

ADHD and Difficulties with Attention

According to the *Diagnostic and Statistical Manual of Mental Disorders (DSM-V)*, published by the American Psychiatric Association, three patterns of behavior indicate ADHD (Attention Deficit/Hyperactivity Disorder): inattention, hyperactivity, and /or impulsivity. One may have a diagnosis of ADHD, but with no hyperactivity.

Signs of inattention as outlined in the DSM-V include:

- becoming easily distracted by extraneous stimuli (may include unrelated thoughts)
- has difficulty sustaining attention, giving close attention to details, following instructions completely
- has difficulty organizing tasks (keeping things in order, poor time management, disorganized work, fails to meet deadlines, forgets appointments) and tends to make careless mistakes
- often loses things necessary for tasks or activities (books, materials, phone, keys...)
- difficulty in sustaining mental activity (long reading assignments or reviewing lengthy papers)

Signs of hyperactivity and impulsivity (difficulty controlling one's actions) include:

- restlessness, often fidgeting with hands or feet, squirming, or leaving one's seat
- blurting out answers before hearing the whole question or interrupting others
- talking excessively and acting as if “driven by a motor”

Because everyone shows some of these behaviors at times, the DSM contains very specific guidelines for determining when they indicate ADHD, including extended duration of the indicative behaviors and exhibiting these characteristics more frequently or more severely than others the same age. Above all, the behaviors must create a real handicap in at least two areas of a person's life, such as in one's classroom, living environment, work, or social settings. An individual who has some attention problems but whose life and schoolwork are not impaired by these behaviors would not be diagnosed with ADHD.

Renowned ADHD and learning disabilities researcher Dr. Mel Levine views attention as consisting of three control systems: mental energy, processing, and production. Some individuals experience problems with all of these attention systems, while others may show strengths and weaknesses in different systems. The following information (edited by Marni Jones for college professors) is from the PBS Website “MisUnderstood Minds.” <http://www.pbs.org/wgbh/misunderstoodminds/attentiondiffs.html>.

Attention Control Systems

Mental Energy

The first attention control system, mental energy, regulates and distributes the energy supply needed for the brain to take in and interpret information and regulate behavior. Children whose mental energy is not working effectively may become mentally fatigued when they try to concentrate, or have other problems related to maintaining the brain energy needed for optimal learning and behavior. **There are four mental energy controls:**

The first is **alertness**, a state of mind in which a child can effectively listen to and watch information being presented. Students who experience difficulty with alertness can appear to be daydreaming.

The second mental energy control is **sleep and arousal balance**. This control affects the ability to sleep well enough at night to be sufficiently alert during the day. Students who are experiencing trouble with sleep and arousal may find it difficult to get to sleep at night, or they may sleep poorly. They then have trouble getting up in the morning and may appear tired in class.

The third mental energy control is **mental effort**. This control initiates and maintains the flow of energy required for a child to start, work on, and complete a task. Mental effort is particularly important when students are faced with tasks that may not be especially interesting or personally motivating. Students who have difficulty with mental effort can benefit from having tasks broken down into smaller, more manageable parts.

The fourth mental energy control is **performance consistency**. It works to ensure a reliable, predictable flow of energy from moment to moment and day to day. Students who have trouble with performance consistency don't have problems all of the time. Sometimes they can concentrate and perform well, while other times they cannot. Their work output and behavior may be impossible to predict.

Processing

This attention control system helps one select, prepare, and begin to interpret incoming information. Students who have difficulty with processing may have a range of problems related to regulating the use of incoming information. **There are five processing controls:**

- 1.) **Saliency determination:** This involves selecting which incoming information is the most important. Students who have difficulty with this may be distracted by irrelevant things and miss important information presented.
- 2.) **Depth and detail of processing.** This controls how intensely students can concentrate on highly specific data. It enables them to focus deeply enough to recognize and remember necessary details.
- 3.) **Cognitive activation.** This active processing connects new information to what has already been learned through prior knowledge and experience. Students who are inactive processors are unable to connect to prior knowledge to assist their understanding of new information. In contrast, overactive processors are reminded of too much prior knowledge, making it difficult for them to maintain focus.
- 4.) **Focal maintenance.** This processing control allows a student to focus on important information for the appropriate period of time. As Dr. Levine explains, "It isn't so much how long your attention span is, as it is how well-matched the duration of your attention is to the target at hand." Some students who don't concentrate long enough on certain things may concentrate too long on others.
- 5.) **Satisfaction control.** This processing control involves one's ability to allocate enough attention to activities or topics of moderate or low levels of interest. "Insatiable" students with poor satisfaction control may be unable to concentrate on activities that are not perceived as exciting enough.

