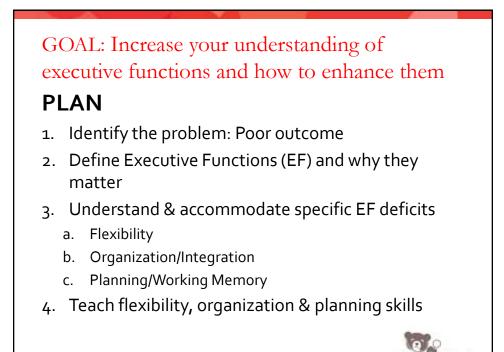
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# Learning Objectives Recognize executive functioning weaknesses in your children or clients and distinguish among different executive functioning (EF) skills Apply specific techniques to support improvement in EF at home, in treatment, or at school Summarize the research results examining the effectiveness of an EF intervention

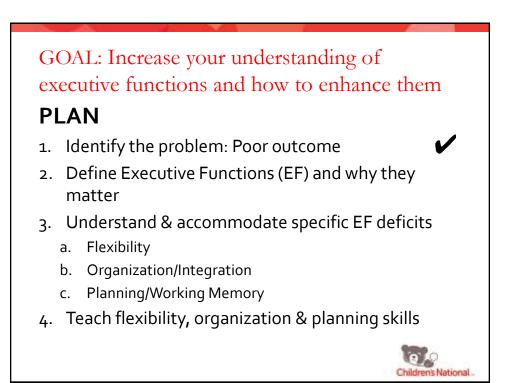


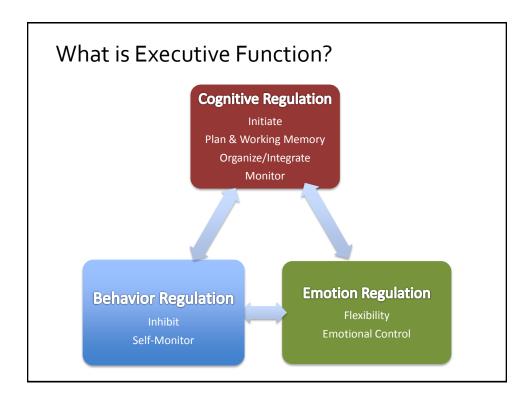
# Adult Outcome in HFASD

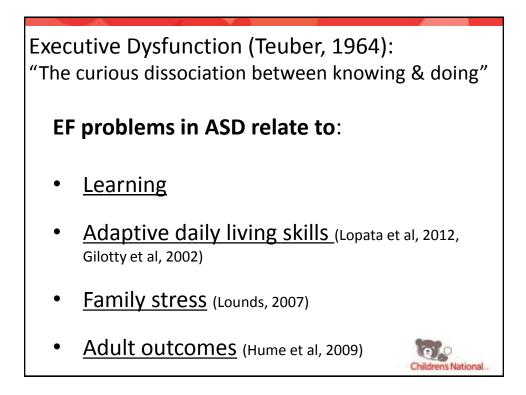
- 46% of children with ASD have IQ in the average range
- Despite average intelligence, adult outcome remains poor (Henninger & Taylor, 2012; Howlin et al., 2004; Howlin & Moss, 2012; Shattuck et al., 2012; Roux et al., 2013).
  - Underemployed, underpaid, socially excluded,
  - Poor adaptive skills, dependent on parents (88%)
  - Even when compared to other developmental disabilities

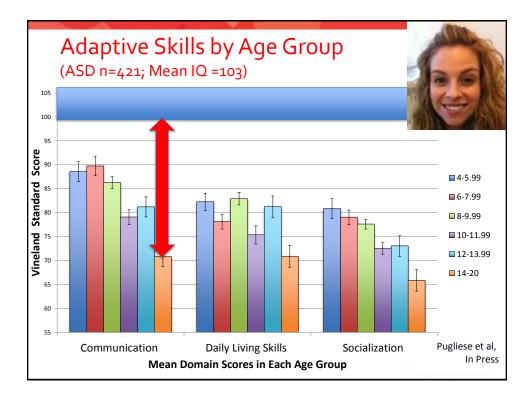
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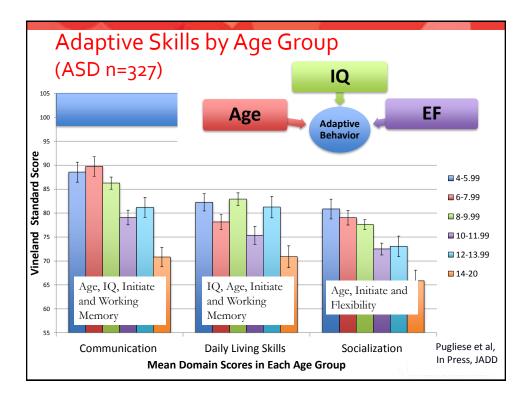
 Over 25% of the young adults without ID have no daytime activities of any kind (Taylor & Mailick Seltzer, 2010)

