



The
**Grow
NOW**

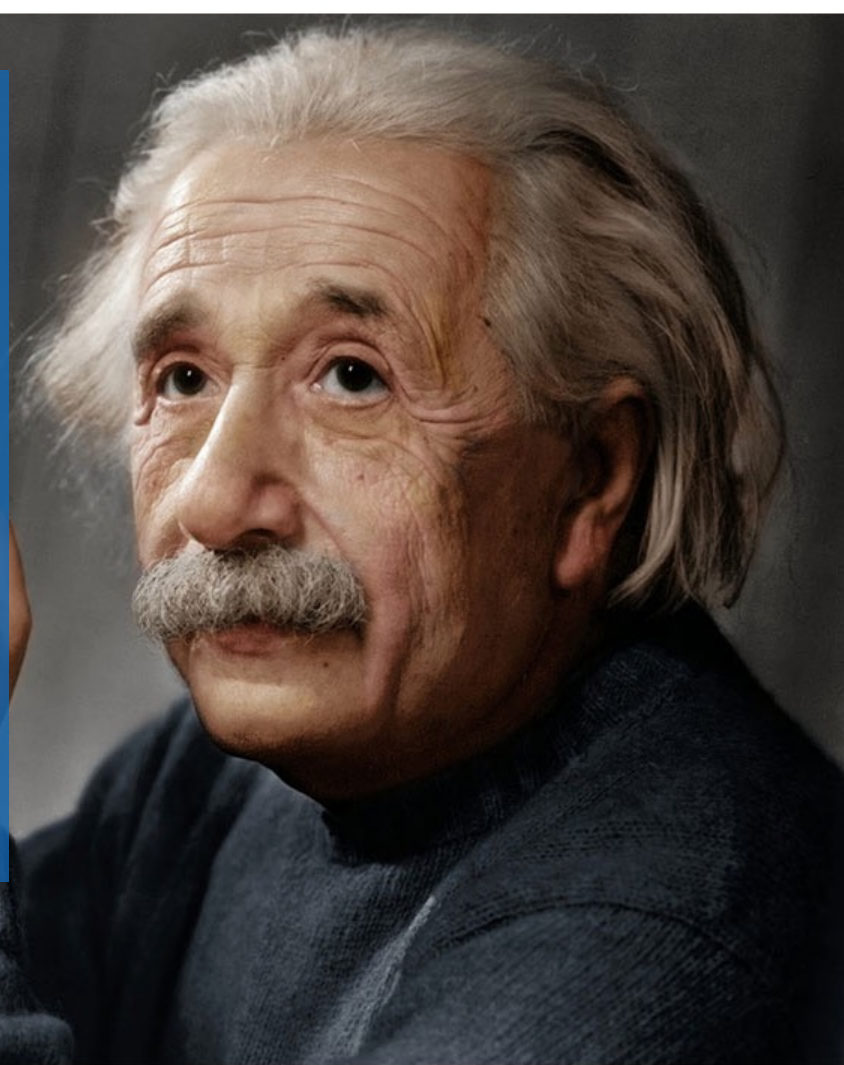
Executive Functions & Internal Skills

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GrowNOW ADHD
GrowNOWADHD.com



“It would be nice if you would leave. Your behavior at school, so distracted and absentminded, and your poor interest in all I teach set a bad example for the whole class.”

– *teacher's comment to a young Albert Einstein*



“What any person in the world can learn, almost all persons can learn if provided with appropriate prior and current conditions of learning.”

-Benjamin Bloom



ADHD - Research & Learning

Research study on the GrowNOW Model took place at Stratford Friends in Newtown Square, PA (stratfordfriends.org)



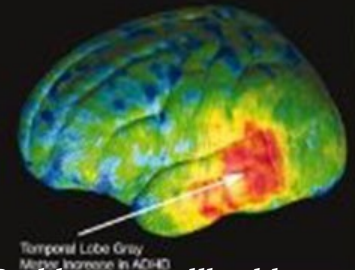
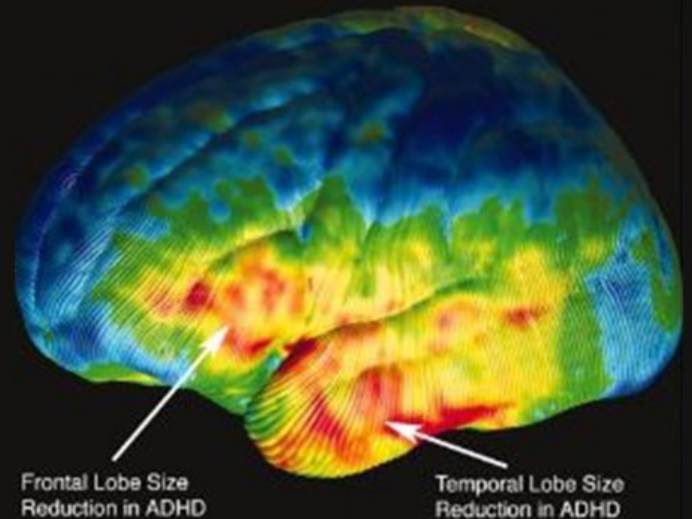
Today's Sources & References:

- Dr. Russell Barkley: **RussellBarkley.org**
- Sarah Ward, MS, CCC-SLP: *Cognitive Connections*: **efpractice.com**
- Ryan Wexelblatt, LCSW: **ADHDDude.com**
- Harvard Center of the Developing Child:
developingchild.harvard.edu
- CHADD: *Children & Adults with ADHD*: **chadd.org**



ADHD - Neurodiverse

- Neuro-Developmental Disorder
- Brain Imaging studies confirm that people with ADHD have **differences in their brain structure**
- **ADHD is a disorder of the brain**
- ADHD causes differences in Brain Structure, Function, & Development
- Overall Delayed Brain Maturation

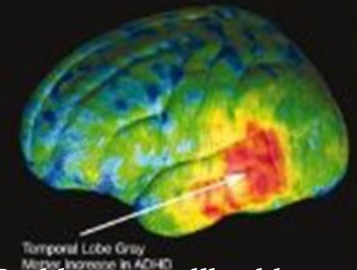
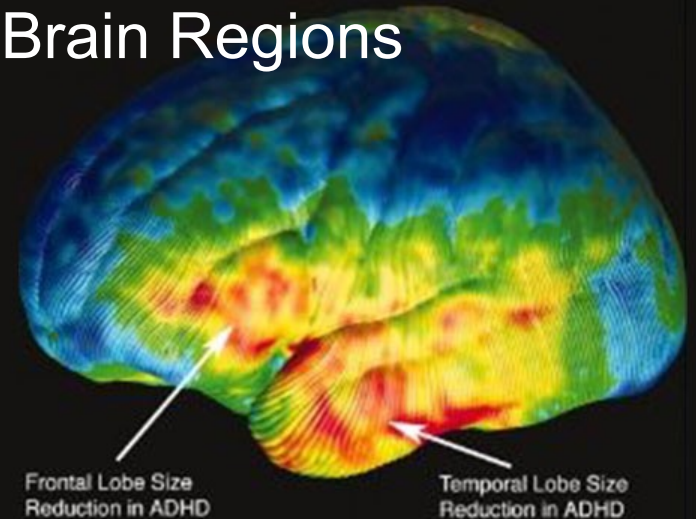


