

thinkSMARTer, not Harder: the keys to cultivating executive functioning at home and in the classroom

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Today's Roadmap

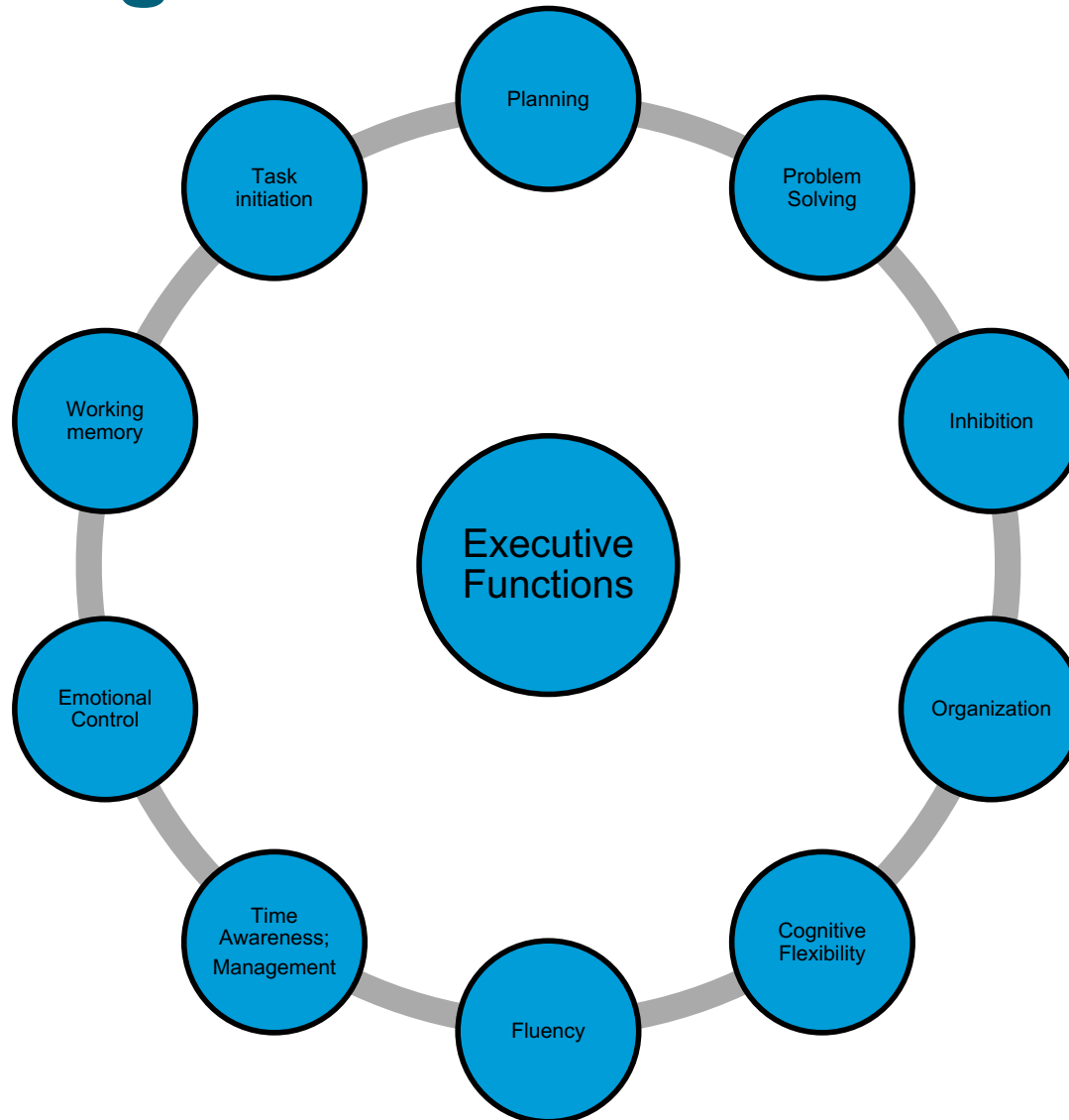
- What are executive functions (EF)?
- Why do EFs matter?
- What can we do to change them?
- What skills have evidence to work?
- How can we overcome obstacles?

What are executive functions (EFs)?

