

**EXECUTIVE FUNCTION
STRENGTHENING SELF-REGULATION
FOR STUDENTS WITH AUTISM AND INTELLECTUAL DISABILITIES**

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EXECUTIVE FUNCTIONING

INHIBITORY CONTROL

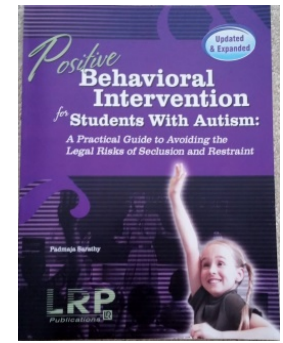
- **Webinar Focus Topic: Executive Function (EFs) Component– Inhibitory Control**
 - The role of Inhibitory Control (and EFs) for academic, school and life success
 - Discuss issues associated with Inhibitory Control
 - Learn specific strategies to address Inhibitory Control (self-control) difficulties

PARTICIPANT POLL

- Special Education Teacher?
- Administrator?
- Therapist?
- Support Staff?
- General Education Teacher?
- Paraeducator?
- Parent?
- Other?



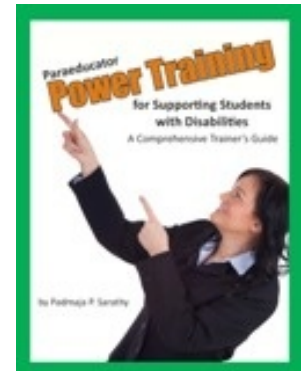
Author & Educational Consultant
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- **Positive Behavior Strategies for Students with ASD: A Practical Guide to Avoiding the Legal Risks of Aversives, 2013.** Publisher: LRP Publications, (www.shoplrp.com)
- **Autism Spectrum Disorders: Seven Steps of Support, 2015.** A quick reference laminated guide; Publisher: National Professional Resources, Inc. (www.nprinc.com)
- **Serving Students with Severe and Multiple Disabilities (Second Edition), 2014:** A Guide to Strategies for Successful Learning (Publisher: LRP, www.shoplrp.com)
- **Sarathy, P., 2017. Students with Significant Disabilities: At the Crossroads of IDEA and ESSA.** LRP Publications. Recently released.

BOOKS AND PRODUCTS

- **Paraeducator Training DVD and Trainee Manual, 2013.** (Park Place Publications - www.ed311.com)
 - A 'Trainer of Trainers ' DVD with multiple training units and Paraeducator Trainee Manual
- **From Early Intervention... to Preschool Program... and School-Age Services: A Parent's Guide, 2006.** (LRP Publications, www.shoplrp.com)
- **Together We Succeed: Building a Better System for Transitioning Preschoolers with Disabilities , 2004.** (LRP Publications).
- **STEM Teaching Strategies for Young Learners.(2016).** A quick reference laminated guide. Legal Digest - www.ed311.com
- **Magical Musical Transitions (2009).** A Music CD for assisting children with Autism Spectrum Disorders. Marketed by [www. nprinc.com](http://www.nprinc.com)



EXECUTIVE FUNCTION SKILLS

- **Executive function skills are crucial building blocks for the early development of both cognitive and social capacities.**
 - These are not skills that children are born with but develop over time, shaped by experiences.
- **Having executive function in the brain is like having an air traffic control system at a busy airport.**

EF COMPONENTS

- There are 3 core functions needed to build EFs:
 - Working Memory
 - Cognitive or Mental Flexibility.
 - Inhibitory Control (self-control)
- Each type of EF skill draws on the elements of the other.
- Results of a longitudinal study show that children with inhibitory control issues (exhibiting less persistence, more impulsivity and poorer attention regulation) grew up to have worse health, earn less money, be less happy, and commit more crimes 30 years later than those with better inhibitory control as children (Moffitt et al, 2011).

INHIBITORY-CONTROL

- Inhibitory Control (Self-Control) is the skill we use to master and filter our thoughts and impulses so we can resist temptations, distractions, and habits and to pause and think before we act.
- Children rely on this skill...
 - To maintain alertness and focus, resist distractions even when the task appears tedious, uninteresting and not of interest
 - When they wait until they are called on when they know the answer or have to wait their turn in a game or to speak in a group
 - To stop themselves from yelling at or hitting another student who may have unintentionally pushed them

HOW DOES IT MANIFEST ITSELF IN STUDENTS WITH SPECIAL NEEDS?

