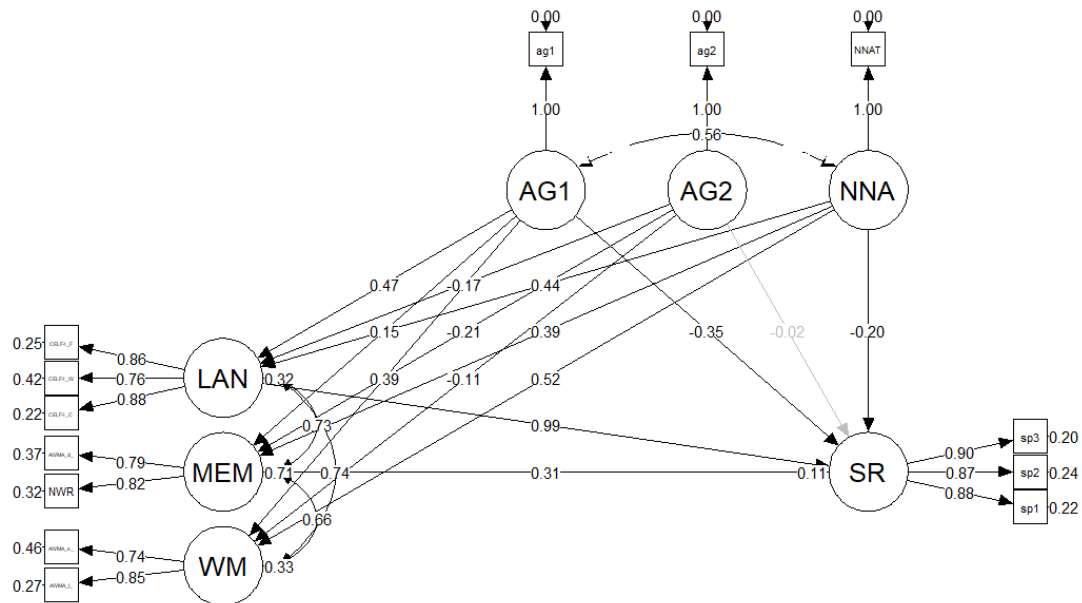


Predicting sentence recall performance in English-speaking children with and without developmental language disorder

Sentence recall is a well-established measure of children's verbal abilities, demonstrating high levels of sensitivity and specificity across various clinical conditions. Despite its abiding presence in clinical protocols, the contributors to children's performance remain unresolved. Some reports suggest performance is largely a function of language skills whereas others implicate children's memory capacities. One underexplored possibility is differences may exist between children with neurotypical development and with language disorders. We used structural equation modeling (SEM) to examine the relations between language, sentence recall, and memory components in the affected and unaffected children, controlling for age and nonverbal intellect. Five- to nine-year old children, living in a western US urban area, with developmental language disorder (DLD, $n=63$) and with neurotypical development (ND, $n=191$) were administered subtests from the Clinical Evaluation of Language Fundamentals (CELF4) and the Automated Working Memory Assessment (AWMA-2). Affected status was assigned using the Test of Early Grammatical Impairment (TEGI). We fit a two-group structural equation model regressing the latent variable for sentence recall (parceled Redmond Sentence Redcall) on the latent variables for phonological memory (nonword and digit recall), working memory (list and spatial recall), language (CELF concepts/following directions, word structure and formulated sentences). The resulting model showed good fit, $RMSEA=0.051$, $CFI=0.99$. Only language had significant effect on sentence recall in both groups (see Figures 1 and 2), and in the typically developing group, there was also a smaller but significant effect of phonological memory. No significant effects of working memory were observed, despite strong zero-order correlations. The results indicate that although phonological and working memory are closely related to the performance on sentence recall, this appears to be mainly because of their close relations with the general language skills, and not due to their specific effects on sentence recall. This provides strong support for the use of sentence recall as a measure of language skills.

Path diagram for the typically developing group (grey paths not significant)



Path diagram for children with LI (grey paths not significant)

