

Poster presentation

Sentence comprehension in Williams syndrome and specific language impairment: a comparative approach

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from International Society on Brain and Behaviour: 1st International Congress on Brain and Behaviour
Hyatt Regency Hotel, Thessaloniki, Greece, 20–23 November, 2003

Published: 23 December 2003

Received: 1 November 2003

Annals of General Hospital Psychiatry 2003, **2**(Suppl 1):S86

This article is available from: <http://www.general-hospital-psychiatry.com/content/2/S1/S86>

Background

Williams syndrome (WS) is a rare neurodevelopmental disorder of genetic origin which results in relatively spared language in the face of serious non-verbal deficits (Bellugi & Wang, 1996) whereas Specific Language Impairment (SLI) is a non-acquired language disorder in the face of non-impaired sensory and cognitive systems (Stark & Tallal, 1981). The present study investigates aspects of syntactic comprehension in Greek children with SLI and WS.

Material and Methods

First, it examines the performance of SLI and WS children on the interpretation of sentences with different syntactic properties. Second, it compares the performance of the WS and SLI children to that of mental age (MA) controls and language age (LA) controls respectively. One group of 5 children with WS aged 7.9–15 (Mean: 10.1; S.D: 2.94) and one group of 8 SLI children aged 6.1–10 (Mean: 8.1; S.D: 1.47) participated in the study. There were two control groups: One MA control group of 10 normally developing children (aged 3.3–7.3; Mean: 5 S.D: 1.7) matched to the WS children on the IQ scores as derived by the Greek version of WISC-III; and an LA control group of 16 normally developing children (aged 3.6–5.6, Mean: 4.4, S.D: 0.73) matched to the SLI children on language abilities. The experimental material included simple transitive structures with SVO word order as well as structures formed by A-bar movement i.e. subject and object wh-questions, subject and object-clefts, and A-movement, i.e. passive sentences. The method employed was based on toy manipulation tasks, i.e. act out tasks for all sentence types except for wh-questions and questions after stories where figurines took part for wh-questions.

Results

The results indicated that the SLI children performed at ceiling on all structures with SVO word order, i.e. transitive sentences, who-subject questions and subject clefts whereas their performance dropped on those structures where the linear SVO word was violated, i.e. object wh-questions, object clefts and passive sentences. By contrast, LA controls performed at ceiling on structures with SVO word order and object wh-questions, whereas they showed chance performance on object clefts and passive sentences. Similarly, the WS children performed at ceiling on the structures with SVO word order and who-object questions. The drop of their performance on object clefts and passive sentences did not result in below chance performance, as is the case with the SLI children. Crucially, the performance of the WS children is not significantly different than that of the MA controls on all tested structures.

Discussion

In sum, there was a considerable drop of the SLI performance on all structures, whose interpretation cannot be achieved through the application of the SVO word order strategy but requires knowledge of syntactic operations, i.e. A- and A-bar movement, whereas no such drop was found for the WS and normal performance. Therefore, the operation of syntactic movement is well preserved in WS (cf. Clahsen & Temple, 2003) but not in SLI grammar (cf. van der Lely, 1999).