

AD/HD& ASD: Pills AND Skills

Understanding ADHD/ASD, Executive Function, and effective interventions

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**ATTENTION
DEFICIT/HYPERACTIVITY
DISORDER**

Demographics: ADHD

- Apparent in preschool and early school years.
- Between 3 and 5 percent of children have ADHD, or approximately 2 million children in the United States.

Demographics: ADHD

- This means that in a classroom of 25 to 30 children, it is likely that at least one will have ADHD.
- Dramatic increase in recent years, rising 22 percent from 2003 to 2007, according to the CDC

Classification Systems

DIAGNOSTIC AND STATISTICAL
MANUAL OF MENTAL DISORDERS

DSM 5

American Psychiatric Association 2013

Psychiatrists and Clinical Psychologists,

DSM 5 changes

Neurodevelopmental Disorder

Changes age of onset from
age 7 to age 12

ASD and ADHD now can
be diagnosed in a child

ADHD AND GENDER

- Boys vs. girls 2:1
- ADHD: **Hyperactive-Impulsive**
Type: Male
- ADHD **Inattentive** Type:
Female

But

ADHD AND GENDER

- **Recent trends:**
 - **More adult women**
 - **Roughly equal numbers with men (1.6:1)**
(AND GIRLS ARE CATCHING UP)

ADHD ADDITIONAL DIAGNOSES

- Reading disorders/problems
- Oppositional Defiant Disorder (ODD) (about 50% of combined)
- Depression
- Pediatric Bipolar Disorder
- Conduct disorder (CD) (25%)
- Substance abuse

ASSESSMENT instruments for ADHD

- No hard markers neurologically or genetically
- Observer impression in relation to culture/social groupings
- Assessment usually uses several informants to complete questionnaires

EXECUTIVE FUNCTION



EXECUTIVE FUNCTION

- Executive function is a label for those processes in the control of behavior, like
 - **planning,**
 - **coordinating, and**
 - **controlling sequences of action**

- **Inhibition of behavior** may also be an outcome of executive function (Barkley)

EXECUTIVE FUNCTION

- Neurological basis
- Pre-Frontal Cortex (PFC) as well as other brain structures
- Both genetic and environmental influences
- Developmental process

ASD & ADHD

- Impulsivity
- Rigidity and inflexible behavior patterns
- Can't link current to future behavior
- Difficulties in planning , organizing , and sequencing
- Easily stressed
- Excitement/stimulation seeking

Program example

Good Behavior Game

Shout out!

- Barrish, H. H., Saunders, M., & Wolf, M. M. (1969). Good behavior game: Effects of individual contingencies for group consequences on disruptive behavior in a classroom. *Journal of Applied Behavior Analysis*, 2: 119–124.

GBG

- The Good Behavior Game (GBG) is a team-based classroom behavior management strategy that helps young children master the role of student while developing the discipline needed to sit still, pay attention and complete their school work.

GBG: Why bother?

- Sheppard G. Kellam, M.D et al., (2011)
- The Good Behavior Game and the Future of Prevention and Treatment
- *Addictive Science & Clinical Practice*, 6, 73-84.
- Played game in first and second grades
- Followed up; kids were 19-21

GBG: Kellam et al., (2011)

- Significant reductions:
 - drug and alcohol use disorders,
 - regular smoking,
 - antisocial personality disorder,
 - delinquency and
 - incarceration for violent crimes,
- Especially for aggressive and disruptive boys!!!!

Group Contingencies

■ Definition

- A common consequence is contingent on the behavior of
 - An individual member of the group,
 - Part of the group, or
 - Everyone in the group

Group Contingency

- A group contingency can be set up as part of a point economy.
- For example: If the class as a whole completes a task such as being quiet while a visitor is in the room, the entire class gets points.
- Group/team competitions for points:
“Good behavior game”

GBG & token/point systems

Gain versus lose

Staff training: calmness and neutrality when taking points

“Scoring a point” means 1 inappropriate behavior has occurred

GNG: Basic format

- Establish class rules
- Establish student teams and team leader
- Establish criterion to win
- Establish game times: start short 10 minutes
- Start game
- Award a “POINT” each time an inappropriate target occurs (rule violation)
- Tally score for each team
- Award prizes

GBG: Class rules on sign

The sign will post the GBG

1. We will work quietly.
2. We will be polite to others.
3. We will get out of our seats with permission.
4. We will follow directions.

GBG: scoreboard

- Blackboard/chalkboard
- Smartboard
- Dry erase board on easel or clipboard

GBG: scoreboard

- Check marks are recorded on the blackboard for a team when disruptive behavior of any team member occurs.
- If the check marks for a team remain below a pre-set number (4) by the end of the game the team wins.
- All teams may win if their check marks do not exceed the pre-set number

Good Behavior Game: Sample

	Sharks	Dolphins	Whales	Sailfish	Winner
Circle time				 	Sharks

Good Behavior Game: Sample

	Sharks	Dolphins	Whales	Sailfish	Winner
Circle time				 	Sharks
Reading					Dolphin's

Good Behavior Game: Sample

	Sharks	Dolphins	Whales	Sailfish	Winner
Circle time				 	Sharks
Reading					Dolphin's
Desk work	 				Dolphin's Whales

Good Behavior Game: Sample

	Sharks	Dolphins	Whales	Sailfish	Winner
Circle time				 	Sharks
Reading					Dolphin's
Desk work	 				Dolphin's Whales
Math					all!

