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Directionality Effects and Exceptions in Learning Phonological Alternations

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Abstract

The present study explores learning vowel harmony with exceptions using artificial language learning paradigm. Participants were exposed to a back/round vowel harmony pattern in which one affix (prefix or suffix) alternated between /me/ and /mo/ depending on the phonetic feature of the stem vowels. In Experiment 1, participants were able to learn the behaviors of alternating and non-alternating affixes, but were more likely to generalize to novel affixes for non-alternating items than alternating items. In Experiment 2, participants were exposed to learning data that contains non-alternating affixes in prefix position while alternating affixes were all suffixes, or vice versa. Participants were able to extend the non-alternating affixes to novel items. Overall, the patterns of alternating affixes are harder to learn than patterns of exceptions, which aligns with previous results of non-alternation bias. Our study raises the question of how biases towards exceptionality and directionality interact in phonological learning.