

Examining Executive Functions in School aged Children with Autism Spectrum Disorder

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Abstract

Estimates of children diagnosed with autism spectrum disorder (ASD) are steadily rising each year. These children are at risk for communication deficiencies, as they may exhibit deficits in neuropsychological processes enabling physical, cognitive, and emotional self-control. Due to variance amongst executive functions (EF) affected, executive dysfunction is not considered a defining feature of ASD and treatment is largely ignored. This oversight has significant implications for the 80 percent of individuals with ASD who display these dysfunctions (Wertz, 2012). This presentation examines EF in autism through two developmental perspectives, distinguishing the role of the speech-language pathologist in cultivating affected skills.

Autism Spectrum Disorders:

Neurodevelopmental syndrome characterized by deficits in social function, communication, and complex reasoning.

Developmental Perspectives

1. Parallel Delayed Development – Children with ASD develop along the same trajectory as typically developing, just delayed
2. Atypical Development – Children with ASD develop atypically from their age matched peers



Disorder

Executive Functions:

Neuropsychological processes that enable physical, cognitive, and emotional self-control and manage other higher order cognitive skills.

Most Common EF areas impaired in children with ASD:

Working Memory: a broad system that stores information briefly and allows for manipulation and use of the stored information.

Inhibition: the ability to voluntarily and deliberately suppress responses.

Planning/ Response Preparation: the ability to efficiently organize, plan, and initiate a voluntary response.

Core Impairments in Working Memory:

- Maintaining and retrieving representations
- Developing verbal strategies
- Reduced structural and pragmatic aspects of language

Core Impairments in Inhibition

- Voluntary response inhibition
- Inhibiting irrelevant perceptual information
- Inhibiting previously learned information when learning new info

Core Impairments in Planning

- Longer time to initiate responses
- Slower processing of information
- More errors in planning or

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Teaching Executive Function Strategies

- Verbal rehearsal/ written supports
- Begin with easy tasks
- Teach WM across tasks until it generalizes
- Think about relationships to main topics
- Use visual maps and keywords
- Identify what to say before speaking
- Set goals to organize responses
- Set wait time before responding

Collaboration

- Parents/ Caregivers
- General Education Teachers
- Special Education Teachers
- ABA Therapist
- After School Care
- Paraprofessionals/ Resource

Advocate for:

- Inclusion in the least restrictive environment
- Familiarization with AAC devices and alternative means of communication
- Appropriate services and home programs
- Education of caregivers, teachers, and professionals on executive dysfunction characteristics

Future Directions

- More funding for research on Executive Function in ASD
- Evidence based programs within schools