

Managing Executive Function Disorders

Donna Geffner, Ph.D., CCC-Sp/A

Private Practice, 1025 Northern Blvd, Roslyn NY

Drdonnageffner@gmail.com

516 1 0002

Executive Function Definition

- Executive function is the ability to do all that it takes to keep your mind on what you are doing in order to execute
- These abilities include:
 - Maintaining attention
 - Controlling impulses
 - Keeping free of distractions
 - Engaging in mental planning and problem solving
 - Maintaining Flexibility
 - Time management
 - Setting priorities
 - Organizing
 - Executing a task

Executive function includes the following components:

- Ability to initiate behavior toward achieving goals and inhibit behavior incompatible with achieving those goals
- Ability to monitor and evaluate performance in relation to the goals
- Ability to flexibly revise plans and strategically solve problems in the event of difficulty or failure

• Executive dysfunction is also attributed to the following factors:

- TBI
- Brain Abscess
- Neurologic factors
- Aging
- Genetic syndromes
- Tuberos sclerosis

• Executive dysfunction is also attributed to the following factors:

- Vascular Disease
- Tumors
- Multiple Sclerosis
- AIDS
- Lyme Disease
- Psychotic disorders (depression, schizophrenia)
- Executive Dysfunction in Children
- There is no singular disorder of Executive Dysfunction
- Executive Dysfunction is reflected by a number of symptoms
- Executive Dysfunction is often reflected in other primary difficulties such as LD, Tourette's Syndrome, ADHD, TBI, or cranial radiation treatment for leukemia
- Executive Dysfunction in Children
- May present with academic, social, or behavioral difficulties that do not qualify them for Special Education services
- May be described as lazy, unmotivated, unable to get work done, confused
- May be extremely disorganized

- Academic difficulties do not present themselves until upper elementary school grades or middle school even though the child was successful in the early grades

Hallmarks of Executive Dysfunction

- Easily distracted by external or internal stimuli
- Perseveration of response sets
- Difficulty with initiating activity
- Difficulty with maintaining effort
- Difficulty with recognizing and/or utilizing feedback
- Difficulty modulating activity without cues
- Poor self-awareness of deficits.
- Executive Function Disorder in Higher Cognitive Activities
- Marked disparity between the ability to verbalize and to carry out appropriate action scripts
- Reduced generalization/limited carryover of single skills.
- Memory disruptions for retrieval or procedure.
- Executive Function Disorder in Higher Cognitive Activities
- Disorganized response pattern.
- Inability to break down projects into component and manageable components.
- Reduced attention to detail.
- Communication
- Reduced social-interactive competence
- Difficulty with the organizational demands of discourse
- Inefficient deliberate, strategic memory and retrieval
- Impaired strategic thinking
- Strategic thinking and behavior

- Executive system impairments also effect problem solving skills that deal with
 - Self-awareness of limitations
 - Identification of the problem in specific cases
 - Implementation of compensatory procedure to overcome or circumvent the problem

Causes of Deficit

- Most people with ADHD are born with it. Evidence indicates a genetic link, that is, it usually runs in families. Research into the brain chemistry identifies a gene involved in a lack of dopamine. Individuals who are not born with ADHD usually develop it due to frontal lobe damage or certain toxins, such as lead, that cause brain damage.
- The portions of the brain used for executive functions parallel the portions of the brain that show abnormalities in people born with ADHD.
- Localization of Executive Functions

Assessment

- Assessment Team, including: Psychologist, Neuropsychologist, Occupational Therapist, Special Educator
- There is no one test
- Case History and observation are integral to diagnosis.
- Assessment Tools

Areas that are important to assess include:

- Orientation
- Attention
- Short-term memory
- Long-term memory
- Prospective memory
- New learning

- Word retrieval
- Reading comprehension
- Reading speed
- The Listening Inventory
- Written content and organization Mathematical accuracy and speed
- Convergent reasoning
- Divergent reasoning
- Inductive reasoning
- Deductive reasoning
- Problem solving
- Sequencing
- Mental flexibility

Management

In the Classroom

- Structure is one of the most critical elements.
- Provide structure through clear communication, expectations, rules, consequences.
- Structure tasks by breaking long-term assignments into manageable increments.
- Teachers need to carefully structure the schedule -- alternating active and quiet periods/activities.
- Students require assistance structuring their materials and workspace.
- Use proximity control
- Use hand signals or words that are agreed upon privately

- Visual strategies - outlining, diagramming
- Auditory strategies- discussion, music
- Tactile-kinesthetic strategies- manipulatives
- Cooperative learning structures- for social skills
- Environmental modifications in the classroom
- Allow extra time for verbal responses to questions
- provide more working desktop space and distance between desks.
- Allow printing and encourage the use of word processing/typing
- Require students to use three-ring notebook
- Teach organization- study skills
- **CLASSROOM GUIDELINES TIPS**
- Use a timer
- Use cueing techniques
- Use post cards
- Make contracts
- Keep a journal
- Use Post-it notes
- Use calendars
- Use color and visuals
- Develop metacognitive journal "What I learned, How I learned it."
- Develop a reflective Journal – "What happened, How I felt, What I learned"
- Techniques

