

EFFECTS OF MUSICAL EXPERIENCE ON THAI RATE-VARIED VOWEL LENGTH PERCEPTION

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ABSTRACT

Musical experience has been demonstrated to play a significant role in the perception of non-native speech contrasts. The present study examined whether or not musical experience facilitated the normalization of speaking rate in the perception of non-native vowel length contrasts. Musicians and non-musicians were first briefly familiarized with Thai vowel length distinctions before completing identification and AX discrimination tasks with items contrasting in vowel length at three speaking rates. Results r

auditory features such as duration and pitch [6], we predicted that musicians would outperform non-musicians in both tasks, such that their attunement to rhythmic and temporal distinctions in music would facilitate their ability to normalize for speaking rate in non-native speech perception. Alternatively, it is also conceivable that their superior auditory acuity would enhance their sensitivity to within-category differences, which would predict better discrimination of within-category distinctions relative to non-musicians.

2. METHODS

2.1. Participants

Twenty-six American English listeners, with no prior knowledge of Thai or any other language with phonemic length distinctions, were included in this study. They were divided in two groups of listeners: non-musicians and musicians (n=13 in each). Non-musicians (“NM”) had less than 3 years of musical experience and no experience within the last 5 years (8 females; $mean_{age}=21$ years; $mean_{musexp}=1$ year). Musicians (“M”) were defined as having at least 7 years of continuous musical training and the current ability to play an instrument, ranging from 7 to 20 years of experience (9 females; $mean_{age}=22$ years; $mean_{musexp}=13$ years).

2.2. Stimuli

All stimuli were recorded by a female native speaker of Thai in a sound-attenuated booth at a 44.1 kHz sampling rate. Stimuli included 6 monosyllabic Thai pseudoword minimal pairs, contrasting in vowel length (e.g., /sik/ vs. /si:k/). Each pair was matched for lex

rate patterns x 2 lengths x 2 rate counterbalancing x 2 repetitions) and 36 trials in Condition 4 (3 syllables x 3 rates x 2 lengths x 2 repetitions) for a total of 216 trials. Trials from all 4 conditions were randomly presented over the course of 6 blocks of 36 trials each.

To acquaint listeners with task procedures, the identification and discrimination tasks were preceded by brief familiarization sessions, including task instructions and practice trials. The trials were identical to the main task trials, except they provided feedback on the accuracy of participants' responses as well as the correct answer after each trial.

3. RESULTS

For the identification task, the proportion of correct

5. REFERENCES

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