The Priming Effect of Morphology, Phonology, Semantics, and Orthography in Mandarin Chinese: A Prime Paradigm Study

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Abstract : This study investigates the priming effects of different Chinese compound words by native Mandarin speakers. There are lots of homonym, polysemy, and synonym in Chinese. However, it is unclear which kind of words have the biggest priming effect. Native Mandarin speakers were tested in a visual-word lexical decision experiment. The stimuli, which are all two-character compound words, consisted of two parts: primes and targets. Five types of relationships were used in all stimuli: morphologically related condition, in which the prime and the target contain the same morpheme; orthographically related condition, in which the target and the prime contain the different morpheme with the same form; phonologically related condition, in which the target and the prime contain the different morpheme with the same phonology; semantically related condition, in which the target and the prime contain the different morpheme with similar meanings; totally unrelated condition. The time since participants saw the target to respond was recorded. Analyses on reaction time showed that the average reaction time of morphologically related targets was much shorter than others, suggesting the morphological priming effect is the biggest. However, the reaction time of the phonologically related conditions was the longest, even longer than unrelated conditions. According to scatter plots analyses, 86.7% of participants had priming effects in morphologically related conditions, only 20% of participants had priming effects in phonologically related conditions. These results suggested that morphologically related conditions had the biggest priming effect. The orthographically and semantically related conditions also had priming effects, whereas the phonologically related conditions had few priming effects.
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