

The Effects of Pitch on Categorical Perception of Korean Stops as a Second Language: Focusing on Korean phonemes ‘ㄷ [t]’ and ‘ㄷ [tʰ]’

Pitch variation (tone) is becoming a pivotal feature in modern Korean. The purpose of this research is to see whether there are effects of pitch in discriminating a Korean lax stop from a tense stop, focusing on alveolar stops, ‘ㄷ [t]’ and ‘ㄷ [tʰ]’, in order to investigate how pitch variation would have an impact on the categorical perception of Korean lax and tense stops for English speakers who learn Korean as their second language (hereafter, KSL learners).

A Praat discrimination test was conducted for 13 KSL learners to see if there would be significant differences between 5 different pitch conditions of the target sounds, as well as between two different syllable structures, CV and CVC. Two-factor, one-factor ANOVA and Tukey HSD post hoc tests revealed significant effects of pitch difference on categorical perception of alveolar lax stop ‘ㄷ [t]’ and alveolar tense stop ‘ㄷ [tʰ]’.

When there is no variation in pitch, KSL learners make the most errors in distinguishing ‘ㄷ [t]’ and ‘ㄷ [tʰ]’, which supports the claim that a pitch is a pivotal feature in Korean to differentiate those sounds and thus could be applied to the case of KSL learners as well. This result is shown as the same in both syllable types CV and CVC, signifying no significant effects of syllable types. In addition, when a pitch of ‘ㄷ [tʰ]’ is reduced by 20Hz, it is significantly more difficult for KSL learners to discriminate tense sounds from lax sounds compared to the same pitch condition, thus leading to a lower rate of categorical perception of the lax and tense stops for KSL learners.

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