



# An Early Reading Assessment Battery for Multilingual Learners in Malaysia

Julia A. C. Lee<sup>1\*</sup>, Seungjin Lee<sup>2</sup>, Nur Fatihah Mat Yusoff<sup>1</sup>, Puay Hoon Ong<sup>3</sup>, Zaimuariffudin Shukri Nordin<sup>1</sup> and Heather Winskel<sup>4</sup>

<sup>1</sup> Faculty of Cognitive Sciences and Human Development, Universiti Malaysia Sarawak, Kota Samarahan, Malaysia,

<sup>2</sup> Department of Education, Sehan University, Yeongam, South Korea, <sup>3</sup> Dyslexia Association of Sarawak, Kuching, Malaysia,

<sup>4</sup> School of Health and Human Sciences, Southern Cross University, Lismore, NSW, Australia

The aim of the study was to develop a new comprehensive reading assessment battery for multi-ethnic and multilingual learners in Malaysia. Using this assessment battery, we examined the reliability, validity, and dimensionality of the factors associated with reading difficulties/disabilities in the Malay language, a highly transparent alphabetic orthography. In order to further evaluate the reading assessment battery, we compared results from the assessment battery with those obtained from the Malaysian national screening instrument. In the study, 866 Grade 1 children from multi-ethnic and multilingual backgrounds from 11 government primary schools participated. The reading assessment battery comprised 13 assessments, namely, reading comprehension, spelling, listening comprehension, letter name knowledge, letter name fluency, rapid automatized naming, word reading accuracy, word reading efficiency, oral reading fluency, expressive vocabulary, receptive vocabulary, elision, and phonological memory. High reliability and validity were found for the assessments. An exploratory factor analysis yielded three main constructs: phonological-decoding, sublexical-fluency, and vocabulary-memory. Phonological-decoding was found to be the most reliable construct that distinguished between at-risk and non-at-risk children. Identifying these underlying factors will be useful for detecting children at-risk for developing reading difficulties in the Malay language. In addition, these results highlight the importance of including a range of reading and reading-related measures for the early diagnosis of reading difficulties in this highly transparent orthography.

Keywords: reading assessment battery, Malay language, transparent orthography, reading difficulties, reading disabilities, multilingual learners

## INTRODUCTION

Becoming literate is an essential skill to be acquired in contemporary societies. Poor literacy skills can have multifaceted, devastating, and long-term consequences in relation to emotional, psychosocial, mental health, economic, and societal factors (Livingston et al., 2018). Specifically, children with reading difficulties are at risk for vicious cycles of struggles, failure, demoralization, lack of interest in school, emotional difficulties such as anxiety and frustration, behavioral problems such as aggressive-disruptive and delinquent-antisocial behaviors (Mugnaini et al., 2009), and

### **OPEN ACCESS**

#### Edited by:

Ting-Chia Hsu, National Taiwan Normal University, Taiwan

#### Reviewed by:

Giuseppe Mannino, Libera Università Maria SS. Assunta, Italy Chiu-Lin Lai, National Taipei University of Education, Taiwan

> \*Correspondence: Julia A. C. Lee aclee@unimas.my

#### Specialty section:

This article was submitted to Educational Psychology, a section of the journal Frontiers in Psychology

Received: 24 March 2020 Accepted: 22 June 2020 Published: 10 July 2020

#### Citation:

Lee JAC, Lee S, Yusoff NFM, Ong PH, Nordin ZS and Winskel H (2020) An Early Reading Assessment Battery for Multilingual Learners in Malaysia. Front. Psychol. 11:1700. doi: 10.3389/fpsyg.2020.01700

1