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Language Combinations, Subtypes, and Severity in the Study of Bilingual Children with Specific Language Impairment

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Abstract

I commend Johanne Paradis not only for her interesting keynote article but also for the careful research that she has conducted along with her collaborators in the area of bilingual language development and disorders. Her contributions have been significant and are sure to shape our theoretical as well as clinical understanding of specific language impairment (SLI). In this commentary, I focus on three issues. The first stems quite directly from ideas raised in the keynote article; the second and third deal with factors that we need to consider when conducting research involving comparison groups of bilingual and monolingual children with SLI.

The Language Combinations Studied in Comparisons between Bilingual and Monolingual Children with SLI

Perhaps the most striking point discussed by Paradis is the finding that the difference between bilingual children with SLI and typically developing (TD) bilingual children (favoring the latter) is no greater than the difference between monolingual children with SLI and their TD monolingual counterparts. As Paradis notes, such a finding has implications for processing capacity accounts of SLI because it suggests that there are no deleterious cumulative effects when a child with SLI must learn two languages rather than one language. This type of finding obviously has great importance for clinical practice as well. For these reasons, I provide here some research questions that should be posed to examine this issue further. These questions revolve around the potential insight that might be gained by studying several different combinations of languages that bilingual children may be acquiring. The premise behind these suggestions is that the magnitude of the difference between bilingual SLI and TD groups relative to monolingual SLI and TD groups might vary considerably, depending on the types of languages that are being learned together.

Optional infinitive languages that differ in degree

As noted by Paradis, there are several typologically related languages in which children with SLI show a protracted period of producing nonfinite forms in contexts requiring tense/agreement inflections. However, close inspection of the data reveals crosslinguistic differences in the degree to which nonfinite forms are used in these contexts (see Leonard & Deevy, 2006). For example, Swedish-speaking children with SLI use past tense inflections to a greater extent than English-speaking children with SLI even though these inflections mark tense and not agreement in both languages (Leonard et al., 2004). German-speaking children with SLI appear to show greater use of third person singular inflections in present tense than do English-speaking children with SLI (Roberts & Leonard, 1997). These quantitative differences could mean that if a child is acquiring two such languages, the

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language that is associated with more rapid development of tense/agreement marking may facilitate the use of tense/agreement marking in the other language. Thus, depending upon the particular language being studied in the monolingual SLI case, the bilingual children with SLI may actually show an advantage.

Word order in V2 and non-V2 languages

Children with SLI who are acquiring verb-second (V2) languages such as German, Dutch, and Swedish often commit the error of preserving the subject-verb order even when the first constituent of the sentence is an adverbial or an object (Hansson et al., 2000). Thus, errors with the order Object-Subject-Verb are seen in place of the correct order Object-Verb-Subject. It is not yet known whether learning an additional language whose word order rules have a different basis would cause even greater delays in how well a bilingual child with SLI would learn V2. For example, Italian permits variations in word order according to pragmatic factors, and thus a sentence with the order Object-Subject-Verb is quite permissible, with no requirement to alter the subject-verb sequence even when an object appears in sentence-initial position. Would children with SLI who are first acquiring Italian and then Swedish be even more likely to produce a Swedish sentence with a sentence-initial object without changing the relative position of the subject and verb, given that the resulting order is permissible in Italian? If so, the difference between bilingual Italian-Swedish children with SLI and their bilingual TD counterparts would be larger than the difference between monolingual Swedish-speaking children with SLI and their TD compatriots.

Optional versus obligatory use of morphemes

In English, the present progressive is often used to describe actions in the present even when the emphasis is not on the ongoing nature of the action. Thus, when describing a picture of a girl kicking a ball, an English-speaking child is quite likely to say ‘The girl is kicking a ball’ even though children speaking many other languages would describe the same picture using simple present tense. In English, the progressive *–ing* inflection is not problematic for children with SLI. However, for a Cantonese-English bilingual child with SLI, use of the progressive in this context could become especially complicated, because aspect markers are optional in Cantonese (see Fletcher et al., 2005). For every sentence that contains an aspect marker, there is a context in which an otherwise-identical sentence without the marker is fully grammatical. One can imagine that children with SLI first learning Cantonese and then English might be more prone to use lexical verbs without *–ing* when describing actions in the present. The resulting difference between Cantonese-English children with SLI and their bilingual TD peers might be larger than the difference between monolingual English-speaking SLI and TD groups.

The mysterious case of BE

One of the interesting findings reported by Paradis in her keynote article is the observation that BE forms may be acquired more readily than tense/agreement inflections by bilingual children with SLI acquiring English. This finding is noteworthy in part because, in languages such as Italian and Spanish, function words – including auxiliary and copula forms – tend to be more problematic than verb inflections for monolingual children with SLI (Leonard & Bortolini, 1998). It would be valuable to determine how BE acquisition in English interacts with the other language that the child is acquiring. It would be perplexing indeed if, for example, auxiliary/copula ESSERE (“BE”) use was a relative weakness for Italian-English bilingual children with SLI when using Italian at the same time that BE forms constitute a relative strength for the same children when using English. Such a finding would beg for an explanation.