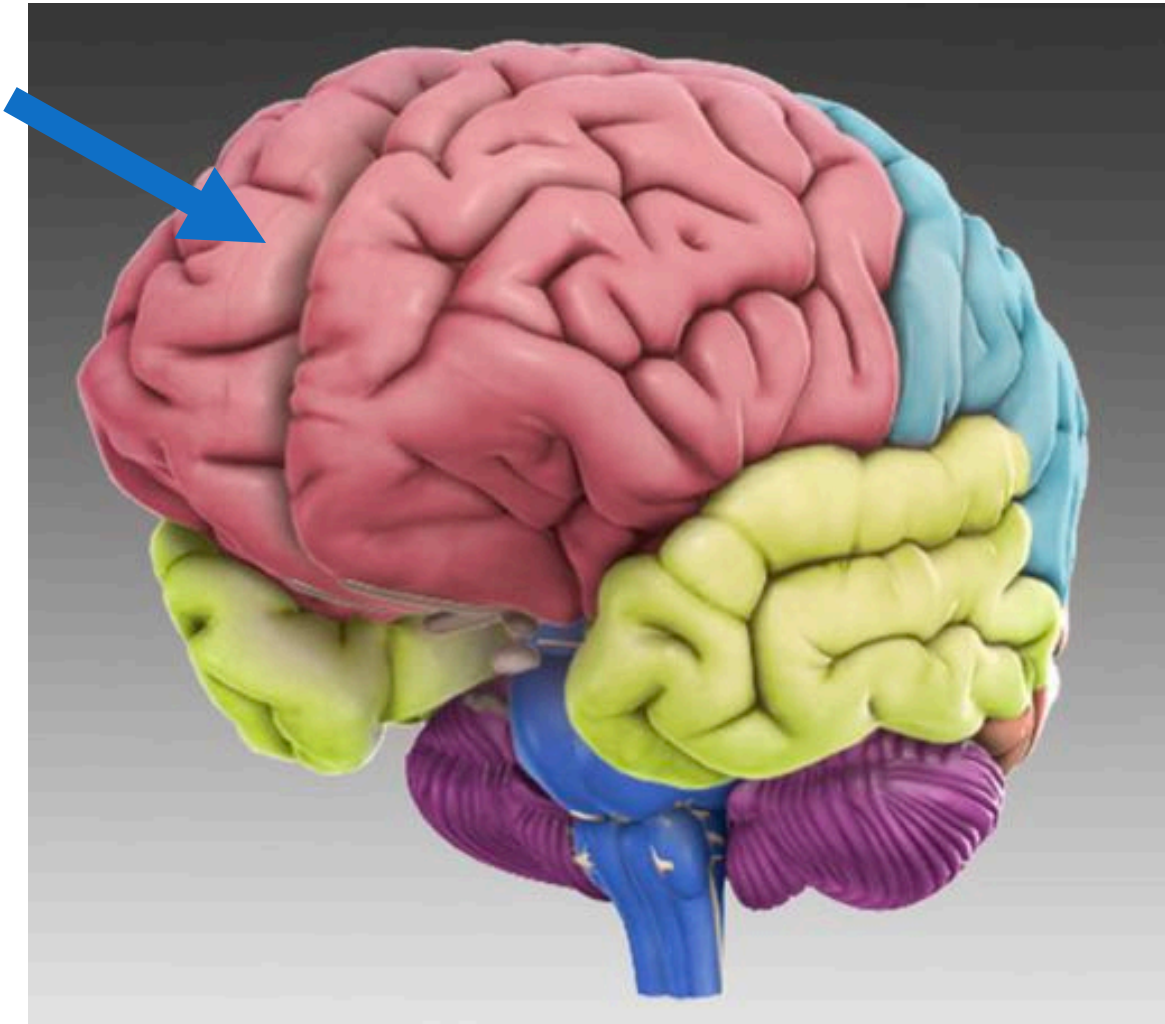
- Control functions needed for the brain to accomplish and maintain goal directed activities
 - “the process of doing”
 - Higher order problem solver
 - “driver” of the brain



