

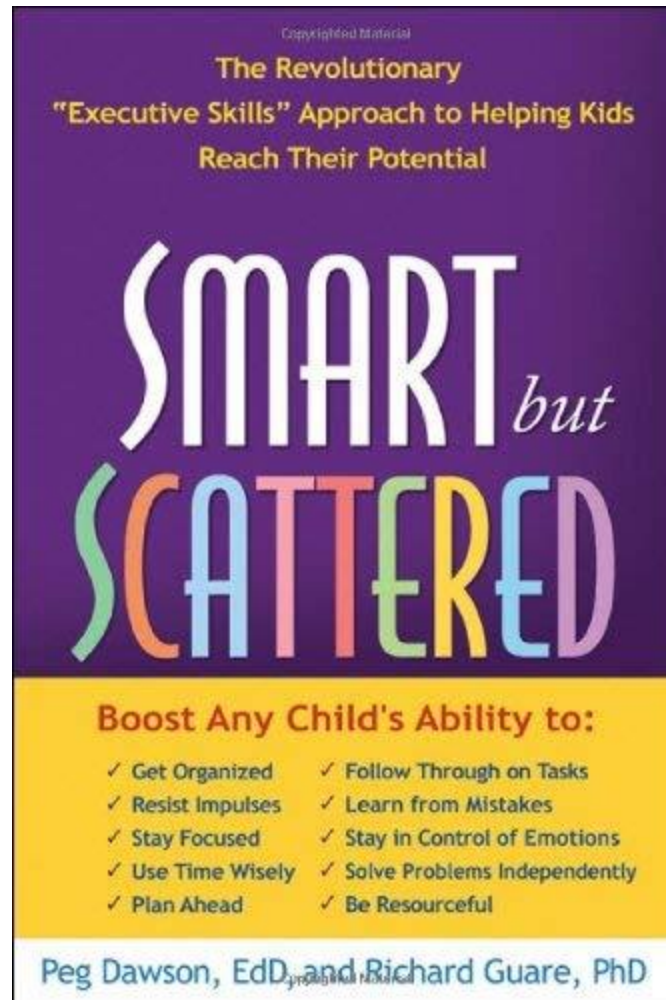
# INTRODUCTION TO EXECUTIVE FUNCTION

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By: Shannon Sullivan, Coordinator of Counselling Services

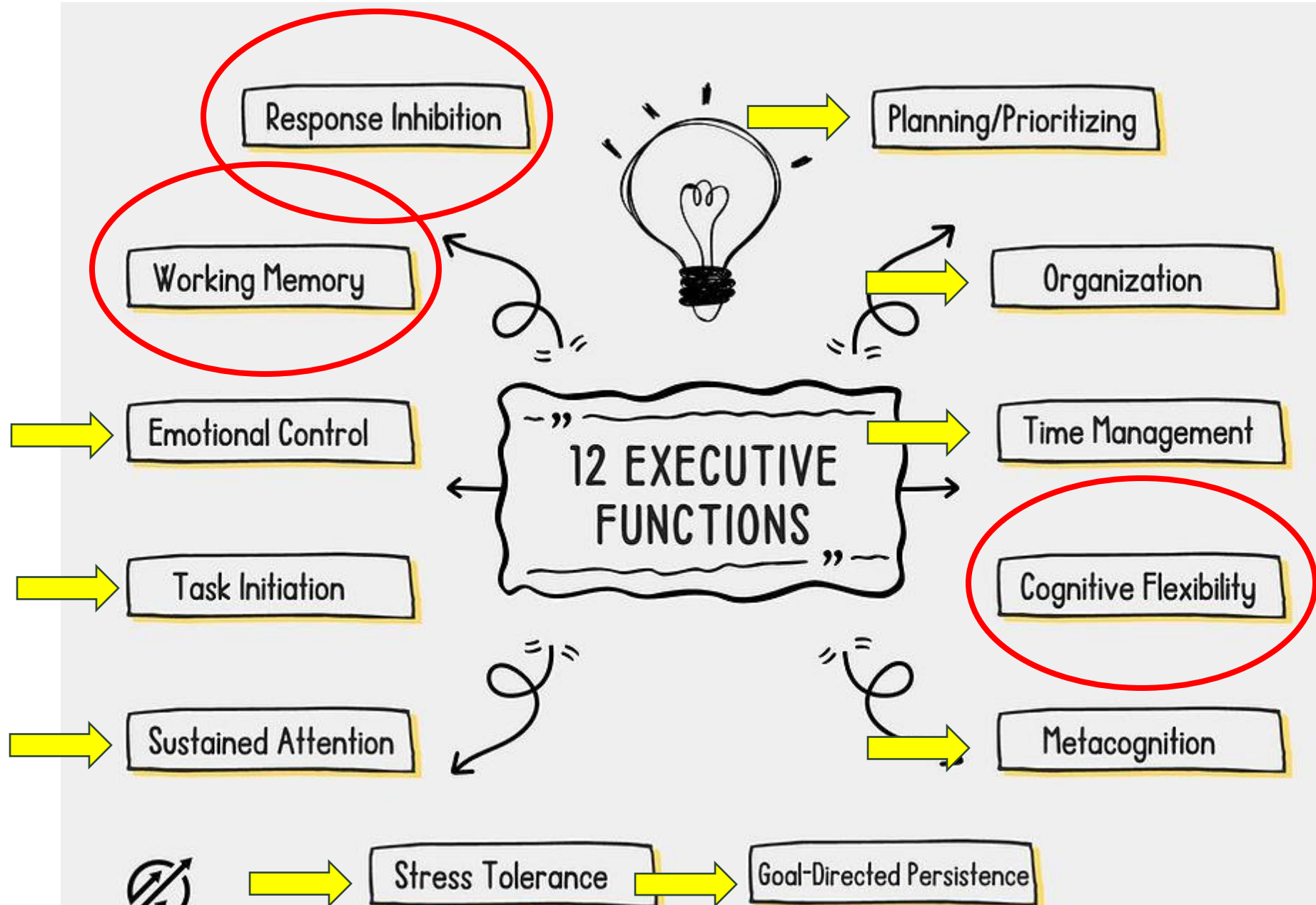
This presentation was created by a counselor with a passion for executive function and the brain, not a neuroscientist or researcher.

