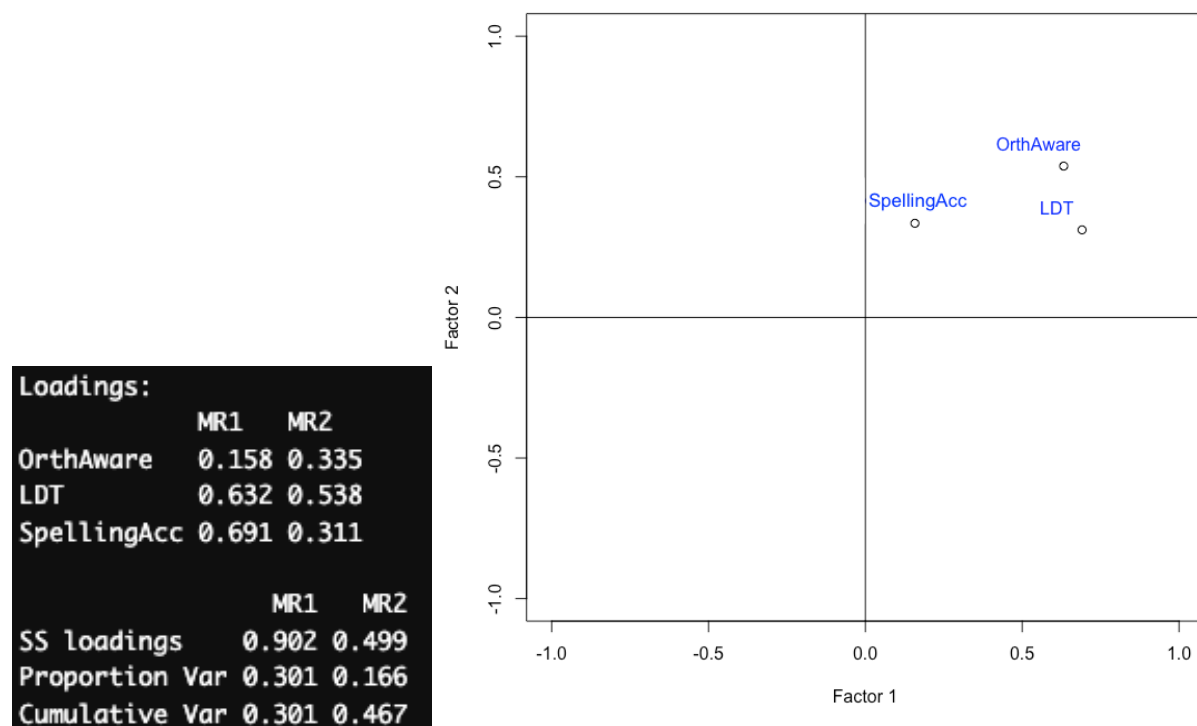


### Supplemental Materials

To further explore the connection between each reading subtest and word search performance, we conducted a Factor Analysis that resulted in two factors based on our three reading proficiency measures (LDT, Spelling Recognition, and Orthographic Awareness). Factor 1 has LDT and Spelling strongly loaded, and Factor 2 has LDT and lesser degrees of the two other tasks: See factor loadings in the Figures below.



We then analyzed how these two factor scores were associated with word search performance in two different ways. The first set of analyses assessed the correlations between each factor and word search performance. Both of these factors significantly predicted word search scores (Factor 1 & Word Search:  $r(60) = .32, p = .01$ ; Factor 2 & Word Search:  $r(60) = .28, p = .03$ ). These values are nearly identical to the correlations between word search and each of the 3 reading

task measures reported in the main manuscript (all of which were around  $r=.30$ ). We also ran two logistic mixed effects models, which contained word search score as the outcome variable, Factor (1 or 2) as the fixed effect, and participant, item, and starting column as random effects. Both factors were significant predictors of word search performance ( $p=.01$  and  $p=.02$  respectively; see below). These analyses replicate the results in the manuscript using the reading composite score (which was created by computing a z-score on each reading sub-measure (LDT, Spelling Recognition, and Orthographic Awareness) for each participant, then calculating the average of these three scores for each participant.). This suggests that word search correlates with the shared part of the variance across the three measures of reading skill, rather than with aspects specific to some of these tests.

---

*Results from individual models: Factors 1 & 2 as predictors of word search performance*

| <i>Fixed effect</i> | $\beta$ | <i>SE</i> | <i>z</i> | <i>p</i> |
|---------------------|---------|-----------|----------|----------|
| <i>Factor 1</i>     | .25     | .10       | 2.58     | .01**    |
| <i>Factor 2</i>     | .23     | .10       | 2.31     | .02*     |