Options

- Teacher led or child led
- Team elects “peer manager” who awards points
- Positive bonuses
- Competition among temas
 - Daily overall winner: best score
 - Announced by Headmaster daily
 - Team picture on door
 - Winning team gets to chose afternoon activity for room

Good behavior game


■ Class Dojo

Demo Class


Attendance

Select

Random



Class



Cameron



Hugh




Johnny












Matthew

Tap on a student to give them positive feedback.



Demo Class









Attendance Select Random

 Class	 Cameron	 Hugh	 Johnny
 Matthew	 Megan	 Table 1	 Table 2
			






AT&T 6:35 PM 100%

Demo Class

Attendance Select Random

 1 Class	 1 Cameron	 0 Hugh	 0 Johnny
 0 Matthew	 0 Megan	 0 Table 1	 0 Table 2

+

-  Reset points
-  Add students
-  Edit skills
-  Edit class info
-  Sort students by

Cancel

Edit skills

Done

Positive

Needs work



Being On Task



Working Hard



Participating



Add skill

Edit skills

Done

Positive

Needs work



Unprepared



Off Task



Talking out of turn



Add skill



MYSTERY MOTIVATOR

					BONUS
--	--	--	--	--	-------

Name: _____

Comments: _____



GROUP CONTINGENCIES

Benefits

- Can be a time saver
- Can be more practical
- Capitalizes on peer influence and peer monitoring

Drawbacks

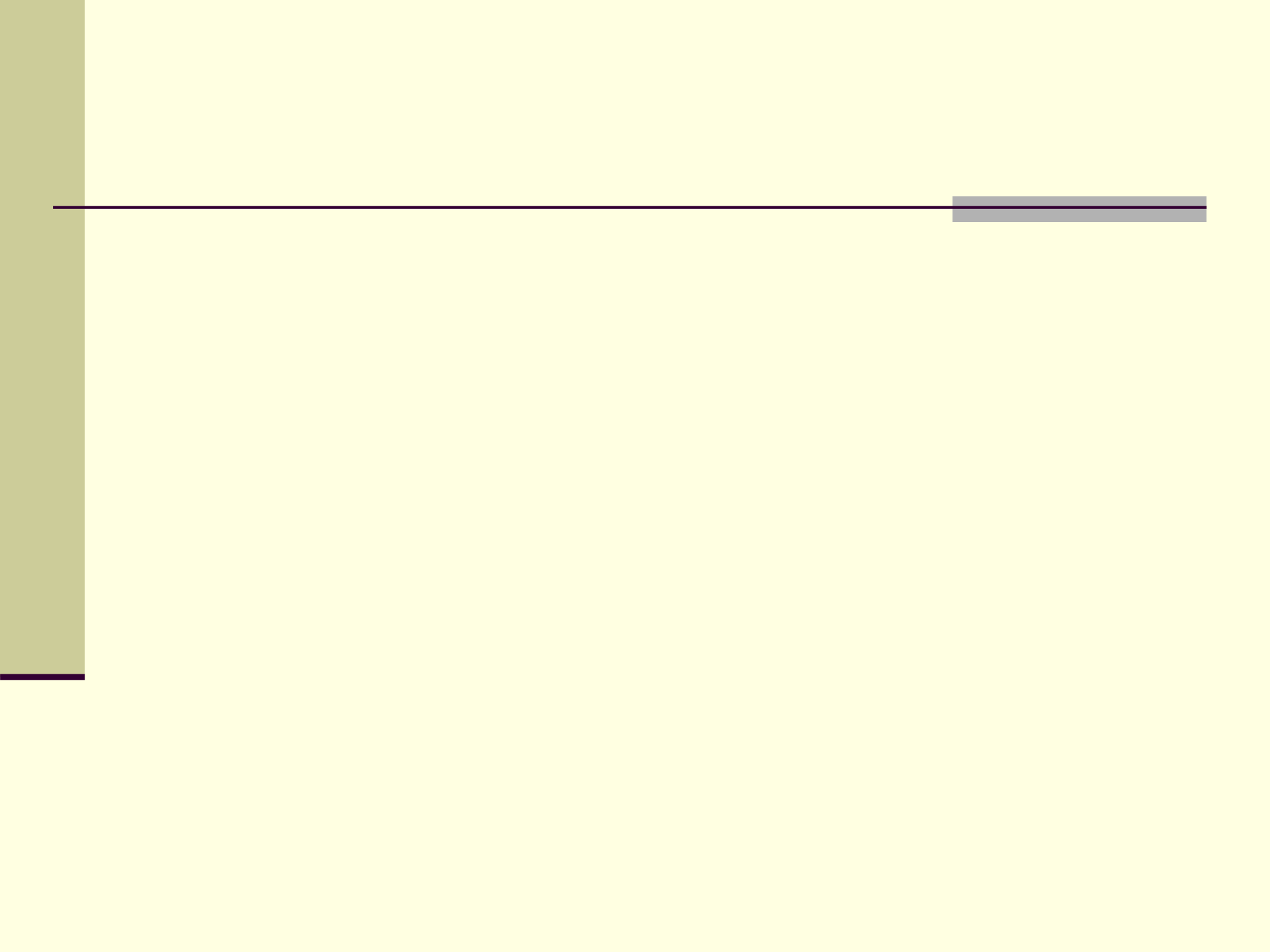
- Must be approved
- Can be exploitative
- Can create social problems for the student who “blows it” for the group
- Can be abused by setting up negative group contingencies