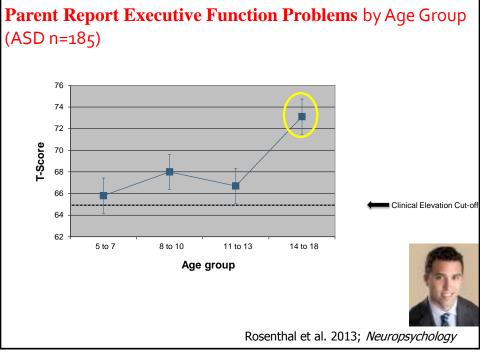


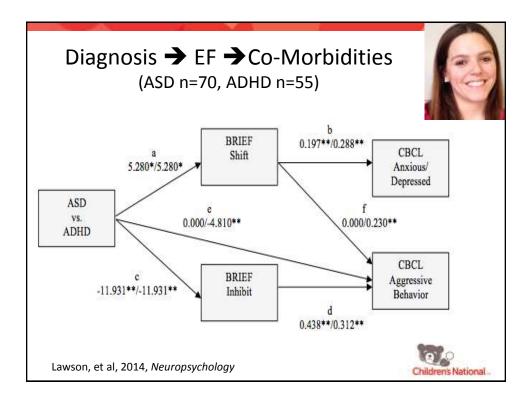






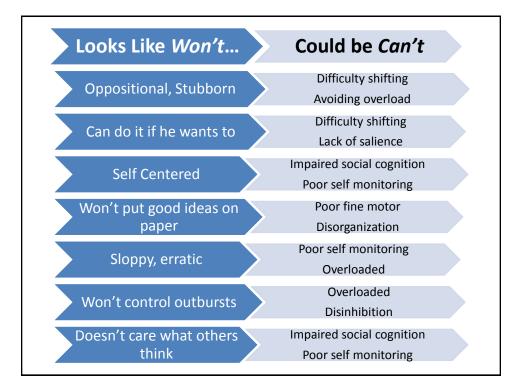


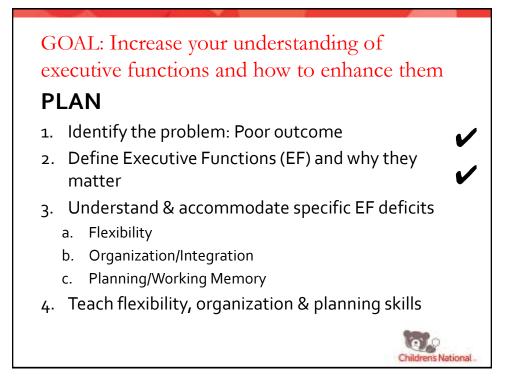


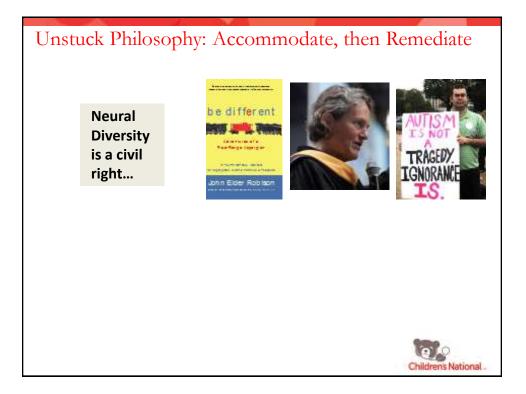


# *EF relates to autism sx and supports social learning*

- Joint attention: "early developing self-organizing facility" (Mundy, 2003)
- Prolonged visual fixation in infants later dx' d with ASD, coincides with emergence of ASD behaviors (Zwaigenbaum et al, 2005)
- EF predicts change in ToM (independent of age, language, NVIQ) (Pellicano, 2010)
- Indirect "trickle-down" effect of EF training on TOM performance (Fisher and Happé 2005) and social skills (Kenworthy & Anthony et al, 2013)





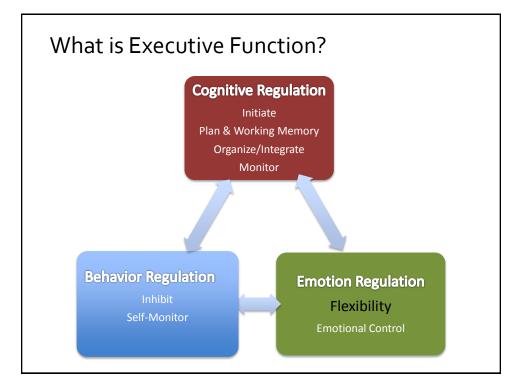


## Unstuck Philosophy: Accommodate, then Remediate

Neural Diversity is a civil right...

### Overwhelmed people can't learn

- Predictability and structure
- Make Big Picture Explicit
- Talk Less, Write More
- Avoid Overload
- Can't vs Won't
- Keep it Positive



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"Asperger's is like a vise on your brain. And each unexpected event is like another turn on the vise...it just keeps building until you feel like you're going to explode. Sometimes when you explode, it comes out the wrong way."

- A young student with ASD

# What does cognitive inflexibility look like in school and at home?

### Can't or Won't?

- Accept feedback
- Accept different opinions, ideas
- Handle frustration
- Start something they don't want to do
- Stop meltdowns
- Stop doing something even they have been told to stop
- Avoid shutting down when something is challenging
- Stop correcting people
- Let other kids take the lead when playing



# Inflexibility Risks and Accommodations Difficulty with violations of expectations ➢ Schedules, Routines, Predict change, Flexible Adult Rigid interpretations of rules ➢ Respect need for clear, explicit expectations, Flexible Adult Overwhelming intense feelings ➢ Breaks, Downtime, Safe Address, Flexible Adult Problems Negotiating ➢ Compromise, Explicit Etiquette Rules, Flexible Adult Repetitive Behaviors/Intense Interests ➢ Decide where they can/can't happen, agree on a sign

# Accommodations: Inflexibility

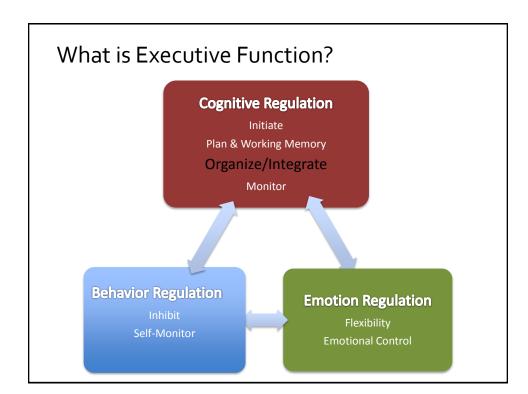
Inflexibility is adaptive. It limits unexpected, overloading events.

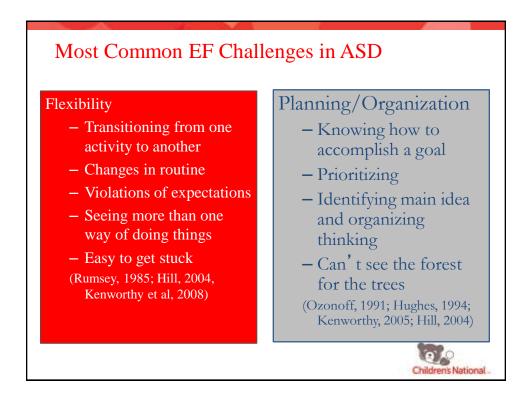
- **Overload is dangerous**: It leads to anxiety, impulsivity, inappropriate behavior
- Overload creates profound risk in context of social isolation, teasing and bullying
- In a mine field it is wise to use caution

