The Impact of the Bi-dialectal Diglossic Context of Arabic on Quality of Phonological Representations in Normal and SLI Arabic Native Speaking Children

Elinor Saiegh-Haddad[*1] and Ola Ghawi-Dakwar[*1]

[1]Bar Ilan University (BIU) – Israel

Abstract

Abstract

Introduction:

Phonological representations are defined as "the mental representations of the spoken units of language stored in long term memory" (Elbro & Jensen, 2005). Research has demonstrated that children with SLI experience difficulty accessing and storing phonological information about words and this is reflected in poorer performance on phonological awareness and word repetition tasks (Sutheland & Gillon, 2007).

According to one class of theories, this may be attributed to difficulty in this group in input processing capacity, such as phonological short-term memory (Gathercole & Baddeley, 1990) or auditory or phonological processing (Joanisse & Seidenberg, 1998; Tallal, Miller, & Fitch, 1995; Tallal, Sainburg, & Jernigan, 1991).

Arabic is characterized by being diglossic (Ferguson, 1959). In diglossic Arabic, there is a remarkable phonological distance between the structure of words in Spoken Arabic, the language variety kids acquire naturally, and Standard Arabic, the language variety used in formal interactions and literacy (xxxx 2014). Such phonological distance was found to impact on the development of phonological awareness and word decoding in Arabic among normally developing children (xxxx 2003, 2004, 2007, xxxx et al., 2011).

The Current study:

Hypotheses. Given the diglossic context of Arabic, it was predicted that Standard Arabic words would be more poorly represented than spoken Arabic words in both normally developing and SLI children. Furthermore, given the phonological deficits observed in SLI children, we also predicted that SLI children would show more severe difficulty with Standard Arabic words than their normally developing peers. This difficulty was expected be more clearly pronounced in Standard Arabic words that encode Standard Arabic phonemes than in those that encode only Spoken Arabic phonemes. Finally, given the extensive exposure to Standard Arabic that schooling provides, we predicted that school grade children (Grade 1) would outperform kindergarten children in both groups, but less so in the SLI group because

[*]Speaker

of the difficulty in phonological processing capacity.

Method.

Participants: We tested a sample of 50 children in kindergarten (25 SLI and 25 normally developing) and 50 in the first Grade (25 SLI and 25 normally developing). SLI children were sampled from 'language centers', which are preschool centers intended for children with SLI. In the first grade, screening for SLI was based on a screening battery which includes, among others, working memory and phonological and auditory processing tasks. Normally developing children were all sampled from regular public schools.

Task: Two tasks were developed to tap into quality of phonological representations for Standard and Spoken Arabic words: word repetition and phonological awareness (phoneme segmentation and phoneme blending). Stimuli were either only phonologically novel (a Standard Arabic word that is also shared Spoken Arabic but which encodes a Standard Arabic phoneme, e.g., /qami:s/), only lexically novel (a Standard Arabic word that does not encode a Standard Arabic phoneme, e.g., /sua:l/) or both phonologically and lexically novel, e.g., /li
*theta*a:m/.

Results: The results of the study support our predictions. We found that all children: SLI and normally developing had more difficulty processing Standard Arabic words than Spoken Arabic words. Furthermore, SLI children had particular difficulty with these words than normally developing children and particularly so when they encoded Standard Arabic phonemes. Finally, first grade children showed an advantage in processing Standard Arabic words of all categories, yet this advantage was not as marked in the SLI children.

Conclusion: The results of the study reveal the impact of diglossia on the development of phonological representations in Standard Arabic, and particularly so among SLI children. These results appear to support the argument that SLI may be attributed to phonological input processing capacity.

References

Elbro, C. & Jensen, M. N. (2005). Quality of Phonological Representations, Verbal

Learning, and Phoneme Awareness in Dyslexic and Normal Readers.

Scandinavian Journal of Psychology, 46, 375–384.

Gathercole, S. E., & Baddeley, A. D. (1990). Phonological Memory Deficits in

Language Disordered Children - Is There a Causal Connection. Journal of

Memory and Language, 29(3), 336-360.

Ferguson, C. A. (1959). Diglossia. Word, 14, 47-56.

Joanisse, M. F., & Seidenberg, M. S. (1998). Specific language impairment: a deficit

in grammar or processing? Trends in Cognitive Sciences, 2(7), 240-247.

Sutherland, D. & Gillon, G. (2007). Development of Phonological Representations

and Phonological Awareness in Children with Speech Impairment.

International Journal of Language and Communication Disorders, 42, 229-250.

Tallal, P., Miller, S., & Fitch, R. H. (1995). Neurobiological basis of speech: A case

for the preeminence of temporal processing. Irish Journal of Psychology, 16,

194-219.

Tallal, P., Sainburg, R. L., & Jernigan, T. (1991). The Neuropathology of

Developmental Dysphasia - Behavioral, Morphological, and Physiological

Evidence for a Pervasive Temporal Processing Disorder. Reading and Writing,
3, 363-377.