- Students with the diagnosis of ADHD, Autism Spectrum Disorders (ASD), Emotional Disturbance and with Intellectual Disabilities may experience problems with exercising inhibitory control (self-control). Issues may be:
 - Behavioral meltdowns in adjusting to changes
 - Filtering out distractions and exercising self-regulation
 - Difficulty focusing attention and completing a task (Skill deficit could be partially triggering the problem).

"Children do well if they can. An explosive outburst-like other forms of maladaptive behavior-occurs when the cognitive demands being placed upon a person outstrip that person's capacity to respond adaptively."

-Ross Greene

EF CHALLENGES: INHIBITORY-CONTROL

WHAT DOES IT LOOK LIKE?

Does the Student:

- Need to be told “no” or “stop that” frequently?
- Get out of his seat at the wrong time?
- Get in trouble if not supervised by an adult?
- Not think of consequences before acting?
- Blurt out answers in class?
- Interrupt others?
- Get distracted by internal and external stimuli?
- Engages in constant noise making?

EF CHALLENGES: INHIBITORY-CONTROL

WHAT DOES IT LOOK LIKE? (CONTINUED)

- **Does the Student:**

- Show extreme reactions to seemingly minor events?
- Exhibit low tolerance for frustration?
- Exhibit difficulty tolerating mistakes?
- Experience behavioral outbursts?
- Demonstrate poor coping strategies?

(Wilkins and Burmeister, 2013)

- Engages in physically aggressive behaviors?
- Failing to think of consequences before acting?

STRENGTHENING INHIBITORY-CONTROL: WHAT WILL HELP?

In teaching students to exercise inhibitory control, we need to provide them with the cognitive tools to:

- Reflect before acting
- Control impulses
- Learn to calm down
- Resist temptations and distractions

✓ Environmental Supports

✓ Instructional Supports:

✓ Preventives

✓ Calming Tools

SELF-CONTROL: ENVIRONMENTAL SUPPORT STRATEGIES

- **Reduce distractions within the environment –
Seat student away from distractions.**
- **Use timers and visuals to assist with waiting.**
- **Provide structured routines and schedules.**
- **Offer choices (gain control with giving control).**
- **Plan for breaks between activities (adjust tasks)**
- **Incorporate movement between activities/tasks.**

HAVING A SAFE SPACE TO CALM DOWN WITHIN THE CLASSROOM SETTING IS ESSENTIAL.

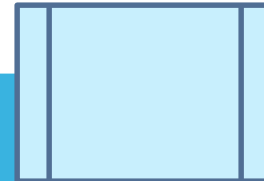


**When I feel
angry**



**there
are things I
can do to feel
calm again.**

A Calming Station



SELF-CONTROL: ENVIRONMENTAL SUPPORT STRATEGIES

- Watching for signals of restless and jittery and intervening before the behavior escalates.
 - Providing discrete signals to help the student
 - Providing fidget toys to offer sensory support to calm down
- Modeling thinking process when feeling agitated
 - Posting a chart of class rules paired with photos to serve as a visual reminder
 - Attaching calm-down steps on individual desk

SELF-CONTROL INSTRUCTIONAL SUPPORTS

Problem	Solutions to Consider
Behavior Outbursts (impulsive) Low tolerance for frustration	Pre-teach immediately before likely situations
Not consider consequences before acting	Teaching Self-monitoring, Relaxation and Coping strategies and use of Calming Cards
Interrupts others/blurts out answers	Using social narratives to learn to predict and reflect; Model thinking process Have student analyze & use self-questioning.
	Wait cards Video modeling Reinforcement Punch Card to earn a reward Timed feedback (encouraging) for not engaging in unacceptable behavior

INHIBITORY CONTROL: WHAT WILL HELP?

- Roleplay problematic situations and rehearse how to respond to situations that are stressful.
- Implement self-management training to help students to practice self-calming and gain self-regulation:
 - Teach self-talk strategies (to engage in positive self-talk)
 - Use self-monitoring charts
 - Deep breathing to calming down when feeling anxious
- Provide immediate and positive feedback