Source: Dr. Russell Barkley: russellbarkley.org

Pre-Frontal Cortex

Smaller, Less Active, Less Developed Brain Regions

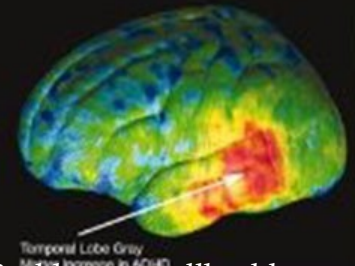
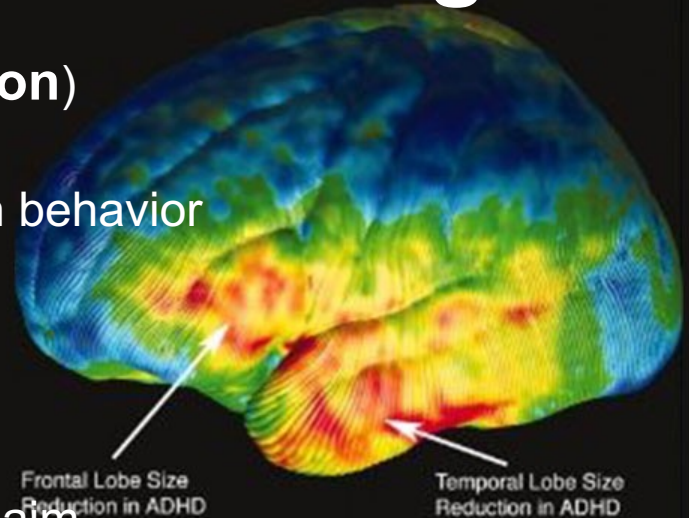
- 3-10% reduced regional volumes in 5 regions
- Same parts of the brain impacted by ADHD are the same areas that deal with **emotions, self awareness, and self-regulation**
- The Limbic System (amygdala) – **The Emotional Center of the Brain** → smaller in ADHD
- Anterior-Cingulate (making **social & emotional decisions**) → much less activation with ADHD
- Less activation within the Frontal Lobe overall



Pre-Frontal Cortex → A Social Organ

The Source of SELF Regulation & Motivation)

- Humans are the **ONLY** species that can sustain behavior in the **ABSENCE** of a direct consequence
 - Because: Humans have the ability to **PAUSE**
 - In this **PAUSE** → we can **STOP AND THINK** to aim our behavior toward the **FUTURE**
- Creating and Sustaining **MOTIVATION**
(even with a **DELAY**)

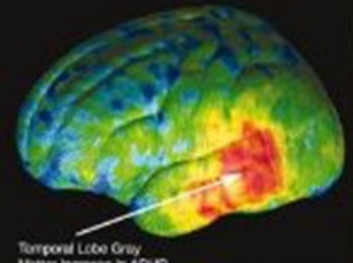
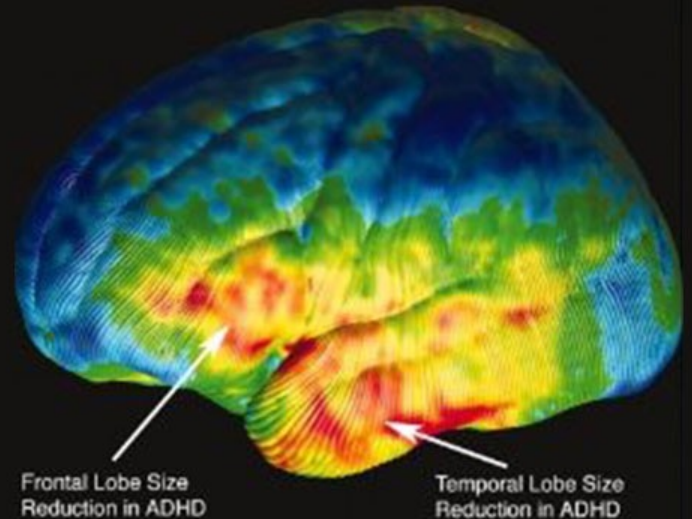


ADHD is SERIOUS

Increased risk of:

- Substance abuse
- Driving accidents
- Risky behaviors
- Violence
- Job loss
- Early death

“Those with ADHD who have become successful, did so *in SPITE* of their ADHD. Nobody with this disorder would choose to keep it.” – Dr. Barkley



Source: Dr. Russell Barkley: russellbarkley.org

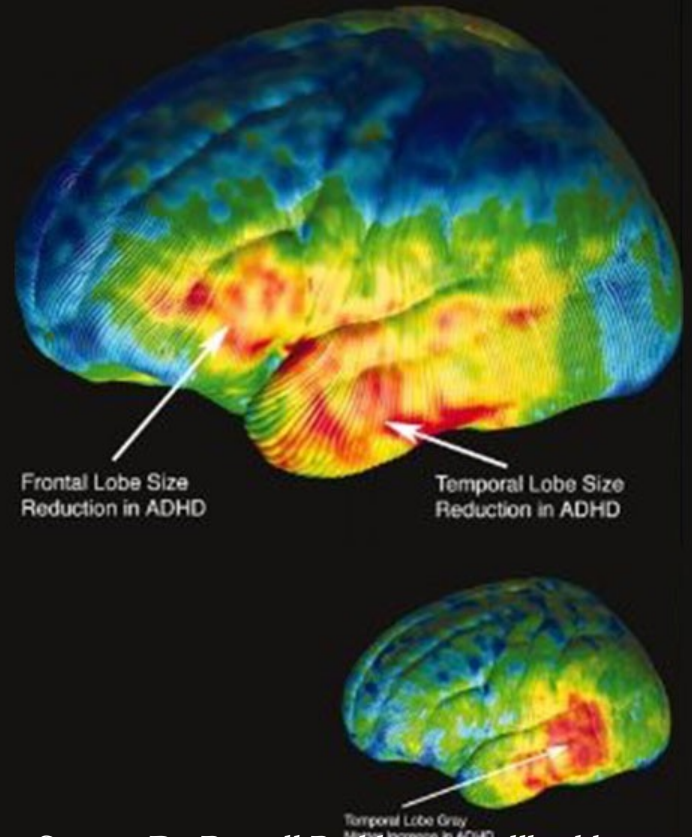
ADHD is SERIOUS

Studies show that having a child with ADHD is just as distressing to the parent as having a child with Autism Spectrum Disorder

Leitch S, Sciberras E, Post B, et al. Experience of stress in parents of children with ADHD: A qualitative study. *Int J Qual Stud Health Well-being*. 2019

Video:

<https://www.youtube.com/watch?v=wSze0QPgbzU>



Source: Dr. Russell Barkley: russellbarkley.org

ADHD → Executive Functions

- Executive skills have been identified as the foundation that **all children need** to negotiate the demands of childhood and adolescence
- Become more critical as children venture into the world with **decreasing parental supervision and guidance**
- These skills develop gradually during the first two decades of life – **peaking at around 25-30**



The ADHD Brain

The back is where we Learn - The front is where we DO



PERFORMANCE

**NOT an attention
disorder
→ Performance
Disorder**

<https://www.youtube.com/watch?v=LO8mRK21euQ>

Executive Functions:

What do lagging skills look like?

