

An Acoustic Description of Vowels of Teochew Spoken in Thailand

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This study describes the acoustic properties of vowels in Teochew as spoken in Thailand, an underdescribed variety of Teochew. Teochew is a variety of Southern Min belonging to the Sinitic branch of the Sino-Tibetan language family. It is traditionally spoken in the northeastern part of Guangdong Province, China (Ho, 2015). Teochew is also spoken in several countries, especially in Southeast Asia due to migration and diaspora communities (McFarland, 2021).

Despite its historical dominance among Thai Chinese and the relatively high number of speakers in the older and middle-aged generations, there is a lack of research on the Teochew language in Thailand. The most comprehensive study of Teochew phonology in Thailand was published in 1982, and it focused only on phonological structure without providing any acoustic data. This is the first study to provide an acoustic phonetic description of Teochew vowels as spoken in Thailand. The aim of this study is to document the current state of the vowel system and to contribute new data that may be useful for future comparative or diachronic research.

A total of 10 speakers were recorded reading a word list which contained all vowels in a range of phonological contexts. The word list contained 266 items, each repeated twice, resulting in a total of 532 tokens per participant. After completing the recordings, all audio files were segmented and analysed in Praat. Acoustic properties including duration, intensity, formants, and bandwidths, were measured using Fast Track (Barreda, 2021). The data were then processed in Rstudio to calculate average values and generate vowel plots and vowel trajectories.

The findings present a general overview of Thai Teochew vowels, followed by a description focusing on nasal vowels. Final consonants were found to influence the formant values of monophthongs, particularly in /e/ and /o/, where glottal stop codas increase F1. Coda consonants strongly affect vowel duration, with tone showing no clear effect on either vowel duration or formant values. Nasal vowels generally have formant values similar to their oral counterparts, with consistent differences found in the first bandwidths and in duration. Some nasal vowels show only minor acoustic differences from their oral counterparts, suggesting possible future merger. These results provide a more detailed description of Thai Teochew vowels than previous phonological descriptions and offer a reference for future phonetic research on this Teochew variety.

References

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