



KEEP CALM AND CLICK YOUR HEELS:
UNDERSTANDING ADHD AND EXECUTIVE
FUNCTIONS IN CHILDREN

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Questions for YOU

- OPEN-ENDED QUESTIONS

- What are you hoping to get out of this presentation?
- What is something you'd like to know more about with ADHD?
- What are the biggest challenges you face?

- POLL QUESTIONS

- How many of you are parents? Teachers? SBBH? Other counselors/service providers outside of SBBH?
 - Do you work with elementary, middle or high?
 - Public or private?

Agenda

- Introduction
- ADHD: Overview
- Executive Functions: Overview
- Other Health Disability (OHD)
- How Do We Help Our Children?
 - Providing Support and Intervention

ADHD: Overview

- **DSM-5:** People with ADHD show a persistent pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development.
- *Types:*
- ***Predominantly Inattentive Presentation:*** if enough symptoms of inattention, but not hyperactivity-impulsivity, were present for the past six months
- ***Predominantly Hyperactive-Impulsive Presentation:*** if enough symptoms of hyperactivity-impulsivity but not inattention were present for the past six months.
- ***Combined Presentation:*** if enough symptoms of both criteria inattention and hyperactivity-impulsivity were present for the past 6 months

Inattention:

- **Six or more symptoms of inattention for children up to age 16, or five or more for adolescents 17 and older and adults; symptoms of inattention have been present for at least 6 months, and they are inappropriate for developmental level:**
 - Often fails to give close attention to details or makes careless mistakes in schoolwork, at work, or with other activities.
 - Often has trouble holding attention on tasks or play activities.
 - Often does not seem to listen when spoken to directly.
 - Often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (e.g., loses focus, side-tracked).
 - Often has trouble organizing tasks and activities.
 - Often avoids, dislikes, or is reluctant to do tasks that require mental effort over a long period of time (such as schoolwork or homework).
 - Often loses things necessary for tasks and activities (e.g. school materials, pencils, books, tools, wallets, keys, paperwork, eyeglasses, mobile telephones).
 - Is often easily distracted
 - Is often forgetful in daily activities.

Hyperactivity and Impulsivity:

- **Six or more symptoms of hyperactivity-impulsivity for children up to age 16, or five or more for adolescents 17 and older and adults; symptoms of hyperactivity-impulsivity have been present for at least 6 months to an extent that is disruptive and inappropriate for the person's developmental level:**
 - Often fidgets with or taps hands or feet, or squirms in seat.
 - Often leaves seat in situations when remaining seated is expected.
 - Often runs about or climbs in situations where it is not appropriate (adolescents or adults may be limited to feeling restless).
 - Often unable to play or take part in leisure activities quietly.
 - Is often "on the go" acting as if "driven by a motor".
 - Often talks excessively.
 - Often blurts out an answer before a question has been completed.
 - Often has trouble waiting his/her turn.
 - Often interrupts or intrudes on others (e.g., butts into conversations or games)

In addition, the following conditions must be met:

- Several inattentive or hyperactive-impulsive symptoms were present before age 12 years.
- Several symptoms are present in two or more settings, (such as at home, school or work; with friends or relatives; in other activities).
- There is clear evidence that the symptoms interfere with, or reduce the quality of, social, school, or work functioning.
- The symptoms are not better explained by another mental disorder (such as a mood disorder, anxiety disorder, dissociative disorder, or a personality disorder). The symptoms do not happen only during the course of schizophrenia or another psychotic disorder.
- Because symptoms can change over time, the presentation may change over time as well.

Questions for YOU:

- Which type of ADHD does your child have?
- How does ADHD affect your child's performance at home and in school?

