

Lexical-Semantic Access and Organization in Children with Hearing Loss: Evidence from Verbal Fluency Tasks

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INTRODUCTION

- Children with hearing loss (HL) are at risk for spoken language delays due to inconsistent auditory access.
- A verbal fluency task is one way to assess lexical-semantic access and organization in children, which requires an adequate vocabulary, lexical retrieval ability, and executive functions to perform optimally.
- Previous studies found that children with cochlear implants (CIs), compared to children with typical hearing (TH), generate fewer words in verbal fluency tasks, indicating that children with CIs had weaker lexical organization and retrieved words less efficiently.

RESEARCH GOALS

- Examine verbal fluency performance between children with CIs, HAs, and TH (i.e., total number of words generated, switching and cluster size)
- Analyze the qualitative aspects of the words generated (i.e., age of acquisition)
- Examine children's efficiency in retrieving words from the mental lexicon by analyzing time to the first word
- Investigate the effect of age on verbal fluency performance (ages 8-10 vs. ages 11-12)

METHOD

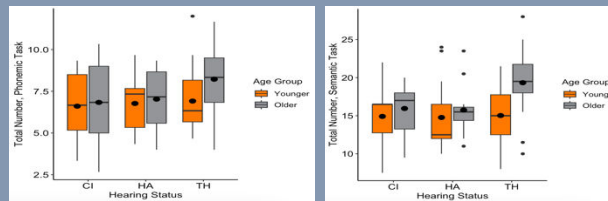
- Two types of verbal fluency tasks were used: semantic tasks and phonemic tasks
- Generate as many words as possible within 60 seconds while following a specific rule

PARTICIPANTS

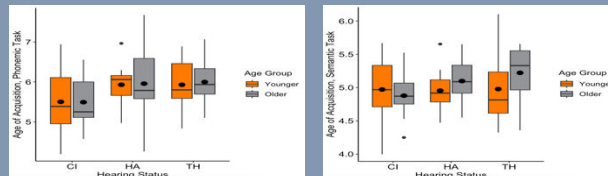
- Participants included 81 English-speaking children, ages 8 to 12 years.
- 34 with TH, 26 with HAs, and 21 with CIs

RESULTS

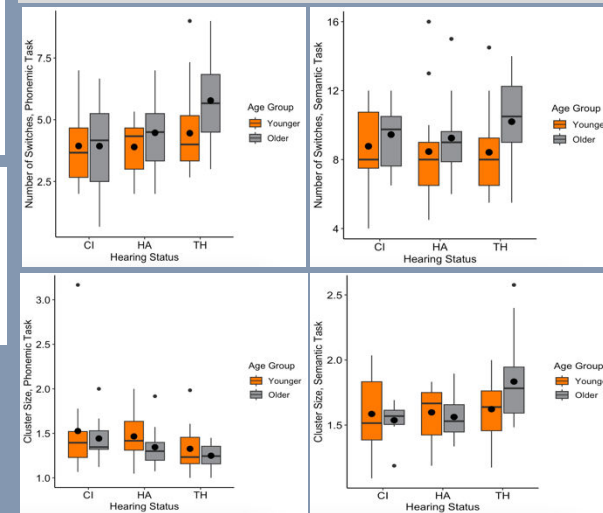
Total Number



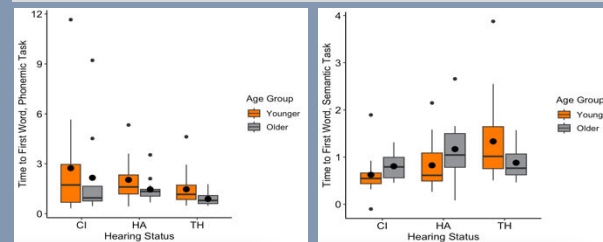
Age of Acquisition



Switching and Cluster Size



Time to First Word



Hand-coding vs. SNAFU

Strong correlation between hand-coding and automatic program SNAFU (0.948)

CONCLUSIONS

- Phonemic task may be more difficult than the semantic task for children with HL
- Findings indicate that children with CIs may have weaker lexical-semantic access and organization than children with TH
- Lexical-semantic networks of children with HAs may develop slower than those of children with TH

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