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The effects of phonological complexity on word learning in deaf children with cochlear implants

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Abstract: This study aims to investigate how phonological complexity in Chinese impacts word learning skills in deaf children with cochlear implants (CI, 20-40 months old), and their chronological age-matched, normal-hearing peers. It has been suggested that the phonological loop plays a crucial role in word learning. However, while CIs seem to have a more limited phonological working memory capacity, generally leading to poor performance on language learning, it remains unclear how different phonological complexity affects word learning ability, and how it interacts with auditory function.

To this end, three phonological structures are used as testing items: one-syllable (e.g., /du/), vs. two-distinct-syllable (e.g., /dudi/) vs. two-identical-syllable (e.g., /dudu/). Each of them represents a different degree of phonological complexity. Moreover, in order to gain more information on children's real-time behavior, we utilize the eye-tracking technique in combination with Intermodal Preferential Looking Paradigm to examine their ability in learning novel words-objects pairings.