

What and how do we learn about morphemes through reading experience?

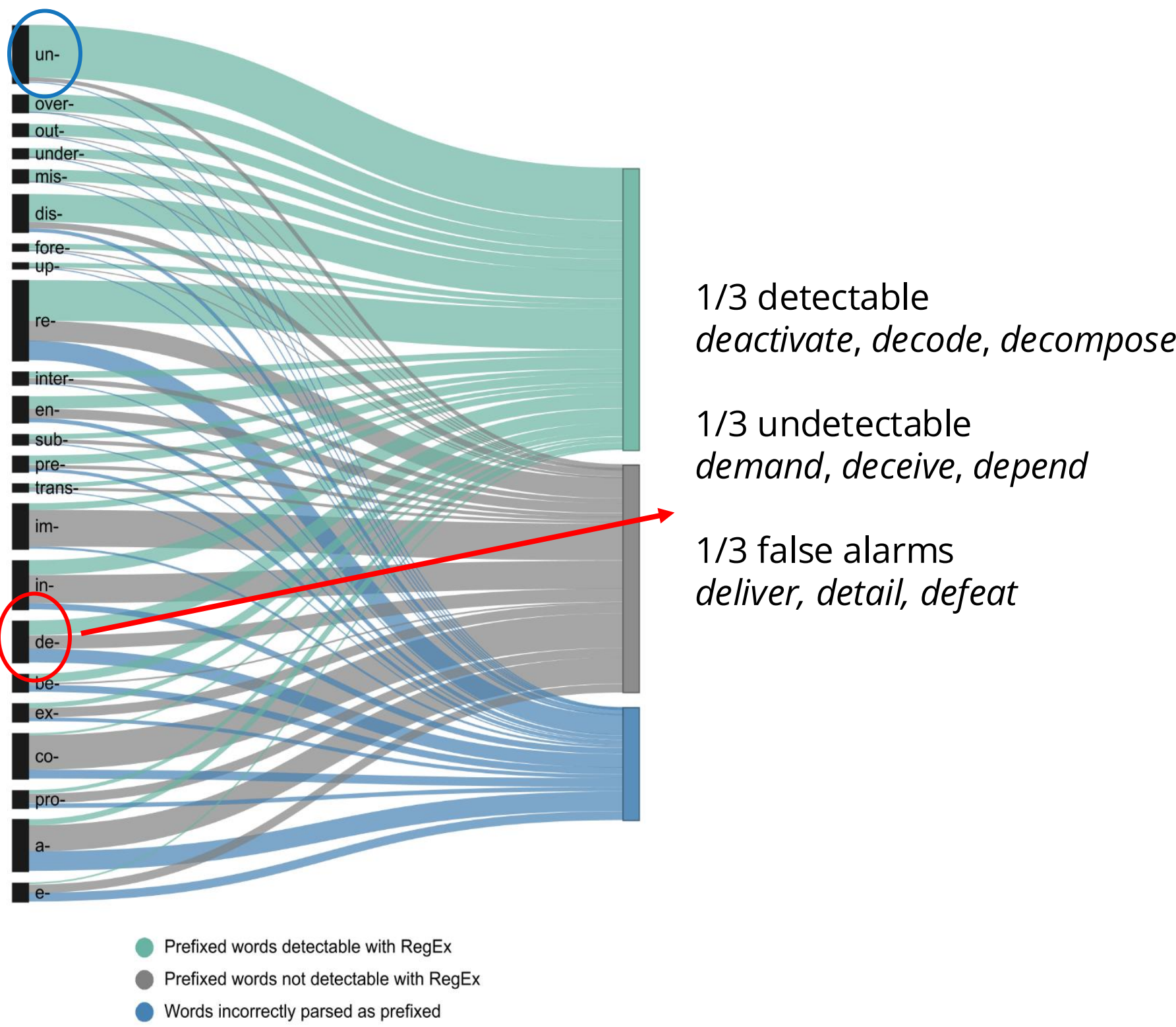