Prevalence and Impact

- Prevalence rate of 5 – 11%
- More prevalent in males than females
- Male:female ratio is 3:1 in epidemiological samples
- Average of first diagnosis: 7 years old
- 50% of children referred to mental health clinics are referred for ADHD-related problems

Etiology

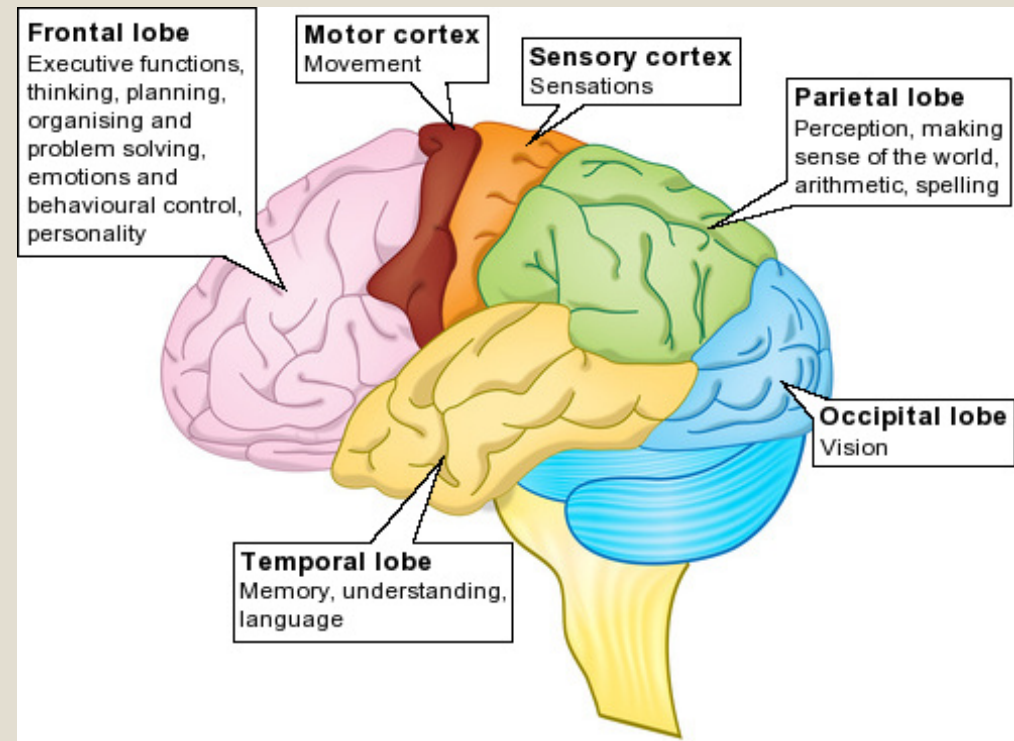
- Biological
- Strong heredity-genetic load
- Mechanism
 - Some evidence for specific genes
 - Evidence of genetic influences shared with other psychiatric disorders
 - Delayed brain development
 - Smaller, less active brain regions
- Some (minority of) cases with other biological causes (pre-natal, peri-natal, early life)
- Comorbidity with other developmental disorders is common.

Etiology

- Not related to social environment
- No causal link to TV, diet, or games
- Poor parenting does not cause ADHD
- Family stressors do not lead to ADHD, but do increase risk for associated problems.
- Environmental modifications can exacerbate or reduce symptoms

What are Executive Functions?

- Frontal Lobe Dysfunction
- Cognitive processes including:
 - Planning
 - Working Memory
 - Attention
 - Problem Solving
 - Verbal Reasoning
 - Inhibition
 - Mental Flexibility
 - Multi-tasking
 - Initiation
 - Monitoring of Actions

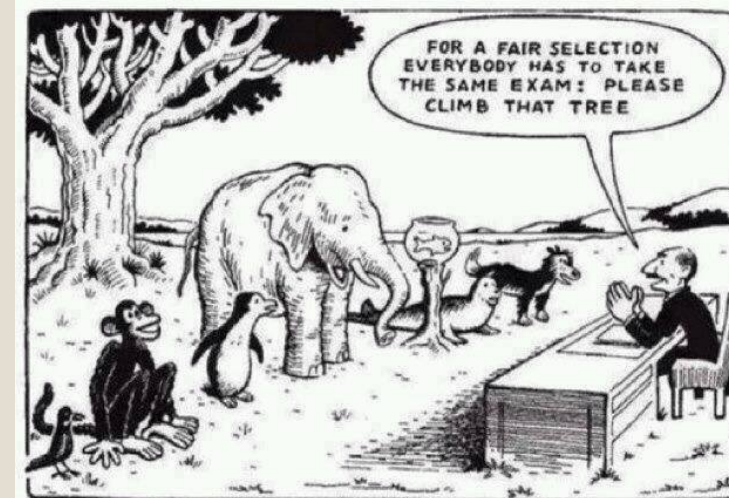


Question for YOU:

- Do you notice difficulties in any of these executive function areas with your child?

