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Helping Children Learn to Pay Attention

by Jane M. Healy

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by Jane M. Healy, Ph.D.

When I talk with parents or teachers these days, I can be sure that one of their first questions will have to do with getting kids to pay attention – and for good reason. Attention and its partner, self-regulation, are the foundations of learning, but these so-called "executive skills" are an increasing problem in our multitasking society. More and more children each year are diagnosed with "attention deficit disorder," and teachers describe increasing difficulties with students' self-control and concentration – causing problems with everything from math tests to social relationships to motivation for learning.

Are we in the midst of an inattention "epidemic?" What can parents do to help forestall problems – or to deal with them once they arise? Fortunately, new brain research on the neural mechanisms underlying attention sheds some light on these questions. While basic attention abilities may be inborn, the good news is that many attention skills can be learned. These core abilities are rooted in the physiology of the brain, but home and school environments have a great deal to do with how a child learns to use his particular attention mechanisms.

What Causes Attention Problems?

Genetic factors, prenatal toxins, drugs and alcohol, as well as prematurity put children more at risk for attention deficits. Yet ADHD, or Attention Deficit (with or without Hyperactivity) Disorder, is controversial, since definitions and testing procedures for the disorder are vague and vary greatly among different communities and professionals. Moreover, the idea of giving one's child a psychoactive drug is often very worrisome to a parent. Dramatic increases in the United States of prescriptions for drugs like Ritalin, for example, have come under question because of potential side effects and uncertainty about long-term outcomes. Some physicians voice concerns about using a pill alone as a remedy for problems that should be addressed at a more systemic level. While such drugs often help children

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(and adults) control their behavior more effectively, they are not a "cure" and should always be accompanied by behavioral treatment and careful monitoring.

Many ADHD children are very bright and creative. In fact a number of highly successful and productive adults might have been so labeled if this category had been around when they were growing up. Some educators have suggested that schools' expectations for children may be out of line when so many otherwise able kids fail to conform to them.

Where is the Problem?

Attention changes with age – a normal lack of inhibition in a four-year-old becomes a serious problem in a ten-year-old. Moreover, a regularly bumptious child (usually a boy) may seem very much out of place in an overly restrictive and stressful classroom. When normally active youngsters are condemned to desks and routine pencil-and-paper tasks all day, we should not be surprised if they show up with problems. Many schools are increasingly restricting children's free playtime; children who need to work off physical energy don't have much of a chance. Moreover, many of today's children are so heavily scheduled that they are actually sleep-deprived. All these factors may masquerade as an attention problem.

Many attention skills can be learned.

Attention difficulties are also found in many children with language or reading problems; sometimes treating the underlying condition makes it easier to focus on learning. Too much time with TV and video games also exacerbates attention difficulties. A recent study linked amount of preschool television exposure with later symptoms of ADHD. One Mom just told me at a workshop that after their house burned down, destroying their son's game cube, his attention problems magically disappeared.

Attention and the Brain

Paying attention requires maturation and use of a number of widely scattered brain areas, all the way from the brainstem up to the top level of the prefrontal cortex. Interconnecting loops pass through structures in the limbic system, or "emotional" brain, including areas involved in memory and motivation. These connections function partially on neurotransmit-

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ters in the catecholamine system called dopamine and norepinephrine. Drugs used to treat ADHD, such as Ritalin or Strattera, regulate these chemicals, although no one has agreed on exactly how they do it. We also do not know how much of one's neurotransmitter balance is determined by genetics and how much by experiences, activities and emotions.

Research has shown that there is a hereditary tendency for attention difficulties, but the brain's chemical balance can also be changed by environmental factors. For example, chronic stress revs up the brain's fight-or-flight chemical systems which can even kill off neurons. On the other hand, numerous studies suggest that learning to keep one's brain quiet, as in reflection, meditation, or absorption in self-directed play, has the opposite effect. Many of our children today rarely have a chance to experience a quiet, self-directed mind, undistracted by adult demands or electronic stimulation. Perhaps it is not surprising that their growing brains are showing the effects.

Intervention to build positive attention habits should begin as early as possible and definitely before age seven.

Practical Steps for Building Attention Skills

Intervention to build positive attention habits should begin as early as possible and definitely before age seven. You should be particularly mindful of this possible "sensitive period" if anyone in the child's family suffers from distractibility, mental disorganization or impulsivity. Nonetheless, changes are still possible at any age, especially if the individual is highly motivated.

Step 1: Work for a positive and understanding emotional climate. Parents who are overly permissive or overly bossy are more likely to have children with problems. Authoritative caregiving produces children most able to manage their own behavior (self-regulation), who get into less trouble in school, are better adjusted socially and who develop more powerful attention and motivation systems. These adults are (most of the time – no one's perfect!) firm, loving, reasonably patient, empathetic, willing to listen to the child and negotiate rules, and available to give emotional support when the child needs it. Emotion, motivation, and attention are wound together so tightly in the brain that it is impossible to separate them.

