INTRODUCTION

Nonword repetition (NWR) is typically used to measure verbal short-term memory (STM) capacity in children, and poor performance in NWR tasks has been shown to be a reliable behavioural marker of SLI (Dollaghan & Campbell, 1998; Gathercole, 2006). However, mechanisms underlying this deficit are not clear, as NWR not only assesses STM but also requires complex phonological processing (Marton, 2006).

AIM

This study explored the extent to which SLI children’s poor performance in NWR is related to inherent phonological processing requirements rather than a basic impairment in STM. This was achieved by manipulating syllabic complexity, perceptual complexity and lexicality of verbal stimuli to be recalled in a STM task.

METHODS

Participants: 15 children with SLI, 15 IQ- and Age-matched controls (AC) and 15 lexical age-matched controls (LC)

Task: Perceptual complexity: concatenated vs. temporally segregated syllables

Lexical complexity: word vs. nonword syllables

Syllabic complexity: CV vs. CCV syllables

Number of syllables: L2→L7

RESULTS

Main effects:

Perceptual complexity: Concatenated > Segregated, F(1,42)=95.43, p<.001

Syllabic complexity: CV > CCV, F(1,42)=328.53, p<.001

Lexicality: words > nonwords, F(1,42)=124.82, p<.001

Length effect: F(1,42)=1286.26, p<.001

Group effect: SLI < LC, SLI < AC, F(2,42)=15.25, p<.001

Interaction effects:

Length x group: F(2,42)=2.81, p=.07

Lexicality x syllabic complexity x group: F(2,42)=4.21, p<.05

Control groups: lexicality effect significant for CCV syllables only

SLI group: lexicality effect significant for CV and CCV syllables

DISCUSSION

The results do not support an increased sensitivity towards phonological complexity as underlying poor performance in NWR tasks (see also Archibald & Gathercole, 2007; Majerus et al., 2009). They confirm a general weakness in short-term recall of verbal information. Children with SLI appear to partially compensate this weakness by an increased reliance on lexical knowledge.

REFERENCES


13th Meeting of the International Clinical Phonetics and Linguistics Association. Oslo, Norway, June 23–26, 2010. Contact: AL.Leclercq@ulg.ac.be