# MY JOURNEY

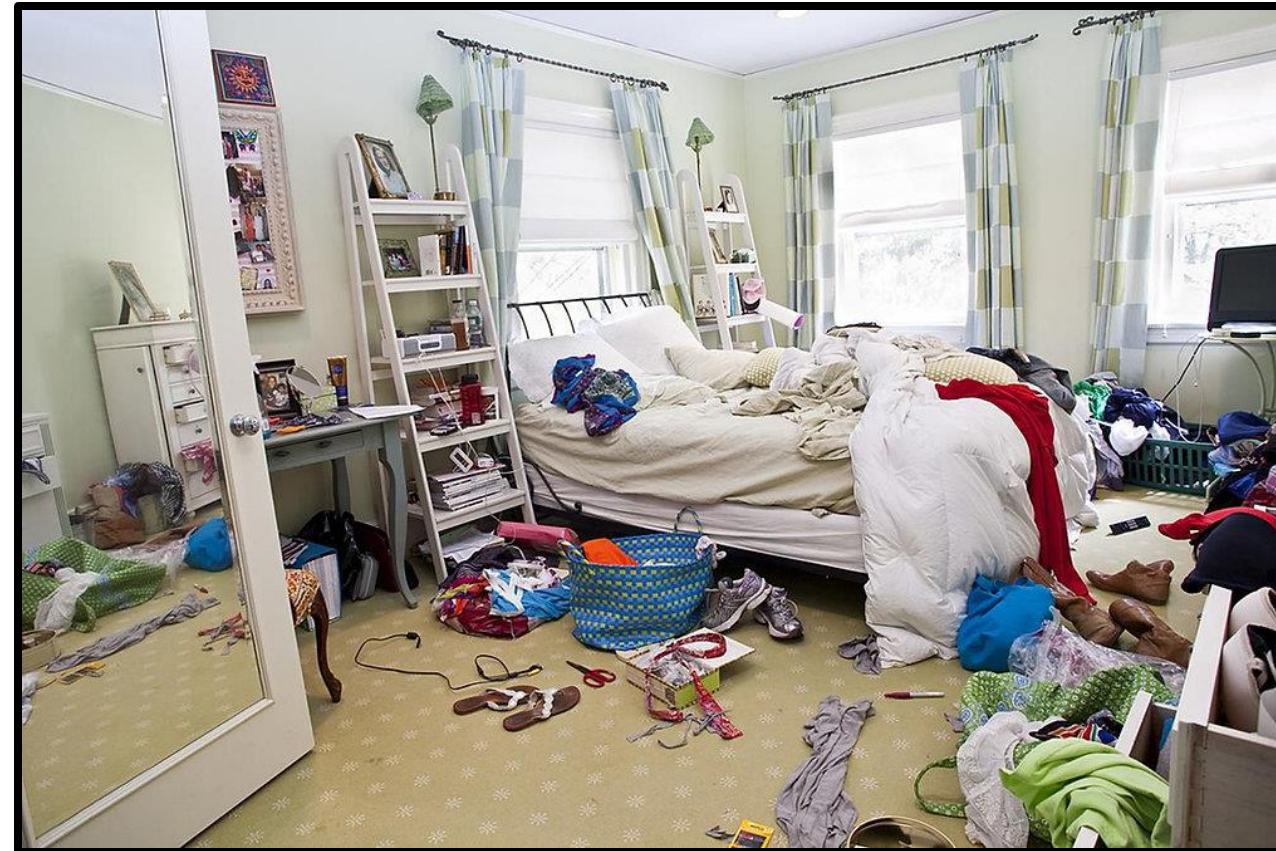


Sarah Ward, MSc

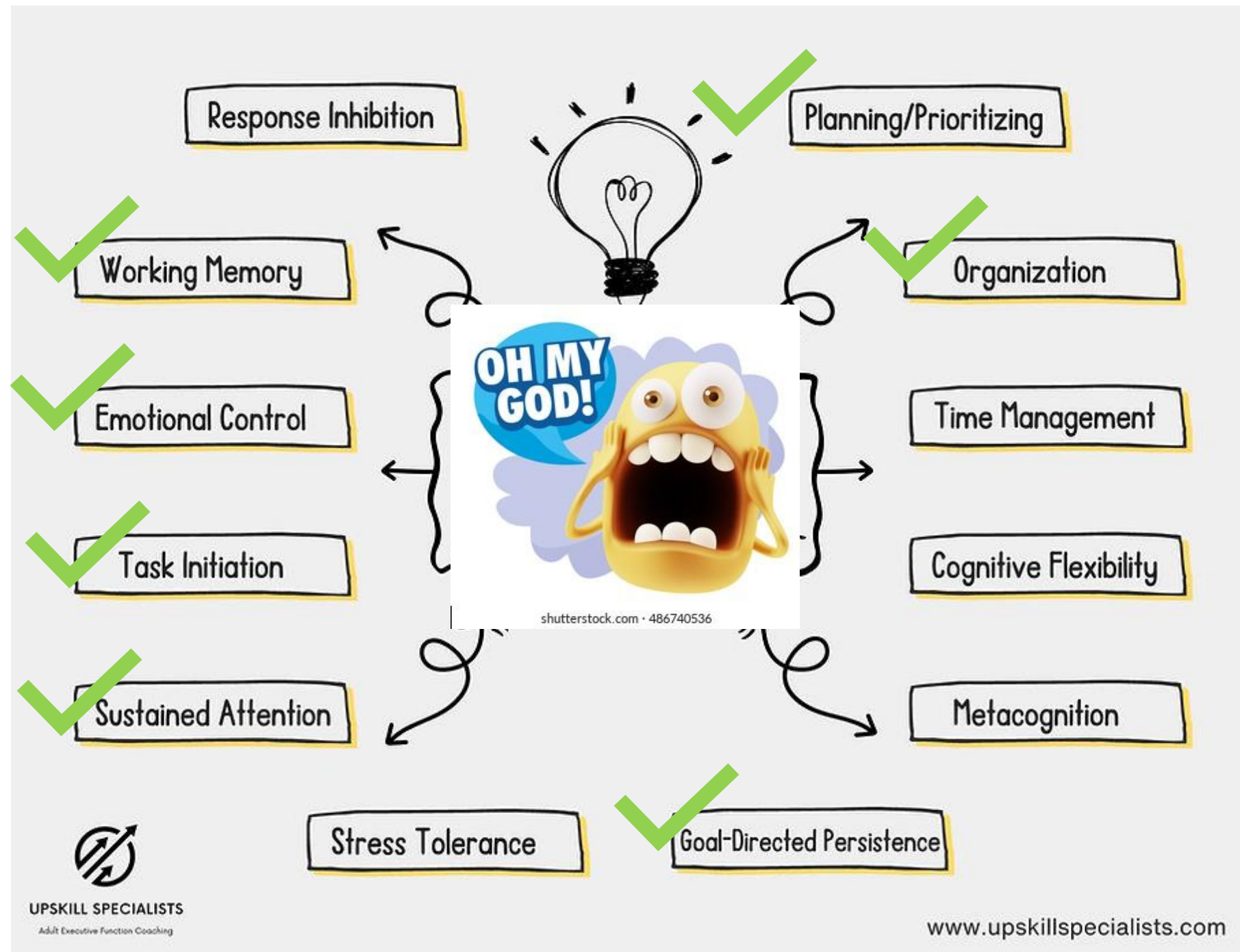
# WHAT ARE EXECUTIVE SKILLS?



