

Mandarin tone identification by musicians and non-musicians: effects of modality and speaking style

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A considerable number of studies have shown that musical ability has a positive effect on second language learning. Extending the existing body of work, this study investigates the combined effects of musical ability, modality and speaking style on Mandarin tone identification in tone-naïve listeners. To examine the effects of visual information and hyperarticulated speech, Mandarin tones elicited in two speaking styles (natural and teaching style) were presented in audio-only or audiovisual modality to listeners with or without musical experience. The Goldsmith Musicality Index was used to measure the musical aptitude of the participants. Musicians generally outperformed non-musicians in a tone identification task, and modality and speaking style both affected the tone identification: participants performed better in the audiovisual and teaching style conditions. In addition, the tones differed in recognition: the identification of tone 3 (a low-falling-rising) proved the easiest and all participants had more difficulty identifying tone 4 (a high-falling). Musical training was the most important predictor for Mandarin tone perception. These findings suggest that learning to perceive Mandarin tones benefits from musical expertise, visual information and hyperarticulated speaking style.

Key words: Mandarin tone identification; audiovisual modality; speaking style; musicians and non-musicians.