INTRODUCTION

- Word characteristics influence gaze duration (e.g. Lexical Frequency, Age of Acquisition)
- More skilled readers are less sensitive to word characteristics
- Mind wandering is also associated with less sensitivity to lexical frequency

→ How is absorption in, and appreciation of, narratives associated with sensitivity for word characteristics?

METHOD

Eye-tracking from three studies on natural reading of stories[a], [b], [c]

Subjects
- N=171 (137 F)
- Age 18-46 (M = 22.95)

Materials
- 3 or 4 literary stories per study (750-3500 words)

Dataset
- Gaze durations per subject, per word
- Story appreciation and story world absorption scores (SWAS)[d] per subject, per story
- Author Recognition Test scores (ART)[d] per subject
- 508,567 observations (2126 unique words)

ANALYSIS (LMM’s)

Step 1: Annotate all words for lexical frequency[e], age of acquisition[e], concreteness[e], orthographic neighborhood size[e], position in sentence

Step 2: Determine which word characteristics influence gaze durations.

Step 3: Extract beta coefficients per subject, per story as individual measures of sensitivity to word characteristics

Step 4: Determine the relationship between sensitivity to word characteristics and print exposure, appreciation and absorption

RESULTS

- Lexical frequency and orthographic neighborhood size speed up reading
- Age of acquisition slows down reading
- Position in sentence and concreteness not significant

When taking into account reader responses (see fig. 1, arrows):

- Absorption scores (SWAS) attenuate the effect of orthographic neighborhood size (see fig. 2, right)
- Appreciation scores attenuate the effect of lexical frequency and orthographic neighborhood size
- ART scores attenuate the effect of lexical frequency, age of acquisition and orthographic neighborhood size (see fig. 2, left)

CONCLUSION

Readers that are less ‘sensitive’ to word characteristics are more absorbed in a narrative, and like the narrative better

This is a positive effect of being less influenced by word characteristics

The mechanism behind this relationship is unclear

DISCUSSION

- Mind wandering has similarly been found to be related to attenuated sensitivity to lexical frequency
- Those with more reading experience seem better equipped to enjoy a story world

References

[c] Mak, M., van den Hoven, E., & Willems, R. M. (in revision). Mind wandering is associated with sensitivity for word characteristics
[d] Art scores
[e] Age of acquisition

Fig. 1 By-subject, by-story beta coefficients for the effect of word characteristics on gaze durations & the effect of reader responses

Fig. 2 The relationship between beta coefficients for lexical frequency and ART scores (left) and between beta coefficients for orthographic neighborhood size and absorption scores (right)

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