How do EFs relate to academic learning?

- Cognitive process and learning- PASS model
 - How people think, learn and solve problems
 - **P**lanning- evaluate and monitor tasks, develop a way of doing something or new strategies
 - **A**ttention- focus on one thing and ignore other things (resist distractions)
 - **S**imultaneous- relating parts to the whole (putting pieces together, patterns)
 - **S**uccessive- organizing, ordering, and comprehending



Our Education System

"Everybody is a genius. But if you judge a fish by its ability to climb a tree, it will live its whole life believing that it is stupid."

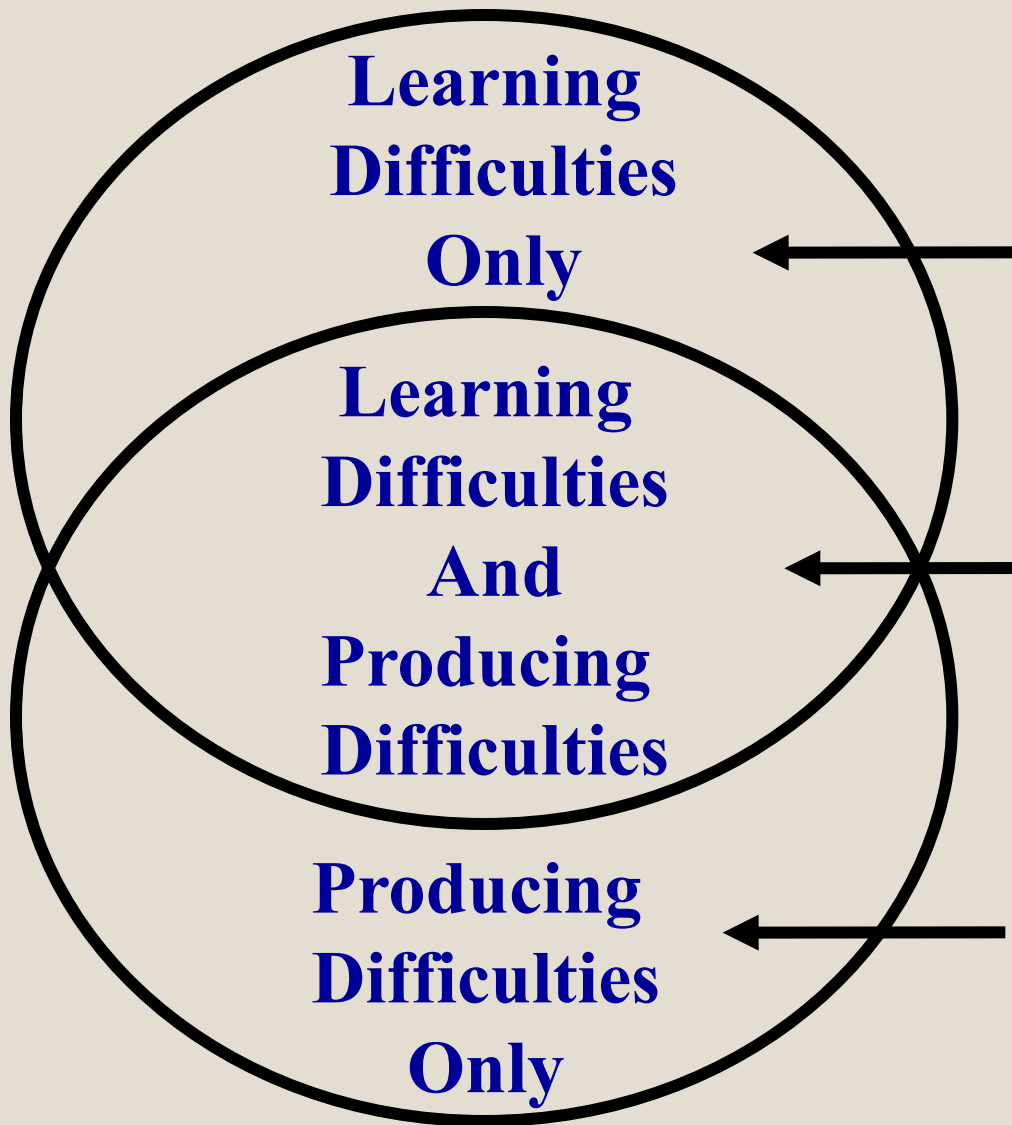
- Albert Einstein

How do EFs relate to ADHD?

