

The influence of tone language experience on the contextual dependence of lexical tone perception

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ABSTRACT

Within tone languages that use pitch variations to contrast lexical meaning, large variability exists in the pitch produced by different speakers. Context-dependent perception may help to resolve this perceptual challenge. The present study aims to investigate the effects of different types of preceding contexts on tone perception and further explore the influence of language experience on the contextual dependence of lexical tone perception. The high-level tone and the mid-rising tone exist in both the Mandarin and Cantonese tone inventories. In the experiment, a tone continuum from the high-level tone to the mid-rising tone was investigated with preceding four types of contexts (normal speech, reversal speech, fine-structure sound and nonspeech) by manipulating the contextual mean F0. Results indicate that, for both Mandarin and Cantonese listeners, the categorical boundary is influenced only by the normal speech context, and the effect is contrastive. These findings suggest that lexical tone normalization may be mediated by a speech-specific process and the speech context needs to be phonologically meaningful. Moreover, the contextual effect of normal speech observed in this research is much smaller for the Mandarin listeners than for the Cantonese ones, implying that the extrinsic context is more important for resolving the ambiguity of Cantonese tones.

