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Measuring word retrieval deficits in a multilingual child with SLI: Is there a better language?

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ABSTRACT

Lexical word retrieval was examined in a single case study of a multilingual child (I.S.) with specific language impairment (SLI) for Bulgarian, English, and Greek, guided by theory-driven conceptualizations of the multilingual lexicon and word retrieval processing. An equivalent picture naming task was used across languages. Word retrieval impairments were measured in relation to lexical factors of the target words and participant variables. The data were then compared to three groups of children: two groups of multilingual peers with typical language development (TLD), age-matched ($n = 6$) and language-matched ($n = 6$), and a group of children with SLI without a multilingual background ($n = 6$). The results revealed that the lexical retrieval deficit manifested itself in all three languages. These findings strengthen previous claims that lexical retrieval deficits are comparable across languages and could potentially serve as a non-language specific clinical marker across different languages: Both storage and retrieval processes are assumed to underlie deficits retrieving words. Implications for

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vocabulary instruction in the multilingual classroom setting are discussed.

1. Introduction

Difficulties retrieving words on confrontation naming tasks are well-documented among English-speaking children with language and learning disabilities (see German, Schwanke, & Ravid, 2012 and references within). This comes as no surprise given that word retrieval abilities — that is, successfully accessing the form of a word from semantics — are integral to language processing and cognitive development (see Tomblin & Zhang, 2006). For children in school settings, the significance of a word retrieval impairment is that classroom communication and academic skills, including reading and writing, are usually adversely affected (Messer & Dockrell, 2011). Moreover, when word retrieval difficulties deter effective communication with peers (and others), children's psycho-social well-being is compromised (Tomblin, 2008). One relevant population group are children with a developmental language disorder such as specific language impairment (SLI).

SLI (sometimes referred to as primary language impairment; cf. Kohnert, Windsor, & Ebert, 2009) is the most common and most studied type of developmental language disorder (Bishop, 2010). It is considered a neuro-developmental disorder with inherited genetic components (see Rice, 2013 for an update). A particularly salient symptom is an impairment in structural language (i.e., grammar and/or lexicon) in the absence of other factors that typically accompany language problems such as hearing impairment, low non-verbal IQ, neurological damage, or autism spectrum disorder (Tomblin, 2011). Cognitive-based explanations have yet to reach a consensus as to whether SLI is truly exclusive to language as proposed by linguistic-representational accounts (see Rice, 2013), or whether impaired language abilities are a result of a more domain-general non-linguistic processing impairment (see Leonard, et al., 2007). An alternative perspective links the language deficit in children with SLI to abnormal development of the frontal/basal-ganglia brain network subserving procedural memory (see Ullman & Pierpont, 2005).

Globally, the number of children who are both language-impaired and speaker–hearers of more than two languages is growing rapidly. However, research on prevalence estimates is absent, leaving potential implications of multilingualism for children with language disabilities an extremely under-explored area. Unfortunately, despite long-standing research (see Kohnert & Medina, 2009 for a 30-year review of the literature), the language skills of bilingual children with SLI remain hard to pin down (see Kohnert, 2010 for explanations). This disappointing fact makes the attempt to describe multilingual language impairment daunting. Yet, in classrooms world-wide children learning multiple languages on a daily basis greatly outnumber those instructed in one language (EFA report, UNESCO, 2010), and the number of (bilingual and) multilingual children referred for speech–language therapy services internationally is on the rise (Jordaan, 2008; Schulte, 2010).

In addition, there are clear definitional gaps concerning children that grow up acquiring, learning, and using more than one language from early age; the bilingualism literature differentiates, for example, simultaneous and sequential native language acquisition, that is, whether both or all of a child's languages are acquired naturalistically from birth or whether the onset for acquiring one language predates the other — and if it does, by how much, leading to further distinctions between early and late(r) child second language acquisition, typically in relation to a critical or sensitive period for mastering additional languages (since the seminal work of Lenneberg, 1967 on the topic, see, e.g., Meisel, 2011 and Bhatia & Ritchie, 2013 for recent expositions). This has practical implications for clinicians as well: Should simultaneous bi- or multilingual children be assessed and treated differently from sequential multilinguals or children who acquire an additional language early in their childhood, possibly through immersion–instruction in school settings? We make a particular decision in this study, which we will return to.

The description of language disorders in SLI is usually based on (a) the characteristics of children's spontaneous speech output and (b) children's performances on specific linguistic tasks tapping into the