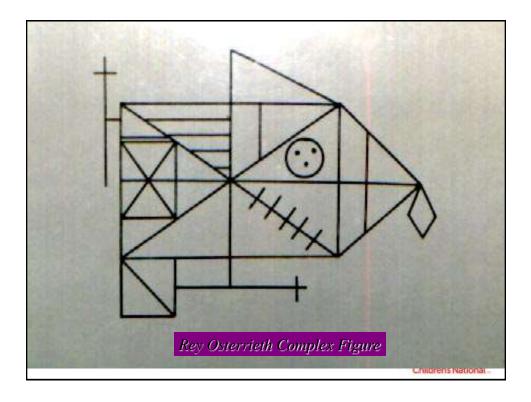
### Respect

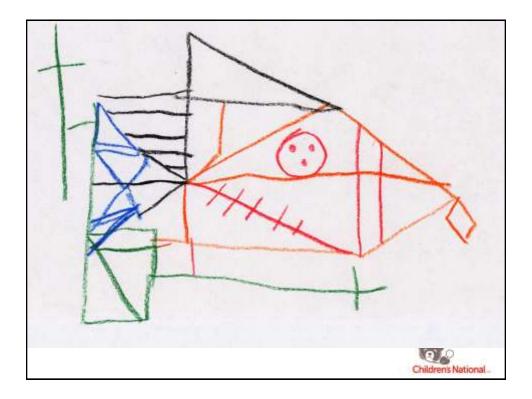
- Routines that don't interfere
- Deep datasets
- Expertise in areas of interest
- Persistence
- Reliability

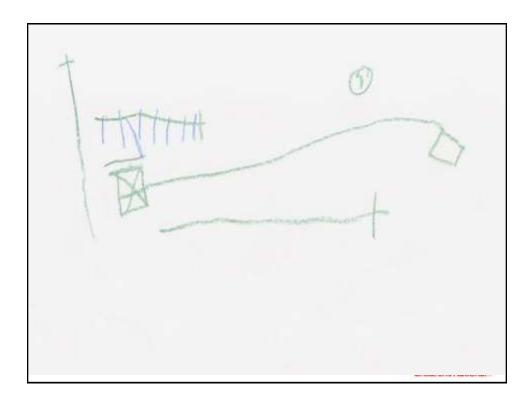












# What do organization/integration deficits look like in school and at home?

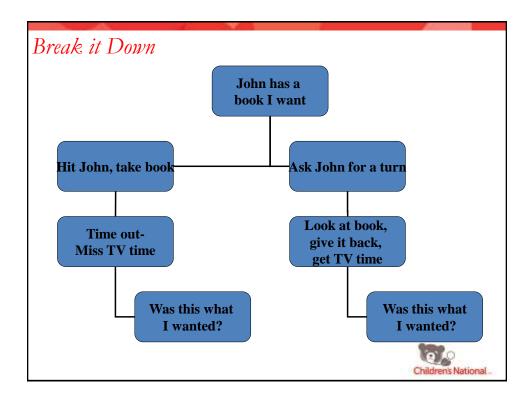
### Can't, or Won't?

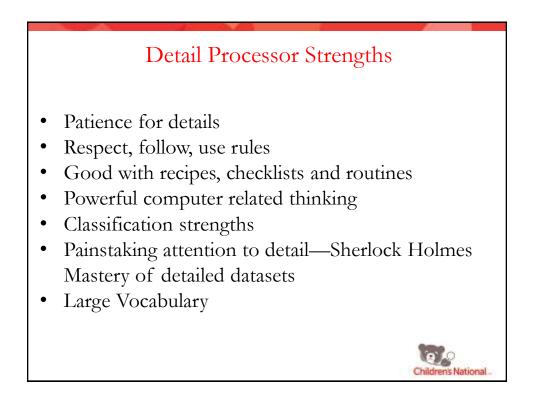
- Gets stuck on details
- Get good ideas onto paper
- Stop dominating a classroom discussion
- Let go of a small mistake or inconsistency
- Behave in unstructured groups
- Set a goal
- Learn from mistakes
- Write a well organized paragraph
- Draw meaning from a reading assignment
- Know what to study for on a test