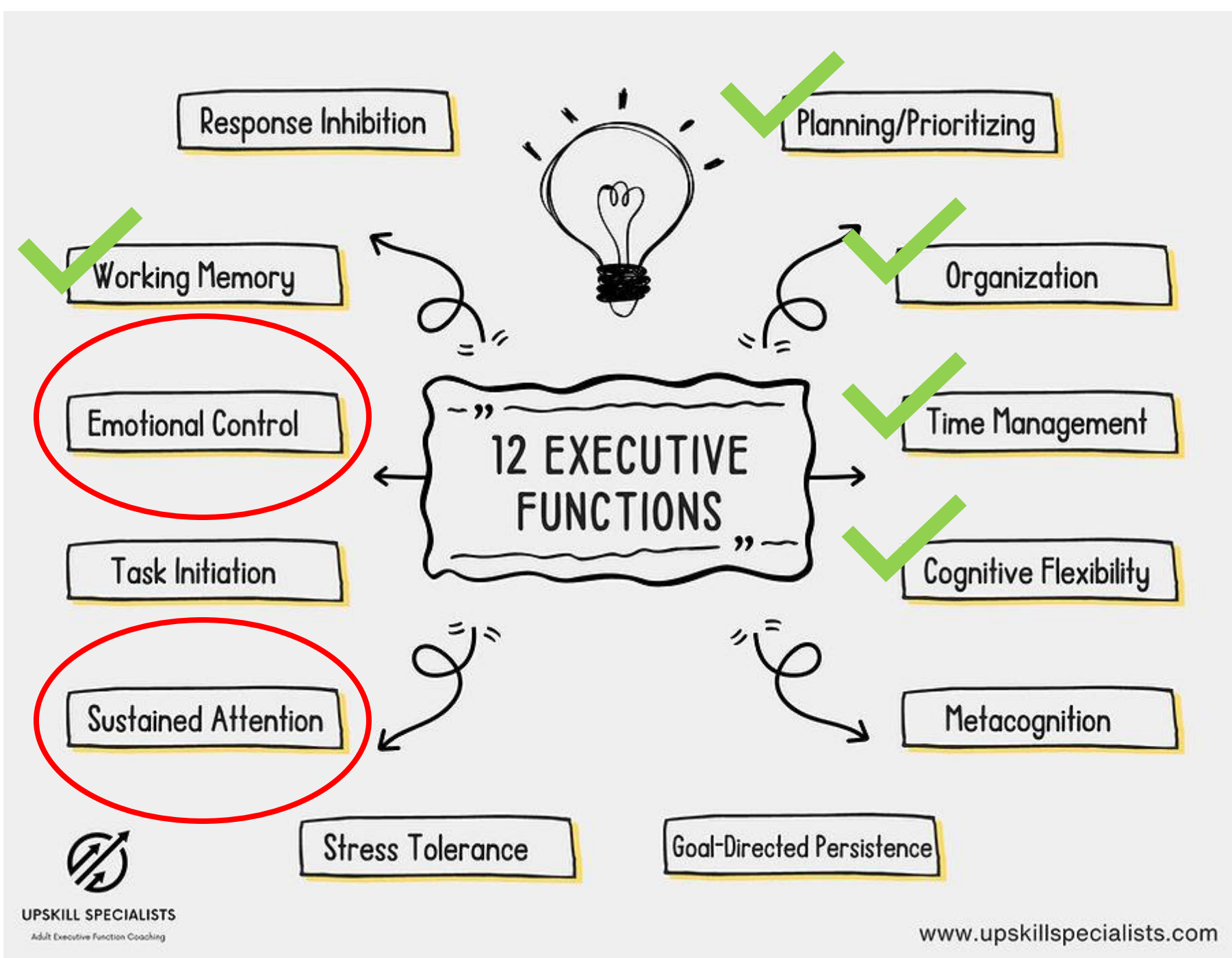
# WHAT DO EXECUTIVE SKILL STRENGTHS AND DEFICITS LOOK LIKE AT HOME?



# WHAT EXECUTIVE SKILLS ARE NEEDED TO CLEAN A BEDROOM?



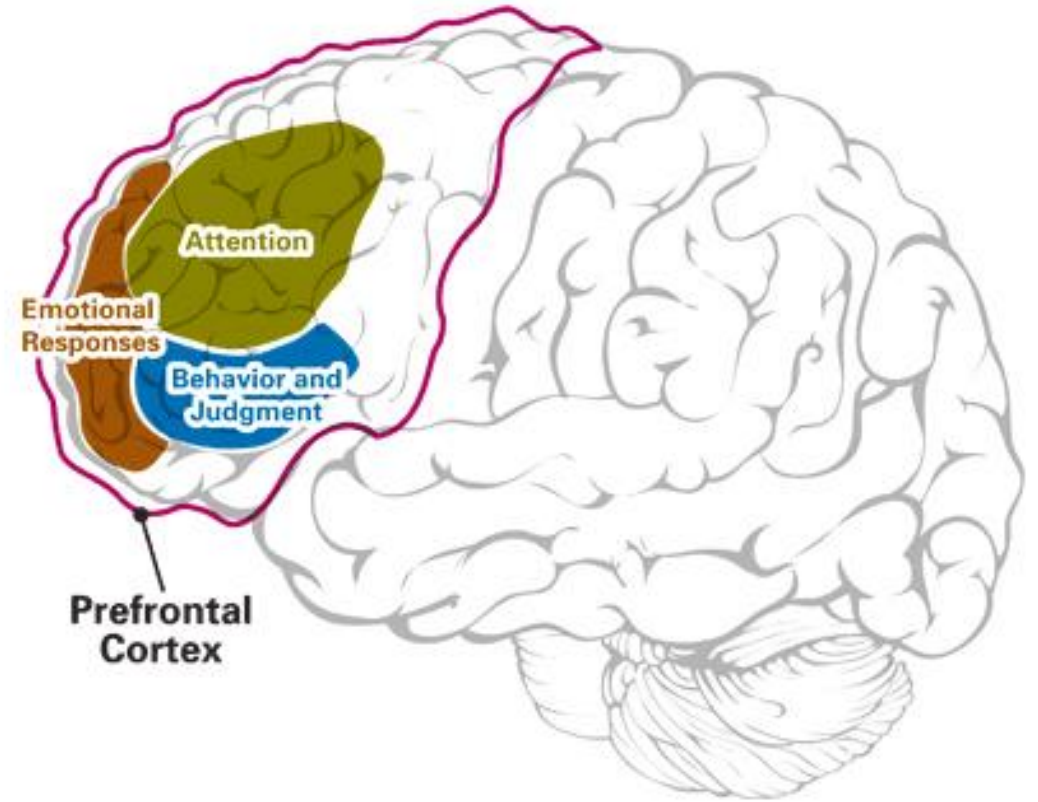
WHAT  
EXECUTIVE  
SKILLS ARE  
NEEDED TO  
ATTEND A DPAC  
MEETING?



# EXECUTIVE SKILLS CONTINUED...

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Executive Function is the ability to **integrate** a present **awareness** with future **anticipation** and past **experience** to develop a reasonable **plan** (accounting for **space, time** and **people**) for present **action**.