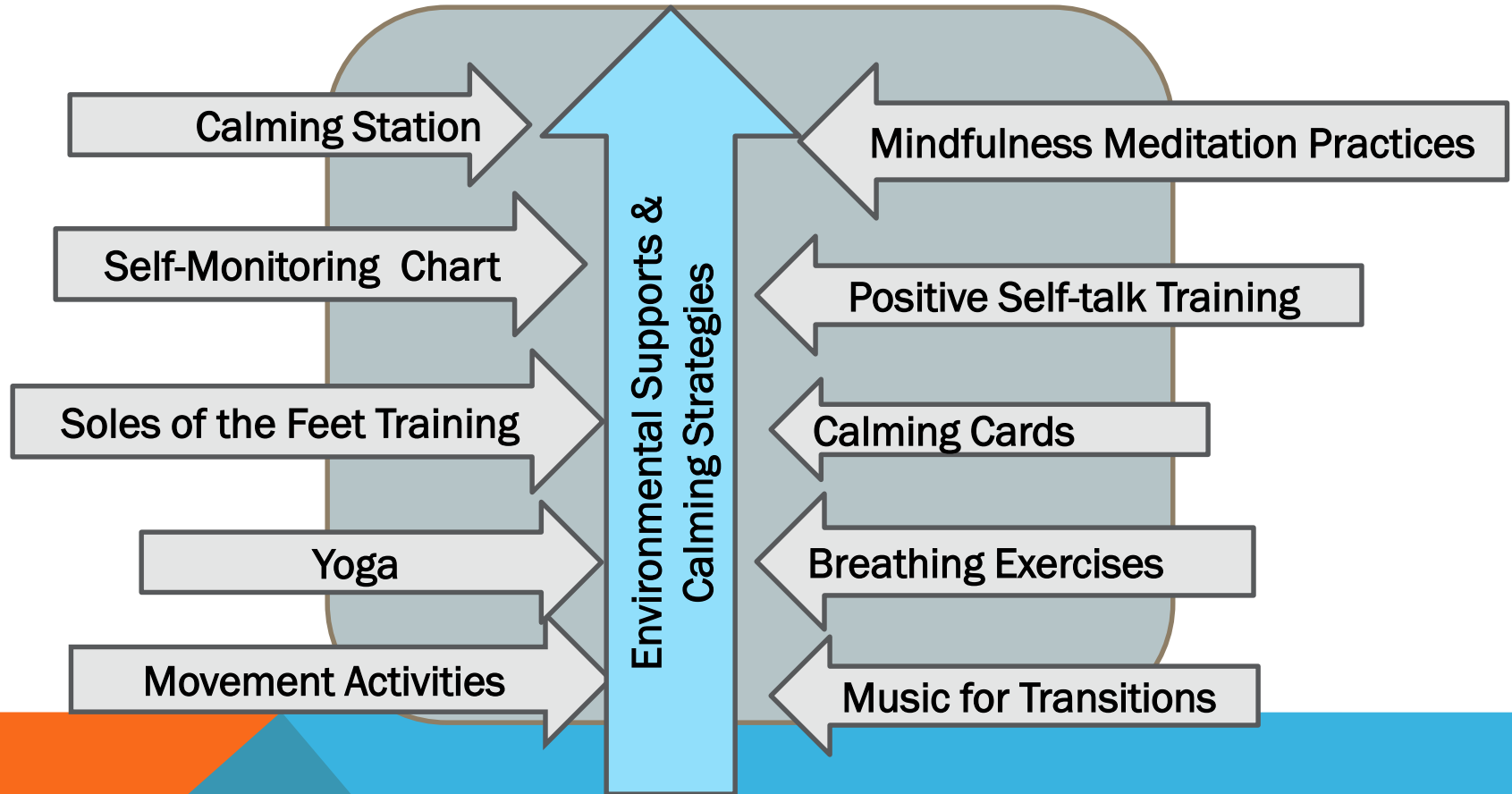
STRATEGIES FOR BUILDING FOCUS AND SELF-REGULATION

- **Ensure that students who need picture supports or speech generating devices are using the needed tools to avoid stress and frustration.**
- **Organize group games where children have to pay attention and follow the rules, and wait their turn.**
 - Will help develop focus and self-control.
- **Energize the brain with a physical activity (helps to reduce stereotypical behaviors) to enable them to focus on the task.**
- **Helping children come up with their own plans for dealing with temptations and distractions.**

WHAT IS YOUR MOST COMMONLY USED TECHNIQUE TO ADDRESS INHIBITORY CONTROL (SELF-CONTROL) ISSUES?

- Watch and pre-teach immediately before problem occurs
- Visual Supports (Rule Cues, Calming Cards, etc.)
- Timeout approaches
- Video modeling
- Calming techniques (breathing exercises, mindfulness strategies, etc.)
- Physical Movement (Yoga, Games, etc.)