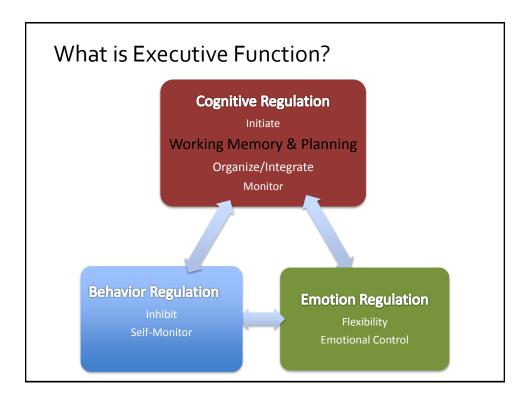


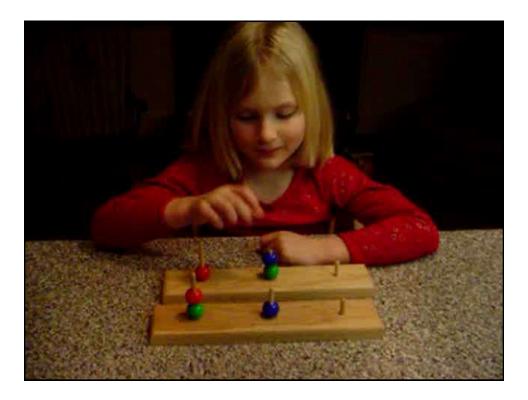


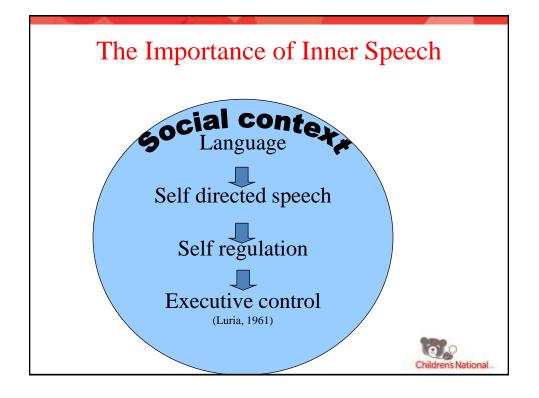


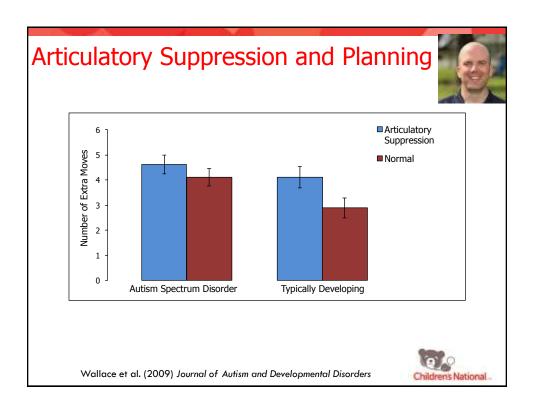








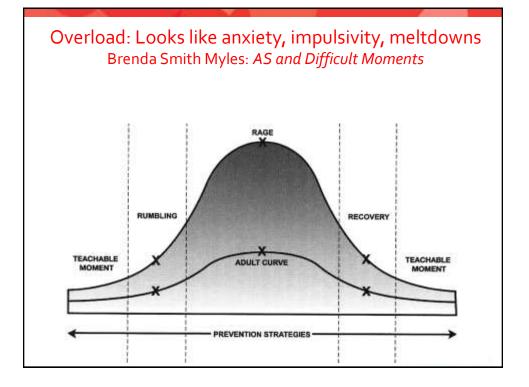




Poor planning/Inner Speech/Working Memory Looks Like: Won't follow directions, work independently

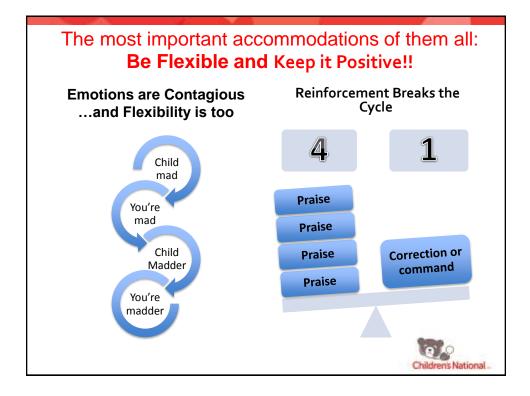
- Talk Less, Write More: White Boards
- Use technology for tracking tasks, calendar, writing
- Communication: e-mail, texting
- Notes
- Computer-based curricula
- Socratic method





## Comparing Student EF Behaviors to Inclusion Teacher Behaviors and Classroom Supports

Teacher	Student EF					
Behavior	Behaviors					
	Follows Rules	Transitions	Not Stuck	Not Negative	Participates	
Teacher	Kuit5	11 ansitions	Not Bluck	itegative	1 ai ticipates	
Praise	.211**	.345***	.248**	.149	.347***	
Teacher						
Priming	.148	.167	.073	027	.258***	
Teacher						
Flexible	.289***	.391***	.259***	.122	.430***	
*p<.01 **p<.005 ***p<.001					60	

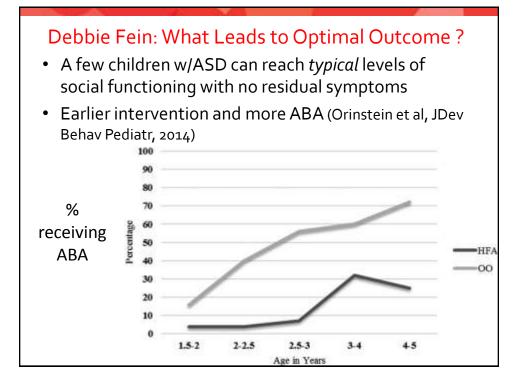


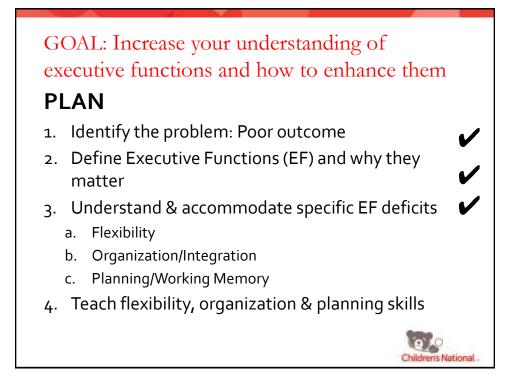
### Find your people: What do these people have in common?

- Tim Page, Pulitzer prize winner
- Vernon Smith, noble laureate
- Satoshi Tajiri, creator of Pokémon
- Matt Savage, "Mozart of jazz"
- Daryl Hannah, actor
- Michelangelo
- Thomas Jefferson
- Jesse Eisenberg
- Mozart

- Orson Wells
- Charles Darwin
- Glenn Gould
- Gregor Mendel
- Carl Sagan
- Marie Curie
- Einstein









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# Teaching Executive Function Skills

OR... bridging the dissociation between knowing and doing

## The Challenge:

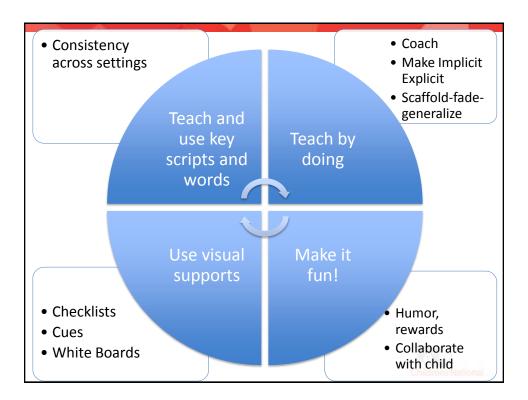
- A student with ASD: "My biggest problem in college has been executive functioning. I'm not organized, I'm late with everything and I don't know how to get started. My school did a great job of including me in school, but why didn't anyone teach me this EF stuff?"
- EF skills are hard to generalize (Ylvisaker et al., 2003)

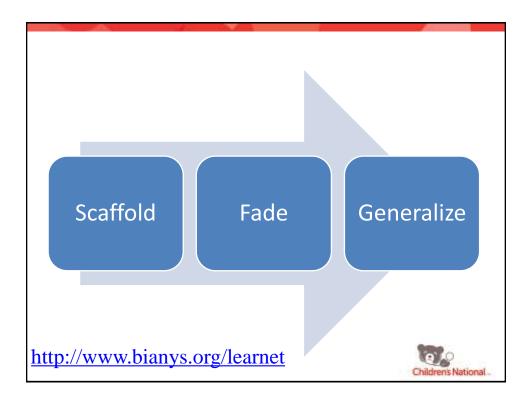
### The Strategy:

• Embed teaching in the real world: school & home

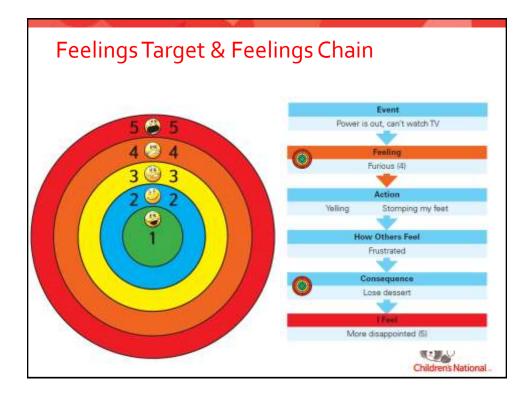
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• Show, model and coach













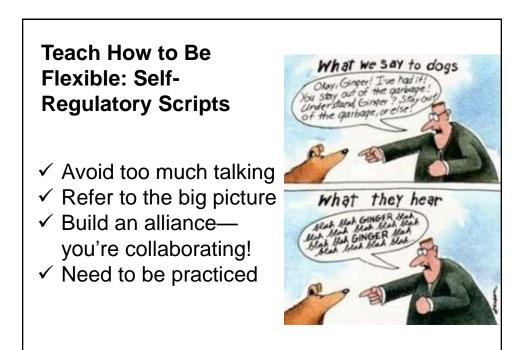


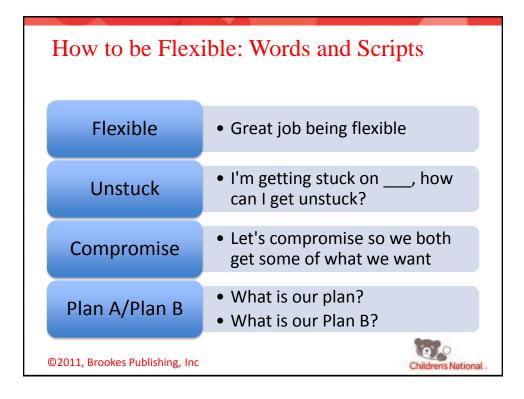


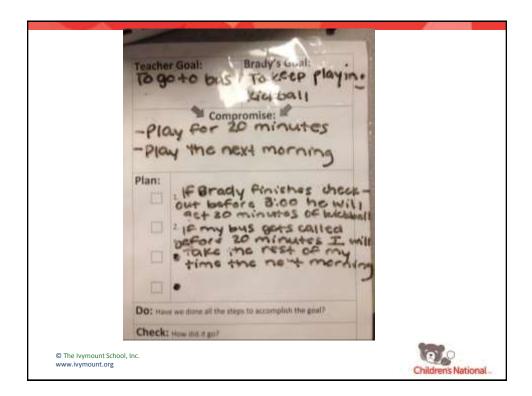


# Teaching: Why Be Flexible

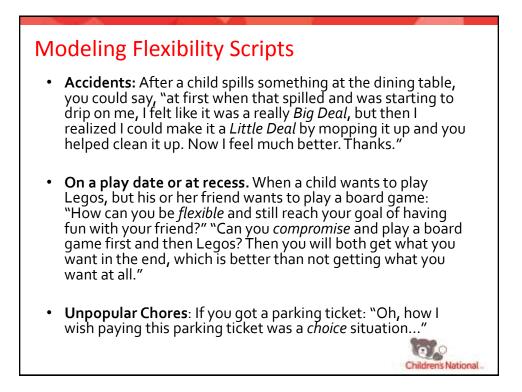
- Advantages of physical flexibility
- The "facts" of life
- What to do when what I want is impossible
- Pie charts: getting part of I want is better than getting nothing at all





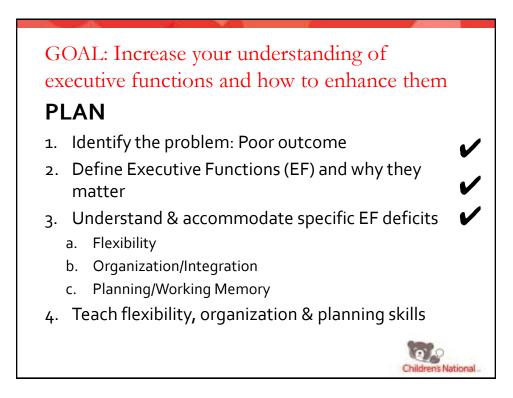


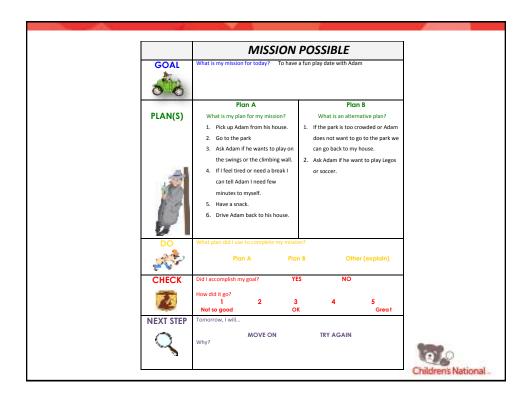




# GPDC script (goal, why, plan, do, check)

Goal	To have fun at recess	To have fun at recess		
Why	Recess is my free time			
Plan A	Ask Johnny if he wants to play soccer	Ask Johnny if he wants to play soccer		
Plan B	(If J says, "no") Ask Melissa to play soccer	(If J says, "no") Ask Melissa to play soccer		
Plan C	Swing on the swings			
Do	Follow my plans			
Check	Did I meet my goal?			
	Which plan worked?			
	Would I do it the same or different next time?			
		2		
©2011, Brookes Publishing, Inc		Nationa		





# **On Target for Life (©Strang et al.)** An Executive Function (EF) Intervention for Teens with ASD

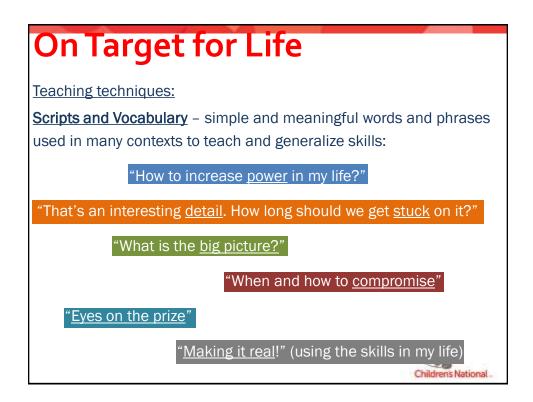
- Middle School adaptation of Unstuck and On Target
- 22 classroom lessons targeting:
  - Flexibility
    - Planning
    - Plan A/Plan B
    - Compromise