- EF and ADHD are **not** synonymous terms
 - However, ADHD is a condition involving EF deficits
- Most people with ADHD have additional self-regulation difficulties. The specific difficulties can look very different between students diagnosed with ADHD, which causes confusion.
- Severe EF difficulties do not result in Learning Disabilities. Typically, they result in “Producing Disabilities.” (Denckla, 2005; McCloskey, 2009)



A General Model for Conceptualizing Learning and Producing Difficulties



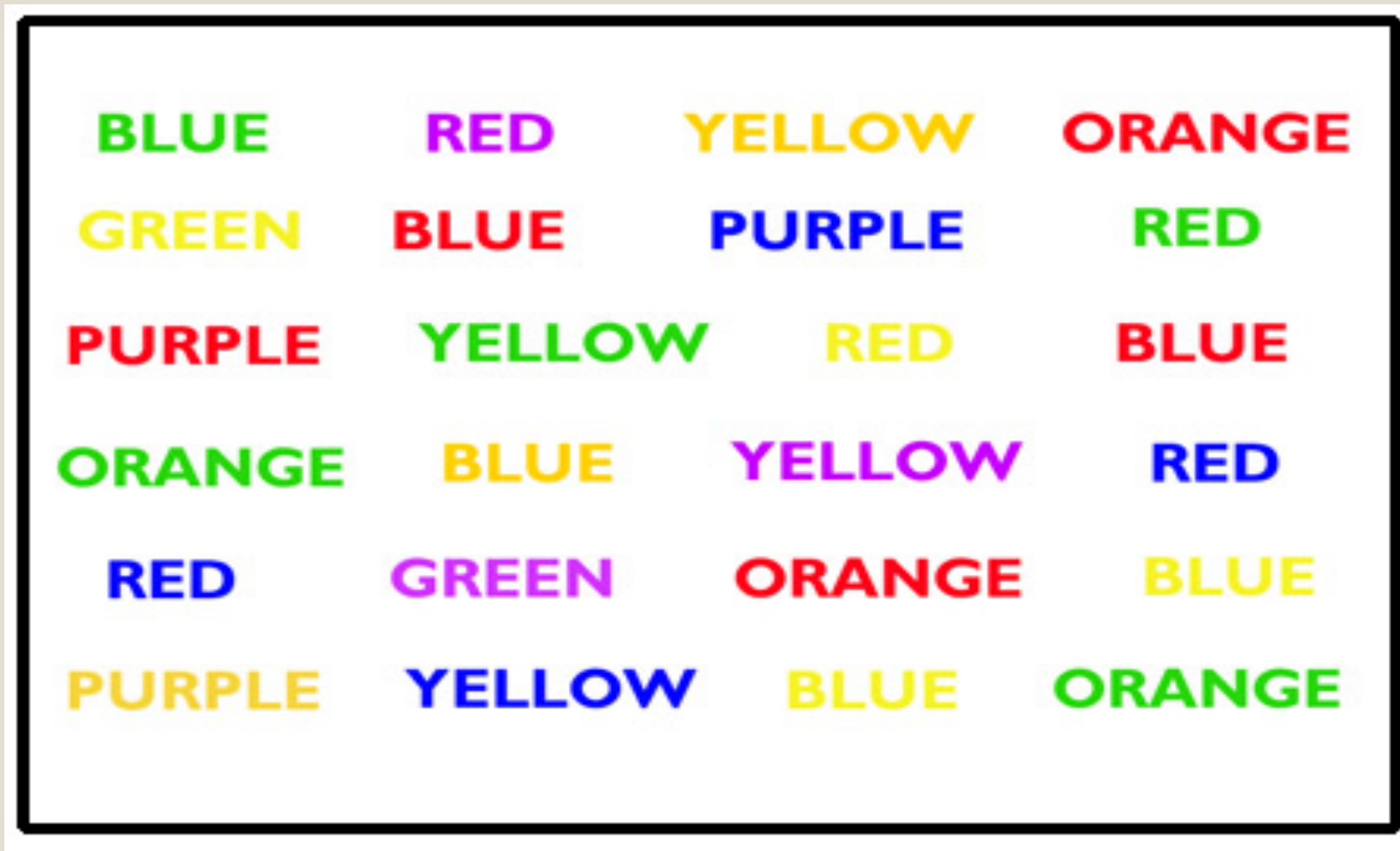
From: George McCloskey (2009)

