Mandarin-English Bilinguals Match Lexical-Tone Processing to the Language Context

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Abstract: Proficient bilingual listening requires differential processing of sound variation in each language context. We considered context-based processing of pitch information by Mandarin-English bilinguals, for whom pitch indicates word distinctions in one language but not the other. In an eye-tracked word-learning experiment, 58 bilinguals and 28 English monolinguals each learned English-like and Mandarin-like wordsets, words referring to images. Wordsets differed primarily in that English-like words contained final consonants. We explained that some words might differ only in their pitch patterns, and included training on minimal tone pairs. In test, two pictures appeared on the screen with referents differing in either tone or vowel. One picture was labeled. Bilinguals processed tones more efficiently ($t(78) = 3.54$, $p = .001$) and more accurately ($t(84) = 3.78$, $p < .001$) than monolinguals only in the Mandarin context. Mandarin-English bilinguals thus appear to tailor tone processing to the within-word language context.