Possible Reinforcers

- Computer time
- Listening to radio/tape player
- Accessing iPad/iPod
- Access to quiet free time area
- Magazines/books or other materials
- One on one time with designated adult
- Seating assignment
- Choosing study buddy

Point/level system in general education

- Organized
- Contract with student
- Communication is the key to success
- Home and school together



Relaxation Training

Behavioral Relaxation Training and Assessment – *Poppen*

Postural relaxation

Behavioral Relaxation Scale

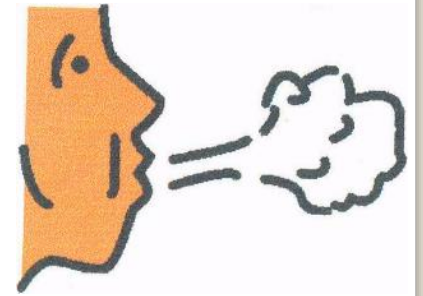
- Weight is supported by a comfortable chair
- Slow breathing begins session
- Body posture is guided by verbal, visual, and physical cue if necessary
- Eyes closed when body is positioned
- Slow count to 50
- Open eyes, maintain posture
- Slow breathing ends session

RELAX

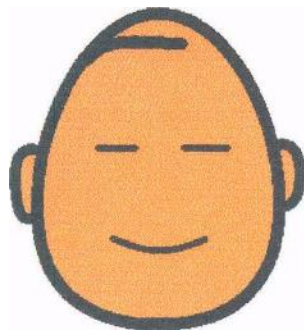


**BREATHE IN
BLOW OUT**

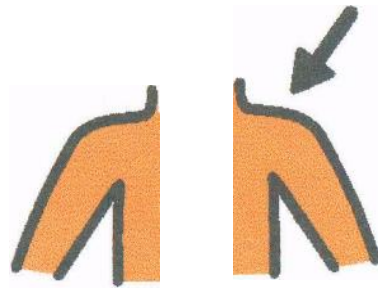
3 TIMES



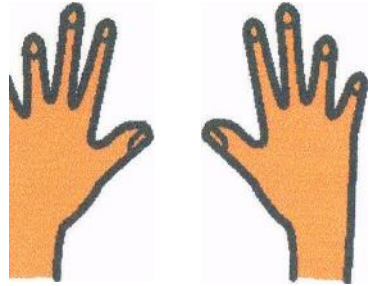
HEAD



SHOULDERS



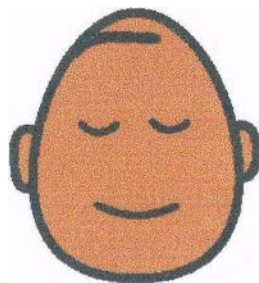
HANDS



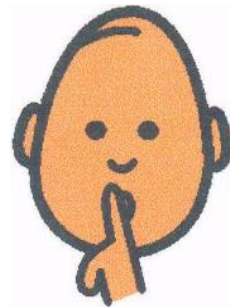
F E E T



EYES



QUIET

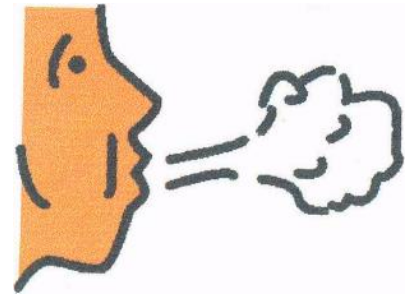


COUNT

TO 50

**BREATHE IN
BLOW OUT**

3 TIMES





BRIEF

BRIEF domains

- Behavioral Regulation Index (BRI)
 - Inhibit,
 - Shift ,
 - Emotional Control

INHIBIT

- Needs to be told "no" or "stop that"
- Does not think before doing
- Interrupts others
- Is impulsive
- Gets out of seat at the wrong times
- Gets out of control more than friends
- Acts too wild or "out of control"
- Has trouble putting the brakes on his/her actions
- Gets in trouble if not supervised by an adult
(males seem to have more influence with males)