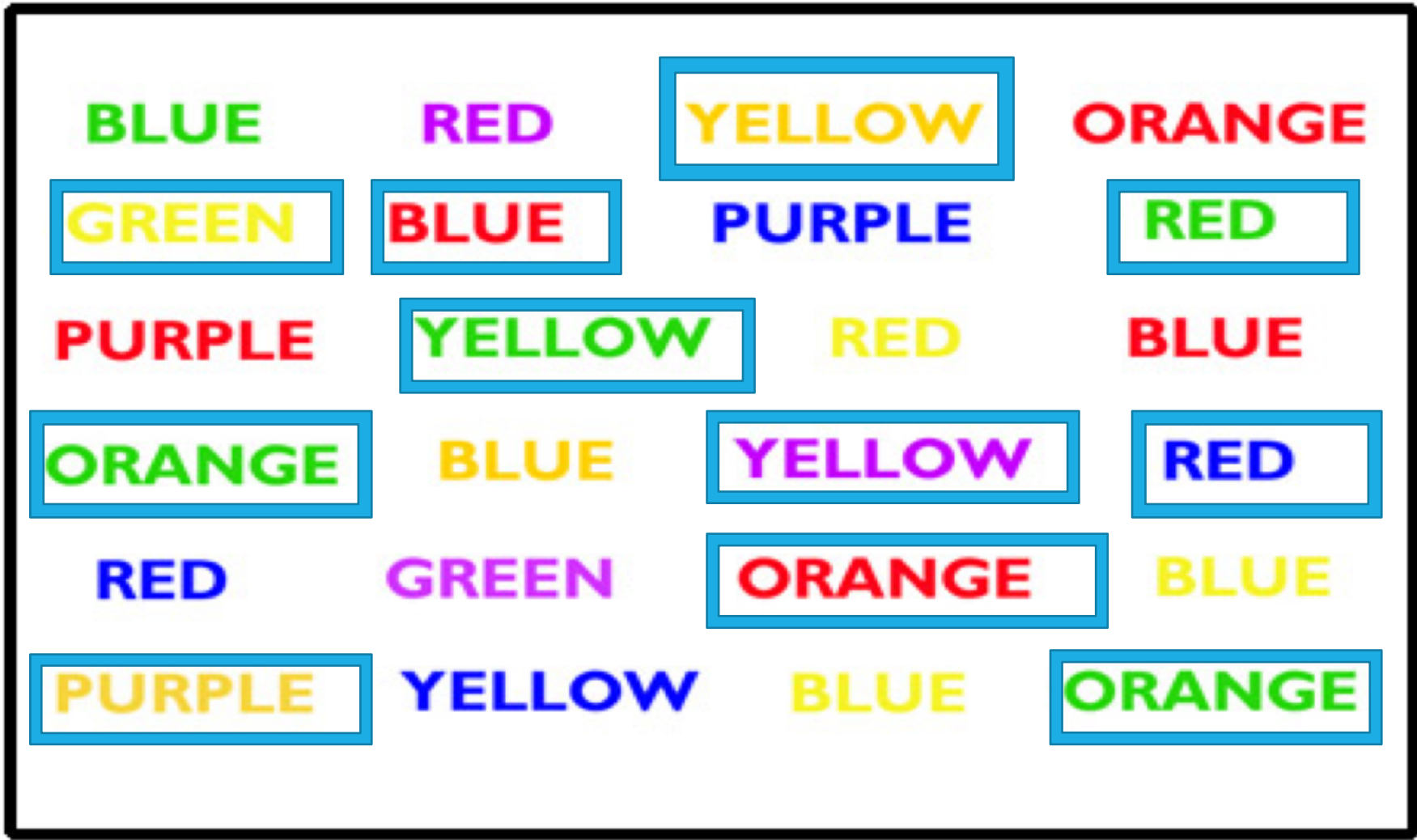
Often NOT recognized as a Learning Disability, even when severe, unless an evaluation involving process assessment is done