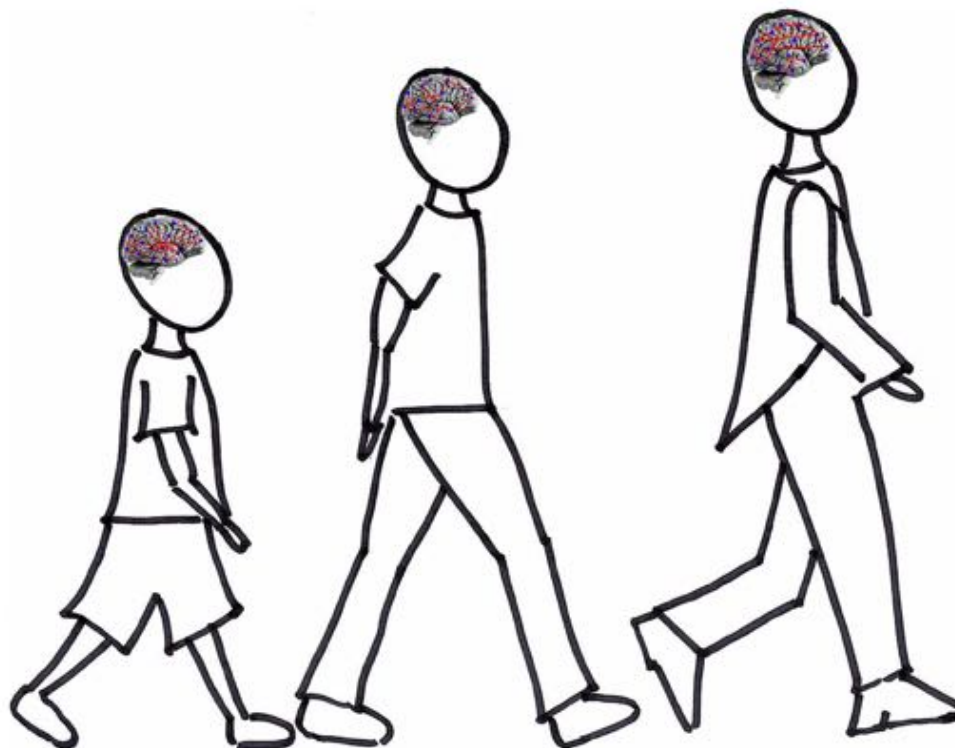
“Steering wheel” of executive functions



EFs and the brain



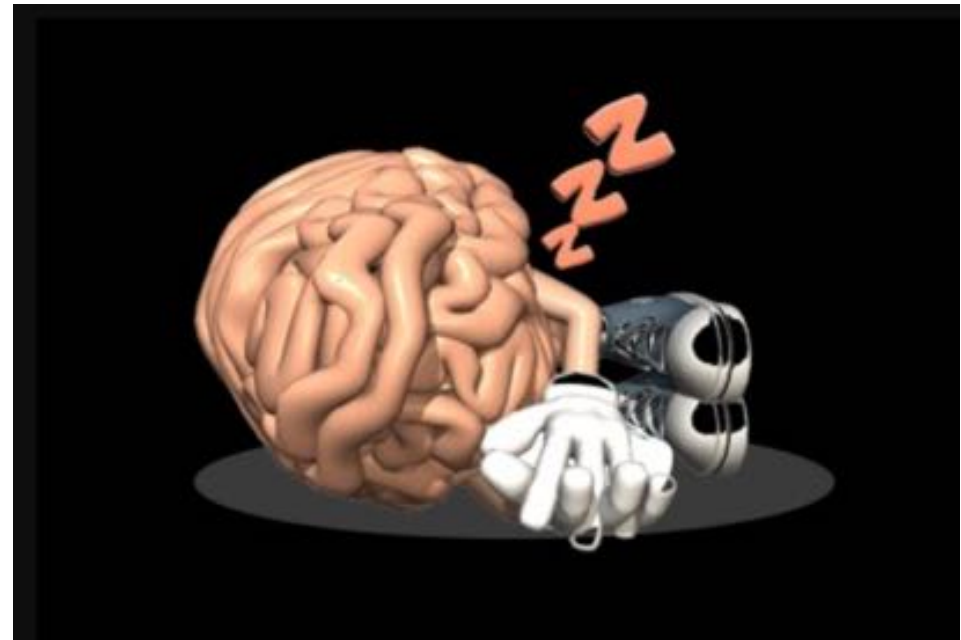
Why are EFs important?



- Executive functioning has been associated with:
 - school and job success
 - Relationship success (marriage/friendships)
 - Mental and physical health
 - Quality of life
 - Self-reliance/Strong identity development
- From childhood to adulthood, EFs:
 - Worsen
 - Linked to lack of compensatory strategies
 - Operate on a linear trajectory