SHIFT

- Does not think of consequences before acting
- Cannot get a disappointment, scolding, or insult off his/her mind
- Resists or has trouble accepting a different way to solve a problem with schoolwork, friends, chores, etc.
- Becomes upset with new situations
- Acts upset by a change in plans
- Is disturbed by change of teacher or class
- Resists change of routine, foods, places, etc.
- Has trouble getting used to new situations (classes, groups, friends)
- Thinks too much about the same topic
- Gets stuck on one topic or activity
- After having a problem, will stay disappointed for a long time

EMOTIONAL CONTROL

- Overreacts to small problems
- Has explosive, angry outbursts
- Has outbursts for little reason
- Mood changes frequently
- Reacts more strongly to situations than other children
- Mood is easily influenced by the situation
- Angry or tearful outbursts are intense but end suddenly
- Small events trigger big reactions
- Becomes upset too easily

BRIEF domains

- Metacognition Index (MI)
 - Initiate
 - Working Memory
 - Plan/Organize activities/behavior
 - Organization of Materials
 - Monitor (own behavior)

INITIATE

- Is not a self-starter
- Needs to be told to begin a task even when willing
- Does not show creativity in solving a problem
- Has problems coming up with different ways of solving a problem
- Has trouble getting started on homework or chores
- Does not take initiative
- Has trouble thinking of a different way to solve a problem when stuck

WORKING MEMORY

- When given three things to do, remembers only the first or last
- Has a short attention span
- Has trouble concentrating on chores, schoolwork, etc.
- Is easily distracted by noises, activity, sights, etc.
- Has trouble with chores or tasks that have more than one step
- Needs help from adult to stay on task
- Forgets what he/she was doing
- When sent to get something, forgets what he/she is supposed to get
- Has trouble finishing tasks (chores, homework)
- Has trouble remembering things, even for a few minutes

PLAN/ORGANIZE

- Does not bring home homework, assignment sheets, materials, etc.
- Has good ideas but cannot get them on paper
- Forgets to hand in homework, even when completed
- Gets caught up in details and misses the big picture
- Has good ideas but does not get job done (lacks follow-through)
- Becomes overwhelmed by large assignments
- Underestimates time needed to finish tasks
- Starts assignments or chores at the last minute
- Does not plan ahead for school assignments
- Written work is poorly organized

ORGANIZATION OF MATERIALS

- Loses lunch box, lunch money, permission slips, homework, etc.
- Cannot find clothes, glasses, shoes, toys, books, pencils, etc.
- Backpack is disorganized
- Cannot find things in room or school desk
- Leaves a trail of belongings wherever he/she goes
- Leaves messes that others have to clean up
- Has a messy desk

MONITOR

SOCIAL SKILLS

- Does not check work for mistakes
- Makes careless errors
- Is unaware of how his/her behavior affects or bothers others
- Leaves work incomplete
- Does not notice when his/her behavior causes negative reactions
- Is unaware of own behavior when in a group
- Has poor understanding of own strengths and weaknesses
- Talks or plays too loudly
- Work is sloppy
- Does not realize that certain actions bother others

BRIEF

- Both the parents and the classroom instructor independently complete the 86 item inventory.
- A self-report inventory also is available for students over ten years of age.
- 18 additional clinical items
- Develop an intervention plan and to allow a better prescription of teaching strategies to meet the needs of the student.
- Scoring

Self-Regulation Executive Function Definitions

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- **Perceive**

The Perceive function cues the use of sensory and perception processes to take information in from the external environment or "inner awareness" to tune into perceptions, emotions, thoughts, or actions as they are occurring.

- **Initiate**

The Initiate function cues the initial engagement of perceiving, feeling, thinking, or acting.

- **Modulate/Effort**

The Modulate function cues the regulation of the amount and intensity of mental energy invested in perceiving, feeling, thinking, and acting.

- **Gauge**

The Gauge function cues identification of the demands (perceptual, emotional, mental, physical) of a task or situation and cues the activation of the perceptions, emotions, thoughts, or actions needed to effectively engage the task or situation.

Self-Regulation Executive Function Definitions

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- **Focus/Select**

The Focus/Select function cues the direction of attention to the most relevant specifics (perceptions, emotions, thoughts, and/or actions) of a given environment, situation, or content while downgrading or ignoring the less relevant elements.

- **Sustain**

The Sustain function cues sustained engagement of the processes involved in perceiving, feeling, thinking, or acting.

- **Stop/Interrupt**

The Stop/Interrupt function cues the sudden, immediate discontinuation of perceiving, feeling, thinking, or acting.

- **Inhibit**

The Inhibit function cues resistance to, or suppression of, urges to perceive, feel, think, or act on first impulse.

Self-Regulation Executive Function Definitions

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- **Flexible/Shift**

The Flexible/Shift function cues a change of focus or alteration of perceptions, emotions, thoughts, or actions in reaction to what is occurring in the internal or external environments.

- **Hold**

The Hold function cues activation of the necessary cognitive processes required to maintain initially registered information and continues cueing these processes until the information is manipulated, stored, or acted on as desired.

