

# Emerge



A Child's Place

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Occupational Therapy  
Speech Therapy

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## The Overlap Between ADHD & Language Impairment



Bonnie Hacker, OT  
Founder / Director

Studies have found up to 50% of preschoolers presenting for psychiatric services to have *undiagnosed* language impairment.<sup>1,2</sup> Language impairment refers to developmental disorder of both expressive and receptive language not caused by injury, hearing loss, or other developmental disorders. Among children meeting the criteria for attention deficit hyperactivity disorder (ADHD), the prevalence of language impairment reaches 45%.<sup>1-3</sup> When comparing groups of children diagnosed with ADHD and children with different combinations of diagnoses, Nancy Cohen and colleagues found that **language impairment contributes more to variance in achievement, working memory, and executive function than does ADHD.**<sup>4</sup> This remained true whether measuring verbal or non-verbal working memory. The treatment implication is that for roughly half of children diagnosed with ADHD, optimal outcomes require therapy for language impairment.



The diagnoses of language impairment and ADHD have strong overlap. For instance, the scientific literature shows that children diagnosed with ADHD have challenges with working memory, discourse organization, inferring, and executive function.<sup>5</sup> Likewise, language impairment affects verbal and non-verbal working memory, expressive cohesion, topic maintenance, immature social-cognitive reasoning, and even cognitive functioning requiring inhibitory control.<sup>4,6,7</sup> Behaviors common to language impairment also occur in the diagnostic criteria for ADHD (e.g. difficulty listening when spoken to, following instructions, talking excessively, blurting out answers, interrupting, and trouble taking turns in conversation).<sup>8</sup> The importance of language impairment in ADHD bolsters the long-standing recommendation that pediatric speech therapy assessment and treatment should be part of a multi-disciplinary approach to ADHD diagnoses.

While the co-existence of language impairment (LI) compounds the challenges experienced by children with only an ADHD diagnosis, there is an optimistic component to the LI / ADHD association. Some of the neural deficits involved in language impairment appear to be plastic and can be retrained (without the need for lifelong medication). The preponderance of randomized, controlled trials - more than 23 - have shown various methods of pediatric speech therapy to be effective at improving expressive language, receptive auditory comprehension, lexical acquisition, and phonology in preschoolers.<sup>9,10</sup> When children have an ADHD diagnosis, please tell parents about the possible involvement of language impairments and about the expert speech therapy services available at Emerge - A Child's Place.

## Integrating Occupational and Speech Therapy



ADHD serves as an example of the many pediatric conditions with overlap between speech and occupational therapy needs. In addition to the language element of ADHD described above, motor incoordination and the strong potential for sensory processing deficits also exist with ADD & ADHD.<sup>11,12</sup> Among children with motor problems, the prevalence of speech and language disorders is high, and the converse is also true. Emerge provides a more comprehensive pediatric therapy approach by integrating services from both occupational therapists and speech therapists.

**Please tell parents about Emerge - A Child's Place  
Believing in a Child's Potential to Flourish**

## References

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