Production

The third attention control system is **production**. This area governs output -- including what students generate academically, behaviorally, and socially. Students with production control problems have a range of difficulties related to regulating academic and behavioral output. They may do things too quickly without thinking, planning, or previewing outcomes. **There are five production controls:**

- 1.) **Previewing**--considering more than one action or response and anticipating the likely outcome of a particular choice. Students who have difficulty with previewing may plunge into activities instantly and react too quickly.
- 2.) **Facilitation and inhibition.** This production control is the ability to exercise restraint and not act immediately, to consider multiple options, and to choose the best one before acting or starting on a task. Students who have trouble with facilitation and inhibition frequently act impulsively and may appear to be doing only the first thing that comes to mind. These students may blurt out answers before being called upon in class.
- 3.) **Pacing.** This refers to doing tasks or activities at the most appropriate speed. Pacing difficulties often show up in students' reading. Their reading pace may be so fast that they skip over words, have difficulty with multi-syllable words, and show little reading comprehension.
- 4.) **Self-monitoring.** This production control allows students to evaluate how they are doing while performing and after completing a task. This control allows students to regulate their attention and take corrective action.
- 5.) **Reinforceability.** This allows students to use previous experience to guide current behavior and approaches to current tasks. Often called hindsight, this ability enables students to make use of precedent, experience, and prior knowledge to guide their decision-making and actions.

Cause

Neuroscientists have found that certain areas of the brain are smaller in people with ADHD than in people without it, and their brains produce smaller amounts of dopamine--an important neurotransmitter, inhibiting their ability to focus, plan ahead, finish tasks, and so on. While researchers have identified chemical and structural differences between those with and without ADHD, they are no closer to understanding what may cause these differences. Current research is focusing on environmental toxins, drugs, and genetic factors as possible causes of ADHD.

What to Expect from Students with Attentional Disorders

Compiled by Marni Jones, Dean and Director of SOAR (Strategies, Organization and Achievement Resources) and ADS (Access and Disability Services), Dickinson College. Information on Mental Energy, Process, and Production acquired from the PBS Series "MisUnderstood Minds"
<http://www.pbs.org/wgbh/misunderstoodminds/attentiondiffs.html>

A common misconception about students with attention problems is that they aren't paying attention at all. But students who struggle with attention may actually pay attention to everything; their difficulty is filtering out what they shouldn't be focusing on, directing their focus where it's most necessary, and maintaining that focus. And since attention is a complex neurocognitive process, there are several areas where signs of struggle appear.

A student whose disorder impacts...

Mental Energy

- has difficulty concentrating; may complain of feeling tired or bored
- does not seem to be well rested and fully awake during the day
- has inconsistent work patterns that negatively impact quality and quantity of work
- shows over-activity and fidgets -- especially pronounced when sitting and listening

Processing

- processes too little or too much information; can't distinguish between what is important and what isn't
- focuses too superficially or too deeply on information presented
- has difficulty connecting new information with information already known
- only pays attention to exciting information or highly stimulating activities
- focuses for too brief a period
- has problems shifting focus from one subject or activity to another

Production

- fails to preview the effects of statements or actions or to predict the outcomes of tasks or activities
- has difficulty coming up with the right strategy or technique to accomplish a task
- does not monitor quality of work or the effectiveness of strategies
- does not use past successes and failures to guide current behavior, actions, or strategies
- is apt to do too many things too quickly and some other things too slowly
- has a poor sense of how time and how to manage it

Common Attributes of Individuals with ADHD

- Tend to be more flexible, more open to guidance
- Often creative, outside the box thinkers
- Although they tend to procrastinate, they also tend to be able to accomplish more in less time
- Able to hyper-focus on that which is deemed interesting
- Tend to be list-makers, so will likely be receptive to writing down necessary steps

Recommendations for Students with ADHD

- Attend a time-management workshop and work with a Peer Advisor
- Purchase a planner or plan to use an electronic calendar
- Purchase a three-ring binder for every class to put handouts into. We have a 3-hole punch in the SOAR Office. (Old West, Lower level, Room 5).
- Create a Weekly Study Schedule* to plot out study and free time
- Enter tests and major due dates from every class onto a Semester Calendar*
- If procrastination is a concern, set up appointments with Writing Center tutors well before a due date to ensure an early start to the writing process
- Ask professors if you can turn things in early for feedback and then arrange to do so!

* Show students how to find these time management tools on the Dickinson website by typing "SOAR" on the search bar. Here's the link: https://www.dickinson.edu/homepage/694/strategies_organization_and_achievement_resources.