- **Manipulate**

The Manipulate function cues the use of working memory or other cognitive processes for the manipulation of perceptions, feelings, thoughts, or actions that are being held in mind or being accessed in the environment.

- **Organize**

The Organize function cues the use of routines for sorting, sequencing, or otherwise arranging perceptions, feelings, thoughts, and/or actions, to enhance or improve the efficiency of experience, learning, or performance.

Self-Regulation Executive Function Definitions

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- **Foresee/Plan (Short Term)**

The Foresee/Plan function cues the anticipation of conditions or events in the very near future, such as the consequences of one's own actions, or cues the engagement of the capacities required to identify a series of perceptions, feelings, thoughts, and/or actions, and the likely or desired outcome that would result from carrying them out in the very near future.

- **Generate**

The Generate function cues the realization that a novel solution is required for a current problem, and cues the activation of the resources needed to carry out the required novel problem solving.

- **Associate**

The Associate function cues the realization that associations need to be made between the current problem situation and past problem situations and cues the activation of the resources needed to carry out the required associative problem-solving routines.

Self-Regulation Executive Function Definitions

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- **Balance**

The Balance function cues the regulation of the trade-off between opposing processes or states (e.g., pattern vs. detail; speed vs. accuracy; humor versus seriousness) to enhance or improve experiencing, learning, or performing.

- **Store**

The Store function cues the movement of information about perceptions, feelings, thoughts, and actions from the mental processing environment of the present moment into "storage" for possible retrieval at a later time.

- **Retrieve**

The Retrieve function cues the activation of cognitive processes responsible for finding and retrieving previously stored information about perceptions, feelings, thoughts, and actions. The more specific the demands or constraints placed on the retrieval task, the greater the requirements for precision of retrieval cues.

Self-Regulation Executive Function Definitions

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■ **Pace**

The Pace function cues the awareness of and the regulation of, the rate at which perception, emotion, cognition, and action are experienced or performed.

■ **Time**

The Time function cues the monitoring of the passage of time (e.g., cueing the engagement of the mental functions that enable a person to have an internal sense of how long they have been working) or cues the use of time estimation routines (e.g., cueing the engagement of mental functions that enable a person to have an internal sense of how long something will take to complete, or how much time is still left in a specific period of time).

■ **Execute**

The Execute function cues the orchestrating of the proper syntax of a series of perceptions, feelings, thoughts, and/or actions, especially in cases where automated routines are being accessed or are initially being developed.

Self-Regulation Executive Function Definitions

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- **Monitor**

The Monitor function cues the activation of appropriate routines for checking the accuracy of perceptions, emotions, thoughts, or actions.

- **Correct**

The Correct function cues the use of appropriate routines for correcting errors of perception, emotion, thought, or action based on feedback from internal or external sources.

- **Types of EF/ prompting systems needed from external sources**

Executive function issues

- Adults may need to provide the “function” in varying degrees of intensity for extended period (possibly years)
- Greater support may be needed during periods of high stress/turmoil

Executive function issues

Failure to remediate EF issues leads to academic problems which leads to continued academic problems, self esteem issues and we see where this is headed...

Qwik fast and slow thinking
quiz



Reactions

Ready to learn?

Mad?

$$17 \times 24 = ?$$

Answer

now!!!!!!

Reactions?

- Hey I'm on break—I don't have to do math
- Where's my calculator?
- Umm...
- 608—no I mean 522—no I mean... (uh 408, right!)



INTERVENTIONS



CONTEXT

Medication

May have very positive effects

Short term benefits and
habituation

Usually need combination of
medication and educational
/behavioral supports (NIMH
MTA)

Interventions issues—Ask yourself

- Attitudes of adults regarding control and power
- Discipline versus supports: where is the locus of change?
- Supports versus expectation for change

Behavioral expectations and values

- He needs to be intrinsically motivated
- He can do it—he just doesn't want to
- He needs to try harder

- WHO OWNS THE PROBLEM?

PBS: Tier/Level 2

- Small reading groups
- Social skills groups
- Homework clubs/ study buddies
- **Check in check out**
- Formal home/school daily communication system & EF supports
- Transition support
 - Peers to help with lockers or navigating
- Increasingly-CAI: proactive use of academic software (A+ or Credit Recovery/Novanet)

Functional Behavior Assessment: FBA

- Formal or informal process
- Identify triggers and consequences of specific behaviors
- Teach replacement skills that **match the function** of the behavior
- Develop environmental supports to prevent occurrence of targeted behavior while teaching skills to self manage the situation

Intervention matching

Identify possible causes of behavior

Base intervention on function of behavior

Develop positive opposite as target of reinforcement and as alternative

Break down problem into specific skill deficits

Teach prerequisite skills or component skills

Provide adult/peer supports for the function

FBA PURPOSE

- Looking for patterns—not single events or behavior
- Trying to develop a hypothesis about function/causes of the behavior
- Both informal and formal levels: can apply the same process

RULES FOR INSTRUCTIONS

Make Sure You Want It! (Is it important to you?)

