

Revisiting the imitation of fundamental frequency and tones: Evidence from Cantonese

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Phonetic imitation is the phenomenon of a talker (spontaneously) approaching an interlocutor in phonetic realization. In the existing literature, the propensity and degree of phonetic imitation has been linked with a wide range of linguistic and social factors (see Pardo, Urmanche, Wilman, & Wiener, 2017 for a review). In this study, we examine the imitation of fundamental frequency (f_0) in the context of lexical tones amidst an ongoing tonal change. Our main questions are: (1) Is the target of imitation pitch or tone height or both? (2) Does the imitation pattern vary with the gender of the model talker and the shadower? (3) Does the imitation pattern vary with the shadower's status regarding the ongoing change?

Previous research has shown that talkers do converge over time in f_0 , and that the imitation pattern is modulated by multiple predictors including gender and social status [2]–[5]. Furthermore, recent studies of phonetic imitation amidst sound changes [6]–[8] reveal a general pattern that shadowers who are more advanced in the ongoing sound change tend to imitate more than those who are more conservative. In the current research, we conducted a word shadowing experiment in Hong Kong Cantonese with 63 native speakers (40F, 23M) randomly assigned to either a female model talker or a male model talker. The stimuli covered four contrastive tones: T1 (high level), T2 (high rise), T3 (mid level), and T6 (low level), among which T3 and T6 are undergoing a merger. The results showed evidence for both convergence and divergence in f_0 , with convergence mainly in the Female Model Talker \times Male Shadower condition and divergence in the Male Model Talker \times Female Shadower condition. However, when tonal height was examined, the strongest evidence of imitation was observed in the Male Model Talker \times Female Shadower condition. This is also the condition that showed the strongest evidence for the hypothesized effect of the shadower's baseline T3-T6 merger status on the imitation of T3-T6 distinction. All the other conditions of model talker gender and shadower gender showed some evidence in the predicted directions of tonal imitation and T3-T6 distinction imitation, but to a lesser degree than female talkers shadowing the male model talker. Overall, we show that the convergence of surface f_0 can be divorced from the imitation of phonological tone height. Our findings also shed light on the interplay of gender and baseline sound change status in phonetic imitation in the context of sound change.

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