Assessing Consonant Perception Ability and Its Association with Reading Development in School-Aged Children with Reading Difficulty

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Previous studies have shown controversial results regarding whether lower graders with reading difficulty would encounter problems in speech perception. Furthermore, if these children had shown deficits in speech perception, no consistent conclusion was reached about whether the deficits resulted from general auditory processing or specific impairment in speech perception. The present study focused on Mandarin-speaking children with reading difficulty and aimed at investigating the correlation between their reading ability and speech perception, especially consonant perception. Eight to nine year-old children with reading difficulty (RD) (n = 20) were recruited along with a control group consisting of age and non-verbal IQ matched children (n = 20). These participants were tested with a consonant identification task. Through manipulating the modulation frequency of amplitude modulated (AM) noise in the background, the study attempted to look into the “release from masking” effect. The effect was later utilized to see whether limited general auditory processing would lead to the poor performance in consonant perception. The results showed that children with RD performed less accurately in identifying consonants than the matched-group children. The “release from masking” effect, that is, the decrease of modulated frequency in AM noise enhancing the percent corrects of identifying consonants, was not affected by group difference. The results suggest that the auditory processing ability of children with RD is similar to that of normal reading children. In addition, correlation and regression analyses both demonstrated a strong association between speech perception performance and reading ability. In conclusion, the results showed the consonant perception deficit in Mandarin-speaking children with RD; also, for the lower graders, there was a close relationship between speech perception and overall reading performance.

Keywords: *speech perception, consonant perception, children with reading difficulty, release from masking*