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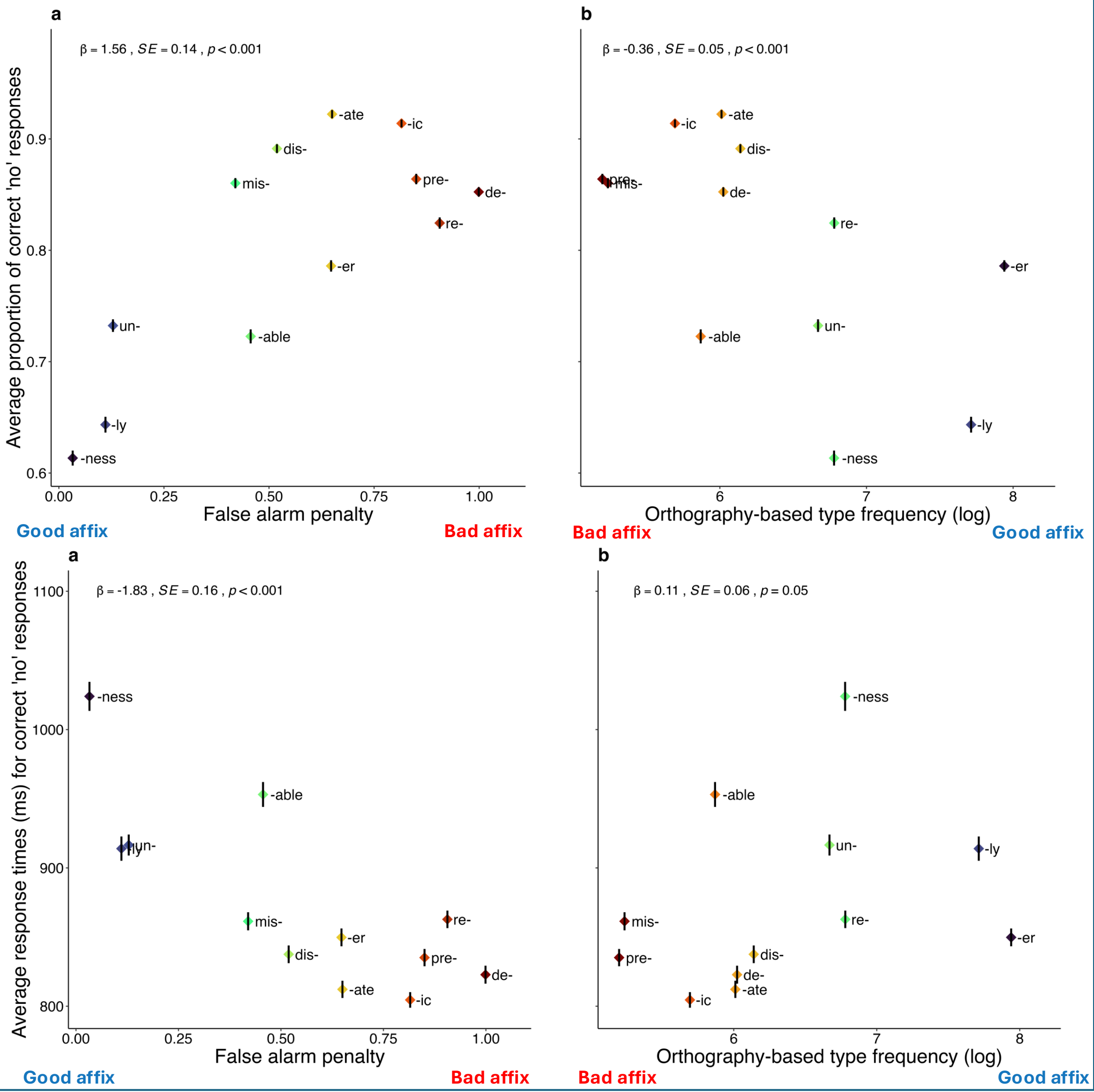
1. Background

