Abstract
The effect of repetition priming and age of acquisition (AoA) on picture naming latencies was examined in 30 children who do (CWS) and do not stutter (CWNS). Findings revealed that CWS benefited significantly more from repetition priming than CWNS, suggesting that stuttering may be related to difficulties with processes associated with lexical-phonological form retrieval (funding, NIH grant).

Introduction
- Repetition priming: time taken to name a pictured object is reduced as a result of its prior presentation (Johnson et al., 1996).
- AoA interacts with repetition priming.
  - Repetition effects: late AoA > early AoA (Barry et al., 2001).
  - Late AoA: require phonological segmentation.
  - Early AoA: more complete phonological representations.

Research Question
Do the effects of repetition priming for early and late acquired words on speech reaction time (SRT) differ between CWS and CWNS?

Participants
- Fifteen CWS and 15 CWNS (3;2 to 5;5) with no history of neurological, speech-language, hearing, or intellectual problems.
- All participants scored ≥ 16th percentile on four speech-language tests and passed a hearing screening.

Procedure
- Conversational interaction, speech-language tests, hearing screening, and computerized picture naming task.
- Stage I: 20 experimental (10 early and 10 late AoA matched for linguistic characteristics) and 10 filler pictures.
- Stage II: same 20 experimental pictures, but 10 different filler pictures.
- Dependent variable = SRT (ms).
- Example:

Method

Results
- SRT data were subjected to a mixed-model ANOVA with stage (I or II) and AoA (early or late) as within-subjects variables and group (CWS or CWNS) as a between-subjects variable.
- Results revealed significant main effects for stage, F(1, 28) = 10.03, p < .01, and AoA, F(1, 28) = 12.24, p < .01, but no significant between-subject, F(1, 28) = 1.17, p = .29, or interaction effects (p-values = .49 to .92).

- However, there were differences in repetition priming effects for early and late AoA words.
- CWS exhibited significant repetition priming effects for early, t(14) = 2.33, p < .05, and late, t(14) = 2.58, p < .05, AoA words, but not CWNS (Early: t(14) = 1.24, p = .24; Late: t(14) = 1.74, p = .11).

Conclusions
- Main findings revealed that CWS benefited more from repetition priming than CWNS.
- Repetition priming strengthens the connection between an item’s lemma and its lexeme (Barry et al., 2001).
- Lemma-lexeme connections may be more tenuous for CWS, resulting in a greater scope for increasing access speed for these items.
- CWNS may benefit less from repetition priming, as there is less scope for further increasing access speed.
- Findings suggest that CWS may have subtle difficulties with lexical-phonological form storage and/or retrieval.

References

Acknowledgments: Research funded by a grant from the National Institutes of Health (NIH; DC006805)