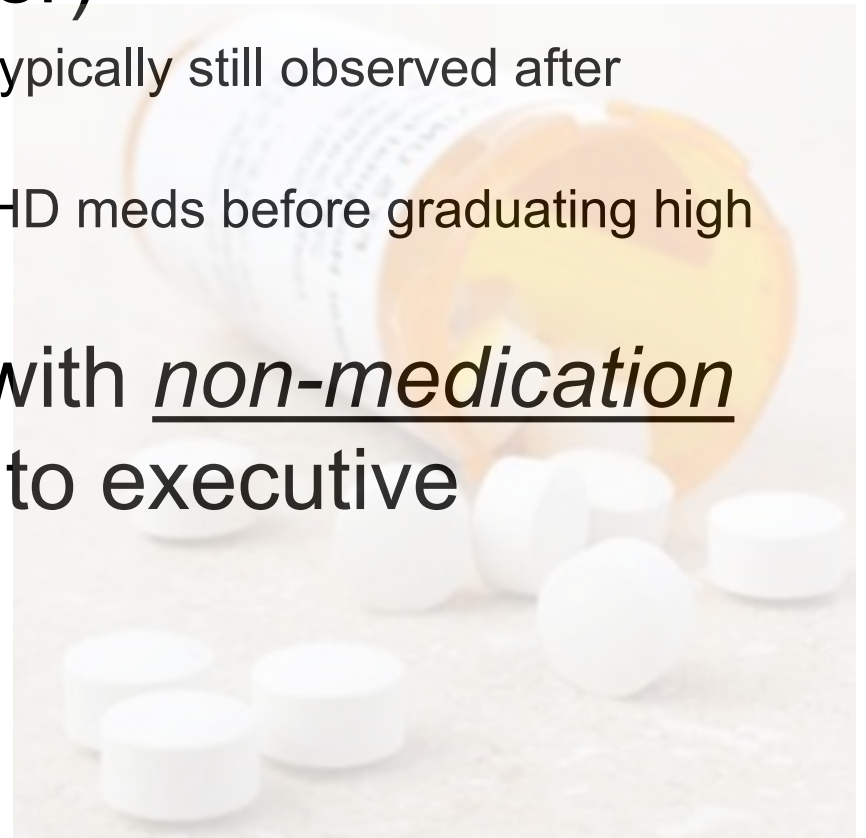
What affects EFs in youth?

- Neurodevelopmental disorders
 - Attention deficit hyperactivity disorder (ADHD)
 - Autism
 - Learning Disorders
- Psychological disorders
 - Addiction
 - Conduct Disorder
 - Depression
 - Obsessive Compulsive Disorder
 - Schizophrenia
 - Anxiety
- Environmental Stressors
 - Sadness
 - Stress
 - Loneliness
 - Lack of physical fitness
 - Sleep deprivation



What can we do about it?

- Medications are first-line treatment (e.g., ADHD, bipolar disorder)
 - Clinical range impairments are typically still observed after stimulants
 - Many teens will discontinue ADHD meds before graduating high school
- Need to supplement with non-medication interventions specific to executive functioning



What interventions work?

- Computer based programs:

- Working memory
- Cognitive flexibility
- inhibition



Difficult to generalize outside of the specific domain

- School-based programs:

- Planning
- Organization



Teens have multiple teachers, so problems with consistency

- Alternative programs:

- Tae kwon do
- Yoga
- Mindfulness
- Aerobics



Unclear mechanisms of how they impact EF

I shouldn't have to reward my teen for doing something that he should be doing anyway.

Why should I try something new when my way is working...well, sorta working.

My child should be doing this on her own. Her classmates are doing it without help!

I just don't want to...

I tell her this over and over again. It's like she doesn't even care!

Ugh! I'm going to be up all night finishing this paper...again! I should have started earlier.

He knows what he's supposed to be doing. He just needs to do it!

I'll take the trash out after I finish playing this video game...

Why can't some youth do it?

- Obstacles for youth (particularly with ADHD):
 - ★ Skills Deficit
 - ★ “Delay aversion”/Motivation deficit
 - ★ Time estimation deficit
- Behavioral interventions can address these

Why behavioral interventions?

- **Behavioral** manifestations of poor EF observed in lack of *skills* related to:
 - Organizing materials
 - Tracking assignments
 - Managing time/time awareness
 - Planning work
 - Delaying gratification
- EF weaknesses, day-to-day, associated with:
 - Reduced school performance/scholastic attainment
 - Increased conflict with parents and teachers
 - More difficulties with peer relationships
- Teens **do not** grow out of these problem areas.



Why behavioral interventions?

- What do they do?
 - Teach and improve specific EF skills
 - Focus on practice, practice, practice
 - Help with behavior management (e.g., rewards/reinforcements)
 - Contribute to reduction in symptoms
- Allow for skills to be taught *across* domains
 - Improves generalizability and transfer of skills



Limitations to current interventions

- Only a few studies in teens, despite being a key development time
- Multiple sessions per week design
- All research in youth ADHD
- No non-ADHD interventions



Limitations to current interventions

- Inconsistent parent involvement
 - Parents play critical role in kids' EF development
 - Parents may have similar EF weaknesses
- Roles v. Skills
 - Teen programs have less parent involvement
 - 2 sessions to 2/3 of sessions attended
 - Psychoeducation
 - Behavioral Management
- No programs teach EF skills to *both* parent and teen simultaneously...in every session.