Say what you want to have happen

*Present the instruction as a statement
not a question or favor*

*Don't give too many instructions at
once or*

One instruction too many times

RULES FOR INSTRUCTIONS 2

- *Make sure the student is paying attention to you*
- *Reduce all distractions before giving the instruction*
- *Ask the student to repeat the instruction*
- ***Reinforce Compliance with the instruction!***

ADHD organizational/ supports program at both home and school.

- Provide prompts at the point of performance
- Provide prompts at the point of performance
- Provide prompts at the point of performance
- Provide prompts at the point of performance

General interventions

- Perform a formal or informal FBA to determine function of behavior
- Develop strategy
- Implement
- Evaluate
- Repeat,
- Repeat
- Repeat

INHIBIT

Behavioral incentive systems;

Delay of gratification programs,

Sooner-Smaller

Later-Larger

Treasure box plus!!!!!!!!!!!!

Self-monitoring; timers, talking tapes or iPods,
iPads, iPhones; Motivaider; (team leader)

Contingency contracting; video contracting

Self talk/instructions; **mindfulness**

Behavioral rehearsal & reinforced practice

SHIFT

Transition systems with advance notice;

Finish later options

Sabotage training

Self timers during preferred activities

Language exercises

“eye drops off the shelf”

“Kids make nutritious snacks”

“Hospital sued by seven foot doctors”

Optical illusions



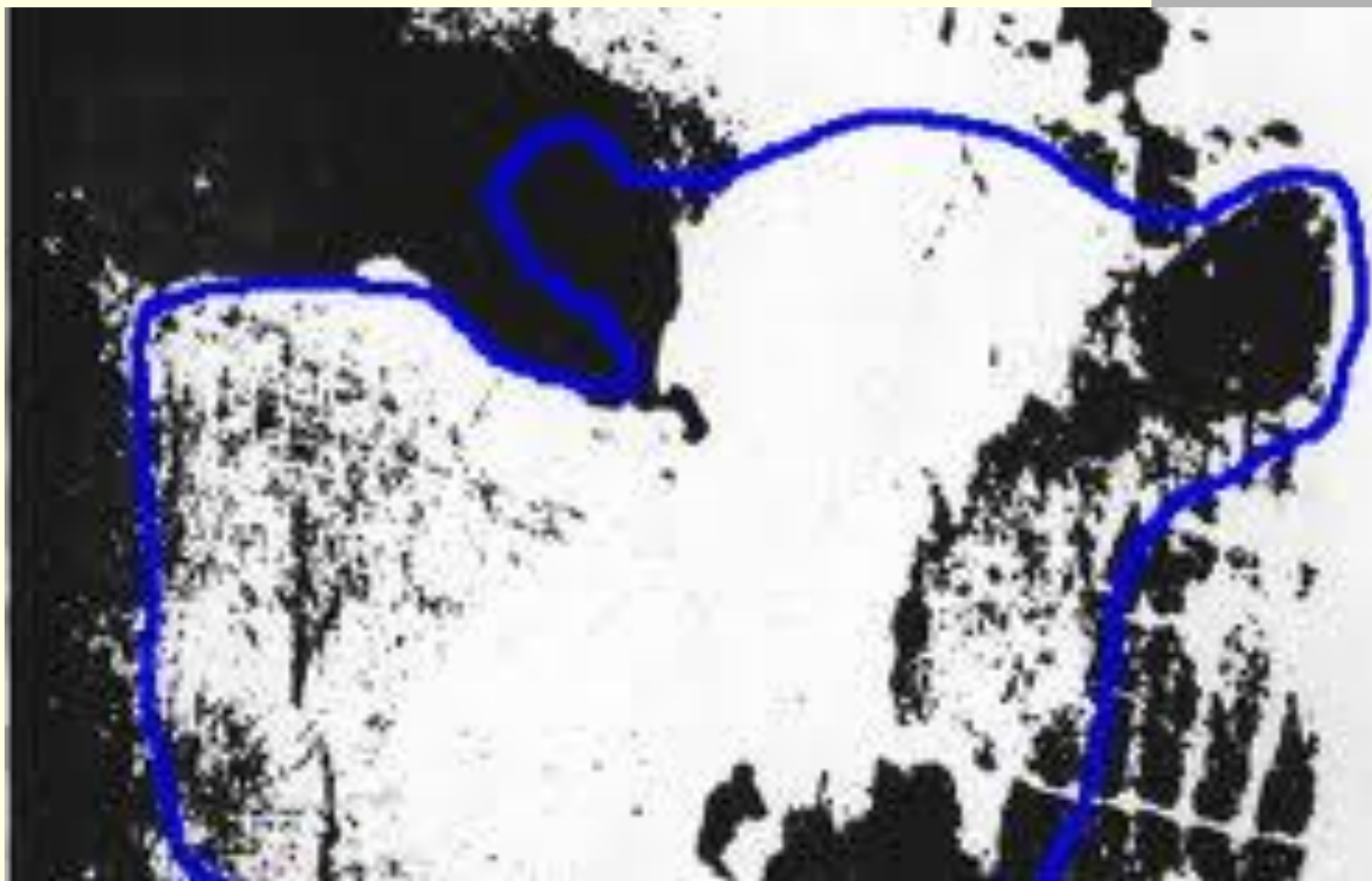
Teacher Tip:

