

Examining the Associations Between Sentence Repetition and Other Cognitive Abilities in a Clinical Sample of School-Aged Children



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Introduction

- Sentence repetition (SR) task performance is related to various cognitive abilities and not just learning and memory (e.g. Bartlett, 2018)¹.
- With a single study, Bartlett (2018) examined the associations between SR performance and several cognitive abilities using a normative sample.
- Findings suggested that SR performance was predicted by language, working memory (WM), processing speed (PS), and nonverbal cognitive ability of which only language abilities and WM significantly added to the prediction.
- No study to date has examined the associations between SR and other cognitive abilities in school-aged children drawn from a clinical sample.

Objective

- ✓ To examine the extent to which language, WM, nonverbal abilities (visuospatial processing and fluid reasoning), and PS predict children's SR in a clinical sample.
- ✓ To examine the effects of age and sex on children's SR in a clinical sample.

References

¹Bartlett, A. N. (2018). The association between sentence repetition and other cognitive abilities in school-aged children.

²Benton (1965). *Sentence Memory Test*. Iowa City, IA: Author.

Method

- Participants were drawn from two separate archival data populations of children 6 to 14 years of age (N = 191; 65% males) referred for neuropsychological assessment due to persistent school difficulties.
- SR scores were obtained from performance on Benton's (1965) sentence repetition task².
- Language (VCI), working memory (WMI), fluid reasoning (FRI), visual perception (VSI), and processing speed (PSI) were measured with Index scores from the Wechsler Intelligence Scale for Children (5th edition)
- The effects of age and sex on SR were also examined (N = 226; 64% males).

Results

A multiple linear regression model significantly predicted SR performance from the 5 cognitive domains, $F(5, 185) = 30.306, p < .001.$, adj. $R^2 = .435$.

VCI and WMI added significantly to the prediction, $p < .05$.

A Pearson correlation revealed a moderate positive correlation between age and SR, $r(226) = .416, p < .001$

An independent samples t-test revealed that the difference in mean sentence memory score between males and females was not significant, $t(224) = .340, p = .735, d = 0.047$

Conclusions

- The findings from this study are consistent with other studies indicating that SR taps multiple cognitive abilities and SR performance increases with age and is unrelated to sex.
- In a large and representative clinical sample of children referred for assessment due to academic or other learning difficulties, language plays as significant a role in SR performance as does WM
- The use of clinically relevant summary measures of domains associated with intelligence testing provides robust data that may have implications for understanding the construct validity, utility, and score interpretation of SR tasks.