What is thinkSMART®?

- **Format**

- 12-Sessions (1x week)
- Group intervention
- Parents included
- Groups for ages 12+
- No diagnosis required
- Cognitive-behavioral approach

- **Goals: think SMARTER, not HARDER!**

- Psychoeducation on EF
- Teach behavioral strategies
- Increase independence of youth
- Increase parent effectiveness



Keys to thinkSMART®



- **thinkSMART® must-haves:**
 - **Skills:** taught to adults and teens
 - **Practice:** practice creates habits
 - **Parents:** to prompt, model, reward, praise
 - **Emotions:** feelings and associated cognitions are important targets
 - **Group atmosphere:** increase positive modeling, social reinforcement and support

- **Session must-haves:**
 - Mindfulness
 - Didactic instruction on skill
 - In-session practice of skill
 - Discussion of obstacles
 - Problem solving
 - At-home skill building activity
 - Weekly reminders

Targets of behavioral interventions

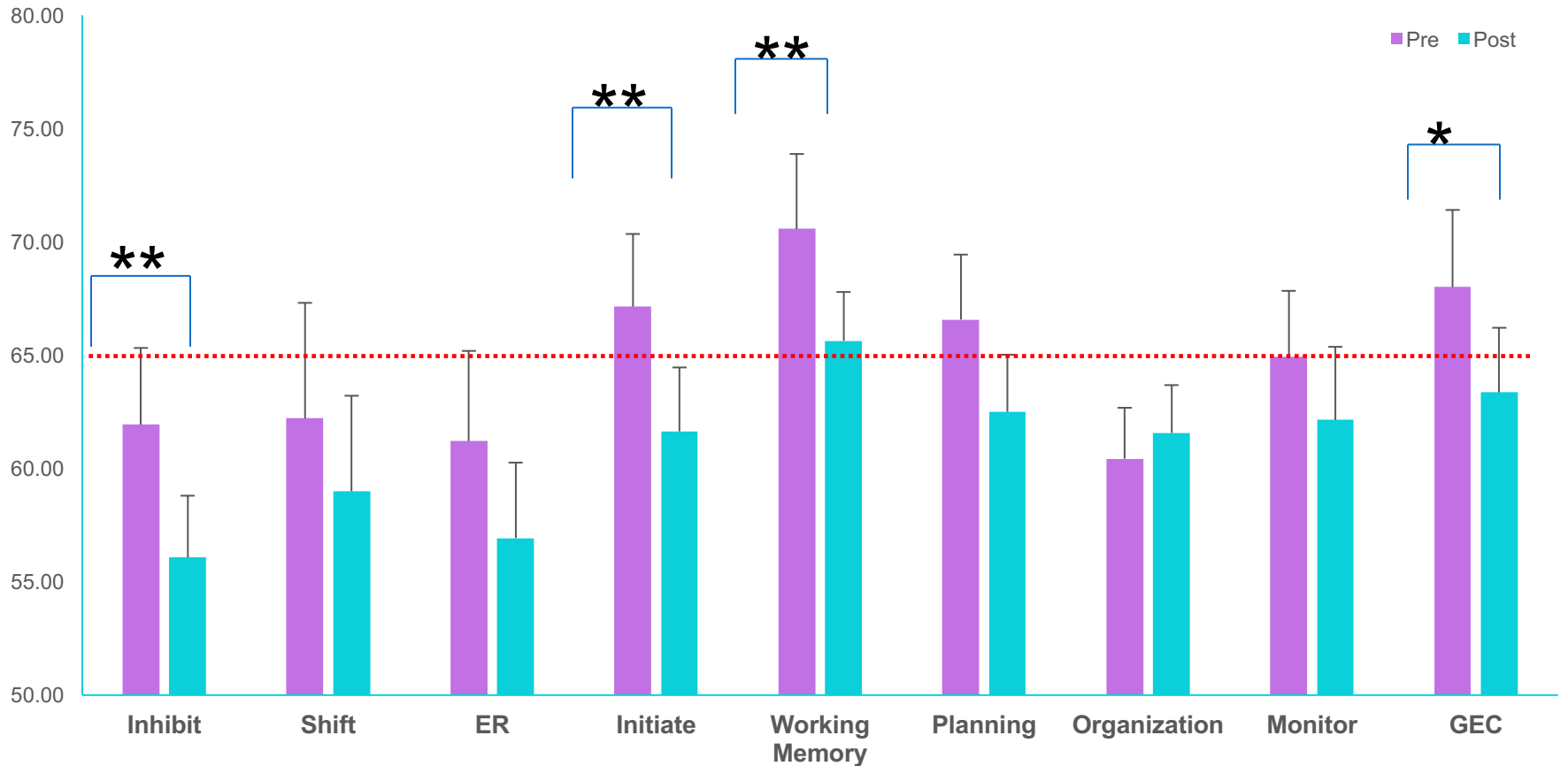
	Kids	Teens	Adults	thinkSMART®
Organization	✓	✓	✓	✓
Time Awareness	✓	✓	✓	✓
Planning	✓	✓	✓	✓
Time Management	✓	✓	✓	✓
Task initiation/Completion		✓	✓	✓
Emotion Regulation		✓	✓	✓
Sleep Hygiene				✓
Mindfulness				✓
Communication				✓

