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Mandarin prosodic focus marking by Cantonese trilingual children with and without autism spectrum disorder

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Abstract

Multilingualism has become a global trend, and multi-lingual exposure is also increasing among children with autism spectrum disorder (ASD). Non-native speech produced by autistic children then becomes an interesting topic yet to be investigated, and acoustic analyses of expressive use of utterance prosody by this population in the third language (L3) are even rarer. The present study attempts to fill in the gap by investigating prosodic focus marking in L3 Mandarin by 17 Cantonese-native children with ASD, in comparison with typically developed (TD) Cantonese-native and Mandarin-native peers with matched backgrounds. Prosodic focus marking is to highlight an utterance using acoustic means like f_0, duration, and intensity (cf. Chen et al., 2019). Prosodic focus in Mandarin features on-focus f_0 exaggeration, lengthening and post-focus compression (PFC, i.e., reduced f_0 range and intensity of words after the on-focus words) (Xu et al., 2012). PFC has been found to be difficult to adopt for non-native speakers (e.g. Fung and Mok, 2014). Natural prosodic marking of broad and narrow focus on different words in five-syllable SVO sentences was elicited by picture-based questions.

Results show that children's use of f_0 correlates, duration, and intensity in Mandarin focus marking is more influenced by non-nativeness than ASD (Figure 1). The two Cantonese-native groups hyper-performed in their realization of Mandarin prosody, prioritizing lexical prosody (i.e., tones) over focus marking. The differences between the two Cantonese-native groups with and without ASD were not significant. In addition, although both the native and non-native children made on-focus expansion in f_0 range and duration, the Mandarin-native children also showed clear PFC in intensity, a cue not used by the non-native children.

To summarize, focus-marking in L3 Mandarin among Cantonese-native children is mainly influenced by their first language. Cantonese has a more complex tone system, and hence motivates them to prioritize tone accuracy and limited their use of prosodic cues in focus marking. The comparable L3 performance found in the two Cantonese-native groups also suggests that autistic children should not be limited in their multilingual exposure, especially in this era of globalization.