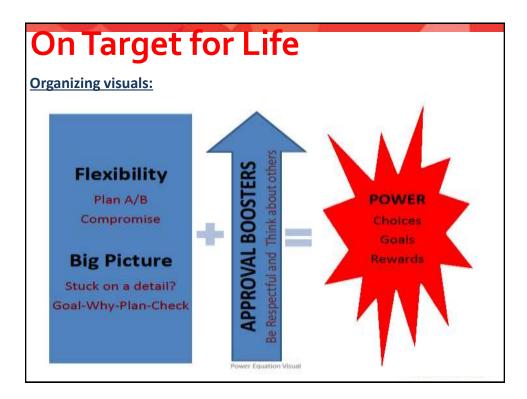
- Increasing power in your life
- Setting goals
- Big picture thinking
- Delayed
  gratification
  Children's National

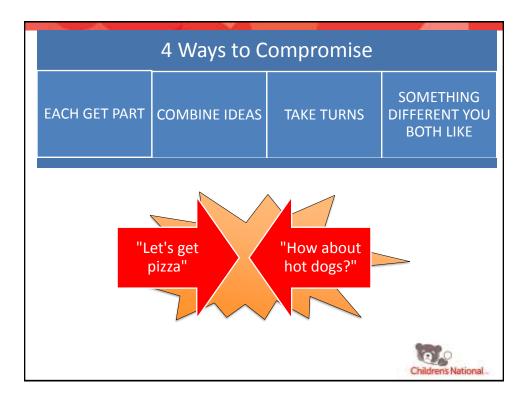


# On Target for Life

Table of Contents			
Flexible Thinking	Keeping Your Eyes on the Prize		
Power	Keeping Your Eyes on the Big Picture		
Being Flexible = More Power	Efficiency – Eyes on the Clock		
How to Help Others Be Flexible	Using All of the Skills to Plan		
Putting a Plan on Trial	The Long-Term Goal – 3 <sup>rd</sup> Group Event		
The Plan B Party	Learning From Our Experiences		
The Plan B Party Compromising a Win-Win	Learning From Our Experiences Making It Real – Using Skills Outside Group		
Compromising a Win-Win	Making It Real – Using Skills Outside Group		





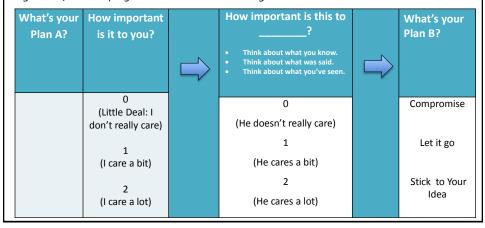


# Compromise (Flexible Futures, High school-Transition age, ©Pugliese)

With Yourself/ Two Goals	With Others
When I want to play a computer game but I have to do my homework.	With sister when she acts stuck and doesn't want to share her electronics.
	Children's Nationa

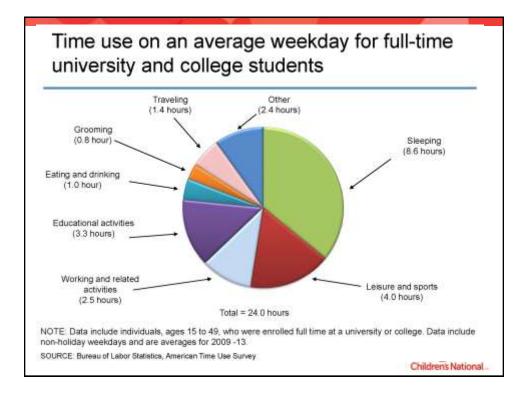
## GOAL: Have fun hanging out with your friend.

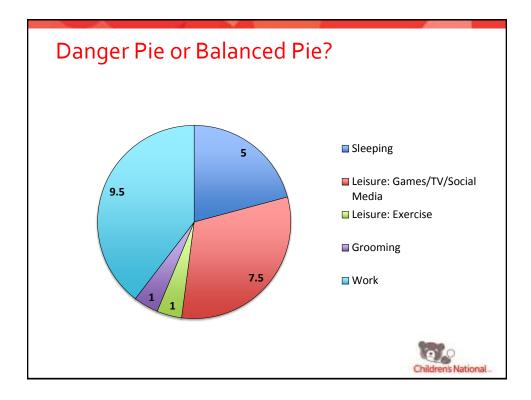
You love video games. You just got a new video game for your birthday, and you can't wait to show it to your friends. Ethan is coming over to hang out. Ethan usually likes to play basketball or Chess, but you are really excited to show him the game, and want to spend the whole time he is at your house playing it. As soon as Ethan walks through the door, you pull out the video game and ask him if he wants to play. Ethan pauses, frowns, and says, "Not right now, I was hoping we could finish our Chess game."

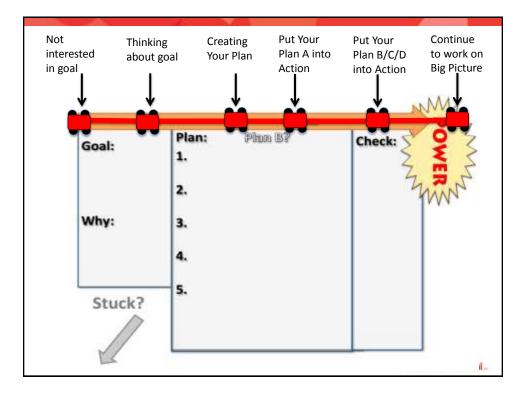


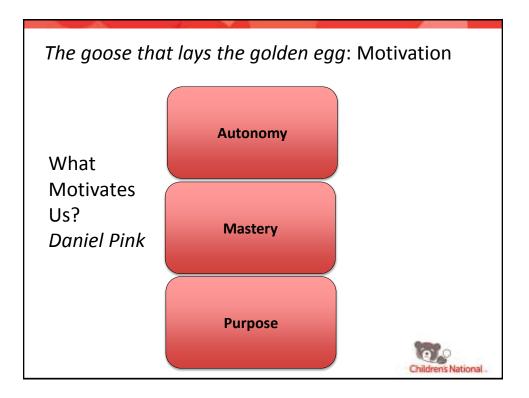
Power Loss			Power Boosters				
Stuck thinking & feeling	-		Flexible thir	iking & feelin	g		-
Stuck on a detail	-		Big picture	thinking	-		
Not Caring When You Upset Others			Boosting Your Approval				
Zoning out	Contraction of the second s		Actively List	Actively Listening			
Being negative			Supporting Others				
Being Rigid			Compromising				
Jumping into your Plan without the Big Picture			Checking Your Plan for Dangers				
Forgetting or Giving up on the Goal			Being persistent				
yes off the Prize						Eyes o	n the Prize
<					_		_

