

ADHD & ADD Notes

Patterns of Sensory Processing in Children With Attention Deficit Hyperactivity Disorder
by Winnie Dunn and Donna Bennett, O. T. Research Journal, Winter 2003 22, pg 4- 15

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Literature Search in article

- Various hypotheses as to cause
- Neurological evals fail to reveal any specific lesions in brain
- Studies of ADD & ADHD reveal that children with ADHD demonstrate soft neurological signs present – abnormal muscle tone, balance, hand/arm incoordination and abnormal sensory perception compared to normal peers
- Another study found that children with ADD without hyperactivity had more tactile and visual difficulties than in the children with hyperactivity.
- Three studies found that vestibular stimulation decreased hyperactivity

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Diagnostic Criteria

- Child must meet the criteria listed in Diagnostic and Statistical Manual.
- Behavioral traits show function is hampered across environments: home, school, day care and social settings.
- No single instrument now used to diagnose
- High comorbidity with other disorders, especially oppositional defiant disorder (ODD), conduct disorder (CD) and depressive and anxiety disorders.
- May be prudent to consider underlying factors that lead to patterns of behavior of ADHD and related disorders

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- No questionnaires currently in use, assess the sensory processing of the child even though these issues have been recognized: tactile, vestibular, visual differences in children with difficulties with attention
- Some researchers (Ayes 1979; Fisher, Murray and Bundy, 1991; Kantner & Tocco 1980; Raggio, 1999; Schaughency, 1986) hypothesize that children with ADHD have difficulties with sensory processing which in turn interferes with functional performance.
- Neu researched irritability of babies & found a high rate of the infants later being diagnosed with ADHD. They showed increased activity and lower thresholds for sensory inputs.

Assessing Sensory Processing in ADHD

- To assess relationship between daily functioning of children with ADD & ADHD and sensory processing there should be an appropriate measure:. Currently in use are:

1. *Sensory Integration and Praxis Test (SIPT)*- standardized and normed, provides in depth information about a child's sensory processing and praxis. A trained professional must administer the SIPT and it takes up to two hours to give, making it impractical in most community settings.
 2. *The DeGangi Berk Test of Sensory Integration* is standardized. It does not provide information about daily life performance and has a limited age range.
 3. *The Touch Inventory for Elementary School Children* Simple questionnaire for children to complete, but it only assesses the tactile system.
- All these assessment imply, but do not directly assess sensory processing, in regards to daily life tasks

Sensory Profile – a caregiver questionnaire that measures sensory responsiveness during daily life. The Profile contains 125 questions that show unusual behaviors for children without disabilities. Kientz & Dunn (1997) show that 85% of the items on the *Sensory Profile* differentiated between children with autism and those without. Ermer & Dunn (1998- from AJOT 52(4), 283-290) were able to discriminate between children without disabilities, children with autism and children with ADHD with a 89% accuracy using only the *Sensory Profile*.

“Researchers need to investigate the possible utility of the Sensory Profile to support diagnosis and intervention planning with children who have ADHD. “

Method

- Two sets of children (with parents as informants). The first sample was drawn from a convenience sample of 70 children, ages 3 to 15 that were served at a community ADHD clinic. The team (clinical & behavior psychologists, nurse and consulting physician) made the diagnosis of Attention Deficit Hyperactivity Disorder (ADHD) or Attention Deficit Disorder (ADD) based on the Diagnostic & Statistical Manual (DSM-IV) criteria.

Half these children had a second diagnosis: 23 had ODD; 1 post-traumatic stress disorder; 1 adjustment disorder; 10 learning disabilities; 2 had encopresis. This rate of comorbidity was consistent with other reports in the literature.

52 children were taking medication for the management of their ADHD, 8 did not receive any medication; medication information was not reported for 10 children

No other information was shared by the clinic on IQ scores or academic performance

- The second set of children was matched for age and gender without disabilities, randomly selected from the national standardization sample.

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The authors acknowledge that since the control group came from a national sample, the groups may not be comparable on variable such as socioeconomic

status or ethnicity. Without access to this information on the sample of children with ADHD, these factors could not be matched.