

“Executive Function” - what does that mean?

The term Executive Function is used to refer to brain circuits that prioritize, integrate, and regulate other cognitive functions. Self regulating one’s thoughts, emotions, attention and actions into

In a nutshell, ADHD is about not being able to organize and self-regulate one’s thoughts, emotions, attention and actions into something productive and useful for everyday life and the future

There are 6 executive functions. They are all impaired in ADHD. (Activation, Focus, Effort, Memory, Action, Emotion)

Brown’s theory of Executive Functions impaired by ADHD identifies 6. (He uses a metaphor to explain Executive Function, likening it to an orchestra with many different musicians and instruments relying on the conductor to manage their input. If the conductor is impaired – or if there no conductor – the orchestra would not be able to function properly)

1) **Activation**

Organizing tasks and materials, estimating time, prioritizing tasks, and getting started on work tasks. People with ADHD describe chronic difficulty with excessive procrastination. Often they will put off getting started on a task, even a task they recognize as very important to them, until the very last minute. It is as though they cannot get themselves started until the point where they perceive the task as an acute emergency.

Have you ever had to do something extremely important? Importantyet it’s still not done? You wait until the very very last minute, and you do it in panic!

Do you procrastinate a LOT?!

Do you feel like you KNOW how to do something but you CAN’T seem to do it?

2) **Focus:**

Focusing, sustaining focus, and shifting focus to tasks. Some describe their difficulty in sustaining focus as similar to trying to listen to the car radio when you drive too far away from the station and the signal begins fading in and out: you get some of it and lose some of it. They say they are distracted easily not only by things that are going on around them, but also by thoughts in their own minds. At other times they may find themselves stuck on one focus, unable to shift to another task when they should. In addition, focus on reading poses difficulties for many. Words are generally understood as they are read, but often have to be read over and over again in order for the meaning to be fully grasped and remembered.

Does your mind wander somewhere else, during a conversation? Are you reading a paragraph over and over again?

Do you feel like your mind never switches off?

Do you ever go into “hyperfocus” by something that you find interesting?

3) **Effort:**

Regulating alertness, sustaining effort, and processing speed. Many with ADHD report they can perform short-term projects well but have much more difficulty with sustained effort over longer periods of time. They also find it difficult to complete tasks on time, especially when required to do expository writing. Many also experience chronic difficulty regulating sleep and alertness. Often they stay up too late because they cannot shut their head off. Once asleep, they often sleep like dead people and have a big problem getting up in the morning.

Are you often tired? Doing different projects that you don't finish?

4) Memory:

Utilizing working memory and accessing recall. Very often, people with ADHD will report that they have adequate or exceptional memory for things that happened long ago, but great difficulty in being able to remember where they just put something, what someone just said to them, or what they were about to say. They may describe difficulty holding one or several things “on line” while attending to other tasks. In addition, persons with ADHD often complain that they cannot pull out of memory information they have learned when they need it.

Where did I just put my keys? I just had them two seconds ago? This happens to everybody but when it is on a daily basis, maybe it's a difficulty in keeping information in your head long enough.

Do you feel like you ‘forget’ what you are doing, in the middle of doing it?

5) Action:

Monitoring and regulating self-action. Many persons with ADHD, even those without problems of hyperactive behavior, report chronic problems in regulating their actions. They often are too impulsive in what they say or do, and in the way they think, jumping too quickly to inaccurate conclusions. Persons with ADHD also report problems in monitoring the context in which they are interacting. They fail to notice when other people are puzzled, or hurt, or annoyed by what they have just said or done and thus fail to modify their behavior in response to specific circumstances. Often they also report chronic difficulty in regulating the pace of their actions, in slowing self and/or speeding up as needed for specific tasks. Capacity to monitor one's actions and to inhibit impulsive actions is one critical aspect of executive function.

Do you speak and act before you think?

- 6) **Emotion**: managing frustration and modulating emotions. Although DSM-V does not recognize any symptoms related to the management of emotion as an aspect of ADHD, many with this disorder describe chronic difficulties managing frustration, anger, worry, disappointment, desire, and other emotions. They speak as though these emotions, when experienced, take over their thinking as a computer virus invades a computer, making it impossible for them to give attention to anything else. They find it very difficult to get the emotion into perspective, to put it to the back of their mind, and to get on with what they need to do.

Are you an emotionally “reactive” person?

Do you sometimes feel suddenly overwhelmed by an emotion?

ADHD is actually.....the “Inability to hierarchically organize long chains of behavior to accomplish goals and tasks!”

ADHD is not about running around and having too much energy! I

It’s about not being able to organise and self-regulate your thoughts, emotions, attention, and actions into something productive and useful for everyday life and the future.

There is a 3-10% **reduction in size** in the following networks of the brain:

- DLPFC (Dorso-lateral prefrontal cortex)
- Basal ganglia (motor execution/inhibition),
- Cerebellum (responsible movements, timing, grace, sequencing of thoughts and actions)
- Anterior cingulate cortex (smaller and more inactive in ADHD)
- Corpus Callosum (where the 2 hemispheres communicate with each other)
- Striatum: where what you think is going to guide what you do.