



The Psychological Reality of Words in Chinese Reading: Evidence From Eye Movements

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Introduction

There are no spaces between words in Chinese text, and Chinese readers do not always agree on where word boundaries are.

Do Chinese words have psychological reality?

Experiment 1

This experiment tested whether making Chinese readers unable to see two characters belonging to a word simultaneously would slow down their reading speed.

Design

We used a variation of the moving window paradigm. Subjects could only see the characters in the two-character window.

All of the words in the sentences were two characters long.

Sentence

老师教导我们永远不要忘记历史。

The teacher taught us that we should never forget the history.

Word-window condition:

the two characters in the window always constituted a word

Example 1: * * * * 我们 * * * * * *

*

Example 2: * * * * 我们 * * * * * *

*

Nonword-window condition:

the two characters in the window did not constitute a word

Example 1: * * * 导我 * * * * * *

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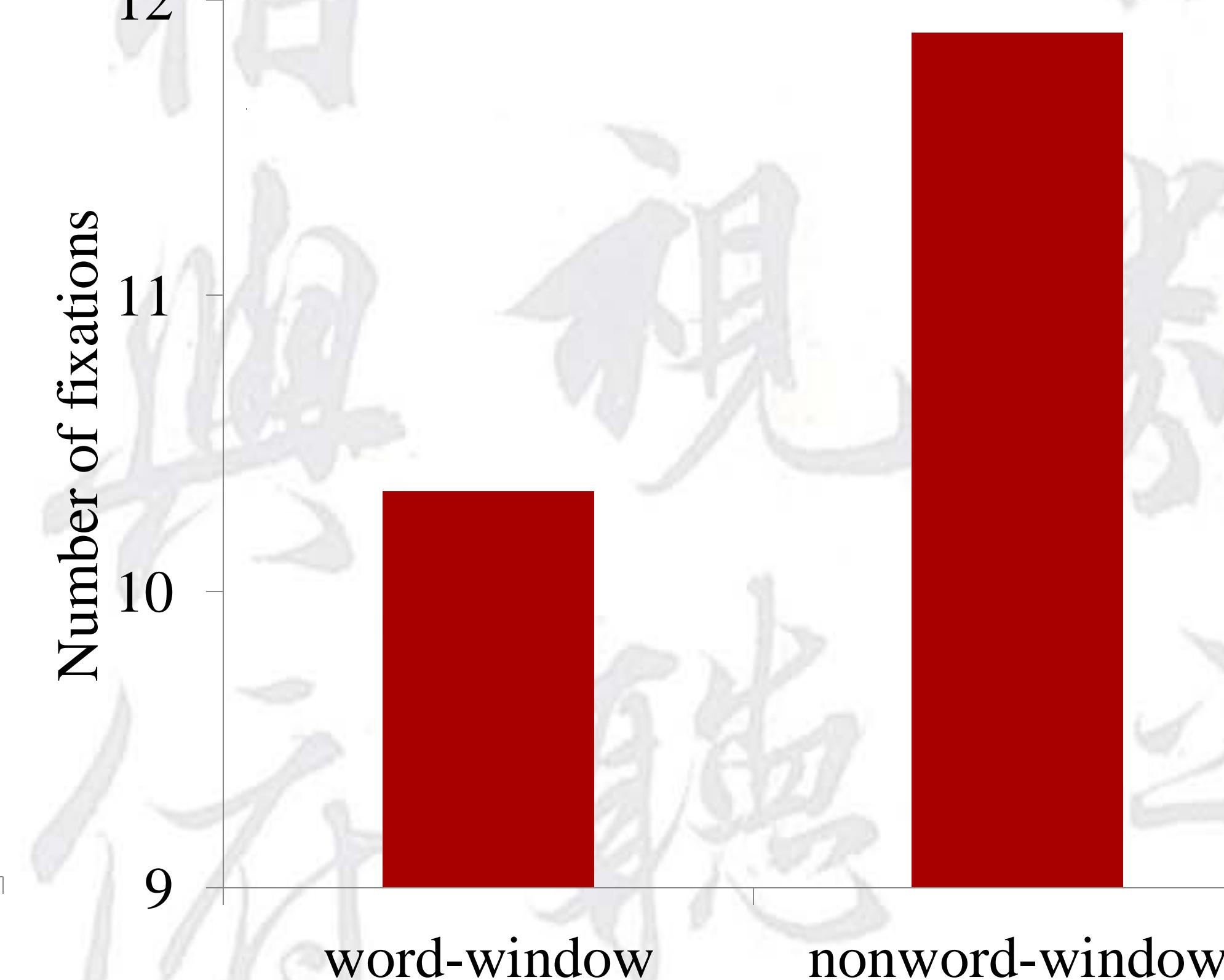
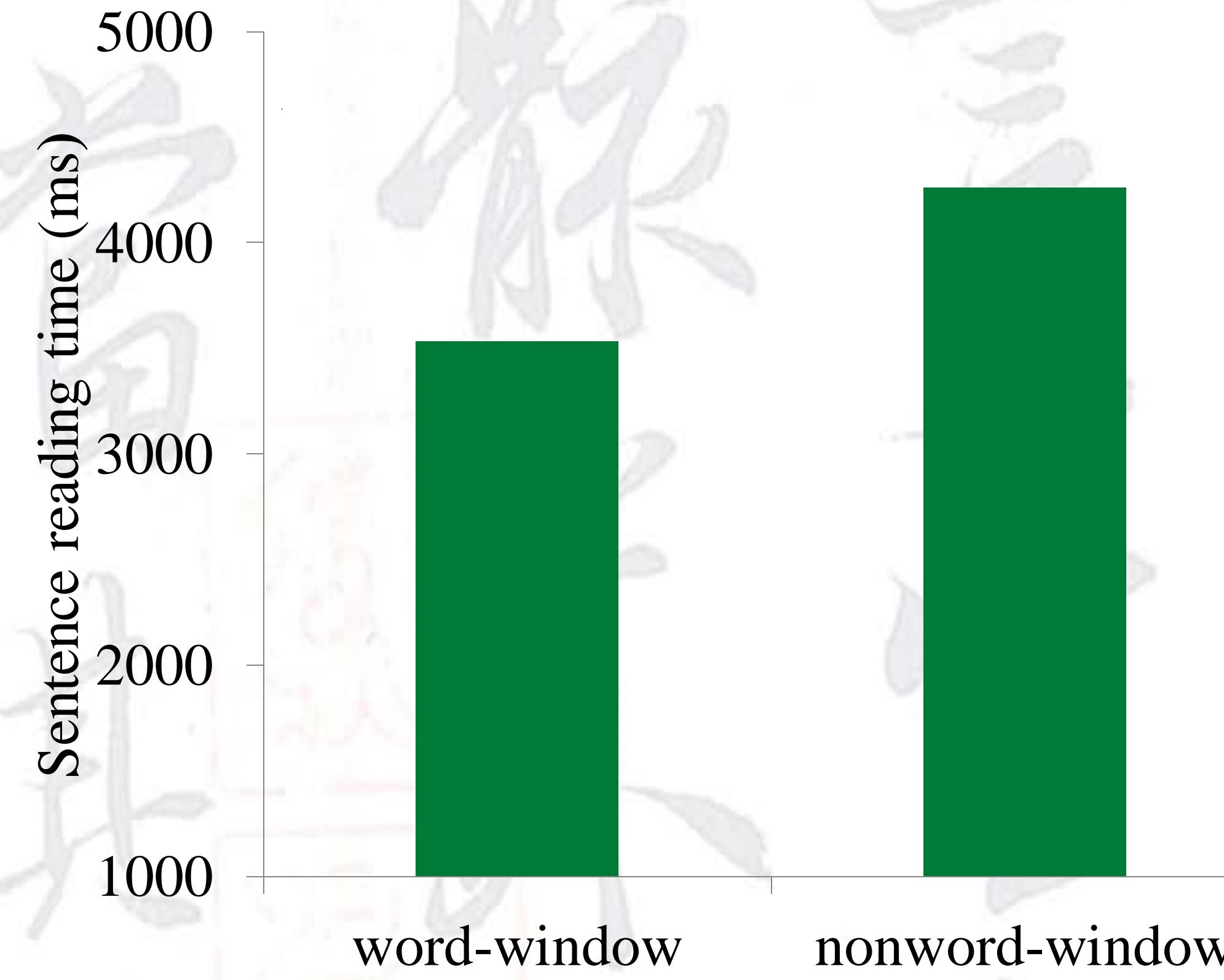
Example 2: * * * * * 们永 * * * * *