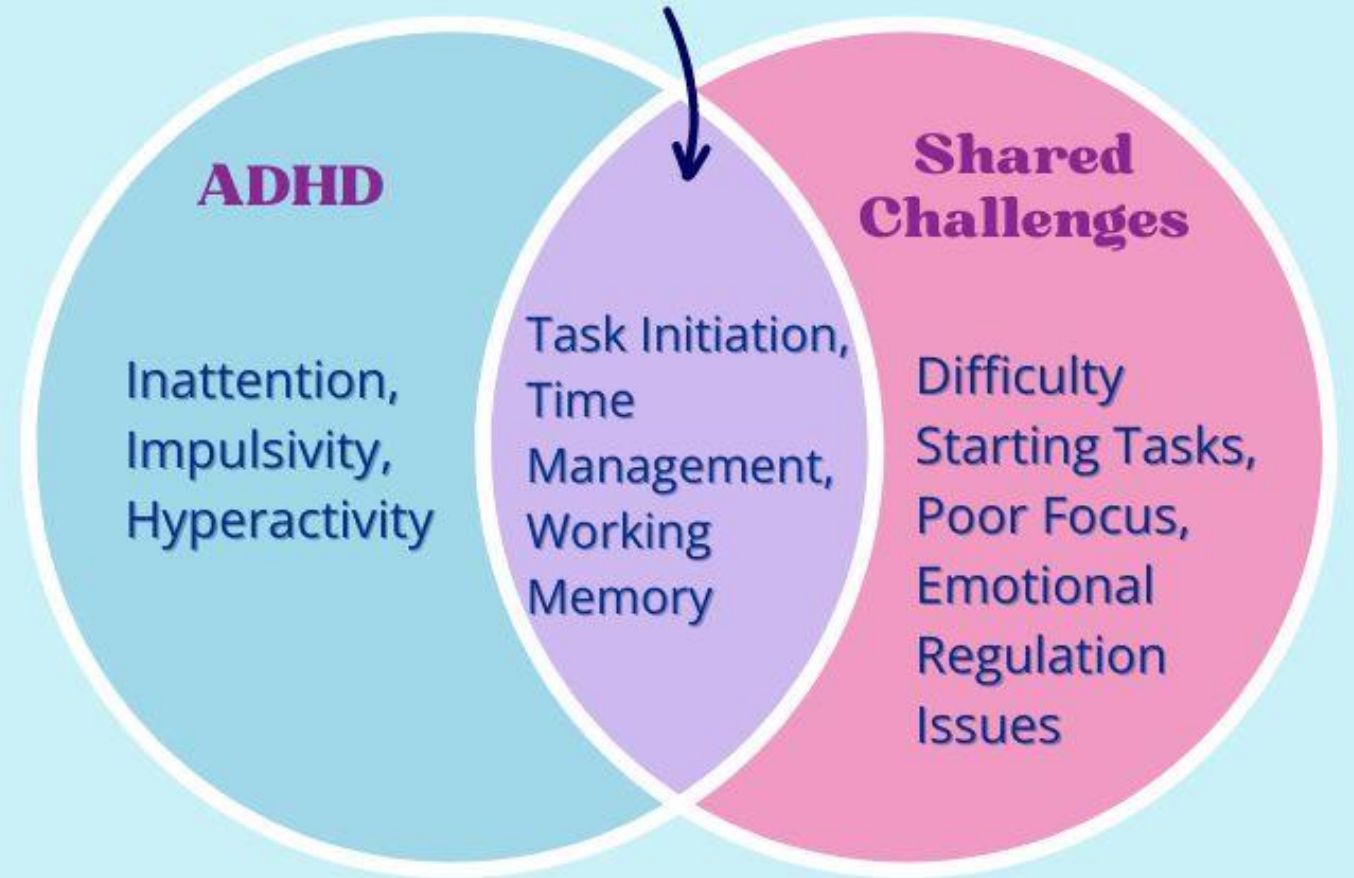
# FACTORS THAT IMPACT EXECUTIVE SKILLS AND EXECUTIVE FUNCTION

- Toddlerhood
- Puberty
- Peri-menopause and menopause
- Chronic stress or trauma
- Lack of sleep
- Neurodivergence: ADHD, autism, learning disabilities
- Genetics (difficulties often run in families)
- Anxiety & depression
- Traumatic brain injuries
- Excessive screen time
- Excessive substance use



# ADHD AND EXECUTIVE SKILL DYSFUNCTION

## Executive Function Deficits



# CHRONOLOGICAL AGE VS. ADHD AGE

CHART CREDIT: DR. RUSSEL BARKLEY  
[HTTPS://WWW.RUSSELLBARKLEY.ORG/](https://www.russellbarkley.org/)

True Age	Executive Age	True Age	Executive Age	True Age	Executive Age
3	2	13	8.67	23	15.33
4	2.67	14	9.33	24	16
5	3.333	15	10	25	16.67
6	4	16	10.67	26	17.33
7	4.67	17	11.33	27	18
8	5.33	18	12	28	18.67
9	6	19	12.67	29	19.33
10	6.67	20	13.33	30	20
11	7.33	21	14	31	20.67
12	8	22	14.67	32	21.33

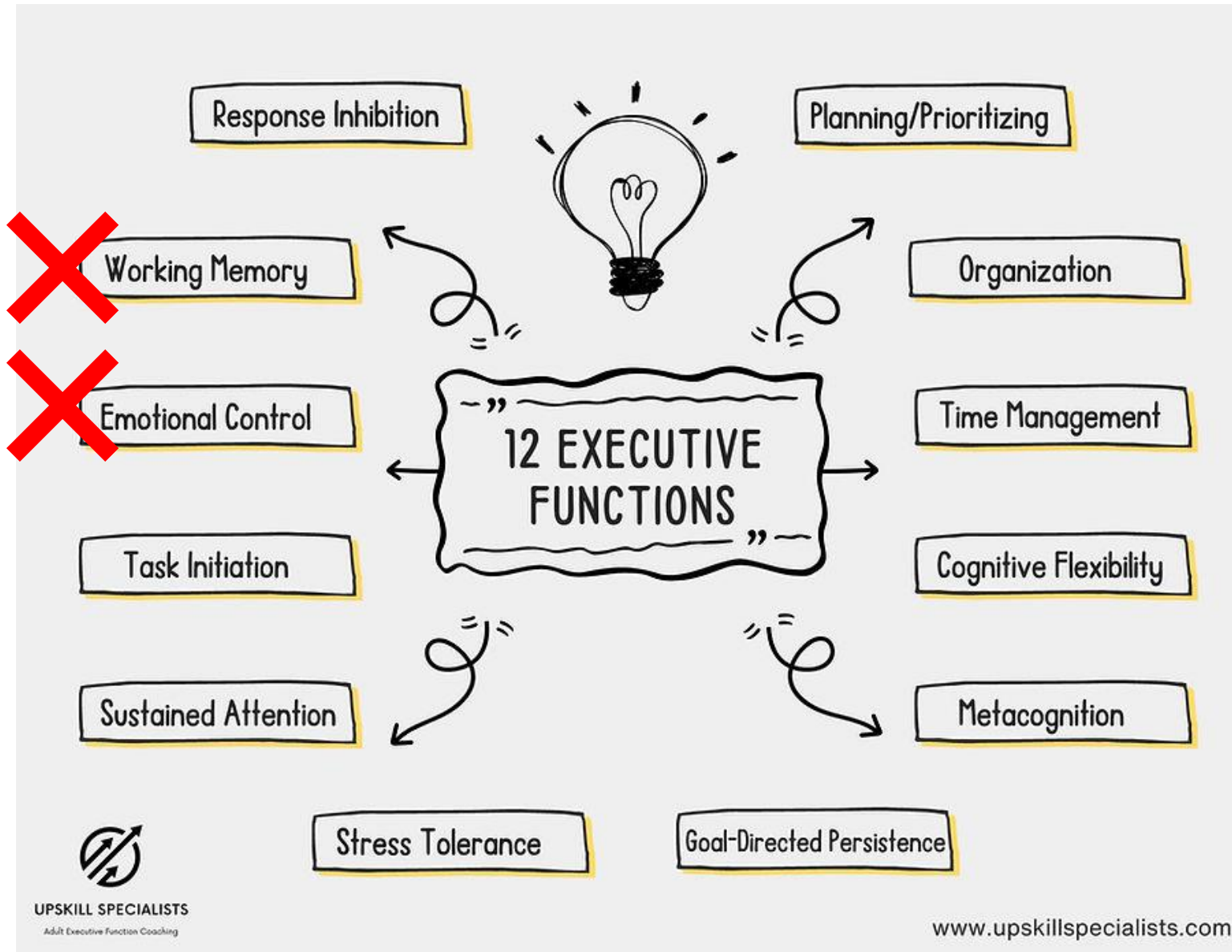
When your children frustrate you with actions that are not age appropriate, refer to this chart to remind you to give them grace because their brains are developing behind schedule.

# IS MY CHILD'S DEVELOPMENT TYPICAL OR A CONCERN?

Ask the question: how are their deficits impacting their life and happiness?

