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A preregistered study exploring language-specific distributional learning advantages in English-Mandarin bilingual adults

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Abstract

Bilinguals are reported to have language learning advantages. One possible pathway is a language-specific transfer effect, whereby sensitivity to structural regularities in known languages can be brought to novel languages that share features. To test for specific linguistic feature transfer, we designed a task for bilinguals with homogeneous language exposure (bilingual in same languages) and heterogeneous feature representation (differing proficiencies). As Hindi and Mandarin have retroflexion in phoneme contrasts, we conducted a pre-registered study with a statistical learning task of a Hindi dental-retroflex contrast on parallel English-Mandarin bilinguals with varied Mandarin proficiency. Unlike the pilot study ($N = 15$), the main study ($N = 50$) found no evidence for a learning effect, and language-experience did not explain learning variance. As these stimuli have shown learning effects in children, learning effects for this feature may be fragile in this adult population, and language-specific neural commitments may prevent learning of the contrast.