thinkSMART® targets

- Planner use
- Time awareness
- Scheduling
- To-do lists
- Time management
- Breaking things down
- Task initiation
- Organization
- Increasing motivation & rewards
- Long-term planning
- Emotional control
- Effective communication
- Sleep Hygiene
- Study skills



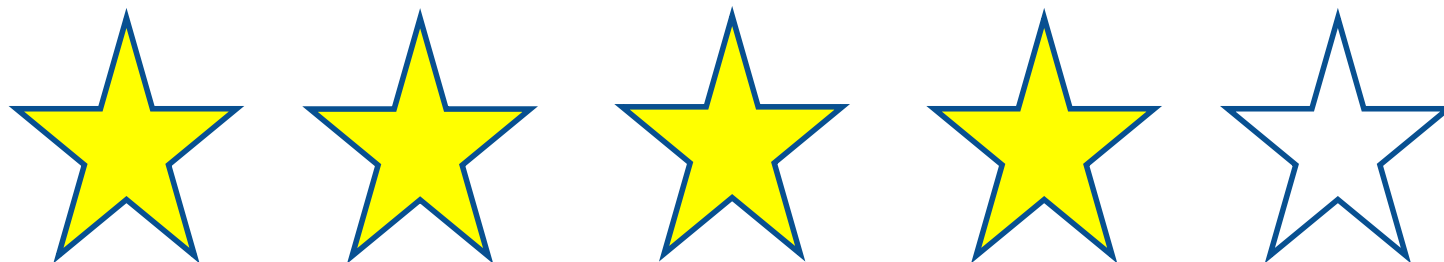
EF changes following thinkSMART®



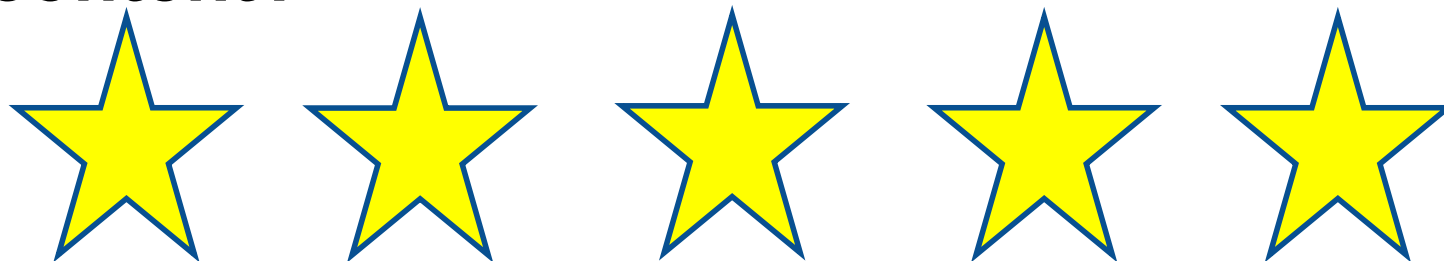
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How does thinkSMART® do?

