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Assessment of bilingual children: What if testing both languages is not possible?

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ABSTRACT

Language delays of bilingual children can arise from language impairment (LI) but also from insufficient exposure to the target language. A reliable diagnosis of LI in bilingual children is therefore ideally based on the evaluation of both languages, as LI affects each language that is learned. However, due to the multitude of language combinations that are encountered in clinical practice, this is often not feasible. Bilingual norm-referencing may offer a solution, but the heterogeneity within the bilingual population makes it difficult to determine appropriate standards for every child. The present study examined an alternative approach to assessing both languages or using bilingual norm-referencing, aiming to assemble instruments that reduce bias against bilingual children. We used a four-group design, including monolingual and bilingual children with and without LI (N = 132), to first investigate the effects of LI and bilingualism on risks associated with a child's early language development and the prevalence of language problems in the family, as reported by parents. Second, we evaluated the diagnostic validity of these two indices, and, in addition, combined these with two unbiased language measures which we previously examined in isolation: a quasi-universal nonword repetition task and a narrative task. Results showed that the index of Early Language Development was a strong predictor of LI. In combination with the two direct language measures, it excellently identified the presence or absence of LI in and across monolingual and bilingual learning contexts.

Learning outcomes: As a result of this study, the reader will learn about an alternative approach to testing a bilingual child in both languages. The reader will recognize the importance of using unbiased measures for the identification of LI in a bilingual context, and, in addition, will appreciate the value of combining parental report with direct language measures.

1. Introduction

Bilingualism can be a complicating factor when diagnosing a child with language impairment (LI), potentially leading to misdiagnosis (Bedore & Peña, 2008; Grimm & Schulz, 2014; Salameh, Nettelbladt, Håkansson, & Gullberg, 2002; Smeets, Driessen, Elfering, & Hovius, 2009). When tested in one language, a bilingual child may score substantially lower than a monolingual peer (Thordardottir, Rothenberg, Rivard, & Naves, 2006), and the cause of this delay, e.g. an inborn LI or insufficient exposure to the language of testing, is difficult to determine (Kohnert, 2010). The International Association of Logopedics and Phoniatrics (IALP, 2011) and the American Speech-Language-Hearing Association (ASHA, 2004) therefore recommend that a bilingual child is assessed in both languages. This provides invaluable comprehensive information beneficial to a reliable diagnosis of LI (Paradis, 2016), as LI affects each language that is learned. Bilingual children with LI learn both their languages at a slower pace than children with a

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typical language development (TD). In contrast, bilingual children with TD, especially children from a cultural minority, often show an unbalanced profile with a higher proficiency level in at least one language (Håkansson, Salameh, & Nettelbaldt, 2003).

Collecting data on the first (L1) and second (L2) language of a child is feasible in situations involving a homogeneous bilingual population and well-documented languages, such as the population of Spanish-English speakers in the USA for whom bilingual assessment procedures have been developed (e.g., Peña, Gutiérrez-Clellen, Iglesias, Goldstein, & Bedore, 2014). However, due to the linguistic diversity in many countries, including the Netherlands where the present study was situated, assessing both languages of a bilingual child can often not be realized. Time restrictions, insufficient financial resources, and the lack of (culturally) appropriate instruments, bilingual speech-language pathologists and skilled interpreters are just a number of obstacles to overcome.

Several alternatives to assessing a bilingual child in both languages have been explored, for example using bilingual norm-referencing and adapting the norms of standardized tests that are typically used to diagnose LI in monolingual children. When relying on the evaluation of only one language of a bilingual child, Gathercole, Thomas, Roberts, Hughes, and Hughes (2013) emphasize the importance of defining appropriate bilingual norm categories which not only distinguish between monolinguals and bilinguals, but also acknowledge the variation within the bilingual population in terms of amount of exposure. In her guideline for the assessment of bilingual children, Thordardottir (2015) similarly argues to take amount of exposure into consideration, proposing to lower the cut-off criteria of standardized tests to varying extents, depending on whether a bilingual child's dominant or weaker language is tested.

