

# The Association Between Sentence Repetition and Other Cognitive Abilities in School-Aged Children



Alicia N. Bartlett, Joseph E. Casey,  
Emily O'Connor-Derikozis, Mila Huhtala  
University of Windsor



## Introduction

- Although sentence repetition (SR) tasks are commonly used in child neuropsychological assessment batteries, the cognitive abilities associated with performance are not well understood
- SR has historically been conceptualized as a measure of learning and memory, but empirical research indicates that children's SR performance is related to language, auditory verbal memory, and processing speed
- A methodological limitation of these studies is that none has examined these cognitive domains together
- **PURPOSE:** To determine the extent to which language, auditory verbal working memory, processing speed, and nonverbal cognitive ability predict children's SR

## Methods

- 117 children were recruited from schools in southwestern Ontario
- Eligibility requirements included English proficiency, normal or corrected-to-normal vision and hearing, and being between the ages of 6 and 14 years
- Parents completed:
  - 1 A brief demographic questionnaire
- Children completed:
  - 1 Benton's Sentence Memory Test (1965)
  - 2 Five WISC-V subtests: Digit Span, Vocabulary, Figure Weights, Visual Puzzles, and Coding

## Results

Table 1: Sample Demographic Characteristics

	<i>N</i> (%)	<i>M</i> ( <i>SD</i> )	Range
Sample Size	117 (100)		
Male	47 (40)		
Female	71 (60)		
Age		9.64 (2.2)	6 – 14 years
Estimated IQ		103.5 (13.6)	59 – 138

Table 2: Summary of Multiple Regression Analysis

	<i>B</i>	<i>SE<sub>B</sub></i>	<i>Beta</i>	% Explained
Intercept	8.30	5.12	-	-
Digit Span	1.82	.32	.43*	20.8
Vocabulary	1.52	.32	.37*	17.8
Figure Weights	.12	.27	.03	1.8
Visual Puzzles	.16	.40	.03	1.7
Coding	.06	.27	.02	.9

\* $p < .001$

- A multiple linear regression model with all independent variables significantly predicted SR performance,  $F(5,111) = 18.89$ ,  $p < .001$ ,  $adj. R^2 = .44$
- Vocabulary and Digit Span significantly added to the prediction, whereas Figure Weights, Visual Puzzles, and Coding did not

## Conclusions

- With the advantage of including cognitive domains identified in previous studies within a single study, the findings support that SR is more than a measure of learning and memory
- When considering cognitive abilities that might contribute to SR performance, the findings suggest that attention and word knowledge play a prominent role
- Interpretation of SR performance should be considered in the context of a comprehensive neuropsychological evaluation

