

A Difference in Working Memory Capacity among Chinese Speakers Using Different Computer Word Typing Methods

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Abstract: Chen & Chuang (2008, CogSci) showed that Chinese speakers using phonology-based and orthography-based computer word typing methods (zhuyin vs. cangjie) displayed differential sensitivity in processing the phonological and the orthographic information of Chinese characters. The present study examined whether the zhuyin and the cangjie users might differ in their working memory (WM) capacities. Five verbal WM tasks and five visuospatial WM tasks were administered to 24 zhuyin and 23 cangjie users, whose typing speeds were comparable (53.7 and 53.2 characters per minute). Results show that the zhuyin users scored higher on the verbal WM tasks than the cangjie users, but the two groups performed similarly on the visuospatial WM tasks. The results suggest that general cognitive abilities like the WM capacity are related to the use of a technological artifact, consistent with the 'extended-mind' view of cognition proposed by Clark and Chalmers (1998).