- Excess papers and garbage in backpack and folders
 - Waiting until the last minute to get large tasks started
 - Thinks tasks will take much longer than they really do
 - Does homework in opposite order than they actually should
 - Does homework but does not turn it in
 - Difficulty starting and completing tasks that don't offer instant gratification
-
- **Everyday looks the same for them – go to school, go home, stay home**
 - **Lack of diverse social experiences**



Executive Functions: The Past & The Present

- In the past - Executive Functions and ADHD were looked at as an

EXTERNAL Behavioral-Based Disorder

- Intensive focus on external *organization & time management*
- ***A purely academic-based disorder***



Source: AAP & CDC:
<https://www.cdc.gov/ncbddd/adhd/guidelines.html>

Executive Functions: The Past & The Present

- Non-certified Executive Function “Coaches” – cleaning out backpacks, organizing papers into folders, sitting with students while they work
- Educational Therapy, Social Skills Groups, ABA, CBT, EMDR, Brain Balance → Meds, Parent Training, and...

**Now, we know to look at the
INTERNAL and
long-term skill building
instead of just accommodations**



Source: AAP & CDC:
<https://www.cdc.gov/ncbddd/adhd/guidelines.html>

ADHD is A TERRIBLE Name for the Disorder



**Self-Regulation Deficit
Disorder**

**Delayed Gratification
Disorder**

**Attention to the Future
Disorder**

**VAST: Variable
Attention Stimulus
Trait**

ADHD is Executive Function Developmental Disorder

A disorder of...



Self-Awareness

Self-Regulation

Self-Motivation

Self-Evaluation

Self-Language

Self-Regulation



**The ability to regulate
and manage your
emotions, language,
body and behavior in
various
environments &
toward various
stimuli**

Self-Awareness



The ability to perceive your environment, emotions, and behaviors.

How you monitor the way you present yourself

Self-Motivation



The ability to internally motivate yourself to initiate, persist and complete non-preferred and challenging tasks.

Self-Evaluation



The ability to learn
from past
experiences and
apply that
information to the
present moment.

Metacognition

The Three Zones of Executive Functioning



Academic

Home

Social

Executive Functions

What you are doing to your **SELF**

Actions to the **SELF**

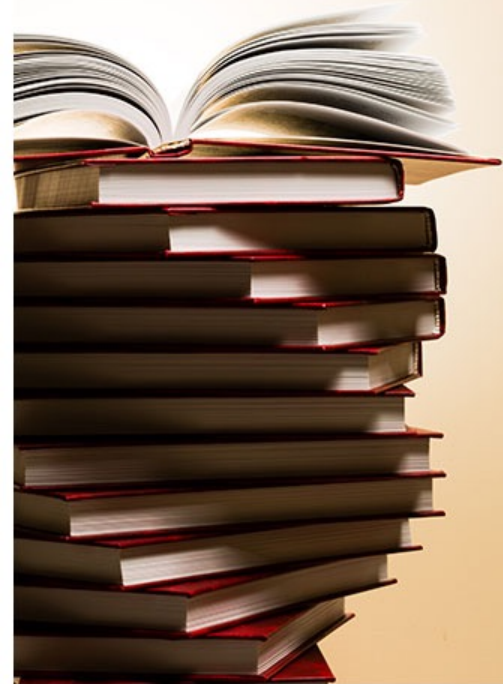
Designed to change **SELF**

To change **SELF's** future

Stop focusing/responding to the world →

focus on SELF

Source: *Russell Barkley: russellbarkley.org*



Executive Functions

To STOP SELF

From what you would have done on impulse, without stopping to **THINK**

Stimulus → Response

OR

STOP → THINK



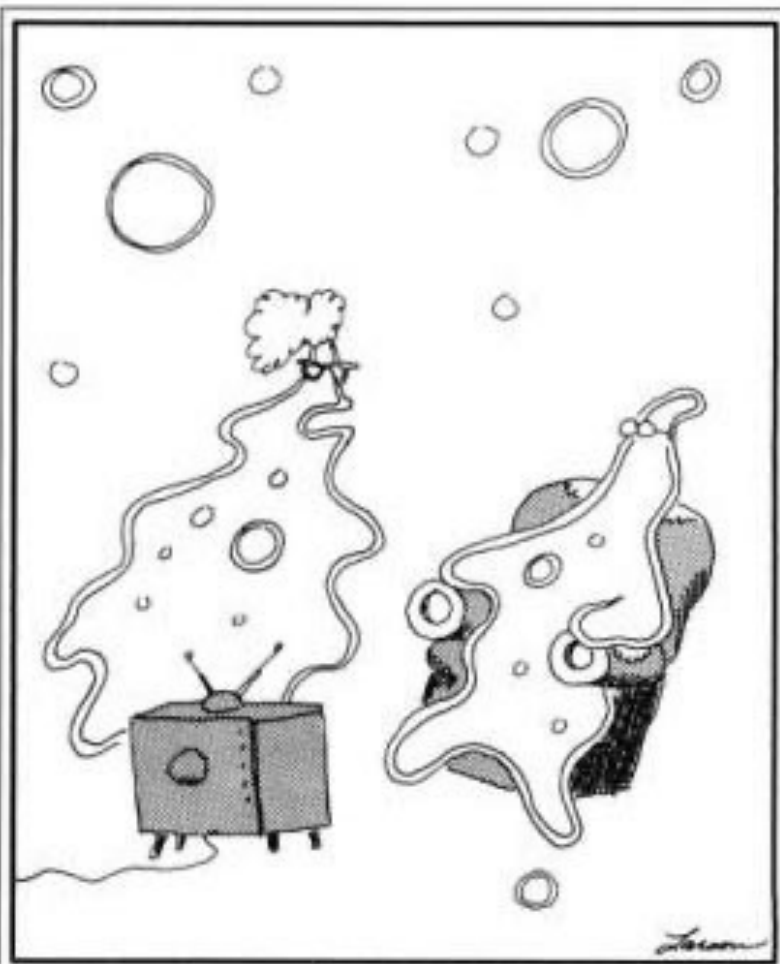
Executive Functions

Use this as an opportunity to **TURN AWAY** from the seductions of the moment

Subject yourself to adversity and hardships to change a distant future/consequence (college)

All deferred gratification requires Self-Regulation



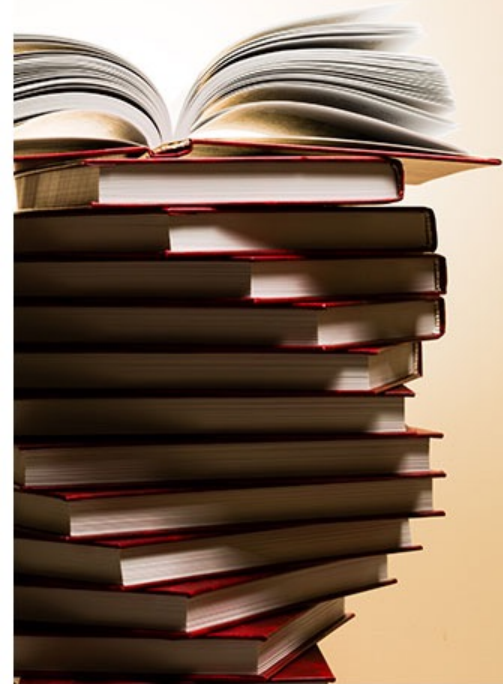


"Stimulus, response! Stimulus, response! Don't you ever think?"

