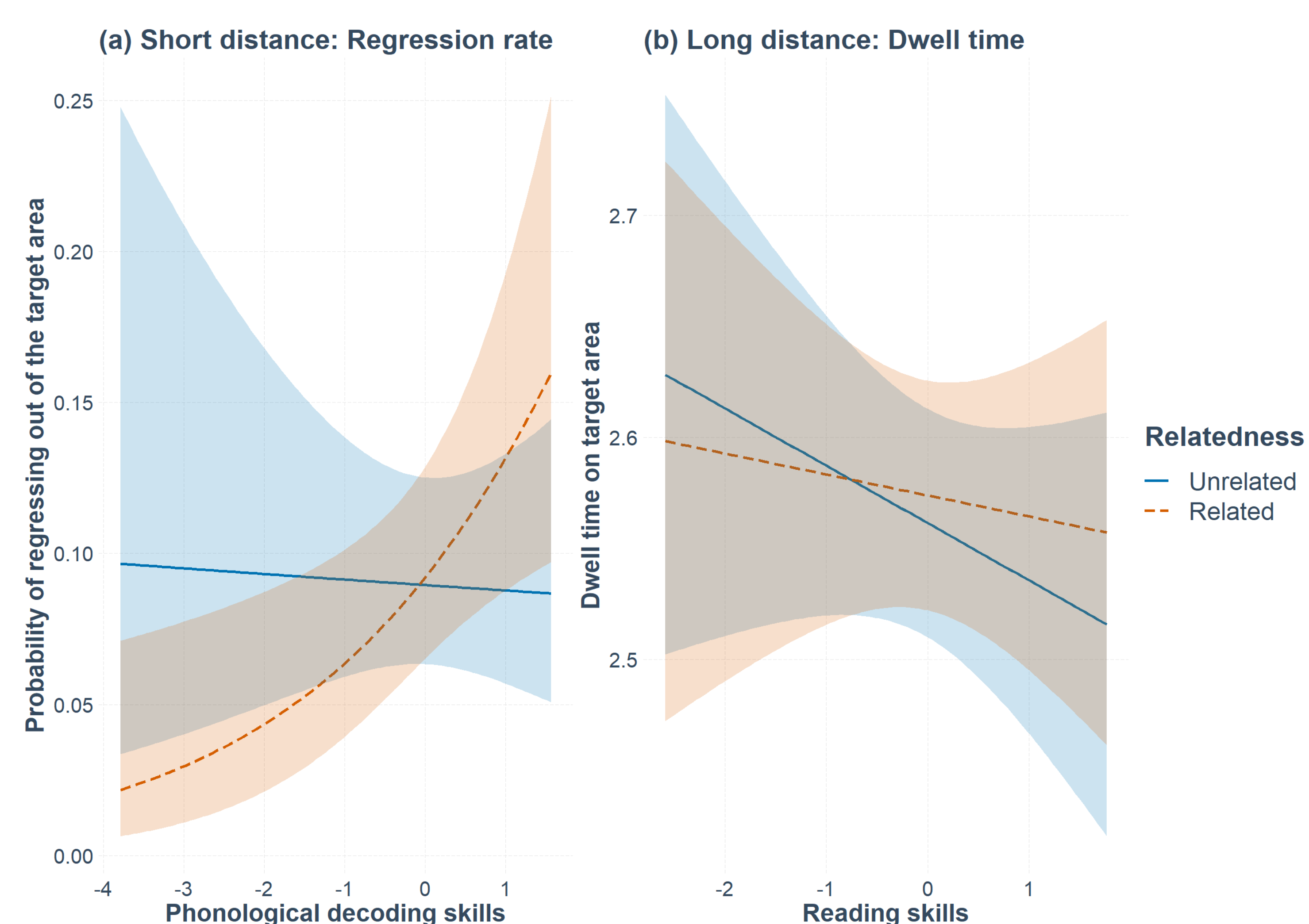


Eye-tracking while reading + proficiency measures

Reading skills <sup>1</sup> (RS)	British Vocabulary Picture Scale 3 (Dunn et al., 1982)
	York Assessment of Reading for Comprehension (Snowling et al., 2009)
	Sentence acceptability judgment
Phonological decoding skills (PS)	Gray Silent Reading test (Wiederholt & Blalock, 2000)
	Non-word repetition test
	Elision test

<sup>1</sup> Classification in 2 components obtained by PCA. Cumulative variance explained with two components: 0.71.

### Reading skills and phonological decoding skills affect priming effects in L2 reading.



### RESULTS

- L2 readers are affected by form-related priming.
- In short-distance condition, better phonological decoders show earlier effects (regression rate out of target area, PS x relatedness:  $\beta = 0.42$ , 95% CI [0.14; 0.70],  $p = .004$ )
- Only good readers show effects in long-distance condition (dwell time in target area, RS x relatedness:  $\beta = 0.02$ , 95% CI [0.001; 0.031],  $p = .03$ ; regression out of spillover area: relatedness x RS x overlap,  $\beta = 0.56$ , 95% CI [0.029; 1.10],  $p = .04$ ).

### DISCUSSION

- Replication of monolingual results: form-related priming in sentence reading is a robust effect.
- Explained by competition models as competition between word candidates.
- The effect is influenced by reading skills, but phonological skills are also crucial.

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