Recognized fairly quickly as a Learning Disability

When severe, typically attributed to lack of motivation, character flaws, or behavior/personality problems

Inhibition: Stroop Test





How do EFs relate to behavior & social skills?

- Frustration
- Anger
- Defiance
- Appearing “unmotivated”
- Low Self-esteem
- Physical Movement
- Interrupting
- Verbalization
- Avoidance
- Complete easier tasks first
- Messy personal belongings
- Losing or misplacing belongings

ADHD Treatment

- Pharmacological treatment of ADHD typically only addresses the problems associated with the EFs specific to ADHD
 - Question: Which EFs might be treated through ADHD medication?
- Most people with ADHD will require additional support to assist with the remaining self-regulation difficulties that are not treated through ADHD medication.

What You Can Do: First Steps

- Get a professional opinion
 - Meet with pediatrician
 - Meet with School-based team
- Evaluation
 - DOE
 - DOH
 - Private Evaluation
- Educate yourself: Books, online
- Seek support: Support groups and online communities

Other Health Disability (OHD)

- What is an **Other Health Disability (OHD)**?
- A student shall be eligible under the category of other health disability if both of the following are met:
 - (1) The student has limited strength, vitality or alertness, including a heightened alertness to environmental stimuli, that results in limited alertness with respect to the educational environment, that is due to chronic or acute health problems or a medically fragile condition such as asthma, attention deficit disorder or attention deficit hyperactivity disorder, diabetes, epilepsy, a heart condition, hemophilia, lead poisoning, leukemia, nephritis, rheumatic fever, sickle cell anemia, and Tourette syndrome; and
 - (2) The health disability adversely affects the student's educational performance.
- **Question: Does a diagnosis of ADHD qualify my child for special education services under OHI?**

How do we help our children?

- Understanding strengths and weaknesses of each child
- Breaking down which specific Executive Functions need improvement
- Consistency between environments (classroom, playground, home, extracurricular)
- Structured environments with clear expectations
- Intervene in the most significant area of difficulty first (may need specific instruction)
- DO NOT punish children for things that are not in their control or that they have not yet learned
- Basically- teaching the “how” and the “why”
- Providing positive feedback and emphasize the effort

How do we help our children?

- Some EF-based clinical syndromes, such as ADHD, demonstrate clear patterns of delayed developmental progression.
 - Barkley (1998) estimates developmental delays of about 30% associated with various EF processes related to ADHD.
- So, find a BALANCE between teaching internal self-regulation strategies and providing external support.
- People working with the child need to have strong executive function capacities to be able to model them.

Intervention

- ❖ Provide predictable, consistent structure to classroom environments and routines:
 - ❖ Post and discuss class rules and schedules
 - ❖ Review and rehearse routines
 - ❖ Maintain basic room arrangement

Intervention

❖ Coaching

- ❖ At school: Coaching might include reminders to stay on-task, prompts to begin a task, explicit directions presented to him, repetition of directions, assistance with organization of materials, and check-ins on projects.
- ❖ During early elementary years, teachers act as their student's frontal lobes.
- ❖ In late elementary, junior-senior high school, college, and even graduate school and work places, it is usually effective for teachers to provide executive function prompts and model good executive function use.

Intervention

- When providing feedback, be sure to emphasize the importance of effort
 - Make sure the child realizes that self-regulation is not simply something you have or don't have – it can be increased by applying techniques and strategies; the more effort placed into applying the techniques, the more likely the improvements.

Additional Questions?

- References:

- Gozal, D. & Molfese, D.L. (2005). *ADHD: From Genes to Patients*. New York, NY: Humana Press.
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