



COMPREHENSIVE DIAGNOSIS
AND EVALUATION
OF CHILD & ADULT ATTENTION,
LEARNING, AND MEMORY DISORDERS
(ON-SITE EVALUATIONS AVAILABLE)

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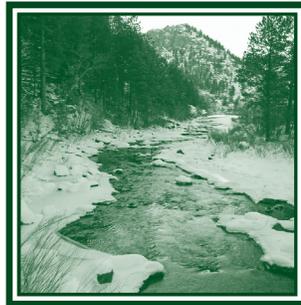
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Learning Disability & ADHD Update

Understanding the Relationship between ADHD and Executive Functioning Difficulties



For many years now, there has been a strong association and close relationship between symptoms associated with ADHD as well as with executive functioning difficulties. In fact, many neuroscientists and neuropsychologists often speak of these issues in a manner that inextricably links these disorders, and in the process blurs the boundar-

ies between what in fact characterizes ADHD vs. executive functioning issues from both an etiological as well as diagnostic perspective. In the not too distant past, executive functioning difficulties were characterized by problems with initiating activities, inhibiting responses, exhibiting mental flexibility, problems with organizing and prioritizing, as well as with accessing information. Issues historically more closely associated with ADHD included slow processing speed, impaired attention and short term memory, carelessness, difficulty staying on task, and problems screening out extraneous stimuli. However, it has recently become

more clear that like Aspergers is actually a form of high functioning Autism, rather than a distinct disorder, executive functioning issues and ADHD may in fact be part and parcel of the same neuropsychological disturbance.

Recently, Russell Barkley Ph.D., who is one of the world's leading researchers on ADHD and allied issues, stated unequivocally that the brain structures underlying both these disorders is virtually the same, including the frontal-striatal, frontal-cerebellar and frontal-limbic circuits. Not surprisingly, these same neuroanatomical structures also feature the engagement of prefrontal dopamine and norepinephrine neurotransmitters. According to Barkley's research, quantifying executive

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Recent Advances in the Study of Autism Spectrum Disorder

Along with the change in DSM-5 to subsume Aspergers Disorder and PDD-NOS as disturbances on the spectrum of Autistic disorders, many advances have occurred regarding the diagnostic signature and appearance of Autistic symptoms.

Among other major changes in the DSM-5 criteria concern the elimination of the social language domain, while keeping the repetitive behavior and social com-

munication categories. Furthermore, all three communication domain symptoms need to be present (social reciprocity, social relationships and non-verbal communication), as well as two of the four repetitive behaviors (hypo or hyper reactivity to sensory stimuli, fixated interests, repetitive speech or movement, and insistence on sameness) in order for the diagnosis of Autism Spectrum Disorder to be made.

The average age for children first suspected of having Autistic symptoms is 14 months for experienced parents, and 21 months for first time parents. The earliest symptoms reported include limited joint attention, language delays, irritability, abnormal sensory responsiveness, motor delays, unmodulated emotional responses, and long visual fixations. As earlier research has suggested, there is no support for the link between immunization and the appearance of Autistic symptoms.

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functioning deficits are notoriously difficult, due to the static nature of tests, and the fact that the deficits of ADHD/Execu-

tive Functioning difficulties are chiefly characterized by problems in sustaining goal directed behavior for a lengthy period of time (at least a span of fifteen minutes). Furthermore, Barkley stresses the importance of social factors in the conceptualization of executive functioning deficits, as issues associated with emotional self-regulation such as reciprocity and cooperation, are quite central to this cluster of difficulties.

Barkley emphasizes that in practical terms, ADHD and its executive functioning deficits cause a profound impairment with regard to the capacity to organize activities and behavior across time, such as anticipating the future and pursuing long term goals. As Barkley and many others have stated previously, ADHD is a disorder of difficulty with performance, rather than possessing or lacking knowledge or skills. Therefore ADHD effects the when and where activities are performed, versus diminishing the how or what is involved in achieving a goal or set of anticipated outcomes.

Clearly, these issues are often seen in the diagnostic interview, including obtaining information of past behavior, descriptions of school and job perfor-

mance, social relationships, and issues associated with self defeating and non productive behaviors such as disorganization, problems finishing tasks, and difficulty in prioritizing salient information.

Finally, obtaining valuable information regarding intellectual potential, academic achievement, and the judicious utilization of supplemental neuropsychological tests examining attention and executive functioning in more detail, can make a critical difference in terms of developing strategies and targeting both strengths and weaknesses, so that success can be maximized.

On-site assessments as well as evaluations for those seeking extra time on the SAT, GRE, GMAT, etc. are done on a regular basis.

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Research has indicated that Autism is associated more with boys than girls (a six to one ratio), and is characterized by an even distribu-

tion of cases in various countries. Increased parental age is strongly implicated as a risk factor in the appearance of Autism, and an increase in the number of siblings of Autistic children also having the disorder (10-20 percent higher than the general population) strongly implicate a broad genetic link to the etiology of this disturbance.

Although there is significant support for a genetic predisposition to Autism, the search for specific genes thought to be responsible has been maddeningly difficult and exasperating to prove, to say the least. Sixteen genes have been identified as having strong links to ASD, and 46 other genes are thought to be possible contributors to the emergence of Autistic symptoms. Furthermore, there has been less consistency and support for specific environmental factors. However, some studies have shown

a link between pesticide exposure, suboptimal pregnancy factors, alcohol abuse, and possible links to maternal infections.

Furthermore the brain structure associated with Autism reveals that too much connectivity occurs during the first two years of development, and then under connectivity takes place thereafter. This can then in part explain the observations that heightened sensitivity to sensory stimuli takes place, while at the same time there are difficulties with integrative processing and cross-modal association. Research has found that fewer neurons have been found in the fusiform gyrus (associated with facial processing), the cerebellum and amygdala (associated with responsiveness to emotional stimuli), as well as an unusual distribution of the arrangement of neurons in the columnar organization of the cortex.

Indicators suggesting better outcomes include higher initial IQ, more advanced imitation and receptive language skills, better motor skills, less repetitive play, more frequent and involved pretend play, milder overall severity, and better adaptive skills. Earlier diagnosis and treatment are

also implicated in the greater likelihood of a more socially adaptive outcome. Finally, research has indicated that UCLA/Lovaas model and the Early Start Denver model can improve cognitive and language outcomes for some children.



Dr. Howard is also available to assess other neuropsychological disorders, such as Alzheimer's Disease, Head Trauma, M.S., and Stroke. He also does testing to evaluate emotional and behavioral disorders, and career and vocational issues.