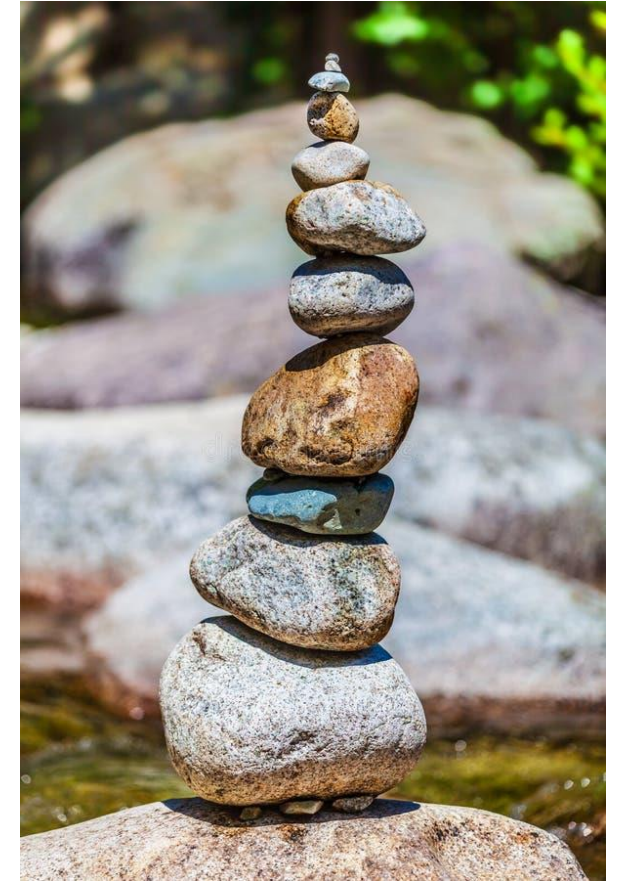


# MY JOURNEY CONTINUED..



# WHAT DID I DO?

- ✓ Metacognition: Reflected on why the error occurred
- ✓ Reached out via email and met in person with those affected to offer my apologies.
- ✓ "Reminder App" on phone (as soon as I remember a task or to-do)
- ✓ Daily alerts starting 3 days out
- ✓ Looped in someone else as a back-up reminder
- ✓ Visited naturopath and began taking supplements to support brain and adrenal health
- ✓ Registered for meditation retreat



# STRATEGIES AND NEXT STEPS

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# NEXT STEPS

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- 1) Reflect on your own strengths and deficits.
- 2) Complete questionnaire – or think about:
- 3) Pick one area to focus on. Don't start with the most difficult.
- 4) Work **with** your child. Build routines and **traditions**.
- 5) Provide opportunities for practice and work towards independence

## List of Executive Functions

**Response Inhibition**—The capacity to think before you act, to resist the urge to say or do something to allow the time to evaluate a situation and the impact of the what is said or done.

**Emotional control**—The ability to manage emotions to achieve goals, complete tasks, or control and direct behavior.

**Task initiation**—The ability to begin a task or activity and to independently generate ideas, responses, or problem solving strategies.

**Organization**—The ability to create and maintain systems to keep track of information or materials.

**Goal-directed persistence**—The capacity to have a goal, follow through to the completion of the goal, and not be put off by or distracted by competing interests.

**Metacognition**—The ability to observe how you problem solve. It includes self-monitoring and self-evaluative skills.

**Self-Monitoring**—Recognizing what is going on inside your own mind, body, environment, and relationships.

**Self-evaluative skills**—The capacity to evaluate how well you did and to make good decisions about how to proceed.

**Working Memory**—The ability to hold information in memory while performing complex tasks. It incorporates the ability to draw on past learning or experience to apply to the situation at hand or to project into the future.

**Sustained attention**—The capacity to keep paying attention to a situation or task in spite of distractibility, fatigue, or boredom.

**Planning/prioritization**—The ability to manage future oriented tasks.

**Time management**—The ability to estimate how much time you have, how to allocate it, and how to stay within time limits and deadlines.

**Flexibility**—The ability to revise plans in the face of obstacles, setbacks, new information, or mistakes. It relates to an adaptability to changing conditions.

**Shifting**—The ability to move freely from one situation, activity, or aspect of a problem to another, in reaction to internal or external cues.

### Executive Skills Questionnaire —

Peg Dawson & Richard Guare

Step 1: Read each item below and then rate that item based on the extent to which you agree or disagree with how well it describes you. Use the rating scale below to choose the appropriate score. Then add the three scores in each section. Use the Key on page 2 to determine your executive skill strengths (2-3 highest scores) and weaknesses (2-3 lowest scores).

Strongly disagree	1	Tend to agree	5
Disagree	2	Agree	6
Tend to disagree	3	Strongly agree	7
Neutral	4		

Item	Your score
1. I don't jump to conclusions	_____
2. I think before I speak.	_____
3. I don't take action without having all the facts.	_____
<b>YOUR TOTAL SCORE:</b>	_____
4. I have a good memory for facts, dates, and details.	_____
5. I am very good at remembering the things I have committed to do.	_____
6. I seldom need reminders to complete tasks	_____
<b>YOUR TOTAL SCORE:</b>	_____
7. My emotions seldom get in the way when performing on the job.	_____
8. Little things do not affect me emotionally or distract me from the task at hand.	_____
9. I can defer my personal feelings until after a task has been completed	_____
<b>YOUR TOTAL SCORE:</b>	_____
10. No matter what the task, I believe in getting started as soon as possible.	_____
11. Procrastination is usually not a problem for me.	_____
12. I seldom leave tasks to the last minute	_____
<b>YOUR TOTAL SCORE:</b>	_____
13. I find it easy to stay focused on my work.	_____
14. Once I start an assignment, I work diligently until it's completed.	_____
15. Even when interrupted, I find it easy to get back and complete the job at hand.	_____
<b>YOUR TOTAL SCORE:</b>	_____
16. When I plan out my day, I identify priorities and stick to them	_____
17. When I have a lot to do, I can easily focus on the most important things.	_____
18. I typically break big tasks down into subtasks and timelines.	_____
<b>YOUR TOTAL SCORE:</b>	_____
19. I am an organized person.	_____
20. It is natural for me to keep my work area neat and organized.	_____
21. I am good at maintaining systems for organizing my work.	_____
<b>YOUR TOTAL SCORE:</b>	_____

### Executive Skills Questionnaire-Teen Version

Rate each item below based on how well it describes you, using this rating scale to choose the appropriate score. Then add the three scores in each section. Use the key on the next page to determine your executive skills strengths (two to three lowest scores) and weaknesses (two to three highest scores).

1	2	3	4	5	6	7
Strongly disagree	Disagree	Tend to disagree	Neutral	Tend to agree	Agree	Strongly agree

Item	Score
1. I act on impulse.	_____
2. I get in trouble for talking too much in class.	_____
3. I say things without thinking.	_____
<b>TOTAL SCORE:</b>	_____
4. I say, "I'll do it later" and then forget about it.	_____
5. I forgot homework assignments or forget to take home needed materials.	_____
6. I lose or misplace belongings such as coats, gloves, sports equipment, etc.	_____
<b>TOTAL SCORE:</b>	_____
7. I get annoyed when homework is too hard or confusing or takes too long to finish.	_____
8. I have a short fuse-am easily frustrated.	_____
9. I get upset when things don't go as planned.	_____
<b>TOTAL SCORE:</b>	_____
10. If the first solution to a problem doesn't work, I have trouble thinking of a different one.	_____
11. I get upset when I have to change plans or routines.	_____
12. I have problems with open-ended homework assignments (e.g., deciding what to write about when given a creative writing assignment).	_____
<b>TOTAL SCORE:</b>	_____
13. I have difficulty paying attention and am easily distracted.	_____
14. I run out of steam before finishing homework or other tasks.	_____
15. I have problems sticking with schoolwork or chores until they are done.	_____
<b>TOTAL SCORE:</b>	_____
16. I put off homework or chores until the last minute.	_____
17. I have difficulty setting aside fun activities in order to start homework.	_____
18. I need to be reminded to start chores or homework.	_____
<b>TOTAL SCORE:</b>	_____

(cont.)

