

**Purpose.** When readers encounter multisyllabic written words, their processing of lexical stress is affected by the spelling patterns of the words' endings. This is because many word endings (e.g., *-el* in *VESSEL*) act as probabilistic cues to English lexical stress (Arciuli & Cupples, 2006). Prior research has implicated these cues in readers' naming and lexical decision performance (Kelly et al., 1998); adults respond more quickly to words with a large proportion of "stress friends" (words that share the same ending and stress pattern; e.g., 84% of *-el* words have trochaic stress). Some have argued that readers' sensitivity to these stress cues might develop by way of statistical learning (e.g., Colombo et al., 2014), which occurs through ongoing exposure to words that reflect the associations between endings and stress. The current study tests that claim.

**Experiment 1.** 56 adults completed a lexical decision task (180 disyllabic words). Items varied in their proportion of stress friends and their type/token frequencies of stress friends, capturing differences in how often the various stress cues appear in text. Items likewise varied in their number and frequency of "stress enemies" (same ending, different stress pattern; *laPEL*).

Linear mixed-effects models analyzed reaction times as a function of the stress cue variables (proportion, type frequency, token frequency), assessing the unique contributions made by each (controls: word frequency/length, neighbourhood size, mean bigram frequency). Frequencies of stress friends and frequencies of stress enemies each predicted lexical decision latencies after controlling for the other variable, with faster responses when words had many stress friends and slower responses when words had many stress enemies. Proportion of stress friends, which is a coarse estimate of relative exposure to stress friends and enemies, robustly predicted performance. Indeed, once proportion of stress friends was accounted for, neither type nor token frequency of stress friends made an independent contribution. This was contrary to predictions derived from statistical learning theory, as type/token frequencies offer fine-grained estimates of how often readers encounter different stress cues on an item level. This finding motivates us to consider the role of individual differences in readers' print exposure.

**Experiment 2.** 60 adults will complete a naming task with the same items as in Experiment 1. They will also complete the Author Recognition Test (Acheson et al., 2008), which measures participants' print exposure. Data collection is ongoing.

When analyzing naming task reaction times, we will include the same item-level predictors as in Experiment 1 (with initial phoneme as an additional control), along with print exposure as a participant-level predictor. We expect all participants to name words with higher (vs. lower) proportions of stress friends faster, with a stronger effect among participants with high (vs. low) print exposure. We expect that any additional effect of stress friend frequencies will be limited to participants with low print exposure.

**Conclusion.** Findings offer partial support for the claim that statistical learning is a mechanism behind readers' sensitivity to stress cues, qualifying that claim by identifying the language regularities that affect adults' processing of stress in multisyllabic words.

## References

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