



The Community School

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PROFESSIONAL MONOGRAPH SERIES

THE COMMUNITY SCHOOL ■ MONOGRAPH NUMBER FOURTEEN ■ MAY 2003

Attention Deficit Hyperactivity Disorder (ADHD): What's The Real Problem Here?

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Attention-deficit hyperactivity disorder (ADHD) is the current term for a specific developmental disorder seen in both children and adults that is comprised of deficits in behavioral inhibition, sustained attention and resistance to distraction, and the regulation of one's activity level to the demands of a situation (hyperactivity or restlessness). This disorder has had numerous different labels over the past century, including hyperactive child syndrome, hyperkinetic reaction of childhood, minimal brain dysfunction, and attention deficit dis-

order (with or without hyperactivity), or ADD.

Despite changing names for the disorder, its most obvious features have remained the same for nearly a century. They include:

■ *Impaired response inhibition, impulse control, or the capacity to delay gratification.* This represents an inability to stop and think before acting; to wait one's turn while playing games, conversing with others, or having to wait in line; to interrupt their responding quickly when it becomes evident that their actions are no longer effective; to resist distractions while concentrating or working; to work for larger, longer-term rewards rather than opting for smaller, more immediate ones; and inhibiting the dominant or immediate reaction to an event, as the situation may demand.

■ *Excessive task-irrelevant activity or activity that is poorly regulated to the demands of a situation.* Symptoms reflecting this problem are being

excessively fidgety, restless, and “on the go,” excessive movement that is not required to complete a task, such as wriggling their feet and legs, tapping things, rocking while seated, or shifting their posture or position while performing relatively boring tasks. Younger children with the disorder may show excessive running, climbing, and other gross motor activity. While this tends to decline with age, even teenagers with ADHD are more restless and fidgety than their peers.

■ *Poor sustained attention or persistence of effort to tasks.* This problem is often seen when the child has to do something that is boring, tedious, or protracted, or includes repetitive activities that lack intrinsic appeal to the person. Children with ADHD cannot “stick-to-it” as well as others, and often display very low motivation and will-power compared to others their age when uninteresting yet important tasks must be performed. They often report becoming easily bored with such tasks and consequently shift from one uncompleted activity to another without completing these activities. Loss of concentration during tedious, boring, or protracted tasks is commonplace, as is an inability to return to their task on which they were working should they be unexpectedly interrupted. Thus, they are easily distracted during periods when concentration is important to the task at hand. They may also have problems with completing routine assignments without direct supervision, being unable to stay on task during independent work.

Although these are the three most common areas of difficulty associated with ADHD, research over the past decade suggests that those with ADHD may also have difficulties in the following areas of mental functioning:

1. The Mind’s Eye (*Remembering to do things, or working memory*). Working memory refers to the capacity to hold information in mind that will be used to guide one’s actions, either now, or at a

later time. It is essential for remembering to do things in the near future. Those with ADHD often have difficulties with working memory. They are forgetful about the things they should be doing. They seem unable to keep important information in mind that they will need to guide their actions later. This makes them disorganized in both their thinking and activities as they often lose track of the goal of their activities. One of the core components of our working memory is our capacity for visual imagery - we can reactivate images of relevant past events and keep them in mind (“on-line”) while we use them to guide us in what we are doing. For instance, when we drive through a city, we may recall a map of the city and hold the image of it in mind while we use the map to guide us in our driving about town. This is why children with ADHD are often described as acting without hindsight or foresight - they are not looking back in order to look ahead. And so they are less able to anticipate and prepare for future events as well as others. Recently, research suggests that those with ADHD cannot sense or use time as adequately as others in their daily activities, such that they are often late for appointments and deadlines, ill-prepared for upcoming activities, and less able to pursue long-term goals and plans as well as others. Our sense of time and ability to guide ourselves by it also comes out of this mental capacity for holding information in mind that we need to guide us. It is not surprising then that problems with time management and organizing themselves for upcoming events are commonplace in older children and adults with the disorder.

2. The Mind’s Voice (*Internal language and rule-following*). Children with ADHD are significantly delayed in the development of their internal language. This is the private voice inside one’s mind that we use almost continuously throughout our day.