Tense and aspect

There is growing evidence that English-speaking children with SLI differ from their TD peers in being relatively insensitive to tense-aspect associations (Leonard et al., 2007; Leonard & Deevy, in press). For example, whereas young TD English-speaking children are more likely to both comprehend and produce past tense forms if the referent action had been completed, English-speaking children with SLI seem relatively weak in past tense ability regardless of completion. Some languages, such as Cantonese, mark aspect but not tense, and monolingual Cantonese-speaking children with SLI make less use of aspect markers than do younger TD Cantonese-speaking children (Fletcher et al., 2003). How would a bilingual child with SLI who is acquiring progressive aspect in Cantonese then respond to the temporal markings required in English? For example, it seems that the present progressive – past progressive distinction might be especially difficult for such a child, because both progressive forms refer to continuous actions and only present versus past time distinguishes the two. For this distinction, there might well be a larger difference in English between Cantonese-English bilingual children with SLI and their bilingual TD peers than between monolingual English-speaking children with SLI and their monolingual TD counterparts.

Languages also differ in the degree to which perfective aspect is confounded with past tense. In a language such as Hungarian, past tense does not imply that the action was completed (e.g., Pounds, 2001); to convey completion, a separate perfective aspect morpheme is used along with the past tense morpheme. For a child learning Hungarian before English, this fact about Hungarian could lead to English past tense use that differs considerably from the past tense use of monolingual English-speaking children. Young TD English-speaking children often use past tense with verbs such as *jump* before using past tense with verbs such as *play*, presumably because the former refer to actions that are brief and have clear end points, whereas verbs such as *play* refer to actions that are longer in duration and have less well-defined completion points. How would bilingual Hungarian-English children with SLI approach the task of acquiring past tense in English? Given their prior experience of expecting completion to be marked overtly by an accompanying perfective aspect morpheme, these children might be even less likely than monolingual English-speaking children with SLI to make use of verb meaning as an entry point into discovering the proper boundaries of past tense in English.

Theoretical implications of language combination effects

If the particular combinations of languages alter the magnitude or direction of the differences seen between bilingual SLI-TD groups relative to those seen for monolingual SLI-TD groups, drawing a conclusion about cumulative effects (or their absence) will be rendered more difficult. To isolate such effects, it will be necessary to factor in what is learned about the facilitative effects of particular language combinations and the slowing effects of others.

Subtypes of SLI

Many papers on children with SLI begin with a comment to the effect that these children constitute a heterogeneous population. This recognition has prompted many attempts to identify meaningful subtypes of SLI. Unfortunately, many of these attempts have not produced reliable findings across studies, and even the same children have been seen to change from one subtype to another across time. However, an especially promising effort has been reported by Bishop, Adams, and Norbury (2006). Using a twin-study paradigm, these investigators determined that there are two heritable but genetically separable types of weaknesses that are associated with language impairment. The first is termed a weakness in

'grammatical computation' and is seen when English-speaking children have difficulty using tense/agreement morphemes consistently and have limitations as well in syntactic comprehension. The second is termed a weakness in 'phonological short-term memory' and is reflected in low scores on nonword repetition tasks. Although children can have deficits in both of these areas, one of these deficits can occur without the other.

The importance of this finding is that a sample of children with SLI could be made up of children with either type of deficit. Thus, if bilingual children with SLI are compared to monolingual children with SLI, it will be crucial to ensure that the type of deficit exhibited by these two groups is the same. Comparisons could be distorted if, for example, the monolingual group with SLI was predominantly composed of children with grammatical computation deficits, whereas the bilingual group with SLI included many children with phonological short-term memory deficits. Ideally, future studies will include measures of both types to facilitate group matching.

Severity of SLI

Another factor that contributes to the heterogeneity of SLI is severity level. Two children can share a similar profile (e.g., a weakness primarily in grammatical computation), but differ in the degree to which this primary area is affected. If severity is not controlled, differences in the relationships between bilingual and monolingual SLI-TD groups might be more a function of differences in severity levels than differences in the number of languages being acquired. When comparing bilingual and monolingual groups, there are two types of matching that can be done to avoid this problem, depending on the question of interest. The most straightforward type involves matching the bilingual and monolingual groups on chronological age and standard scores on a comprehensive test in the language that is shared by the groups (e.g., English in a study of Swedish-English bilingual children and monolingual English-speaking children).

However, there may be instances in which investigators prefer to match bilingual and monolingual groups on measures involving different languages. This may be true, for example, if the bilingual group's stronger language is not the one shared by the monolingual comparison group. In this case, it is important to ensure that the language tests in the two languages cover the same domains of language (e.g., receptive and expressive vocabulary and grammar), and that the children are matched according to standard scores on this test as well as for chronological age. However, it is also important to ensure that the two tests do not emphasize the very details of language that serve as the focus of the study. For example, if ability with past tense is the principal focus of the study, it is best to choose tests in the two languages that do not place special emphasis on this particular detail of grammar. Otherwise, matching on the basis of standard scores and chronological age will essentially ensure the absence of group differences on the measure of interest.

Paradis has done a great service in providing the field with valuable data and, more generally, directing our attention to the importance of studying children with SLI who speak more than one language. I hope that many of us follow her lead and undertake additional research in this crucial area.

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