Abstract of thesis entitled:

Auditory sensitivity, speech perception, L1 Chinese and L2 English reading abilities in

 Hong Kong Chinese children

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Abstract

This study investigated the associations of auditory sensitivity, speech perception,

Chinese reading as a first language (L1) and English reading as a second language (L2) in

Hong Kong Chinese children. Participants were 180 second and third graders (98 boys and 82

girls, mean age=98.6months). Apart from auditory sensitivity (both temporal and rhythmic

processing measures), English stress sensitivity and English word reading, children were also

tested on Chinese tasks of speech perception (both segmental and suprasegmental tasks),

phonological awareness, rapid automatized naming (digit), verbal short-term memory,

morphological awareness and Chinese word reading. I proposed a four-stage model, in which

auditory sensitivity is fully mediated by speech perception at both the segmental and

suprasegmental levels. These further impact word reading through phonological awareness,

rapid automatized naming, verbal short-term memory and morphological awareness. A series

of nested model comparisons were conducted to test this model for both Chinese and English

word reading using structural equation modeling. For Chinese word reading, the proposed four-stage model was demonstrated to be the best model. Auditory sensitivity was associated with speech perception which influenced Chinese word reading mainly through morphological awareness and rapid automatized naming. In contrast, for English word reading, the best model required an additional direct path from suprasegmental sensitivity (in Chinese) to English word reading on the basis of the proposed model. To be specific, auditory sensitivity was fully mediated by segmental and suprasegmental speech perception which further impacted English word reading mainly through phonological awareness; in addition, suprasegmental perception or speech prosody (in Chinese) was directly associated with word reading. Third, stress sensitivity in English was highly associated with speech prosodic sensitivity in Chinese. Hierarchical regressions also showed that suprasegmental speech perception failed to account unique variance for English word reading beyond phonological awareness when stress sensitivity was further controlled, suggesting that Chinese suprasegmental speech sensitivity may influence English word reading at least partly through its overlap with stress sensitivity.