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# EXAMPLES:

Day 13/21

Wednesday 12	Thursday 13
<p>8:15 School Bus</p> <p>Mom Residency Day 2 Skytrain 7:15 am</p> <p>Niall with kids 8-9</p> <p>Niall to N+G 9:30 am</p> <p>J BB game w/ Tim 2:40-4:30 NO PICK UP NEEDED</p> <p>Niall swim 2:45-7 (Jay)</p> <p>6:30 LEAVE</p> <p>J playoff hockey game (?) 8-9:15</p> <p>Mom pick up skytrain 7 pm</p> <p>Dinner: Chicken Ceseav salad wraps</p>	<p>8:05 School Bus</p> <p>Niall swim 5:25-7:45 (Jay)</p> <p>Mom Residency Day 3 Skytrain 7:15 am</p> <p>J skiing - leave for school 8:05</p> <p>pick up CENT 315   Course drop off Poirier 4:30-9:30 pm</p> <p>Mom pick up skytrain 4:30 pm</p> <p>J ski club pick up 7:45 pm</p> <p>Dinner: Pasta Alfredo with Chicken</p>

	Family
Monday	<p>School 7:30 early dismiss 6-8 Boys night</p> <p>School</p> <p>9:30 yoga 6-8 girls dinner</p>
Tuesday	<p>7:30 Bball School 6:30-8 practice e Poirier</p> <p>School 3:30 Golf team meeting</p>
Wednesday	<p>10:00 LEAVE FOR AIRPORT 6:30 Team meeting</p> <p>School 6-7 Golf w/ Patrick</p> <p>9:30 yoga Lunch orders</p>
Thursday	<p>10-12 vs Cali 5:30 Opening ceremony 8:15-10:15 vs. Wheatland</p> <p>School 3:30-5 Badminton tryout 5-6:30 Training e Cummings</p> <p>11:00 AC BZ 72 To Kelowna → Shannon arrives</p>
Friday	<p>5:30-7 vs Vernon 8-9 Team dinner</p> <p>School</p>
Saturday	<p>? Semis 6-7 Banquet</p> <p>9-11:15 game vs Fusion 11:15-3:45 game vs. Surrey Vnt. 6:30-9 Skating in Peco</p>
Sunday	<p>? Finals</p> <p>11:20-3:30 Game vs. Surrey FC</p> <p>4:45-4:55 Flight 4N570</p>

# RESOURCES

A top-down view of people sitting around a table with various hand-drawn icons and diagrams. The word 'RESOURCES' is written in large black letters across the center. The icons include a lightbulb, gears, a magnifying glass, a book, a coffee cup, a person's face, and a gear labeled 'DESIGN'. There are also dashed arrows and other geometric shapes scattered around the table.

