Verbal Working Memory in School-Age European Portuguese Children with and without Language Impairment.

Introduction

- Competing Language Processing Task is a reliable indicators of working memory skills and language ability in school-age children (Ellis Weismer & Thordardottir, 1999; Gaulin & Campbell, 1994).
- Goals of this study are to:
  1. Develop a European Portuguese Competing Language Processing Task (EP-CLPT)
  2. Compare the performance of European Portuguese speaking school-age children with and without language impairment (LI) on the EP-CLPT

Method

Development of EP-CLPT:
- The EP-CLPT was developed to match the CLPT (Gaulin & Campbell, 1994)
- The same 42 sentences from CLPT translated into European Portuguese
- Recorded by Native European Portuguese speaker
- Stored on Mini-Disc recorder

Participants
- The task was administered to 150 children (ages 7-11; 2nd - 5th grade)
- 75 children with LI (identified by school administrators)
- All children came from 17 state funded schools in Northern Portugal
- All children had intelligible articulation
- All children had nonverbal IQ scores > 70 (WISC III).

Administration of the task:
- Each child seen individually by the experimenter.
- Same procedure as Gaulin & Campbell (1994)
- Children’s responses recorded

Measures
- (1) Number Yes/No
- (2) Last words recalled
- (3) Span Size: the level at which one or both groups of last words are recalled correctly (Daneman & Carpenter, 1980, 1983, 1986).

Results

OVERALL PERFORMANCE: LI performance significantly worse than NL for:
- Number of correct Yes/No responses (F(1, 147) = 26.647, p < .001)
- Number of Last Words Recalled (F(1, 147) = 125.102, p < .001)
- Span Level (F(1, 147) = 41.05, p < .001)

LI (N=75) TD (N=75)

<table>
<thead>
<tr>
<th>MEASURE</th>
<th>MEAN</th>
<th>SD</th>
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<tbody>
<tr>
<td>True/False</td>
<td>39.28*</td>
<td>2.2</td>
</tr>
<tr>
<td>Word Recall</td>
<td>12.15**</td>
<td>5.4</td>
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<td>Span Level</td>
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SENSITIVITY AND SPECIFICITY OF EP-CLPT

Sensitivity and specificity for the EP-CLPT:

<table>
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Likelhood Ratio (LH) Analysis

LI vs NL

CONCLUSIONS

- Children with LI performed significantly below the TD group in the EP-CLPT.
- These results show evidence of problems in verbal working memory and language abilities in European Portuguese speaking school-age children with and without language impairment (LI)
- The sensitivity and specificity analysis demonstrate that EP-CLPT Word Recall and EP-CLPT Span may have a reliable clinical/educational usefulness in identifying children with language impairment in Portugal.

References

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