Executive Functions

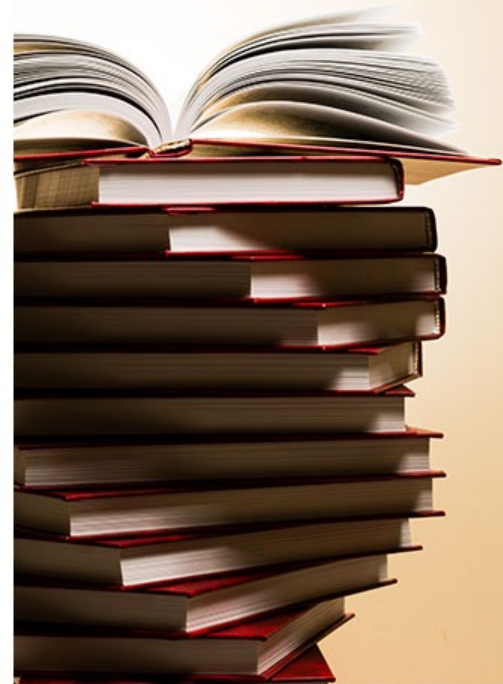
**Executive Functions are the
Foundation for ALL Learning**

**Why aren't these skills a core
focus of our education?**



Executive Functions

We can't effectively
measure Executive
Functions the same
way we measure other
skills



Executive Functions

From **Prompt
Dependence**

to

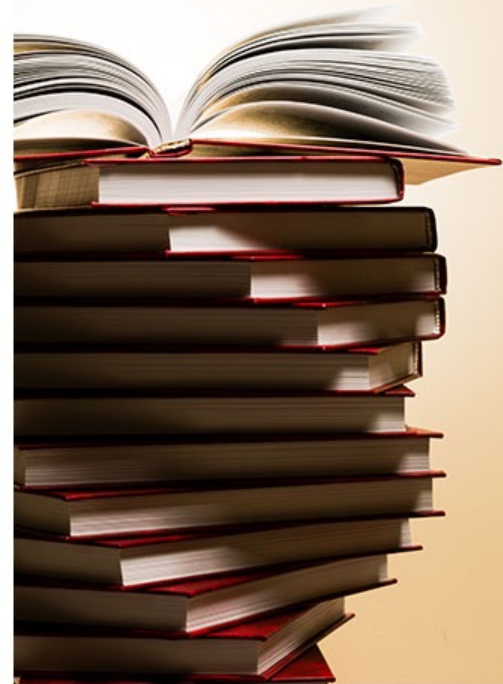
Independence (SELF)



Executive Functions

From **Prompt Dependence** =
Adults are acting as the
child's Executive Functioning.

The longer this is done, the
longer development of these
skills will be delayed



What are the TRUE Predictors of Success?

- 1) Ability to **independently** form and maintain social relationships
- 2) Ability to **independently** manage emotions
- 3) Ability to manage your life and **independent** problem solving

VIDEO: <https://www.youtube.com/watch?v=JwBsf2Y-ML4>



EF Skill Age-Appropriate Expectations

Ages 3-4

- “Get shoes from your bedroom”
- Clean and put items away with minimal assistance
- Perform simple chores and self-care tasks with reminders and physical assistance – clear dishes, brush teeth, get dressed
- Inhibit unsafe or inappropriate behaviors – don’t touch a hot stove, do not run into the street, do not hit or bite

Source: North Shore Pediatric Therapy (NSPT4kids.com)

EF Skill Age-Appropriate Expectations

Ages 5-7

- Complete 2-3 step errands – “put the napkin in the trash and bring me a cup”
- Tidy bedroom and playroom independently
- Initiate and perform chores and self-care with some reminders
- Bring papers to and from school
- Complete 20-mins of homework

Source: North Shore Pediatric Therapy (NSPT4kids.com)

EF Skill Age-Appropriate Expectations

Ages 8-11

- Remember to bring something home from school without reminders
- Keep track of belongings when away from home
- Complete majority of homework without assistance (maximum of 1 hour)
- Remember changes in daily schedule
- Inhibit and self-regulate behaviors
- Inhibit tantrums and bad manner

Source: North Shore Pediatric Therapy (NSPT4kids.com)

EF Skill Age-Appropriate Expectations

Ages 12-15

- Help with chores around the house with minimal assistance and prompting
- Use system for organizing schoolwork with minimal assistance and prompting
- Independently follow a school schedule with multiple transitions
- Plan and complete long-term projects
- Plan time effectively
- Inhibit rule breaking in the absence of adult authority

Source: North Shore Pediatric Therapy (NSPT4kids.com)

EF Skill Age-Appropriate Expectations

High School

- Manage schoolwork independently
- Create and follow long-term goals (college/vocational)
- Independently organize after school activities and weekends
- Gain employment with assistance
- Manage and complete non screen-based activities

Source: North Shore Pediatric Therapy (NSPT4kids.com)

Video: ADHD Interview

[https://www.youtube.com/watch?v= GVSMYAJhD0](https://www.youtube.com/watch?v=GVSMYAJhD0)

Executive Functions & Resiliency



Harvard Center of the Developing Child:

Children who develop strong Executive Functions
experience lifelong benefits

Allow children to make healthy and positive choices

These skills are developed over time –
no better time than NOW!

They are developed through
varied experiences & interpersonal relationships

Growth Mindset

- Experiences low threat and high challenge
- Is relaxed and emotionally engaged
- Has the foundation to take risks in thinking
- Comfort in making mistakes, trial and error, and learning through failure
- Flexible, motivated, able to follow directions and take feedback



Today's Youth - Instant Gratification

A background image showing a person's hands holding a smartphone, with the person's face blurred in the background. The lighting is soft, highlighting the phone and the person's fingers.

“We value natural effortless accomplishment over achievement through effort.” - Malcolm Gladwell

Don't care about what is happening behind the scenes...