- Morphemes (smallest units of meaning) are vital for understanding familiar and unfamiliar words (e.g., *brightify*) and learned primarily through reading
- Learning pre-requisites include consistent meaning, appearing with various stems, and being detectable^{1, 2, 3}
- Most affixes are difficult to learn due to the presence of bound stems (e.g., *deceive*) and false alarms (e.g., *deliver*)³
- So, what contributes to affix learning? (1) All genuinely complex words, (2) All words that *look* complex, or (3) Complex-looking words but false alarms will *harm* learning
- False alarm penalty*⁴: the higher, the more uncertainty about the affix’s function



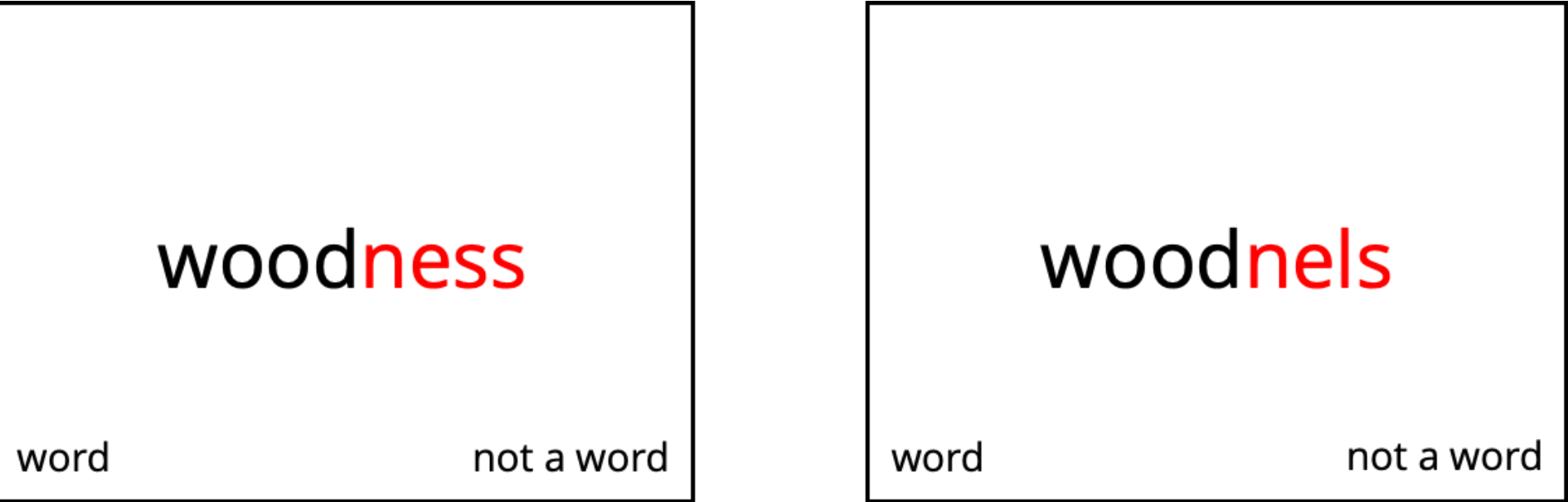
3. Results

- Strong morpheme interference effect for both accuracy and RT
- Results best explained by *Theory (3): Readers learn from what looks complex but false alarms incur a learning penalty*
- The higher the affix frequency and the lower the false alarm penalty, the harder the nonwords with this affix are to reject



2. Methods

- $N = 120$ (18–40 years old)
- Lexical decision task:** words vs. nonwords with vs. without morphological structure



- If readers *are sensitive* to morphological structure, *morphologically structured* nonwords will be rejected with more errors and slower speed (**morpheme interference effect**)^{5, 6}
- If morpheme knowledge is shaped by information available through reading, accuracy and response times to morphologically structured nonwords will depend on the quantity and quality of affix exposure in print

4. Conclusions

- New psychologically valid theory of morpheme learning** based on quantification of affix experience in print
- Readers’ affix **knowledge aligns with what is readily available through orthography**, but some aspects of text experience are harmful for learning
- Important to **consider the perspective of a reader** rather than rely on proxies detached from an individual’s experience

- Pre-print at https://doi.org/10.31219/osf.io/ad3jh_v1 or:



References:

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