Next to standardized language tests with adapted norm-referencing, Thordardottir (2015) also recommends to use other measures, such as a detailed case history and a nonword repetition task, to support the identification of LI in bilingual children. Paradis, Schneider and Sorenson Duncan (2013) tested the clinical value of such a combination of instruments with English L2 learners, including English standardized tests of morphology and vocabulary, an English nonword repetition task, and a case history based on parental report. As expected, the use of monolingual norm-referencing on the English measures resulted in a high percentage of bilingual TD children scoring below age expectations, indicating that these children were disadvantaged by these tests and were at risk for overidentification of LI. In contrast, a reliable diagnosis of LI was supported by the use of appropriate bilingual norm-referencing. The combination of instruments accurately differentiated the bilingual children with LI from a large group of bilingual children with TD, who were comparable in terms of amount of English input.

Standardized tests with appropriate norm adjustments may thus, in combination with other measures, offer a solution to the problem of assessing a bilingual child in both languages. However, given the heterogeneity within a bilingual population (e.g., in terms of linguistic background, language use, age of onset, amount of exposure, and language status), it remains challenging to determine which adjustment to the norm is most appropriate for which bilingual child. Especially in the case of sequential bilinguals, the search for a fitting standard is complex (Thordardottir, 2015). An alternative approach that eliminates the need of adapted norm-referencing could entail obtaining information on a child's language development with instruments that do not draw on language-specific abilities or knowledge, but, e.g., allow children to use skills that they have acquired in any language. In comparison with typical standardized language measures, this method of language assessment reduces the bias against children with differing language experiences. The present study evaluated the clinical value of such an alternative method. In accordance with Thordardottir (2015) and Paradis et al. (2013), we used a combination of instruments, including two indices based on a parental questionnaire and two direct language measures. The two direct language measures have previously been investigated in isolation and have already proven to be sensitive to effects of LI, but insensitive to effects of bilingualism (Boerma et al., 2015; Boerma, Leseman, Timmermeister, Wijnen, & Blom, 2016). However, less is known about the effects of LI and bilingualism on parental report, which is therefore the first focus of study.

1.1. The use of a parental questionnaire

Information about the quantity and quality of language input is of vital importance in determining whether the language problems of a bilingual child are caused by LI or by environmental factors, enabling a clinician to interpret a child's scores on direct language measures (Paradis, 2011; Tuller, 2015). A parental questionnaire or bilingual anamnesis can provide such information. Moreover, parental report is also shown to be a valid method to obtain information on the language development of a bilingual child, which is especially valuable when direct assessment in the child's both languages is not possible (Paradis, Emmerzael, & Sorenson Duncan, 2010; Tuller, 2015). Tuller (2015) developed a parental questionnaire in collaboration with members of the COST Action IS0804 *Language Impairment in a Multilingual Society: Linguistic Patterns and the Road to Assessment*[1]. This questionnaire can provide information on both the quantity and quality of language input as well as on potential risk factors of LI. Three risk factors, late language emergence, the prevalence of language problems in the family and poor current L1 skills, are discussed below.

Late language emergence, often indicated by the late production of a child's first word and word combination, can be the first diagnostic symptom of LI (Rice, 2007). It is therefore important to obtain information on when a child reached these basic milestones, and parents appear to be a valuable source for this. Paradis et al. (2010) showed that the timing of early milestones, as reported by parents, was the strongest indicator of LI in a sample of bilingual children. Moreover, the authors note that the early milestones of bilingual children were comparable to what had been previously documented for monolingual children. This finding is in line with other work that suggests that the timing of early milestones, in at least one language, is not affected by early exposure to two languages (De Houwer, 2009; Hoff et al., 2012). Nevertheless, a systematic investigation of the effects of LI and bilingualism on a

[1] A network that was set up thanks to funding of the European Cooperation in Science and Technology (COST) with the aim of coordinating research on linguistic and cognitive abilities of bilingual children with LI across different migrant communities (www.bi-sli.org).