*

Predictions

If characters belonging to a word were processed as a unit, reading time should be longer in the nonword-window condition than in the word-window condition.

Results



Discussion

Results suggest that reading times were longer when readers could not view the characters belonging to a word simultaneously than when they could.

Experiment 2

Would Chinese readers choose to view two characters belonging to a word simultaneously if they had the opportunity to do so?

Design

Sentence

老师教导我们永远不要忘记历史。

The teacher taught us that we should never forget the history.

Right-character window condition:

the two-character window included the fixated character and the character to the right of it

Example 1: * * * 导我 * * * * * *

*

Example 2: * * * * 我们 * * * * *

*

Left-character window condition:

the two-character window included the fixated character and the character to the left of it

Example 1: * * * * 我们 * * * * *

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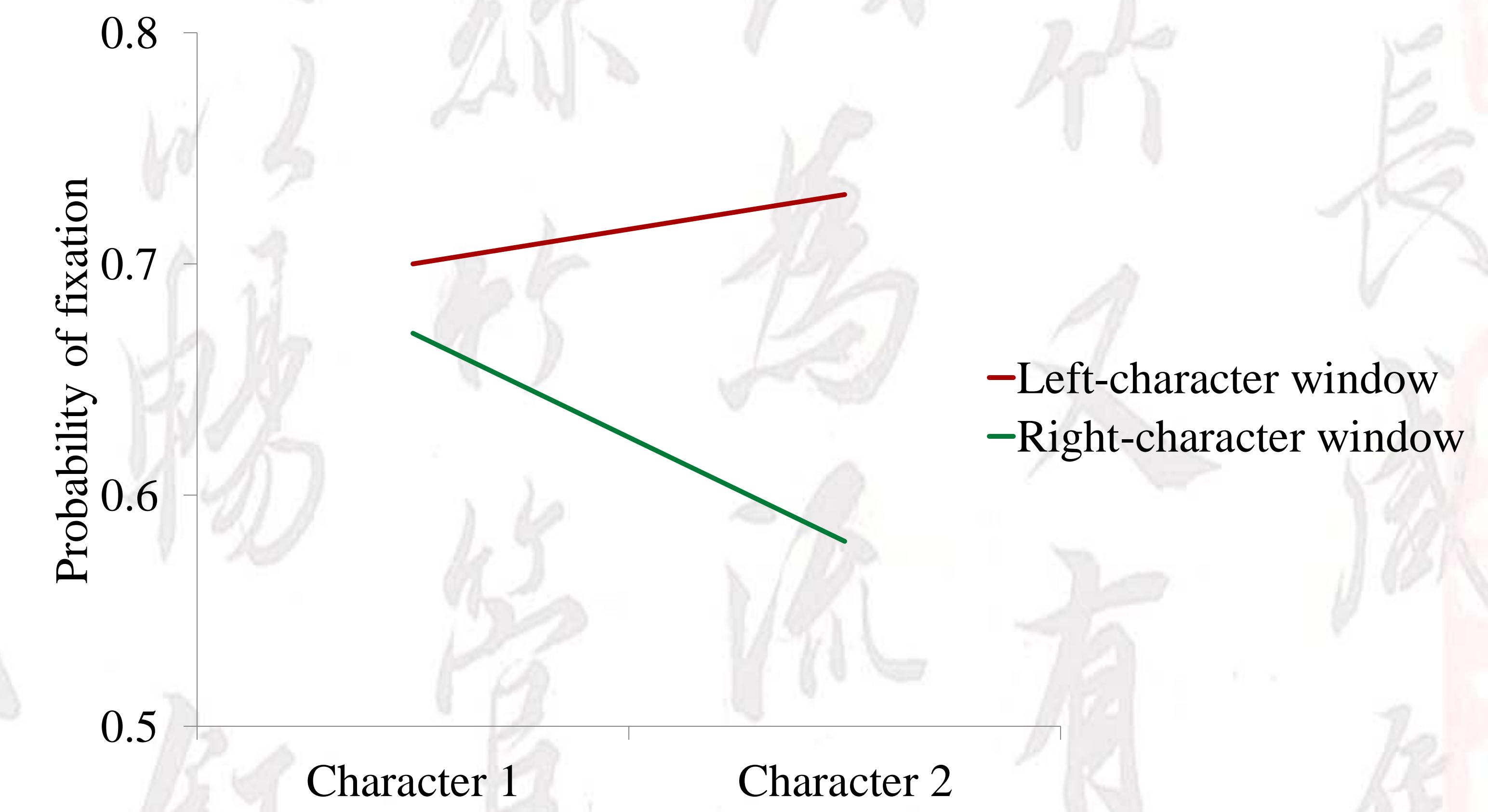
Example 2: * * * * * 们永 * * * *

*

Predictions

If Chinese readers choose to view two characters belonging to a word simultaneously, they should more likely to fixate on the first character of a word in the right-character window condition; and they should more likely to fixate on the second character of a word in the left-character window condition.

Results



Discussion

Chinese readers looked at two characters belonging to a word simultaneously when they had chance to do so.

Conclusion

The results of the current study provide strong evidence that character processing is affected by word knowledge and the processing of other characters belonging to the same word in Chinese reading, and add to a growing body of evidence demonstrating that words do have psychological reality for Chinese readers.

References

- Li, X., Gu, J., Liu, P., & Rayner, K. (in press). The advantage of word-based processing in Chinese reading: Evidence from eye movements. *Journal of Experimental Psychology: Learning, Memory, and Cognition*.
- Li, X., Rayner, K., & Cave, K. R. (2009). On the segmentation of Chinese words during reading. *Cognitive Psychology*, 58, 525–552.