- Teach Perspective using optical illusions.
- This can help students see their perception may not be the only perception.
- www.Illusions.org



Optical Illusion Example 3





Emotional Control

- Anger management training
- Relaxation training
- Social skills training
 - Frame of reference: other person's perspective
- Counseling and ADHD education

Behavioral Relaxation Scale

- Weight is supported by a comfortable chair
- Slow breathing begins session
- Body posture is guided by verbal, visual, and physical cue if necessary
- Eyes closed when body is positioned
- Slow count to 50
- Open eyes, maintain posture
- Slow breathing ends session

Initiate

- Behavioral incentive systems;
- Scheduling and sequence training
 - How much time does it take?
- Visual strategy training;
- Individual “brain storming”,

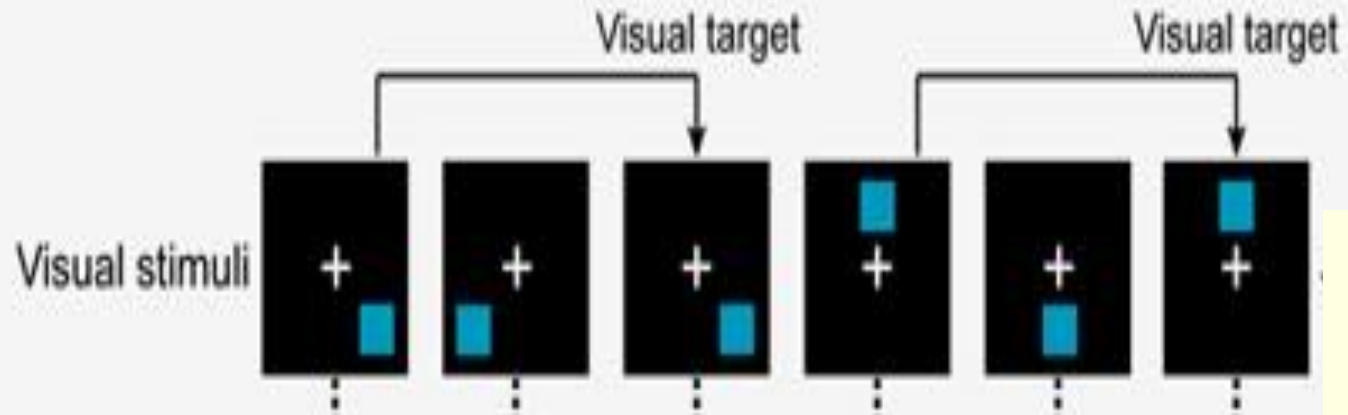
Initiate: visual strategies.

- Schedules: hour day weekly month
- Trapper keepers
- Color coding
- Graphic organizers
- Visual Task analysis
- Check listing
 - Routines checklist; Activity CL & Desk CL
- Option cards