INHIBITORY-CONTROL (AND COGNITIVE FLEXIBILITY) TOOLS



MINDFULNESS-BASED STRATEGY

- Singh and colleagues (2011) evaluated the effectiveness of a mindfulness based procedure, **'Meditation on the Soles of the Feet (SoF)'** to defuse anger and reduce aggression
- SoF can be used by parents, staff and people with a mild to moderate intellectual disability.
- Results suggest that adolescents with autism can learn and use, a mindfulness-based procedure to self-manage their physical aggression over several years (<http://ees.elsevier.com/RASD/default.asp>) .



FROM THE NEUROSCIENCE PERSPECTIVE

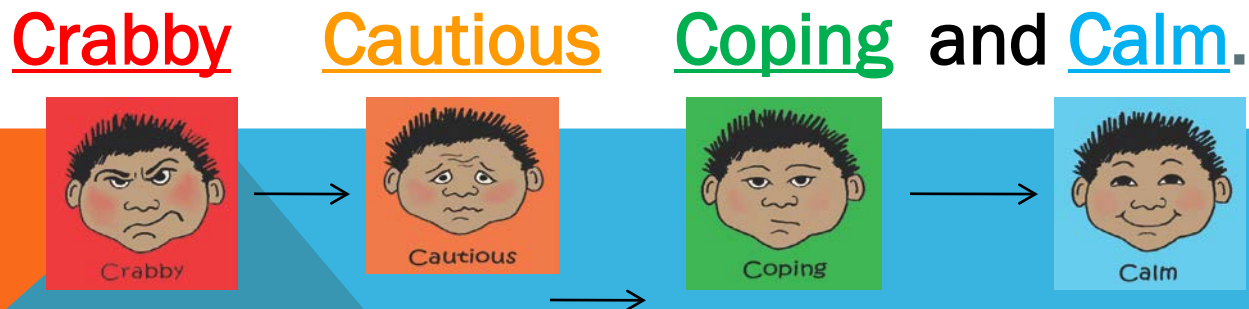
Using contemplative practices (meditation) to change brain function and structure (Center for Investigating Healthy Minds)

- To help children with affective and anxiety disorders
- Teach preschool children to pay attention to the inside and outside - a “moment-by-moment non-judgmental attention or awareness”
- Not only being aware of the emotions that one is experiencing but being aware of others, being aware of the environment.
- Match differences in cognitive and emotional style with strategies that are maximally effective for that person.

* Dr. Davidson's work in neuroscience - <http://www.onbeing.org/program/investigating-healthy-minds-richard-davidson/transcript/4715>