Want fun & results NOW → High Speed Internet, Google, Touchscreens, YouTube, Amazon next day delivery, video games

- *Long-term goals (delay)**
- *Failing first!**
- *Boredom**

Instant Gratification deters Future Goals

The Fixed Mindset

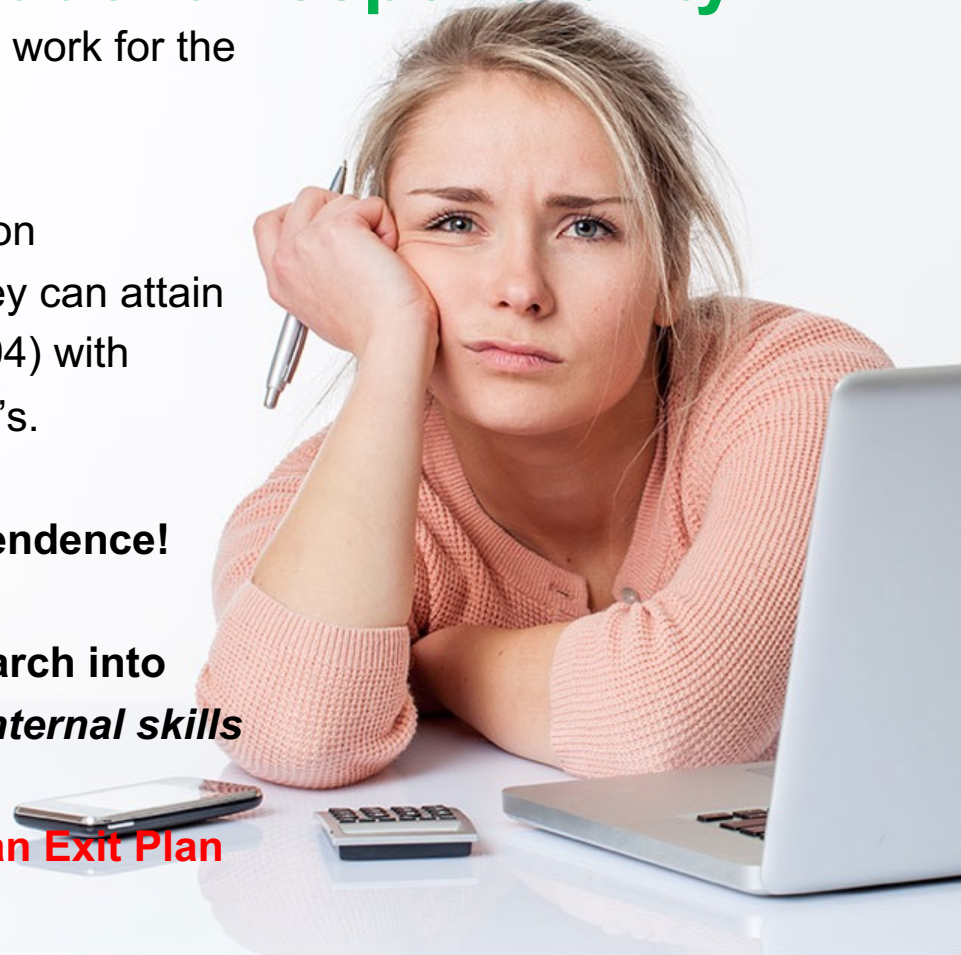
- **Instant Gratification** → Fear challenge → Devalues effort
- Failure has transformed from an action (I failed) to an identity (I am failure)
- Effort has the power to *reduce you* - Effort takes *time (delay)*
- Effort and Challenge are a **THREAT** → they threaten to unmask your flaws
- ***Do not try*** → exert as little effort as possible (establish dominance from adults)

Source: Carol Dweck: Mindset (2016)



Education – EF Goals: Student Responsibility

- “Lecture-Listen” Model of Education does not work for the ADHD Brain
 - It is clear that students with Executive Function difficulties/ADHD need to be evaluated so they can attain an Individualized Education Program (IEP, 504) with specific accommodations and up-to-date SDI’s.
 - **Most IEPs and 504s promote Prompt Dependence!**
 - **Schools and educators must take a “research into practice” approach → *fading prompts & internal skills***
- **INDEPENDENT LIFE SKILLS! IEPs need an Exit Plan**



Impact of Untreated ADHD on Academic Performance

More than \$3 billion in annual public school expenditures



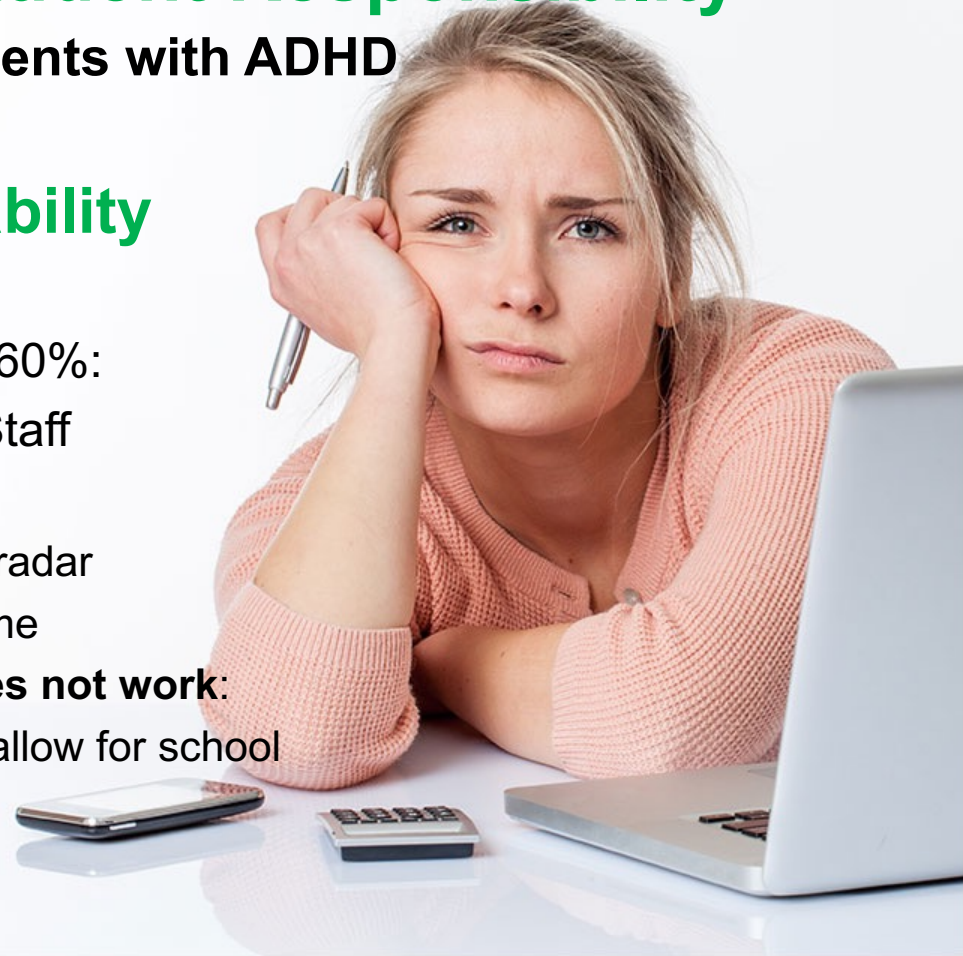
Swensen, A et al. Publication Pending

Education – EF Goals: Student Responsibility

The best accommodations for students with ADHD

Goals that increase accountability

- Missing/Late Assignment, Grade below 60%:
1-1 Meeting with Teacher, Counselor, or Staff
- Cannot allow these students to fly under the radar
- Too much time has passed after they get home
- **Parent accountability for school often does not work:**
 - Parent-Child Relationship far too dynamic to allow for school accountability