- **How helpful was thinkSMART® for you and/or your teen?**



- **How appropriate and relevant was the session content?**



Keys to success



- **Parent involvement/engagement**

- “I feel like our relationship is better because we are going through this together! We talk about using the skills.” –Mom of 15 year old boy

- **Improved communication**

- “The other day, my mom identified that I was on a thought train [mindfulness skill], which helped me recognize this.” –14 year old boy

- **Social comparison**

- “Fine, I’ll write in my planner but only because you’re bringing us cookies if we all do it.”—13 year old girl

- **Validation of struggles**

- “wait, you forgot your backpack this week, too?”—13 year old boy

Skills and Obstacles

Mindfulness

Task
Initiation

Time
Awareness

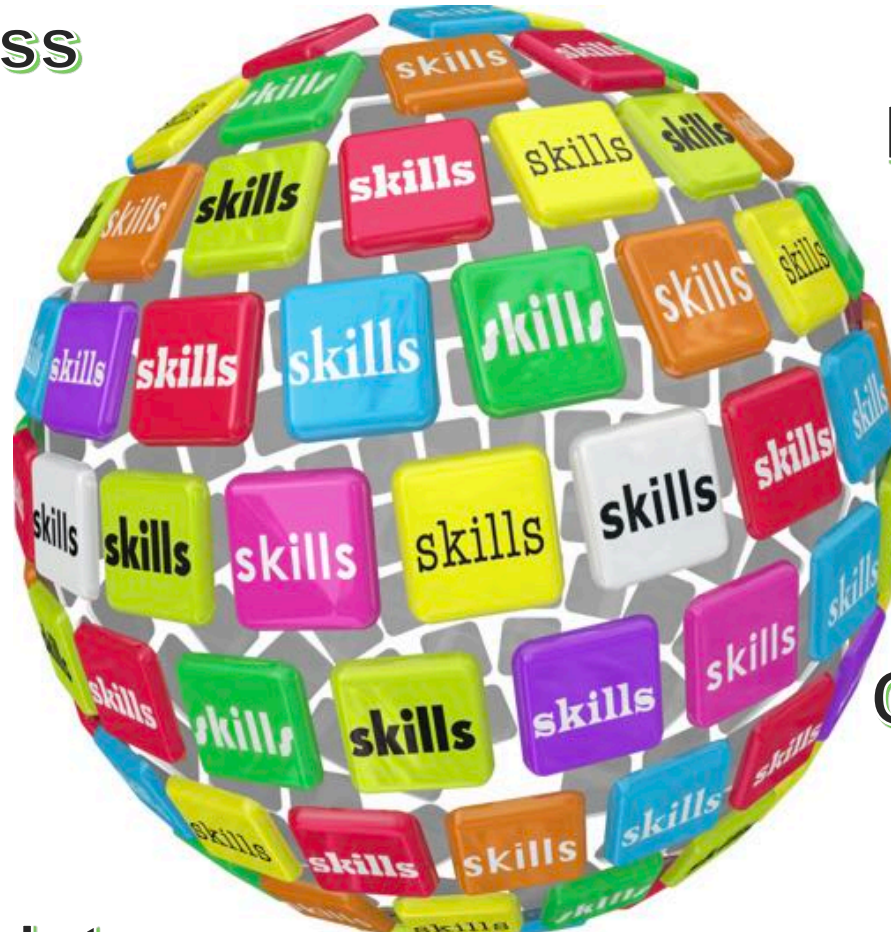
Planner Use

Scheduling

Task
Completion
and
Motivation

To-Do Lists

Organization



Planner use

- Why use a planner?
 - It's your brain's dump!
 - Reduce working memory needs
- What makes a good planner?
 - Week view
 - Enough space
 - Notes section
- Obstacles to planner use:
 - Lazy
 - Don't have it on me
 - Not enough time to write it down
 - I'll remember it
 - It's online



Write it down...

