DEVELOPMENT OF MANDARIN FRICATIVE-AFFRICATE NONSENSE WORD TEST – PART II MEASUREMENT OF PERFORMANCE-INTENSITY FUNCTION

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ABSTRACT

Introduction: This study was designed as a continuation of an earlier research that developed the Mandarin Fricative-Affricate Nonsense Word Test. The purpose of this study was to establish a baseline performance-intensity (PI) function for the lists and to compare the list equivalence between the talker genders.

Methods: This study involved two stages: (i) Stage I involved determination of the presentation levels encompassing 10% to 90% performance level and, (ii) Stage II involved measuring the PI function for female and male lists. A total of 65 native Mandarin-speaking young adults with normal hearing participated in this study (Stage I, n=10; Stage II, n=55). Identification performance of the subjects was tested with the nonsense word lists, presented at ten intensity levels in Stage I and seven intensity levels in Stage II.

Results: In Stage I, results showed that the presentation levels that encompassed 10% to 90% performance level ranged between 0 to 30 dB HL (in 5 dB steps). In Stage II, a two-way repeated analysis of variance statistical tests showed that there was a significant interaction effect between presentation level and talker gender. There was a significant main effect of presentation levels but the main effect of talker gender was not significant.

Conclusions: The results confirmed our hypothesis where nonsense word recognition scores increased as a function of intensity levels. The performances reached a plateau at 20 dB HL indicating further increment in intensity level yielded similar identification performance. Results also showed that generally, there was no significant difference in the performance level when participants are tested using the word list spoken by the female or the male talker except at 5 dB HL, which may not be significant clinically. Thus, talker gender does not influence the Mandarin Fricative-Affricate Nonsense Word Test scores.

Keywords: Mandarin, Nonsense words, Fricatives, Affricates, Performance-intensity function, Speech test

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