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Step 2: Establish reasonable expectations for behavior, set clear rules, and discuss or negotiate them with the child, including consequences for infractions. Make sure all caregivers are consistent. Check the child's understanding by asking her to tell you what you just talked about. Please heed the word "reasonable." Sometimes parents tell me they insist their five or six-year-old sit and work on schoolwork with them each night for an hour or more. Many adults have trouble understanding the real limitations that immaturity places on the ability to stay with one task – especially one that the child didn't choose. On the other hand, some parents have never learned to say "no," which is, unfortunately, part of their job. It is not kind to the child or the world to turn loose an individual who has never had a chance to experience and internalize a reasonable control system.

Step 3: Establish a well-regulated household environment. If your child inherited the attention problem from you, this task is a real challenge – but your child needs it. Uncontrolled households, where routines are never made clear and that blast young brains with too many stimuli and too little structure impose stress on the growing brain and may diminish the development of internal control systems. Ongoing background noise stresses out adult brains, and it can be a real trial for a child's tender synapses. Conversely, rigidly structured households that place unrealistic demands on children or cause them to fear making a mistake can be equally damaging.

You can help your child find the best stimulus level during different activities. We have instinctive drives to regulate the amounts of stimulation – auditory, visual, and tactile – that come into the brain, but children can miss their own cues. Watch for signs of unusual behavior, overexcitedness, wildness, or withdrawal, which signal a need for protection from sensory bombardment. Do not expect children to realize when they have had enough excitement. The same goes for "screen time." It is much harder to turn off a TV or computer than to turn it on – even for adults.

Step 4: Teach your child to use words to plan and control behavior. Language is a major route to good social relationships, which are often jeopardized because the impulsive child is annoying to peers in play or cooperative learning situations.

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Step 5: If you think your child has an attention deficit that is inconsistent with age and has persisted more than six months, you may decide to consult your pediatrician or a pediatric neurologist for a clearer diagnosis. First, inform yourself by reading several books, since there are so many points of view on this "disorder." Be aware that chronically hurried physicians are noted for prescribing medications, period. Experts agree that any treatment plan – whether or not you choose to use medications – must include behavioral counseling for parents, regular caregivers, and the child. A good professional can help you understand how to manage the child's behavior most effectively. Systems of clear, short-term rewards and consequences are often spelled out, so the child can start to take control of himself. The school should also be informed and involved in the treatment program, as a helpful teacher can make a big difference. Remember that if your child has a real self-regulation problem, he is not doing this on purpose. Keep the emotional supports and conversation in place, and you will get much better outcomes.

You have a framework of experience that helps you screen out sounds while the young child does not.

It is best, of course, to work with your child from the beginning to encourage the development of the brain's executive centers. These areas continue to develop even throughout adolescence, so the teenager actually has many new brain connections to call on for tackling old problems. Moral: Don't give up! The general suggestions below are for younger children, but may be adapted for any age group:

In a Nutshell: Helping the Attention Regulator

- Establish firm limits and predictable routines. Teach your child what "no" means – but not punitively. Naturally, these rules will change as the youngster matures.
- As the child grows, make sure she feels she has more say in setting rules and some choices in negotiating them.
- Insist on a regular bedtime and adequate rest. Insufficient sleep can cause attention problems. Make a routine of story or "talk" time before bed. One parent of a jumpy little boy discovered that a brief back rub before sleep was almost instantly calming (for parent as well as the child).
- Insist on a noise level in the home within reasonable limits. Some parents refer to "indoor voices" and "outdoor voices" to give children a concrete cue. Moderate or eliminate background TV noise.
- Remember that you have a framework of experience that helps you screen out sounds, while the young child does not. One little boy was terribly distracted until his mother finally realized he was frightened by the sound of airplanes overhead that she hadn't even noticed. After she showed him what they were, he was able to concentrate better.
- Make sure the young child has a quiet space of his own to go to at any time – even if it is only a card table covered by a blanket. Keep TV sets and computers out of the child's room and in a central area where use can be monitored. Teens vary in their ability to handle their own personal media, so your parental judgment is important.
- Keep adult-type stimulation to a minimum (e.g., inappropriate movies, TV, or adult magazines; overly exciting or alarming adult conversations). Help "mediate" your child's response by discussing content together.
- Limit TV viewing. Be tough – it's important. Too much viewing may change brain patterns and make it harder for a child to concentrate in school.
- Supervise and restrict both the amount of time and the content of computer use. Even many so-called educational software programs may cause problems if overused. (My book, *Failure to Connect,* explains possible brain effects and contains specific guidelines for computer use at different ages.)
- Insist that your child get some physical exercise every day, preferably outdoors.
- Some youngsters with attention problems also have difficulty managing sequences of movements. For a child like this, individual sports like swimming, bowling, or hiking may be preferable to team sports. Sometimes training in tae kwan do, karate or yoga can enhance control systems.
- Spend some time working with your child and showing him how to solve problems systematically. Play a game, start a project, take up a

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hobby, such as model building or cooking together. Talk together about the steps you take to attack each problem.