- ✓ Use abbreviations
- ✓ Raise your hand to slow down
- ✓ Ask for repetition

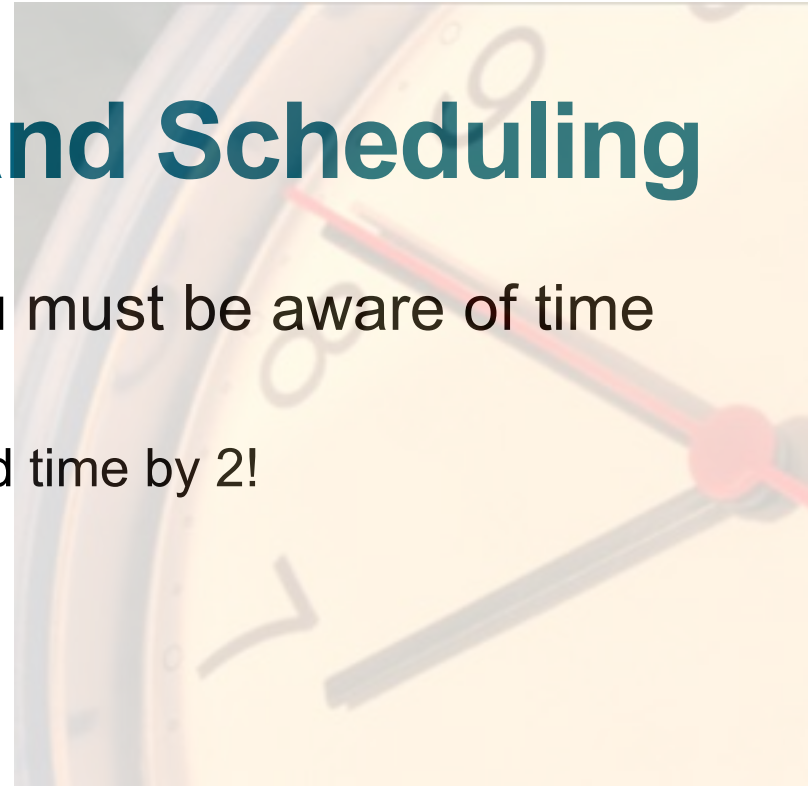


“I always have my phone on me, why can't I just use that?”



Time Awareness and Scheduling

- Before you can manage time, you must be aware of time
 - Time estimation practice
 - Rule of thumb: Multiply your estimated time by 2!
 - Wear a watch
 - Have a regular schedule/routine
- Increase productivity with **Time Cracks!**
 - Little bits of time between activities that go unused
 - Build awareness of these and practice using them effectively



To-Do Lists

- **What goes on a to-do list?**
 - ✓ Activities that don't have a set "time"
 - ✓ Tasks likely to be forgotten
 - ✓ Time crack activities
 - ✓ Anything!

- **Be SPECIFIC**
 - ✓ Tangible
 - ✓ Concrete
- **Be BRIEF**
 - ✓ Daily list v. weekly list
 - ✓ Parts of bigger projects
- **These are roadmaps!**



Task Initiation

- The physics of EF
- 5-minute rule
- Size of the 1st step



Break it down...

the thinkSMART[®] way!

A **thinkSMART[®] Step** is any component of a project that can be completed in less than 30 minutes. If you estimate that a step will take longer than 30 minutes, it might be too big! Don't worry, with motivation, you can complete many steps in the same day/sitting. We just want steps to be doable.

Reminders:

- You should break down the project within 3 days of when it is assigned, and aim to complete it 2 days before the due date
- Put these steps directly into your planner!

	Time Estimation: how long will this step take?	Materials: what materials do you need to complete this step?	Scheduling: by what date should this step be completed?	Checking: did you edit/proof your work for errors (yes/no)?
Step 1: Breaking down the project!				
Step 2:				
Step 3:				
Step 4:				
Step 5:				

Increasing Motivation and Rewards

- Self-Contingent Rewards
 - If-then contingencies
 - Using small “tasks” as rewards (e.g., snack)
 - Should have a clear end point
- Rewards from parents
 - Yes!
 - Consider rewarding the use of “good” skills, NOT the completed task



No fun until it's done...unless you can make it fun to get it done!

Organization

★ Steps to successful organization

1. Identify
2. Categorize
3. Sort/Place

★ School Organization

★ Binders

- ★ Action v. No Action
- ★ “Meat” goes in the middle

★ 5-minute “clean up”





Mindfulness

- Empirically supported treatment for:
 - ADHD (kids and adults)
 - Mood
 - Parent-child interactions
 - Pain
 - Anxiety
- Three primary aspects to Mindfulness
 - Attention
 - Awareness
 - Non-judgmental



Skill Building!

Distraction



Why is this so hard?



thinkSMART® obstacles

- Youth “buy-in”
- Parent commitment
- Effort needed
- Parent EF weaknesses



thinkSMART® “Do Nots”



- ⊘ write in your teens calendar
- ⊘ make to-do lists for your teen
- ⊘ save your teen at the last minute
- ⊘ nag

thinkSMART® tips for success...

- Creating new *habits* is the way to master the strategy and optimize effectiveness
 - ✓ Pair a new strategy with something you already do every day!
 - ✓ Don't bite off more than you can chew!
 - ✓ The earlier good habits begin, the better
 - ✓ Be patient and observant of *any* steps in the right direction

thinkSMART® tips for success...

- Identify quicksand and AVOID
- Set expectations/boundaries—bad habits *can and should* be expected to change change



thinkSMART® tips for success...

- The teen may need more support than you want to give
- Model good behavior
- Meet the teen where the teen is and push them slightly further



Conclusions

- Executive functioning difficulties are universal...not just in ADHD
- Executive functions can be strengthened...even in people with good ones
- Teens (and parents) can learn compensatory strategies
- Committing to behavioral change is hard, but worth it
- You *can* get your teen to finish line!



Special thanks to...

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