

## **NOVEL EVIDENCE FOR AGING EFFECTS ON WORD SEGMENTATION IN CHINESE READING**

Lin Li (Tianjin Normal University), Lingshan Bao (Tianjin Normal University), Zhuoer Li (Tianjin Normal University), Sha Li (Fujian Normal University), Jingyi Liu (Tianjin Normal University), Pin Wang (Tianjin Normal University), Sarah Gunn (University of Leicester), & Kevin B. Paterson (University of Leicester)  
linpsy@outlook.com

College-aged readers use highly efficient strategies to segment and recognize words in naturally-unspaced Chinese text. Whether this capability changes or is preserved across the adult lifespan is unknown, although segmenting words in unspaced text may be especially challenging for older readers. Accordingly, we conducted two eye movement experiments to test for adult age differences in word segmentation, each with 48 young (18-30 years) and 36 older (65+ years) native Chinese readers. Following Zhou and Li (2021), we focused on the processing of “incremental” three-character words, like 幼儿园 (meaning “kindergarten”), which contain an embedded two-character word (e.g., 幼儿, meaning “children”). In Experiment 1, either the three-character word or its embedded two-character word was presented as the target word in sentence contexts where the three-character word always was plausible, and the embedded word was either plausible or implausible. This enabled us to assess whether, by incrementally segmenting the three-character word, readers would access its embedded word’s lexical representation and so produce similar word plausibility effects for sentences containing two- or three-character target words. Both age groups produced word plausibility effects only for sentences with two-character targets. This replicated Zhou and Li’s finding that young adults do not segment words incrementally, while showing that young and older adults employ similar word segmentation strategies. Experiment 2 replicated these findings using a modified experimental design, further demonstrating that neither young nor older adults segment words incrementally. Crucially, the findings reveal that young adults’ word segmentation strategies are preserved in older readers.

*Keywords:* Cognitive Aging, Eye Movements during Reading, Word Segmentation, Chinese Reading