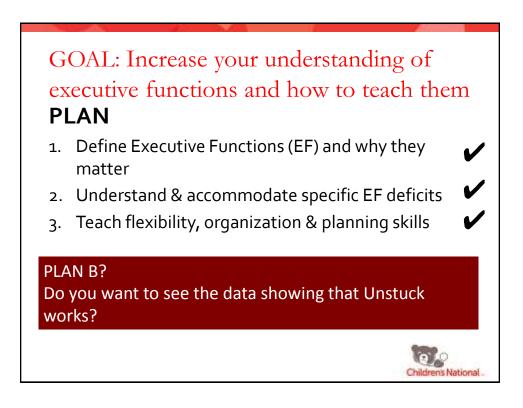








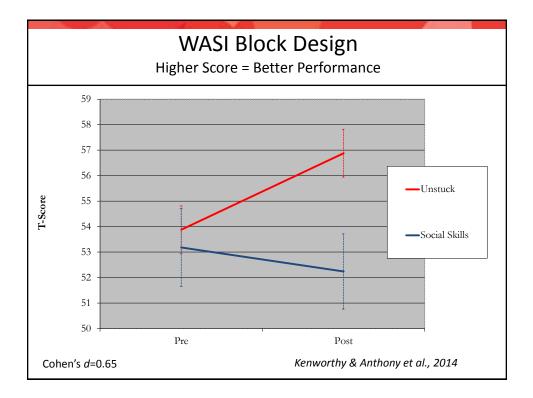


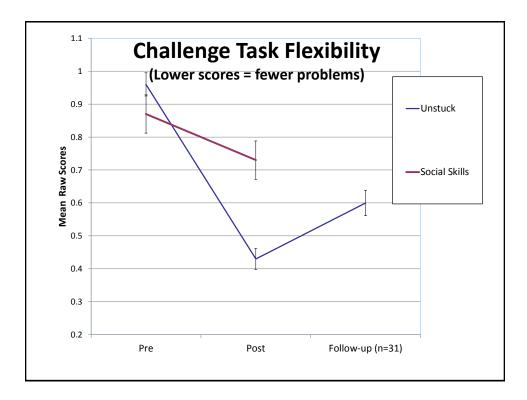


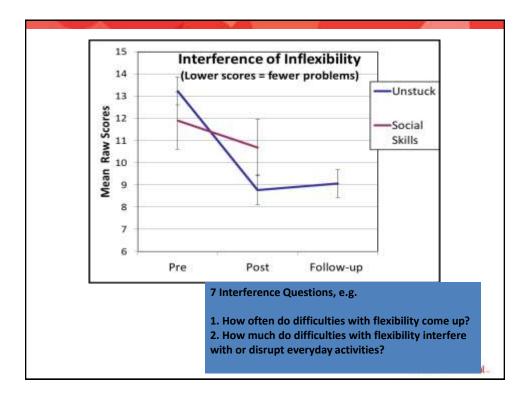
# Unstuck Trial: Participant Demographics

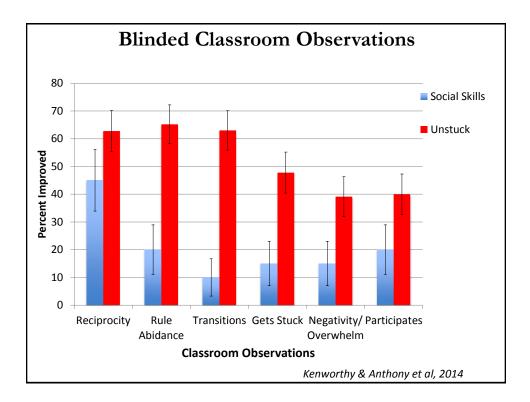
Kenworthy & Anthony et al., 2014

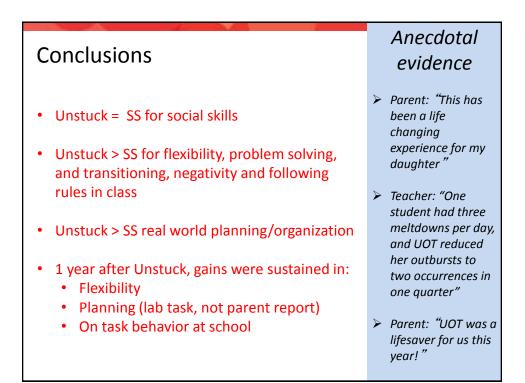
	Unstuck (n=47)	Social Skills (n=20)
Male	87%	90%
White	70%	55%
On Psychotropic Medication	55%	60%
	- Mean (SD)	Mean (SD)
Age	9.49(1.00)	9.58(1.10)
Mother's education	1.91(0.88)	1.95(0.76)
Father's education	2.04(1.12)	1.95(0.91)
WASI FSIQ	108.80(18.52)	107.63(17.20)
ADOS Social+Comm	11.64(3.76)	12.00(4.39)
ADOS Stereotyped Beh	1.98(1.71)	1.90(1.33)











## Project Overview: The Method

#### • Sample

- Two hundred 3<sup>rd</sup> 5<sup>th</sup> graders (100 with ASD and 100 with ADHD), will be chosen from two school systems that have agreed to participate and currently use CBM.
- The Partnering School Systems
  - DC KIPP Charter Schools
  - Fairfax County School System
    - Both systems have had previous relationships with project staff, have demonstrated a commitment to their students with special needs, evidence a value of family/parent engagement and have adequate number of children with ASD and ADHD to support the study. Both systems include a preponderance of low income families.

