

## BACKGROUND

- Speakers tend to retrieve all lemmas in a noun phrase prior to initiating articulation (Meyer, Belke, Häcker, & Mortensen, 2007).
- Having access to the second lemma in a multi-word utterance is presumed to facilitate speech fluency (i.e., "fluency-motivated dependency"; Levelt & Meyer, 2000).
- That fluency breakdowns may be associate with a failure to sufficiently plan in advance of articulation has some implications for childhood stuttering.
- Perhaps CWS fail to make the initiation of articulation dependent on having accessed all lemmas within a phrase.
- Indirect support for this speculation comes from findings that:
- CWS stutter more on sentence- and clauseinitial words and syntactic boundaries, and longer more syntactically complex utterances (Buhr & Zebrowski, 2009).
- CWS may be slower and/or less accurate CWNS in processes associated with lexical (Pellowski & Conture, 2005) and syntactic (Anderson & Conture, 2004) processing.

# PURPOSE

The purpose of the study was to examine the effect of semantic interference on multiple lexical assess in CWS and CWNS.

### METHOD

### **Participants**

- 14 CWS and 14 CWNS between 3;10 and 5;10 (years; months) with no speech-language, neurological, hearing, or cognitive problems.
- Scored  $\geq$  85 (SS) on four speech-language tests and passed a hearing screening.

# CONCEPTUAL INFLUENCES ON GRAMMATICAL PLANNING IN CHILDREN WHO STUTTER

### Julie D. Anderson, Ph.D. Department of Speech and Hearing Sciences, Indiana University

# METHODS

### Stimuli

- Conversational interaction, speech-language tests, hearing screening, and a coordinated noun phrase picture-word interference task (e...g., Meyer, 1996) consisting of 10 pairs of pictures presented in four randomized conditions:
- Semantically-related to Noun 1 and Noun 2
- Semantically-unrelated to Noun 1 and Noun 2

### Procedure

- Child describes the two pictured objects using a coordinated noun phrase (e.g., "The pig and the sock") as quickly as possible.
- Picture pairs presented at the onset of the distractor words, displayed for 2500 ms, and followed by a 3000 ms inter-trial interval.

### RESULTS

### **Picture Naming Latency**

- Significant main effect of condition (p = .03), but no group (p = .25) or condition x group interaction (p = .95).



### Child Errors

- Significant main effect of condition (p = .05), group(p = .05), and condition x group interaction (p = .007).
- Significant between-group differences in errors for both related conditions (p < .01), but not unrelated conditions (p > .10).
- Significant difference in total errors between CWS (M = 14.07, SD = 4.57) and CWNS (M = 9.36, SD = 4.01; p = .007).
- Significant difference in errors across condition for CWNS (p = .01), but not CWS (p = .17).
- For CWNS, significant difference between related and unrelated conditions for Noun 1 (p = .01), but not Noun 2 (p = .73).



# CONCLUSIONS

# REFERENCES

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Health (NIH, DC006805).

• Picture naming latencies were longer after related than unrelated distractors for both groups of children.

Semantic interference was obtained for both target nouns, consistent with adults (Meyer, 1996).

 Suggests that both lemmas were selected before speech onset.

Does not support the assumption that CWS initiate their utterances without having access to the second word.

• CWS produced more errors than CWNS across conditions, especially in response to related distractors.

• For CWS, errors rates were consistent across distractor conditions.

For CWNS, errors were lower when the distractor was related to the first target than in the other conditions, which otherwise did not differ in error rates.

 CWS may have difficulty accurately formulating simple utterances.

CWS may be particularly susceptible to the effects of increased competition among lemmas.

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