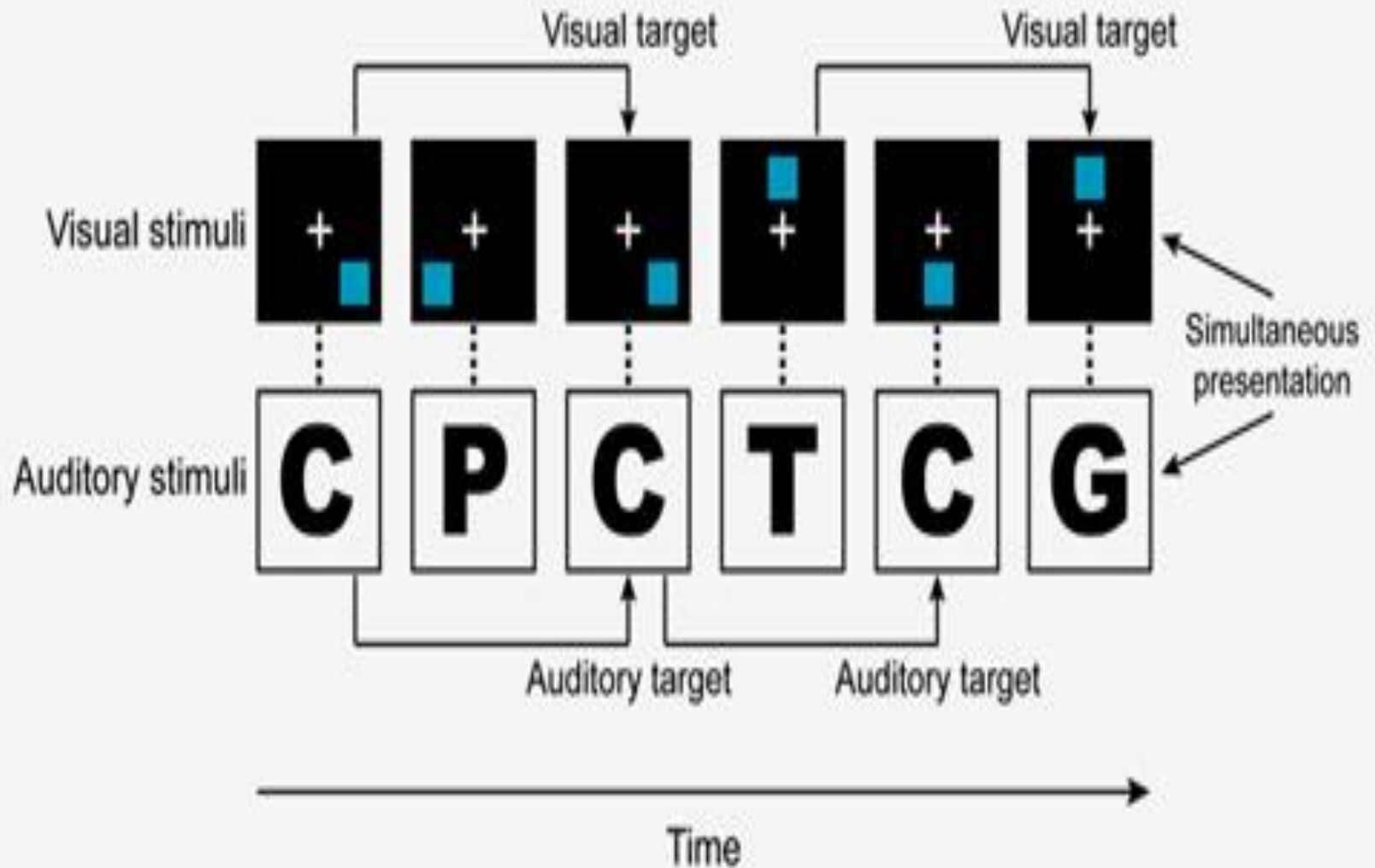
Working Memory

- “N-back” and DNB” activities;
- “concentration’ game;
- Computer programs:
 - Cogmed
 - Lumosity
 - Brain Workshop

Example of 2 back



Example of Dual 2 back



Plan/Organize

- Task analysis
- Check listing;
- Learning to schedule;
- Day runners/calendar helpers;
- Electronic aids: iPods, iPads

When I wash my hands,
I need to

1. turn on water
2. wet hands for 5 seconds
3. get soap- push 3 times
4. rinse hands
5. turn off water
6. get paper towel- push 3 times
7. dry hands
8. throw paper towel away
9. my hands are clean and I'm all done



ACTIVITY CHECK LIST

ACTIVITY Coming into Room

DONE STEPS

1 Stop outside door

2 Count to 10 slowly

3 Whisper to self "Chill"

4 Put hands in pockets

5 Walk to desk

6 Use inside voice at desk

7

8

Organization of Materials

- Checklists;
- Color coding
- Graphic Organizers
- Pictures of desired outcome
- External supports (adults!)
- Study buddy
- Software: OneNote/ Power Point

Monitor

- Direct training: buzzer game
- Self monitoring; Motivaider/Mindfulness
- Role play and reverse role play;
- Replay cards;
- Social skills training,
- Emotion recognition training
- Video modeling and feedback;

ADHD organizational/ supports program at both home and school.

- Set up a specific area at home in which to do homework.
- Remove distractions.
- Separate materials and have them ready at desk (i.e. pencils, paper, etc. (maintained by Mom/Dad) to eliminate distracters.
- Have second set of books at home
- Have homework communication system

ADHD organizational/ supports program at both home and school.

- Establish specific places and routines for transitions.
- For example, establish an area for homework / backpack etc. when getting home from school **every day**. It is always in the same place and the routine is done first.
- Establish a written/visual sequence/task analysis for morning and afternoon routine

ADHD organizational/ supports program at both home and school.

- Take a picture of what his desk should be like to begin; take a picture of what to lay out for school the next day to use as prompts.
- Utilize color coded flow charts as an organizing tool rather than just text lists (although text lists are better than nothing).
- Color code book covers and subject folders for easier coordinated use.



ADHD organizational/ supports program at both home and school.

- Teach specifically how to use a daily planner or scheduler.
- Develop a homework/ “study buddy” from Reed’s class who could be an easy contact to call regarding missed assignments or questions.

ADHD organizational/ supports program at both home and school.

- Develop teacher/parent voicemail/email communication back up systems in addition to back and forth communication log.
- Have daily performance and problem solving reviews at home and school to provide feedback and short circuit problems before they get out of hand.

Resources

- Lumosity
- Cogmed
- Brain Workshop

Info

- PowerPoints
- BCBA information
- dreedbechtel@gmail.com