- Let attention span develop naturally by also allowing time for a child to become actively engaged in a task without interruption.
- Be sure there is someone to whom the child can go to be hugged, held and calmed down if necessary.
- Physical contact (hugging, rocking) is still necessary for children beyond infancy.
- An overexcited child may respond to a gentle but firm touch. Hold him gently by the shoulders or sit close to him with your arm around him.
- Get the child's attention with eye contact before you give a direction. Check understanding by asking her what she heard.
- You may need to help a young child shift focus from one activity to another; pave the way in advance. ("When you finish putting the books away, I'm going to ask you to wash your hands for dinner.")
- Prepare the child for potentially alarming or upsetting situations.
- Some attention problems may show up as lethargy or "spaciness." While the dimensions of this problem are not entirely clear, it too may warrant a consultation with a specialist.
- Some children may have trouble regulating attention because of allergic responses to food or environmental substances. If you suspect allergy, check with a specialist and observe your child carefully to try and identify possible triggers.
- Pay attention to nutrition. Excess sugar or sugar substitutes in a child's diet may contribute to "hyper" behavior and mood swings. Maintain a firm hand here. Some nutritionists are convinced of the benefits of essential fatty acids or certain vitamins in a wholesome diet.
- Avoid frenetic scheduling. Your child's brain will grow better with some quiet downtime instead of constant activity.
- Use words along with actions when showing something to the child; language is the ultimate mediator of attention.

The Power of Language in Regulating Attention

The effectiveness of the brain's prefrontal cortex, which governs the executive system, may be improved by using words to guide behavior.

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Most adults instinctively use this brain-building "inner language" to work through problems or plans – literally talking to themselves inside their heads. Studies show that even little children perform a task better when they use "private speech" along with action. Parents can help a toddler by describing what she is doing and encouraging her to use words, e.g. "You are pounding the pegs into the board. Let's say 'hit' every time you pound one." Household tasks such as cooking present many opportunities: "Let's go over the steps before we start." "What ingredients do we need?" " Did I do it right?" "What's the next step?"

An interesting long-term study started with kindergarteners and ended when they took the SAT years later. Experimenters gave each child a marshmallow with the instruction that if they could wait a certain number of minutes before eating it, they would get two marshmallows to eat. Those who were able to control their impulses and wait had higher scores years later on the SAT than those who were unable to defer gratification and gobbled up the treat at once. The strategies that successful "waiters" used included trying to ignore the marshmallow and, significantly, talking to themselves about how important it was to wait and how happy they would be when they received the extra marshmallow. The gobblers had no such strategies to help put their brains in charge of their behavior.

Children of all ages should be encouraged to talk through situations before plunging in.

Caregivers who themselves use language to explain, reason with, or even discipline children are the models for this development. In addition, children of all ages should be encouraged to talk through situations before plunging in. I frequently ask a distractible youngster, "Sit on your hands and tell me what you think you should do with this problem (worksheet, drawing, sentence, math equation)." The child thinks it is funny, but it gets her brain into communication with itself, and she does a better job.

I remember one impulsive eight-year-old who could not remember to bring both book and pencil to the reading table. Every day the teacher said to her, "Tell me what you will need. Now ask yourself, 'Do I have my pencil? My book?'" She thought this was a wonderful game, and soon we only

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had to say, "Have you asked yourself the question?" Eventually, Daneesha was able to do it herself. Now a sophisticated preteen, she sidled up to me in the hall not long ago with a big grin on her face. "You know," she said, "I still ask myself the question."

Strong Foundations for Success

Helping our children develop good attention and self-management skills is one of our most important jobs. Studies of successful adults have suggested that "smarts" – or even advanced degrees – are actually less predictive of success than a person's ability to focus effectively on a challenging problem and exercise the self-control to stick with it. After all, what good is frantic "multi-tasking" if a person is unable to "task" effectively? Many factors in today's culture of childhood conspire to erode attentional abilities, but wise, patient, and caring adults can provide foundations and models that will stick for a lifetime.

Jane M. Healy, Ph.D., is a teacher and educational psychologist whose major area of interest has been identifying practical applications in current brain research for teachers and parents. She is the author of Your Child's Growing Mind: Brain Development and Learning from Birth to Adolescence (3rd edition, 2004); Failure to Connect: How Computers Affect Our Children's Minds – and What We Can Do About It (1998); Endangered Minds: Why Children Don't Think and What We Can Do About It (1990).

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