We use it to converse with ourselves, contemplate events, and direct or command our own behavior. This private speech is absolutely essential to the normal development of contemplation, reflection, and self-regulation. Its delay in those with ADHD contributes to significant problems with their ability to follow through on rules and instructions, to read and follow directions carefully, to follow through on their own plans, rules, and “do-lists,” and even to act with legal or moral principles in mind. Their mind’s voice is weak in its influence over their behavior. When combined with their difficulties with working memory, this problem with self-talk or private speech often results in significant interference with reading comprehension, especially of complex, uninteresting, or extended reading assignments.

3. The Mind’s Heart (*Self-regulation of emotions, motivation, and arousal*). Children and adults with ADHD often have problems inhibiting their emotional reactions to events as well as do others of their age. It is not that the emotions they experience are inappropriate, but that those with ADHD are more likely to publicly manifest the emotions they experience than would someone else. They seem less able to “internalize” their feelings, to keep them to themselves, and even to moderate them when they do so as others might do. Consequently, they are likely to appear to others as less emotionally mature, more reactive with their feelings, and more hot-headed, quick-tempered, and easily frustrated by events. Coupled with this problem with emotion regulation is the difficulty they have in generating intrinsic motivation for tasks that have no immediate payoff or appeal to them. This capacity to create private motivation, drive, or determination often makes them appear to lack will-power or self-discipline as they cannot stay with things that do not provide immediate reward, stimulation, or interest to them. They just can’t

seem to put their heart into the work. Their motivation remains dependent on the immediate environment for how hard and how long they will work, whereas others develop a capacity for intrinsically motivating themselves in the absence of immediate rewards or other consequences. Also related to these difficulties with regulating emotion and motivation is that of regulating their general level of arousal to meet situational demands. Those with ADHD find it difficult to activate or arouse themselves to initiate work that must be done, often complain of being unable to stay alert or even awake in boring situations, and frequently seem to be daydreamy or “in a fog” when they should be more alert, focused, and actively engaged in a task.

4. The Mind’s Playground (*Problem-solving ability, ingenuity, and flexibility in pursuing long-term goals*). Often times, when we are engaged in goal-directed activities, problems are encountered that are obstacles to our goals. At these times, individuals must be capable of quickly generating a variety of options in their head, consider their outcomes, and select among them those which seem most likely to surmount the obstacle so they can continue toward their goal. Persons with ADHD find such hurdles to their goals to be more difficult to surmount; often giving up their goals in the face of obstacles and not taking the time to think through other options that could help them succeed toward their goal. Thus they may appear as less flexible in approaching problem situations, more likely to respond automatically or on impulse, or simply more likely to quit or give up. They seem less creative at overcoming the road-blocks to their goals than others are likely to be. These problems may even be evident in the speech and writing of those with the disorder, as they are less able to quickly assemble their ideas into a more organized, coherent explanation of their thoughts. And so they are less able to rap-

idly assemble their actions or ideas into a chain of responses that effectively accomplishes the goal given them, be it verbal or behavioral in nature. It now appears that this ability to quickly generate a variety of response options in our heads comes from a capacity to play with information. That is, we have an ability to manipulate, take apart, and recombine our images, ideas, and thoughts, playing with their contents, to see what novel combinations we can create. While most of these combinations are not very useful, a few are truly new ways of doing things that can help us get to our goals more effectively. I call this the mind's playground because it's where we can manipulate and recombine old ideas into new ones while searching for any that may be truly useful to us.

Conclusion. All of this suggests that ADHD is far more than just a problem with attention or concentration or just difficulties with being too active. ADHD seems to interfere with those unique mental abilities that give us our capacity for self-control. We use these abilities to look

across time, to determine the likely outcomes of what we might do before we do it, to select the one that will yield the greatest long-term rewards, and then to sustain us toward our future goals. These are the things that those with ADHD find most difficult to do - to think before they act and then to use their thoughts to guide them through social situations to a more successful future. We are learning that to call ADHD a problem with attention is like saying that autism is a problem with talking funny or with hand-flapping. While true, these views hardly capture the deeper nature of the disorder or tell us what is going wrong so that we might better understand how to manage it. ADHD is actually a developmental disorder of human self-control. Helping them manage this delay in self-regulation is the subject for another column, but clearly the first step toward effectively managing any childhood disorder is to have the best understanding possible as to what is going wrong in that disorder. Our science of ADHD is bringing us much closer to that understanding than ever before.

The Professional Monograph Series

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