Education – EF Goals: Student Responsibility

The best accommodations for students with ADHD

Goals that increase accountability

VIDEO:

ADHD Needs More Accountability

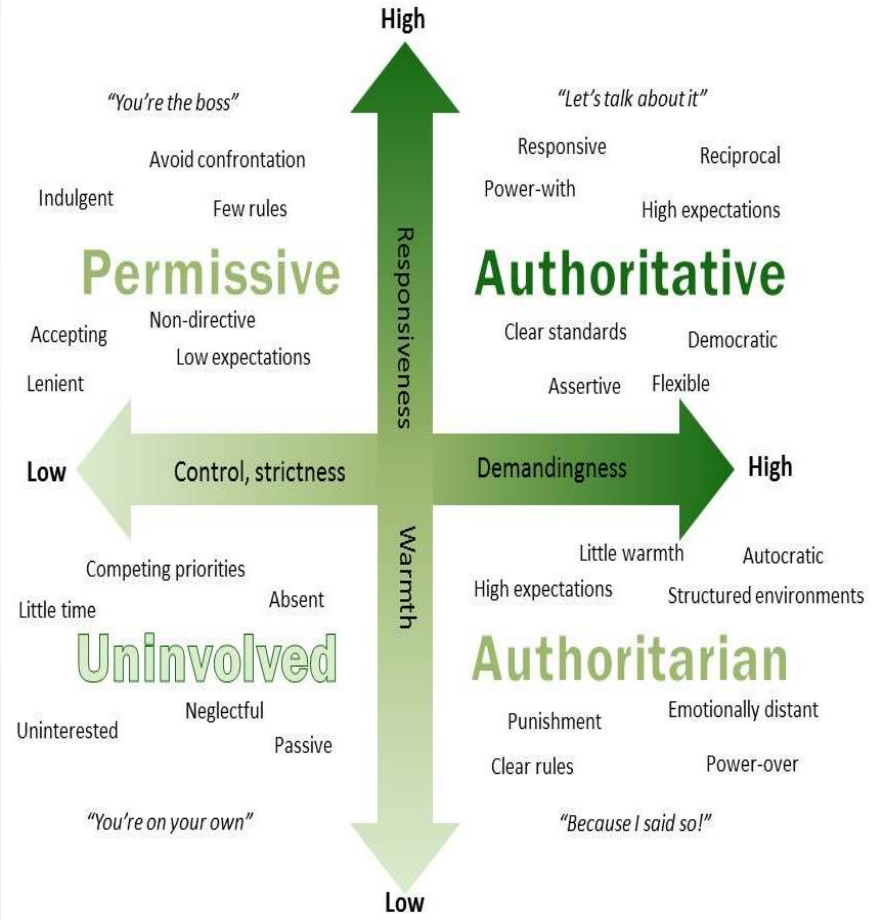
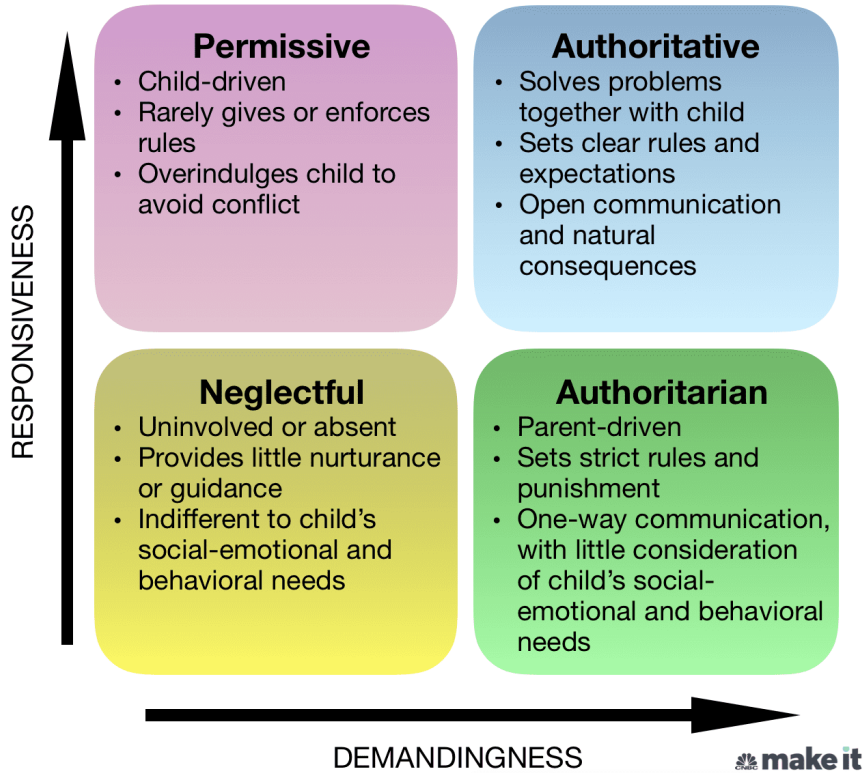
<https://www.youtube.com/watch?v=qnlw2RQUjWQ&t=63s>



The #1 Clinical Recommendation for ADHD by the American Academy of Pediatrics: **Parent Coaching**



The 4 Parenting Styles



Parent Coaching - Permissive Parenting

- Leads to insecurity, avoidance of tasks, lack of self-regulation and resiliency, and poor social skills → **The Fixed Mindset**
- Low demands – high responsiveness
- Few guidelines and rules
- Open access to screens & games
- Little to no balance between non-preferred and preferred tasks
- No consequences, low expectations
- Not allowing their child to struggle or take accountability



Parent Coaching – Inhibiting EF Development

- Doing tasks for your child they are capable of doing independently (enabling overdependence)
- Constantly prompting (prompt dependence)
- Lack of free play/unstructured time
- Solving problems for them (inhibiting development of independent problem-solving skills)
- Speaking for them (inhibiting self-advocacy skills)
- Micromanaging academic performance – telling them what they have for homework and reminding them to hand it in



Parent Coaching – Inhibiting EF Development

The Independence Tipping Point



- Typically begins around 14-15 years old
 - Inflexibility has been accommodated for so long, the child is now fully resistant to help and assistance
- with a continued lack of Self-Awareness
- Still continued to be **dependent** on adults and parents

Decades of research show that **authoritative parenting** is the most effective style for raising productive, well-adjusted, functional children with ADHD and/or Executive Functioning delays

I refer to this style as **Reciprocal Parenting**

Build The Structure:

- Expectations
- Chores – Competent Roles
- Limits on Screen Time
- Physical activity
- Family Time

