



ADD WELLNESS GROUP • PINE MEADOWS INTENSIVE TREATMENT PROGRAM • HEALTHY BALANCE • AUTISM SPECTRUM SERVICES • ASSESSMENT CENTER

EXECUTIVE FUNCTIONING

ADHD and Executive Skills

Most ADHD researchers believe that ADHD is fundamentally a disorder of executive skills. One prominent theory (Barkley) of ADHD sees this disorder as one of reduced ability to self-regulate. A common cluster of executive skills impairment appears with those who have ADHD. These executive skills are responsive addition, sustained attention, working memory, time management, task initiation and goal directed persistence.

Persons with ADHD need to know their strengths and weaknesses relative to executive skills to function optimally. Assessment of executive skills is important to the overall treatment of ADHD. Behavioral interventions based on executive skill assessment can help people with ADHD perform better at school and at work.

Underachievement and Executive Skills

It should be noted that people who do not have a diagnosis of ADHD can and do have executive skill impairments. There are patterns of strengths and weaknesses in executive skill development in all of us. However, if executive skill weaknesses are adversely impacting our performance at school or at work it is be important to address these issues so that we can succeed in an ever increasing complex world. Academic underachievers who are not ADHD generally have executive skill weaknesses.

What are Executive Skills

Executive skills help us to regulate our behavior. These high-level cognitive functions help us to plan and organize activities, to sustain attention, and to persist in completing a task. They help us organize our behavior over time and override immediate demands in favor of longer term goals and they help us to decide what activities or tasks we will pay attention to and which ones we will choose to do.

Certain executive skills allow us to select and to achieve goals or to develop problem solutions.

- **Planning** – the ability to create a roadmap to reach a goal or to complete a task
- **Organization** – the ability to arrange or place things according to a system
- **Time management** –the ability to estimate how much time one has, how to allocate it, and how to stay within time limits and deadlines.
- **Working memory** – the ability to hold information in mind while performing complex tasks
- **Metacognition** – the ability to stand back and take an objective view of oneself. It is an ability to observe how you problem solve.

Other executive skills guide or modify our behavior as we move along toward our goals.

- **Response inhibition** – the capacity to think before you act

- **Self-regulation of affect** – the ability to manage emotions in order to achieve goals, complete tasks, or control and direct behavior
- **Task initiation** – the ability to begin a task without undue procrastination, in a timely fashion
- **Flexibility** – the ability to revise plans in the face of obstacles, setbacks, new information, or mistakes
- **Goal-directed persistence** – the ability to follow through to the completion of a goal and not be put off by the demands of our competing interests
- **Sustained attention** – the capacity to be paying attention to a situation on task in spite of distractibility, fatigue or boredom

Response inhibition, working memory, emotional control and attention all develop early within the first 6 to 12 months of life. Children show planning skills when they find a way to get a desired object. Planning is more evident when a child walks. Between 12 and 24 months, flexibility is developed because children can react to change. All the other executive skills, such as task initiation, organization, time management and goal-directed persistence develop later, around preschool and early elementary school years.

Neurological Base for Executive Skills

The neurological base for executive skills is the frontal brain systems, which includes the frontal and prefrontal cortex along with connections to adjacent areas. The prefrontal brain systems are among the last two fully develop, usually in late adolescence, and they are the final common pathway for managing information and behavior from other brain regions.

Hart and Jacobs (1993) summarized the critical functions of the frontal lobes and the management of information and behavior:

1. The frontal lobes decide what is worth attending to and what is worth doing.
2. The follow-ups provide continuity and coherence to behavior cross time.
3. The follow-ups modulate affect us and interpersonal behaviors so that drives are satisfied within the constraints of the internal and next to environments.
4. The frontal lobes monitor, evaluate and adjust.