**Participants**

<table>
<thead>
<tr>
<th></th>
<th>SLI</th>
<th>SWMI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>n</strong></td>
<td>5 (male)</td>
<td>5 (male)</td>
</tr>
<tr>
<td><strong>age</strong></td>
<td>4.3–11.6</td>
<td>5.1–10.6</td>
</tr>
<tr>
<td><strong>Language</strong></td>
<td>78 (CFL-4)</td>
<td>100 (96–106)</td>
</tr>
<tr>
<td><strong>WM</strong></td>
<td>100.5 (AWMA)</td>
<td>84.8 (86.3–109.3)</td>
</tr>
<tr>
<td><strong>IQ</strong></td>
<td>102.8 (WASI)</td>
<td>103.5 (98–110)</td>
</tr>
</tbody>
</table>

One child (age 8.3) judged by teachers and parents to be typically developing served as a control.

**References**


**Methods**

**Narrative Language Sample**

- Lost in Space (Wen-Leeper, 1990)
  - Participants recalled the story after hearing it told to them

**Expository Language Sample**

- Participants explained a familiar sport or game of their choosing using a visual aid (Nippold et al., 2005)
- Samples were recorded, transcribed, and segmented into C-units (Loban, 1976)
- Pauses longer than 250ms were measured using Praat (Goldman-Eisler, 1988; Guo et al., 2008)

**Participants**

- Poor language related to working memory over 1 year
  - Lower scores on language sample analysis measures, depending on demands of task and nature of measure (e.g., Fey et al., 2004; Guo et al., 2008; Scott & Windsor, 2000)

**Specific Working Memory Impairment (SWMI)**

- Consistently poor working memory over 1 year, and average language on standardized measures

**Language Sample Analysis**

- Can provide an ecologically valid measure of expressive language ability
  - Sensitive to subtle differences in ability
  - Productivity – tends to be indicative of general language development (Loban, 1976; Leauch & Miller, 1990)
  - Efficiency – mazing and pausing thought to reflect cognitive processing required for planning and monitoring speech (Guo et al., 2008; MacWhinney & Oser, 1977; Riquel & Hadley, 2001)
  - Grammaticality – shown to be sensitive to language impairment (Fay et al., 2004; Scott & Windsor, 2000)

**Analysis**

**Coding**

- **Productivity**
  - TC – Total number of C-units
  - TNUW – Total number of unmarked words
  - NDW – Number of different words

- **Efficiency**
  - Pausing
    - CPT – Average pause time preceding each C-unit
    - M/100W – Pause time per 100 unmarked words
    - %CPT – Percent of C-units preceded by a pause
    - M/100W – Number of pauses per 100 unmarked words
    - %CM – Percent of C-units with mazes

- **Grammaticality**
  - MLU-W – Mean length of utterance in words
  - V/C – Number of embedded verbs per C-unit
  - E/C – Number of errors per C-unit
  - %CX – Percent of C-units with complex sentence structure
  - %CG – Percent grammatical C-units

**Coding Mazes**

- Filled pauses (u, um, or)
- Fillers (like, you know, something like that)
- Repetition (after lunch, she ate (she) ate cake)
- Revisions (they got in the ship and (they) they flew off)
- Connectors (repetitive use of conjunctions (and then) you get your racket (and then) you hit the ball)

**Results**

**Groups were compared using Mann-Whitney U. Error bars represent standard error of the mean.**

**Productivity**

- No differences found between SLI and SWMI on any measure of productivity.

**Efficiency**

- No differences found between SLI and SWMI on any measure of efficiency.

**Grammaticality**

- Children with SLI used more embedded verbs but made more errors in expository relative to narrative speech. Children with SLI produced more errors in expository speech compared to children with SWMI. *Significant difference within group (p < .05)*

**Conclusions**

**Children with SLI**

- Grammatical errors can distinguish children with SLI from peers with domain-general deficits
- Errors increase with increases in linguistic complexity

**Children with SWMI**

- Expressive language similar to children with SLI in terms of productivity and efficiency

**Language Sample Analysis**

- Poor performance on measures of efficiency (pausing, mazing) may not be specific to children with linguistic impairment

**Study Questions**

- How do narrative and expository language skills of children with SLI or SWMI compare?
- Might domain-general processing deficits lead to inefficient language production?
- What characteristics of expressive language are specific to SLI?