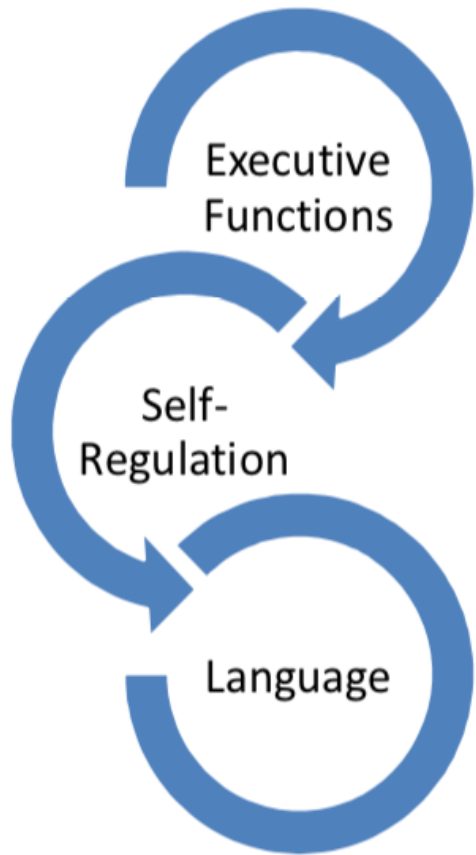


Flexibility is cultivated, Inflexibility is accommodated

- ADHD Dude



https://www.youtube.com/watch?v=efCq_vHUMqs



Language & Executive Functions

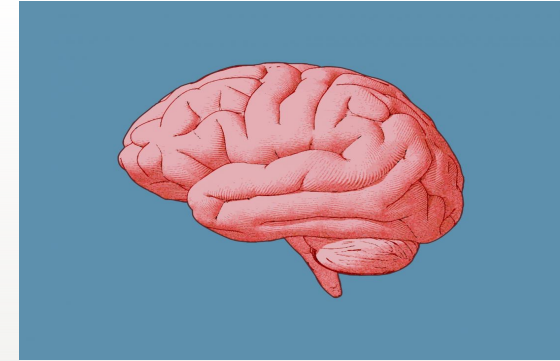
Language goes from PUBLIC to PRIVATE

Same with Executive Functions: Others → SELF

Adult Help → Independent

EF: Actions to OTHERS →

Turned back toward the SELF



1) Inhibition – shuts down the motor system (STOP SELF)

The Internal Skills

STOP SELF and then...

1) Non-Verbal Working Memory

- **SEE & SENSE to SELF**
 - **Visual Imagery**
- **Re-image the Relevant Past**
- **Forecast into the Future**

Mental Movies

Non-Verbal Working Memory

Visual Imagery



All Executive Functioning **starts** with **Visual Imagery** and **Mental Movies** in our mind!

See to yourself-Sense to yourself

Executive Functioning involves our **IMAGINATION!**
By 12 months – **Human's Visual Imagery exceeds all other species**

The Internal Skills

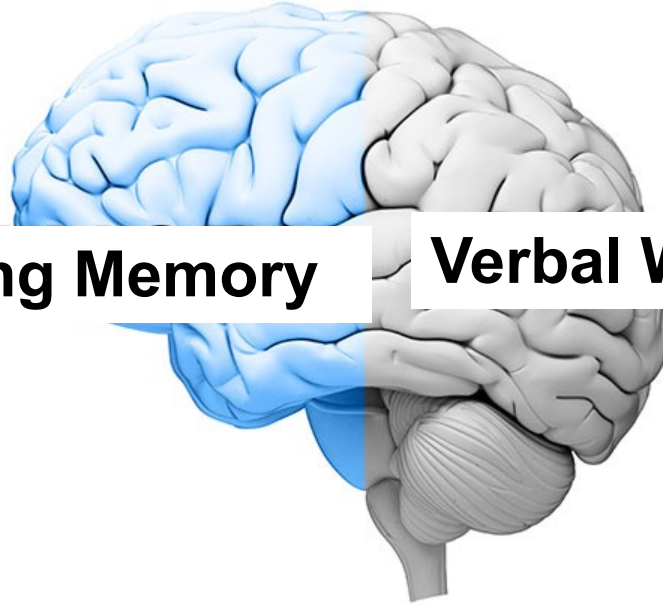
2) Verbal Working Memory

- TALK to SELF
- Internal & Private Speech
 - Self-Talk

The Brain Coach

***Ages 5-7 = Language captures of Motor System
(what you say controls what you do!)***

The EFDD Brain



Non-Verbal Working Memory

Verbal Working Memory

WEAKENED & DISCONNECTED

The Internal Skills

3) Internalize Emotions & Motivation

- Go from External → INTERNAL → to the SELF
- We create our own Emotions to respond more appropriately (EMOTE to SELF)
- We create our own Internal Motivation (MOTIVATE SELF)

The Internal Skills

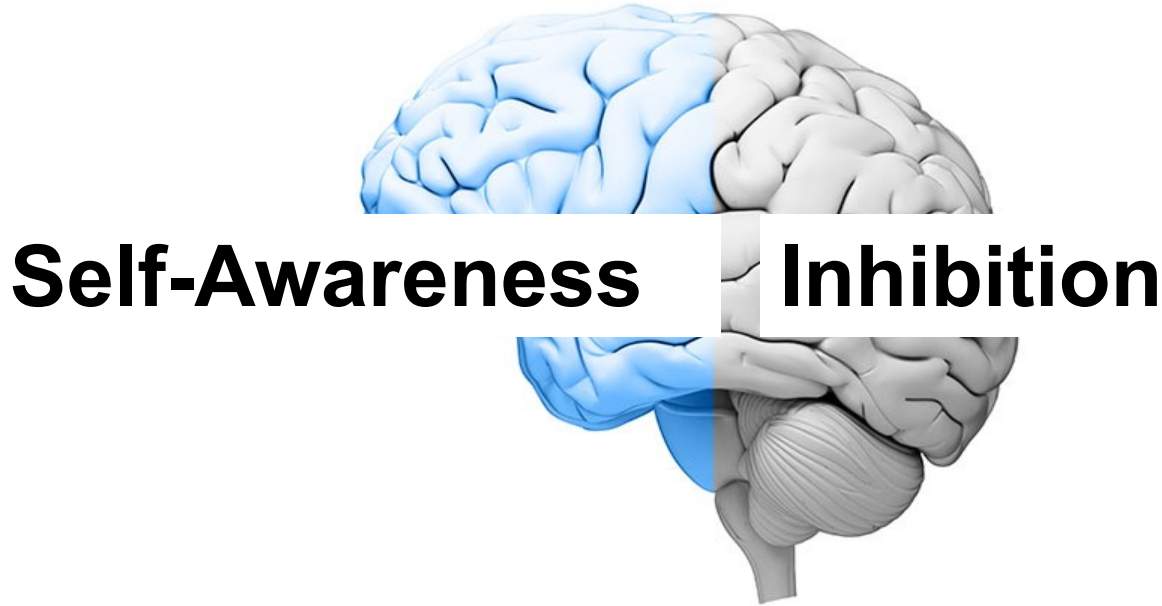
4) Internalize PLAY

- Foundation for planning, problem solving, creativity
 - Mental Play
 - Creating multiple different scenarios to solve a problem
 - Manual → Symbolic → Mental Play

True Executive Functions - Hierarchy

1. **Self-Awareness**: self-directed attention
2. **Inhibition**: self-restraint.
3. **Non-Verbal Working Memory**: visual imagery - how well you can picture things mentally.
4. **Verbal Working Memory**: Self-speech, internal speech.
5. **Emotional Self-Regulation**: to manipulate your own emotional state, to use words, images, and your own self-awareness to process and alter how we feel about things.
6. **Self-Motivation**: How well you can motivate yourself to complete a task when there is no immediate external consequence.
7. **Mental Play - Planning and Problem Solving** → <https://www.youtube.com/watch?v=qUIrWmwg4Kg>

The ADHD Brain



**You can't direct an action at yourself if you
can't stop responding to the world**

The New Era of Child Development

As we have seen an increase in **screens** in our daily lives, we have also seen an increase in external behavior problems/dysregulation, decrease in Executive Function & Social Skills.