Have Teacher

- Establish and maintain eye contact with the child
- Check if child understood the directions.
- Avoid seating the child near classroom distractions
- Reduce assignment lengths
- Give structure - tell what is coming, i.e. "there are 9 directives for this project."
- Insert breaks when repetitious work must be completed
- Concentrate on novel presentations
- Consider providing the student with choices
- Use a classroom computer to enhance work completion
- Use verbal reprimands
- Develop a penalty technique
- use time-out
- employ a home-school incentive program
- consider each student's unique circumstances and capabilities
- keep homework assignments within reasonable bounds
- select teachers with training in behavior management or behavior problems
- monitor the progress of the child

Strategies for the home

- Reward good behavior
- Provide "coaching support"
- Alter the room to reduce distractions and noise interference
- Limit noise or insulate study areas
- Promote routines and schedules to meet deadlines

- Be consistent when modifying behavior
- Strategies for the workplace
- Alter the workspace to allow for movement
- Limit distractions
- Work away from doors that are open
- Break down large projects into smaller steps
- Allow for breaks
- Keep a notepad and pen handy
- Prioritize
- Areas of Management & Treatment
- Environment Modifications
- Memory aids and devices
- Time management
- Planning
- Attention
- Language Therapy
- Computer program/Software
- Workbooks

Environmental modifications

- The simplest approach is to implement modifications that reduce distractions including:
 - Preferential classroom seating
 - Selective amplification
 - Use of carrels or study rooms
 - Allowing a student to wear earplugs or a headset during independent study

- Changes in teaching approach such as:
 - Keeping presentation of information short and concise
 - Providing repetitions
 - Allowing the child to take frequent breaks
- Additional techniques include:
 - Make sure the child is focusing on the instructor
 - Allow the child to work in small groups in order to minimize distractions from other students
 - Cueing the child to pay attention

Memory Aids

- External memory aids are devices or systems that can be used to store and retrieve information such as
 - Computer-based systems
 - Paging systems
 - Electronic watches
 - Electronic organizers
 - Memory notebooks
 - Posted checklists
 - T-Mobile

Treating Memory Impairments

- Verbal imagery
- Visual imagery
- Mnemonics
- Motor cueing
- Rhyming

- Association
 - First-letter association
 - Repetition and relaxation
 - Auditorization
 - Association
 - Chunking/organization/categorization
- Electronic Devices

Speech-Language Pathology Services

- work with executive system impairments, including **disorganized expressive** discourse (both spoken and written)
- work with comprehension difficulties associated with **organizational impairment**
- work with specific social skills deficits
- Specialists in communication play a pivotal role within interventions teams.
- Play a collaborative role on teams that address more general dimensions of executive system impairment.
- Effective communication between adolescents and their parents and other adults is often critical to the development of executive functions.

Time Management

- One of the skill deficits of executive function disorders is the inability to properly manage time. Time management includes the ability to understand, be aware of, and regulate activity according to time constraints.
- Planning
- Planning is another important aspect of executive skills. One way to improve in this ability is to have the client speak plans out loud. This seems strange at first. As he/she improves, have the client start to speak silently. This approach helps one to slow down and be methodical in the approach to planning.

- **Task Breakdown**
- Many problems are too complex to deal with easily. A useful technique is to break down the problem into smaller parts. In this way the client can end up with several smaller problems that are easier to manage. This process is known as *task breakdown*. One way of doing this is to have the client ask himself/herself questions about the problem and try to deal with each question as fully as possible.
- **Self Monitoring/
Self-Questioning**
- Another method is to ask yourself questions. This approach will help you to focus on the exact nature of the task you are trying to complete. This is a suggested list of questions:
 - What is it I want to accomplish?
 - What changes need to occur to move from the present situation to my goal?
 - What are the possible ways to make the necessary steps?
 - What is the sequence or order of steps required to make the changes?
 - Are there any alternatives to my plan?
 - How will I know that I have reached my goal?
 - How will I know that my plan was successful?

Attention

- **Focused Attention** is the ability to respond discretely to particular visual, auditory or tactile stimuli.
- **Sustained Attention** is the ability to sustain a steady response during continuous activity. It incorporates the notion of vigilance and concentration
- **Selective Attention** is the ability to maintain attention in the face of distracting or competing stimuli. These distractions may be either external or internal.
- **Alternating Attention** is the capacity for mental flexibility that allows the shift of focus between tasks.

- **Divided Attention** is the ability to respond simultaneously to multiple tasks or to do more than one activity at a time.
- **Sustained attention** is the ability to maintain attention to the task for a long enough period of time to complete the task. Throughout the day, a person needs adequate sustained attention to read the paper, drive a car, or complete a phone conversation.
- **Cancellation Tasks:** These simple tasks provide excellent clinical tasks for attention.
- Here is a page of random letters. I want you to cross out the letter t and letter z every time they appear. Do this for 1 minute
- **Auditory Attention:** In these tasks, the client listens as you read a list of random words, names, or numbers aloud. Have the client make a tally mark whenever he or she hears the target word, name or number.

COPING STRATEGIES FOR ADULTS

- Write it down
- Know (and accept) your limitations
- Educate yourself
- Have a coach
- Join (or start) a support group
- Try to free your mind of negative thoughts
- Use external structure, i.e., lists, notes to self.
- Make deadlines
- Divide and conquer
- Prioritize
- Realize your optimal working conditions
- Give yourself extra time
- Plan structured "blow-out" time
- Beware of over-focusing on something