# EXECUTIVE SKILLS POSTER

## List of Executive Functions

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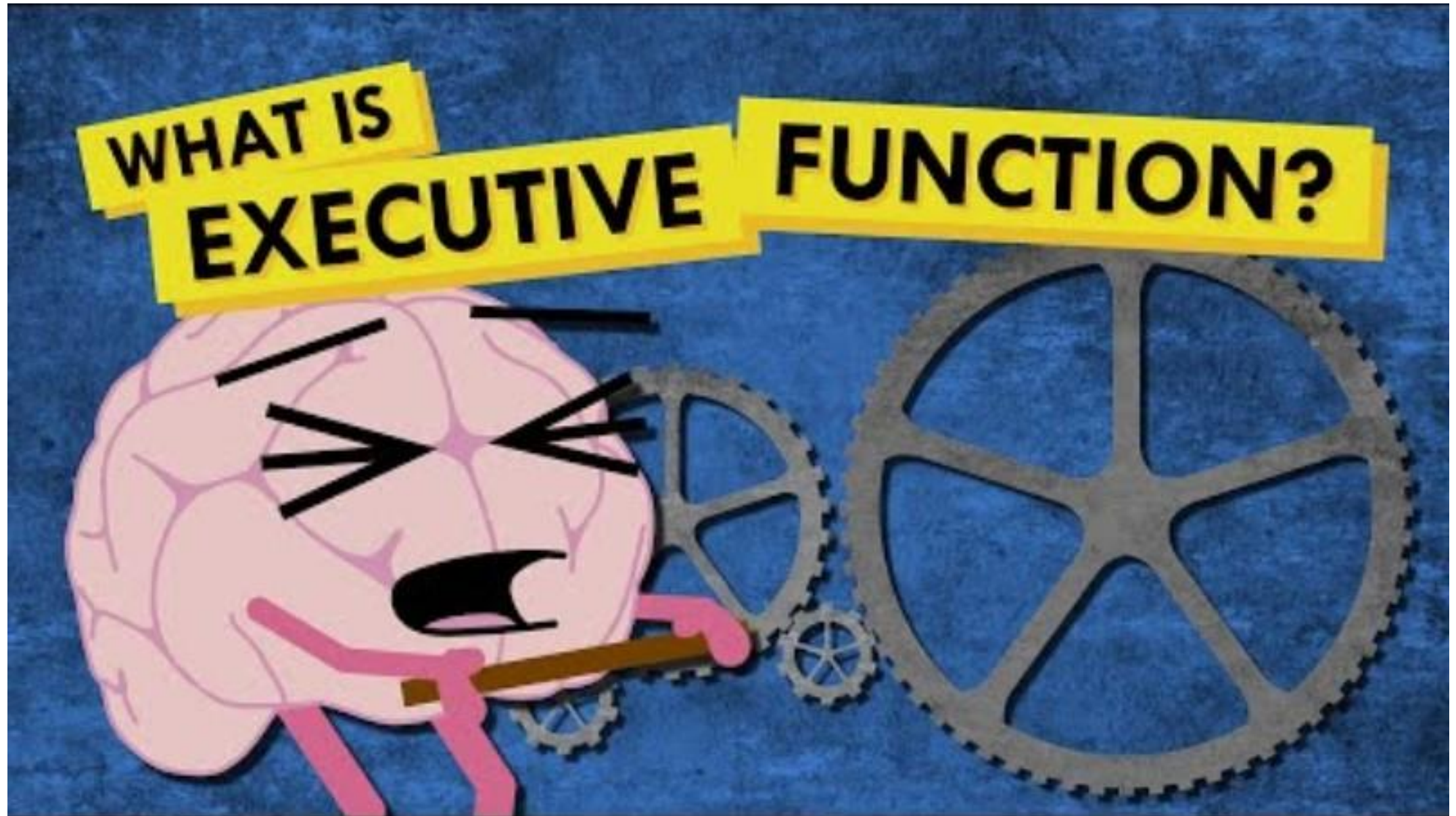
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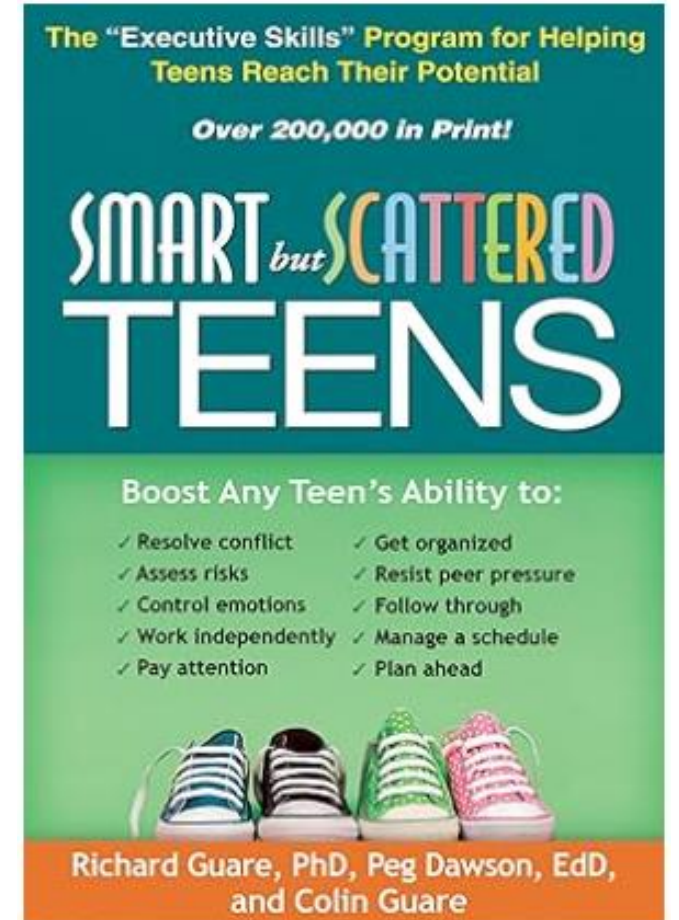
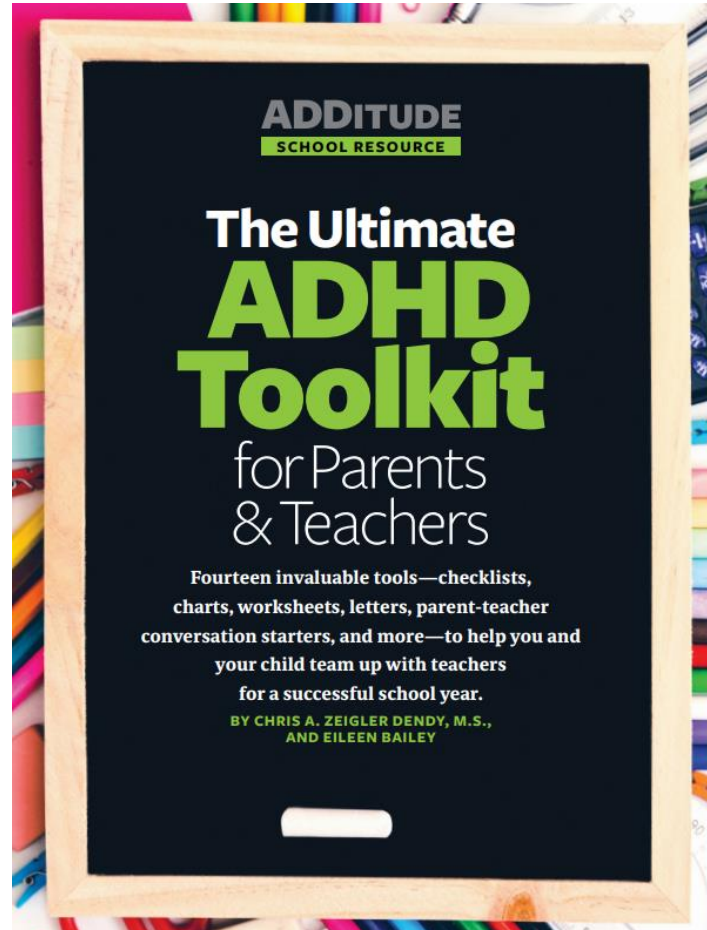
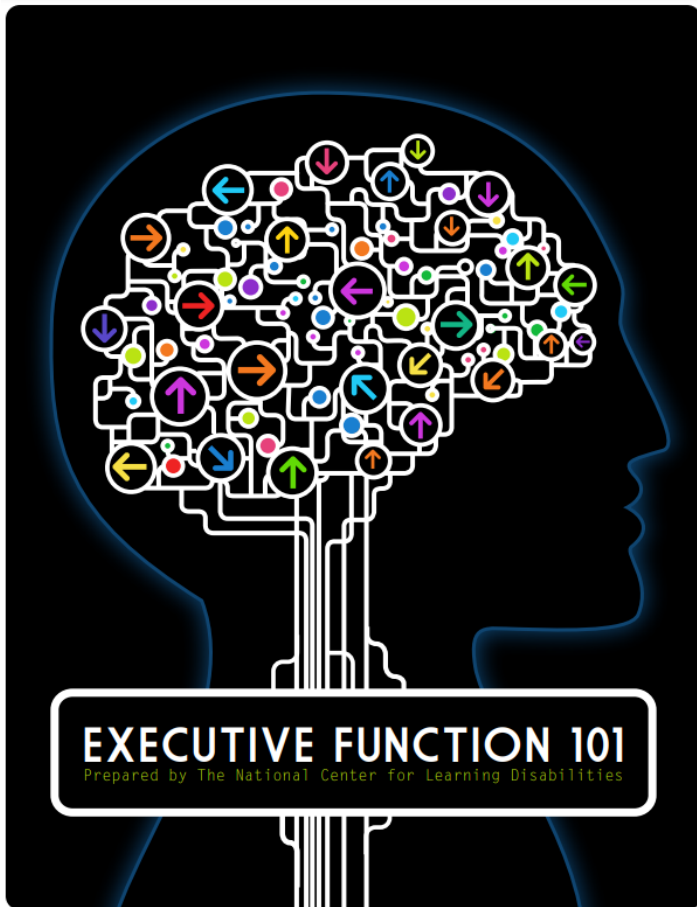
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# ADHD AND EXECUTIVE FUNCTION



