Assessing hearing through speaking:

A Mandarin oral reading assessment for children with hearing loss

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**Introduction:** While children’s oral reading performance provides insight into their linguistic skills, such as speech production and reading comprehension, it could also help clinicians to identify hearing-related issues in children with hearing loss, such as insufficient gain of hearing devices. This study was aimed to develop a multi-dimensional Mandarin oral reading assessment for children with hearing loss. Both reliability and validity were examined to ensure its quality and usefulness.

**Method:** Three difficulty levels of reading materials, with two forms each, were created based on the word frequency. For the clinical purposes, we included several variables in this assessment, such as articulation accuracy of phonetic units, character recognition, reading comprehension, reading loudness, prosodic expression and word segmentation. A total of 19 hard-of-hearing children wearing either bilateral hearing aids or bimodal hearing instruments were recruited for the examination of reliability and validity.

**Results:** The alternate-form reliabilities (Spearman’s Rho) for most test variables were significant (all $p < .05$), indicating the exchangeability of the two forms. The inter-rater reliabilities (Kendall’s concordance coefficients) were significant (all $p < .05$), suggesting a high agreement on scoring among the raters. Moreover, the criterion-related validity (Spearman’s Rho) for the test variable, character recognition, reached marginal significance (all $p < .07$), showing an acceptable validity in measuring the ability to recognize characters.

**Conclusion:** Overall, the results confirmed the reliability and validity of the Mandarin oral reading assessment. Clinically, this tool should aid clinicians in identifying hearing-related problems of children with hearing loss while assessing their linguistic performance.