

# Children with SLI show grammatical strengths and weaknesses on a sentence imitation task



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## Abstract

Sentence imitation tasks are often used as part of a diagnostic instrument to identify and document linguistic deficits in children with specific language impairment (SLI). Imitation errors by children with SLI may be specific to certain grammatical elements known to be areas of difficulty in these children. Finiteness marking and the verb lexicon are known weaknesses in need of study in imitation tasks. This study examined imitation errors in three groups of children: SLI, age-equivalent controls and language-equivalent control children. The results confirm less accurate performance by the SLI group compared to age controls but equivalent to language controls. Error analyses reveal that the SLI group does not differ from the other groups in generation of grammatical clauses in imitations that differ from the target sentence. Thus, the SLI group draws on grammatical strengths as well as limitations in their sentence imitations.

## Research Questions

1. How do children with SLI compare to control groups of children on **overall sentence imitation accuracy**?
2. How do children with SLI compare to control groups of children on imitation of different grammatical elements known to be areas of difficulty in SLI?
  - a. Are children with SLI less accurate than control groups of children at **finiteness marking imitation accuracy**?
  - b. Are children with SLI less accurate than control groups of children at **verb root imitation accuracy**?
3. How do children with SLI compare to control groups of children in the proportion of incorrectly imitated clauses that were **grammatical**?

## Predictions

On **overall sentence imitation** and **verb root imitation**, children with SLI were predicted to demonstrate similar accuracy compared to language-equivalent controls and less accuracy than age-equivalent controls. For **finiteness marking imitation**, children with SLI were predicted to be less accurate compared to both groups of control children. Children with SLI were also predicted to produce a similar proportion of incorrectly imitated clauses that are **grammatical** compared to control groups.

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## Methods

An experimental sentence imitation task was administered to three groups of children: 20 children with SLI (5-years old), 23 age-equivalent control children (AE; 5-years old) and 16 language-equivalent control children (LE; 3-years old). The sentence imitation task generated estimates of children's finiteness accuracy under two levels of verb familiarity - familiar real verbs vs. unfamiliar real verbs - in clausal sites marked for finiteness.

Imitations were coded and analyzed for **overall sentence accuracy**, **verb root imitation accuracy**, **finiteness marking imitation accuracy** and **imitation grammaticality**.

|             |                  |                           |             |
|-------------|------------------|---------------------------|-------------|
| Noun phrase | <b>Verb root</b> | <b>Finiteness marking</b> | Verb phrase |
| The girl    | hide             | s                         | her doll    |

Percent correct imitation:

Number of correctly imitated items/Total number of opportunities for correct imitation

Proportion of incorrect imitations that were grammatical:

Number of incorrectly imitated items that were grammatically correct/Total number of incorrectly imitated items

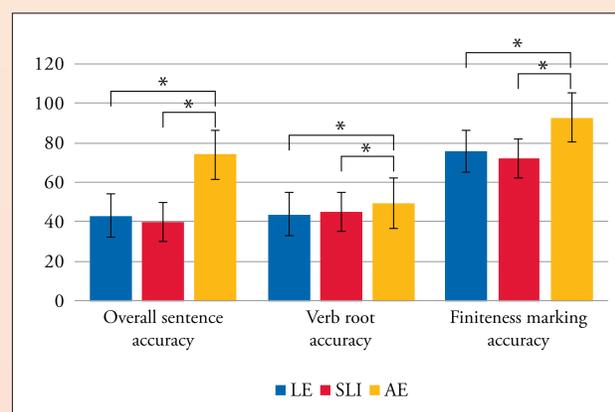
## Results

### Questions 1 and 2

Table 1: Mean (SD) percent correct overall, verb root and finiteness marking imitation

|  | LE<br>(n = 16) | SLI<br>(n = 20) | AE<br>(n = 23) |
|--|----------------|-----------------|----------------|
| <b>Overall sentence accuracy</b>             | 43.2<br>(23.7) | 40.1<br>(21.3)  | 74.1<br>(12.5) |
| <b>Verb root imitation accuracy</b>          | 43.8<br>(4.8)  | 44.9<br>(5.8)   | 49.5<br>(4.2)  |
| <b>Finiteness marking imitation accuracy</b> | 75.7<br>(21.8) | 71.8<br>(25.2)  | 92.7<br>(6.1)  |

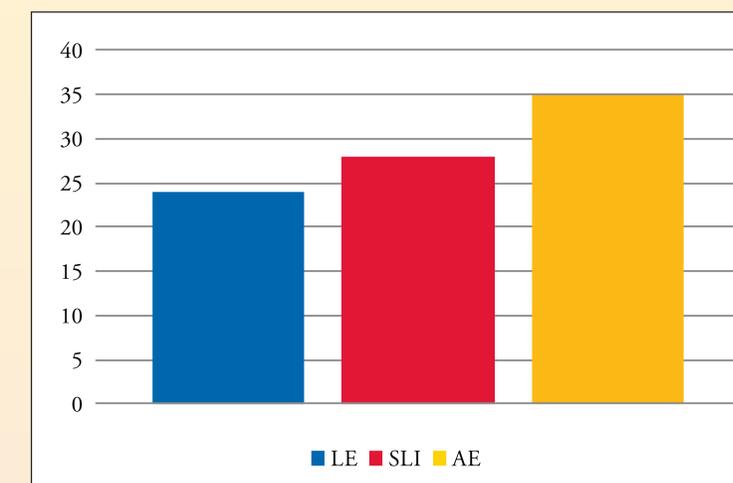
Figure 1: Mean percent correct overall, verb root and finiteness marking imitation



## Results (cont.)

### Question 3

Figure 2: Mean percent incorrectly imitated clauses that were grammatical



## Discussion and Conclusions

- As predicted, the SLI group accuracy was similar to the LE group and less than the AE group on **overall sentence imitation** and **verb root imitation**
- SLI group was also similar to the LE group on **finiteness marking imitation**, which was not predicted
  - The SLI group may have benefited more from the imitation context more than the LE group
- The groups did not differ in the proportion of incorrectly imitated clauses that were **grammatical**.
- Implications: While making more overall imitation errors and errors on grammatical elements known to be areas of difficulty for them, children with SLI are able to change one or more components of a sentence during imitation to preserve grammaticality indicating that they rely on their underlying grammar to guide imitation. In this way, sentence imitation tasks, when scored on a more precise level than just overall accuracy, can be used to assess different linguistic strengths and weaknesses in children with SLI.