# RESOURCES CONTINUED....



## EXECUTIVE SKILL DEVELOPMENT BY AGE

	PLANNING	TIME MANAGEMENT	TASK INITIATION	ORGANIZATION	PROBLEM SOLVING	FLEXIBILITY	WORKING MEMORY	EMOTIONAL CONTROL	IMPULSE CONTROL	ATTENTIONAL CONTROL	SELF-MONITORING
<b>INFANT (0-24 MONTHS)</b>	<ul style="list-style-type: none"> <li>Focusing for objects.</li> <li>Pointing &amp; grabbing.</li> </ul>			<ul style="list-style-type: none"> <li>Shows interest in color, size, shapes.</li> <li>Beginning matching skills.</li> </ul>	<ul style="list-style-type: none"> <li>Engages in cause and effect play.</li> <li>Figuring out 'how things work' through simple body movements and basic play skills.</li> </ul>	<ul style="list-style-type: none"> <li>Older children in this range play simple role play or imaginative play games.</li> </ul>	<ul style="list-style-type: none"> <li>Plays hide and seek and simple recall games.</li> <li>Participates in and enjoys familiar rhymes and songs.</li> </ul>			<ul style="list-style-type: none"> <li>Plays simple games like peek-a-boo and pat-a-cake.</li> <li>Imitation and copying behaviors emerge.</li> </ul>	
<b>TODDLER (2-4 YEARS)</b>	<ul style="list-style-type: none"> <li>Understands simple instructions and can run simple errands.</li> </ul>	<ul style="list-style-type: none"> <li>Beginning understanding of time concepts including seasons, days, weeks, etc.</li> <li>Follows visual picture schedules to order tasks.</li> <li>Practices waiting.</li> </ul>	<ul style="list-style-type: none"> <li>Able to independently start and complete tasks that take up to 10 minutes.</li> </ul>	<ul style="list-style-type: none"> <li>Understands categories and patterns.</li> <li>Can sort toys and objects by function, form, and class.</li> <li>Cleans up toys and belongings with adult assistance.</li> </ul>	<ul style="list-style-type: none"> <li>Completes simple puzzles and games that combine language and movement to accomplish a goal.</li> <li>Decision-making and turn-taking during play promote basic problem solving.</li> </ul>	<ul style="list-style-type: none"> <li>Beginning skills to shift between activities.</li> <li>Sometimes able to manage transitions and unexpected changes without upset.</li> </ul>	<ul style="list-style-type: none"> <li>Follows along to songs and fingerplays with many steps and movements.</li> </ul>	<ul style="list-style-type: none"> <li>Labels own emotions and the emotions of others.</li> <li>May often have tantrums or upset when frustrated, tired, or overwhelmed, requiring adult comfort to soothe.</li> </ul>	<ul style="list-style-type: none"> <li>Plays active inhibition games like musical chairs and freeze dance.</li> <li>Learns to inhibit safety-related behaviors like touching a hot stove and street safety.</li> </ul>	<ul style="list-style-type: none"> <li>Able to direct attention to objects and activities for longer periods of time.</li> <li>Responds to adult cues and redirections back to 'pay attention' when needed.</li> </ul>	<ul style="list-style-type: none"> <li>Talks about own feelings and connects simple behaviors with emotions.</li> <li>Plays along with other children, directing play and accepting play ideas.</li> </ul>
<b>EARLY LEARNER (5-12 YEARS)</b>	<ul style="list-style-type: none"> <li>Able to follow a planned-out set of steps to meet an end goal.</li> <li>Plays fast moving games and games requiring strategy and planning ahead.</li> </ul>	<ul style="list-style-type: none"> <li>Developing time estimation and a sense of how long tasks will take.</li> <li>Beginning skills to manage leisure time and required tasks.</li> </ul>	<ul style="list-style-type: none"> <li>Able to independently start and complete tasks that take between 30-60 minutes.</li> </ul>	<ul style="list-style-type: none"> <li>Able to organize and sequence stories.</li> <li>Can follow simple checklists.</li> <li>Gathers materials for familiar routines, often with adult assistance and reminders.</li> </ul>	<ul style="list-style-type: none"> <li>Identifies and defines problems to many simple social and academic tasks.</li> <li>Emerging skills to brainstorm and break apart problems to identify solutions.</li> </ul>	<ul style="list-style-type: none"> <li>Participates in organized social activities like sports, clubs, and activities where unpredictable events occur.</li> <li>Often uses adult support to dynamically adjust.</li> </ul>	<ul style="list-style-type: none"> <li>Independent with puzzles, logic games, and coordinated group activities.</li> <li>Able to collect information and apply it to new settings.</li> </ul>	<ul style="list-style-type: none"> <li>Learns to control tantrums and frustrations without adult comfort.</li> </ul>	<ul style="list-style-type: none"> <li>Follows safety rules and most social norms for behavior.</li> <li>Behavior maintains when teachers or adults are not around.</li> </ul>	<ul style="list-style-type: none"> <li>Able to save money for desired objects.</li> <li>Developing note taking, reminders, and planning tools to help sustain attentional control.</li> </ul>	<ul style="list-style-type: none"> <li>Able to complete activities like journaling to reflect on own behavior.</li> <li>Checks own work for simple mistakes.</li> </ul>
<b>TEEN (13-18 YEARS)</b>	<ul style="list-style-type: none"> <li>Able to independently plan out the steps of homework or important projects to meet an end goal.</li> <li>Works in a group of peers to plan social activities and events.</li> </ul>	<ul style="list-style-type: none"> <li>Estimates how long it takes to complete tasks and adjusts working speeds to fit.</li> <li>Understands and works to avoid the consequences of ineffective time management.</li> </ul>	<ul style="list-style-type: none"> <li>Able to independently start tasks that take between 60-90 minutes.</li> </ul>	<ul style="list-style-type: none"> <li>Follows complex school schedules combines with home routines.</li> <li>Able to use systems for organizing schoolwork and activities.</li> </ul>	<ul style="list-style-type: none"> <li>Independently identifies problems at home, school, and with friends.</li> <li>Able to sort out many conflicts and make decisions about complex problems independently.</li> </ul>	<ul style="list-style-type: none"> <li>Able to manage many unpredictable changes to schedules and routines, but may sometimes need adult support to identify strategies to dynamically adjust.</li> </ul>	<ul style="list-style-type: none"> <li>Manages complex tasks requiring integration and application of new information, demonstrating advanced working memory through independent multi-step projects and group activities.</li> </ul>	<ul style="list-style-type: none"> <li>Greater understanding of others' emotions, including empathy and a desire for social change.</li> <li>May experience 'adult feelings' but not have experience yet in how to manage them.</li> </ul>	<ul style="list-style-type: none"> <li>Greater risk-taking behaviors.</li> <li>May begin to test some adult safety behaviors and social norms.</li> <li>May engage in self-talk to help manage impulses.</li> </ul>	<ul style="list-style-type: none"> <li>Able to save money for desired objects as well as creates and executes plans to earn money for desired items.</li> <li>Beginning mindfulness of distractions, but may need adult support to avoid them.</li> </ul>	<ul style="list-style-type: none"> <li>Able to monitor performance and adjust/improve.</li> <li>Uses tools to monitor behavior.</li> <li>May recruit adult feedback or need reminders from coaches, parents, friends, teachers, etc.</li> </ul>
<b>YOUNG ADULT (18+ YEARS)</b>	<ul style="list-style-type: none"> <li>Able to develop and maintain multiple different plans at one time to meet many different goals.</li> <li>Able to establish and meet long-term goals.</li> </ul>	<ul style="list-style-type: none"> <li>Seeks out and implements tools and systems to manage time more efficiently.</li> <li>Uses routines and modifies schedules dynamically to meet changing demands.</li> </ul>	<ul style="list-style-type: none"> <li>Initiates and completes tasks despite adverse conditions and distractions.</li> <li>Prioritizing and planning occurs ahead of beginning most activities.</li> </ul>	<ul style="list-style-type: none"> <li>Maintains neat and orderly systems for daily living tasks.</li> <li>When areas of life like email, household chores, etc. get out of hand, can reorganize as needed.</li> </ul>	<ul style="list-style-type: none"> <li>Generates solutions to complex problems.</li> <li>Persists in developing new and creative strategies to ongoing problems.</li> </ul>	<ul style="list-style-type: none"> <li>Modifies schedules dynamically to meet changing demands.</li> <li>Unpredictability causes occasional stress, but able to handle most changes easily.</li> </ul>	<ul style="list-style-type: none"> <li>Greatest working memory capacity in early adulthood.</li> <li>Able to collect, store, and synthesize information from multiple sources to accomplish tasks and goals.</li> </ul>	<ul style="list-style-type: none"> <li>Emotional modulation in most settings, including controlling outbursts and managing frustration in healthy ways.</li> </ul>	<ul style="list-style-type: none"> <li>Manages impulsive behaviors across a variety of settings.</li> <li>Withholds rushing through things.</li> <li>Sometimes inhibits reckless and dangerous in early adulthood.</li> </ul>	<ul style="list-style-type: none"> <li>Able to sustain attention in the face of many distractions.</li> <li>Eliminates or reduces distractions when needed.</li> </ul>	<ul style="list-style-type: none"> <li>Checks work for mistakes.</li> <li>Monitors and compares own behavior to others' performance.</li> </ul>

# BC CHILDREN'S HOSPITAL/KELTY MENTAL HEALTH

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Rolling with ADHD  
for Families



For: Parents and Caregivers and  
Family Members

THANK  
YOU