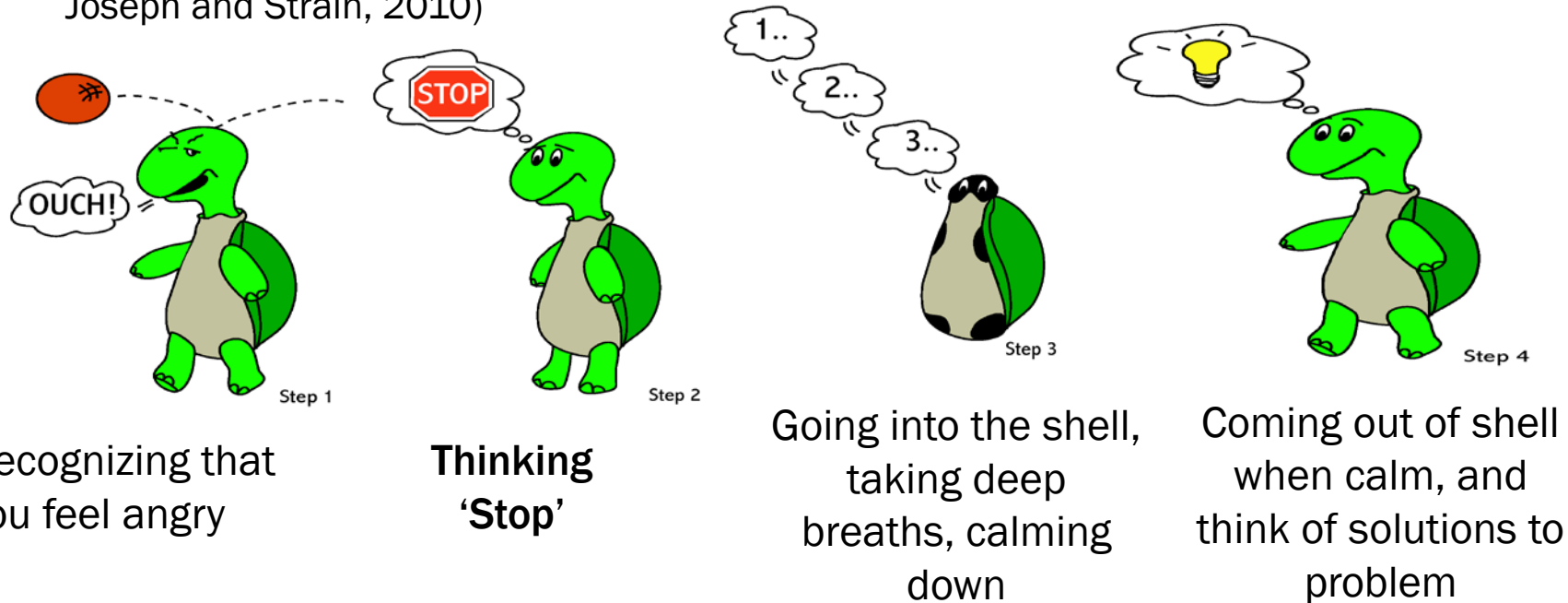
SELF-MONITORING TOOL: A CALMING PROCEDURE

- Teaching self-regulation and self-monitoring with the aid of 'Color Coded Calming Cards' (C-Four Cards):
 - To help student to calm-down.
- The primary objective of the C-Four Cards (Sarathy, 2009) is to assist students with ASD to self-regulate their own behavior when a meltdown is threatening.
- There are four color-coded cards each representing a different emotional state of mind:



ANGER AND IMPULSE CONTROL – THE TURTLE TECHNIQUE

- Children need to learn to recognize and regulate their own emotional responses and stress levels.
- The “turtle technique” a CBI strategy, helps children self-manage anger and disappointment. Has been successfully used with preschool and kindergarten age children (cited in Joseph and Strain, 2010)



Adapted from Center on the Social and Emotional Foundations for Early Learning (CSEFEL)
Web address: <http://www.vanderbilt.edu/csefel/>

Yoga Therapy Tool

To Calm-down and Build Focus



Yoga Therapy is a form of physical exercise that helps the student to calm down: Yoga relieves tension in the muscles and aids in relaxing them.

Yoga training helps students to focus better leading to improved behaviors.

RESOURCES FOR EFS – INHIBITORY CONTROL

- Autism Internet Modules (www.autisminternetmodules.org), Columbus, OH: OCALI.
- Center on the Developing Child, Harvard University (2015). Key concepts: Executive Function. Retrieved from http://developingchild.harvard.edu/key_concepts/executive_function/
- Center on the Social and Emotional Foundations for Early Learning (CSEFEL) <http://csefel.vanderbilt.edu/>
- Law & Sarathy (2009). Magical Musical Transitions (Music CD). NPR, Inc. (<http://www.nprinc.com/magical-musical-transitions/>)
- Moffitt, T. E., Arseneault, L., Belsky, D., Dickson, N., Hancox, R. J., Harrington, H., & Caspi, A. (2011). A gradient of childhood self-control predicts health, wealth, and public safety. *Proceedings of the National Academy of Sciences, USA*, vol. 108 no. 7, 2693-2698.

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Sarathy, P. (2016). STEM for Young Learners: A Quick Reference Laminated Guide, Ed311

Sarathy, P. (2015). Seven Steps for Supporting Children with Autism Spectrum Disorders (ASD): A Quick Reference Guide (www.NPRinc.com)

Sarathy, P. (2013). (First edition, 2009). Positive Behavioral Intervention for Students With Autism: A Practical Guide to Avoiding the Legal Risks of Seclusion and Restraint. Horsham, PA: LRP Publications.

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<http://www.ed311.com/paraeducator-power-training-for-supporting-students-with-disabilities/> (offers an autism training unit for Paras)
- Singh, N. N., Lancioni, G. E., Manikam, R., Winton, S. W. A., Singh, A. N. A., Singh, J., Singh, A. D. A. (2011). A mindfulness-based strategy for self-management of aggressive behavior in adolescents with autism. *Research in Autism Spectrum Disorders*, 5, 1153–1158.
- Wilkins, S. & Burmeister, C. (2013). Flipp the Switch: Strengthen Executive Function Skills. Autism Asperger Publishing Company.
- www.superbrainyoga.org. Super Brain Yoga



THANKS.

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