Why?

- 1) **Non-Verbal Working Memory**
- 2) **Instant Gratification → Dysregulation Later**
- 3) **Lack of Varied Experiences**
- 4) **Lack of True Interpersonal Relationships**



The New Era of Child Development

Screens have eliminated TRUE PLAY

- Screens have replaced everyday opportunities to **practice visual imagery**
- Today's Instant Gratification world has **eliminated time of boredom** when we use our imagination
- **Varied Experiences have decreased**
- **Interpersonal Relationships have decreased**
- Opportunities to **plan and problem solve** have decreased – Google and iPhone do it for you!



Screens & Gaming – Reward, Stimulus, Response

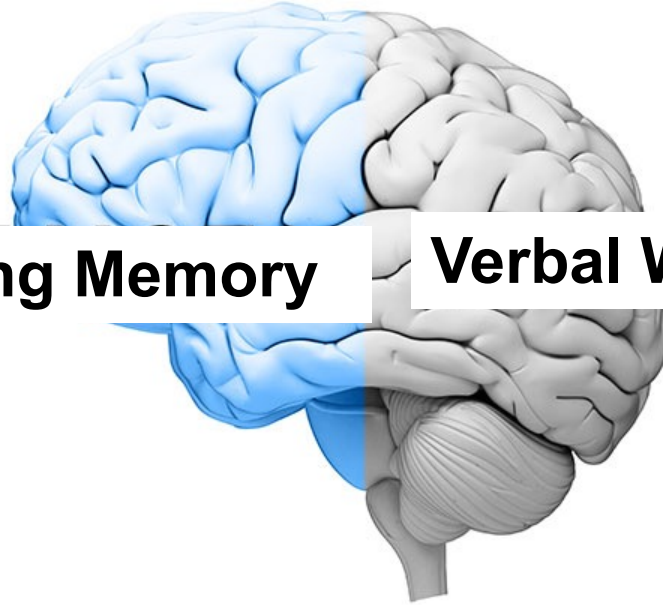
- 1) More than 1-hour per day is associated with short-term increased signs of **inattention**
- 2) Consistent signs of increased **opposition toward parents**
- 3) Excessive release of Dopamine in the brain → leading to **anger & isolation** when not gaming

Gaming Disorder is now listed in the DSM-5

Source: Mazurek & Englehard (2019)



The EFDD Brain



Non-Verbal Working Memory

Verbal Working Memory

WEAKENED & DISCONNECTED

Executive Function & Language Connection

Mental Movies – Non-Verbal Working Memory

Forecast
Into The
Future
Foresight



Varied Experiences = Future Thinking Skills

EFDD can be so debilitating – why?

**It all starts at the foundation -
A core weakness in:**

1) Non-Verbal Working Memory (Visual Imagery)

Hindsight and Foresight

2) Verbal Working Memory (Brain Coach)

Planning, Prioritizing, and Problem Solving

Cause & Effect

Conditional Thinking

→ **IF-THEN/Cause & Effect THINKING**

1) Non-Verbal Working Memory (Visual Imagery)

→ and **then** stated implementation intentions with

2) Verbal Working Memory (Brain Coach)

Conditional Thinking

IF it's going to look like that –
THEN this is what I need to do

NOW



Source: Sarah Ward: efpractice.com &
Dr. Russell Barkley: russellbarkley.org

GrowNOW-EF at Home

RESILIENCY - We need to encourage children to be **brave, face their fears, and tolerate the discomfort.** We do this gradually and by guiding them to face their anxieties and not give up.

Teach students to **use their internal language to visualize themselves completing the non-preferred task first.**

Use your future thinking to mental time-travel and see yourself in space and time being successful.

STAY STRONG in the Short-Term for Long-Term Success

Failure & Discomfort CREATES Skills, Strength, & Success



A woman with long, curly brown hair tied back is smiling and hugging a young child from behind. The child is also smiling broadly. They are sitting on a light-colored couch. The background is a plain, light blue wall.

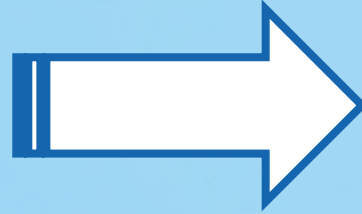
Do NOT praise ability!

Praise EFFORT

Executive Functions: Quality of Life

**Overall Goal: Improve quality of life
and improve child's self-worth**

Language
Social Skills
Executive Functions
Resiliency
Mental Flexibility



Positive Quality
of Life
&
Positive Self-
Worth

GROWTH MINDSET



What are the TRUE Predictors of Success?

- 1) Ability to form and maintain social relationships
- 2) Ability to manage emotions
- 3) Ability to manage your life and independent problem solving



Executive Functions are a greater predictor of success than IQ



Self-Regulation

Self-Awareness

Self-Motivation

Self-Evaluation

Self-Language

The GrowNOW EF-Tech Grow Plan



GrowNOW Therapy's THE TECH EXECUTIVE FUNCTION GROW PLAN



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Parenting ADHD Podcast with The ADHD Dude & Education Chapter Chat

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[@CariEbertSeminars](#)



Spotify & Apple Podcasts

for professionals and parents

CHAPTER CHAT BOOK CLUB

Discussing literary nuggets related to optimal child development and education reform

Hosted by Pediatric SLPs
Michael McLeod and Cari Ebert



IG LIVE
Mondays at 8 pm Eastern Time

Michael McLeod - GrowNOW

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YouTube & Instagram:

[@GrowNOWADHD.](https://www.youtube.com/@GrowNOWADHD)

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References

1. Sarah Ward, MS, CCC-SLP, and Kristen Jacobsen: *Cognitive Connections*: efpractice.com
1. Dr. Russell Barkley: russellbarkley.org
2. Peg Dawson, EdD: *Smart but Scattered*: smartbutscatteredkids.com
3. Ryan Wexelblatt, LCSW: ADHDDude.com
1. Harvard Center of the Developing Child: developingchild.harvard.edu
2. CHADD: *Children & Adults with ADHD*: chadd.org
3. CHADD: *Educators Manual* (2006)
4. Dr. Carol Dweck: *Mindset* (2019)



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