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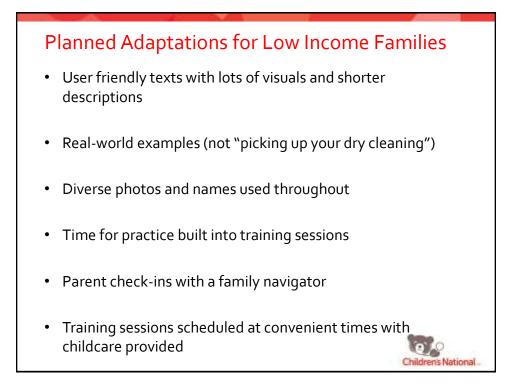
### Parent Involvement in Interventions: Unstuck and On Target (UOT)

- Parent manual
- Weekly parent handouts
  - Session summary
  - Tips for reinforcing skills at home
- 4 parent trainings (60 minutes each)
  - Program Overview
  - Flexibility Scripts and Vocabulary
  - Planning & Coping Skills
  - Avoiding Distraction and Emotion Regulation











people control their behavior and reach their goals. Each person's brain controls how well these skills operate. These skills are important because they help us manage all of our life activities. Executive functioning helps us to keep track of time, decide whether or not an idea is good or bad, change our minds if we get new information, handle more than one thing at a time, know when to ask for help, and know how to use that help when we get it!



EXECUTIVE FUNCTIONING SKILLS: FLEXIBILITY, PLANNING, & ORGANIZATION

Our brains are always at work as we go through our day. Our brains help us to manage our daily activities.

In this chapter we will meet a girl named Andrea and see how she tries to use the executive functioning skills of frexibility, planning, and organization.

#### "Ser Flexible"

See flexible significa que puede cambiar sus ideos, hacer algo diferente de lo que pensió iba a hacer, pensar en algo diferente, y mantener una mente abierta.

una mente abierta. La "Pràctica en Casa" 5 incluye un juego que se puede jugar para ayudar a su hijo/a con ser fluerible

flexible. Cuando los niños son flexibles, ellos tienen muchas opciones. Puede usar frases cómo:

- "Vomos e pensar de une manera que podemos ser flexibles en caso de que nuestro primer plan no funciona."
- "No siempre puedes conseguir lo que quieres, así que tienes que ser flexible."
- "Puedes ser flexible, io has hecho antes."
- "Cuando compartiste tu juego, estabas alendo fiexible, y (funciond.")



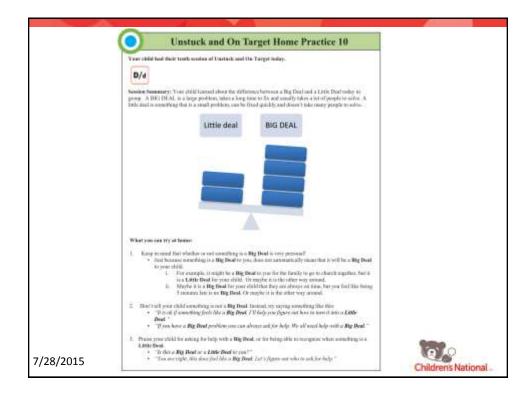
Este kons inpresenta et vecetularito "Heoble". Cada vez que hi ve, inay una barno oporturadad de ayuta a sus higo/a a reconscer. Ins beneficios de um fusibles em altuaciones difíciles a trespenadas!

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## The Reality about Those Adaptations

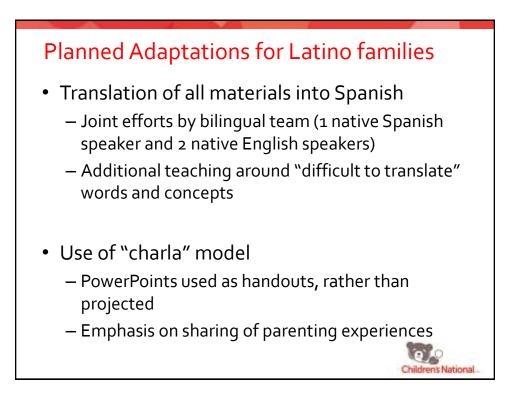
### Challenges

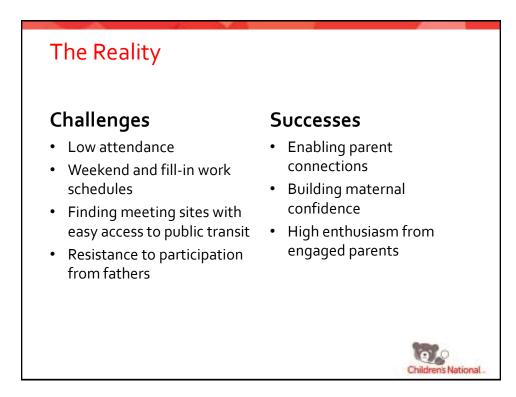
- Recruitment issues (need for adaptive design)
- Parent check-ins difficult
- Coordination between home and school

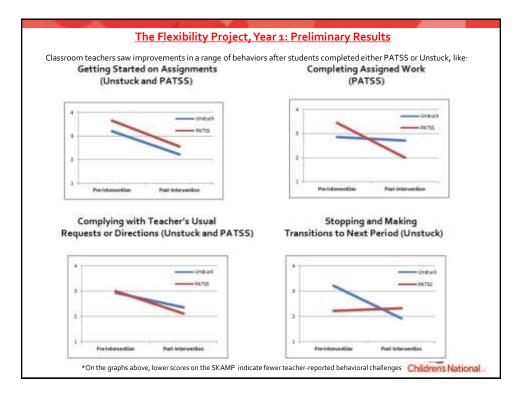
#### Successes

- Involvement of school interventionists
- High attendance rate
- Parents who attend the trainings are deeply engaged in change

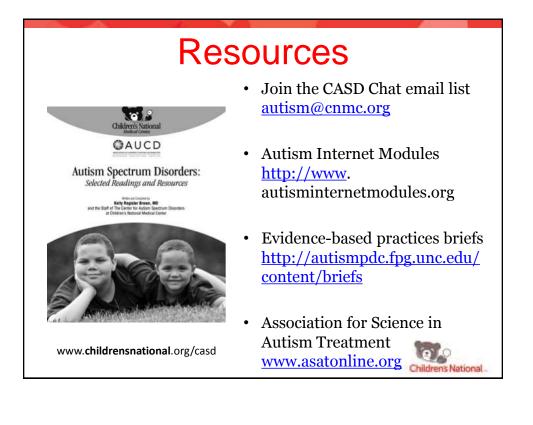
Children's National







#### The Flexibility Project, Year 1: Preliminary Results Classroom Observations (N=37) More classroom participation Less negative • Less likely to become stuck Percent of Students Who Improved Unstuck 75% PATSS 50% 25% 0% Less Stuck Less Increased Negativity Participation Children's National



# Books on Supporting and Teaching Executive Function

- Solving Executive Function Challenges: Simple Ways to Get Kids with Autism Unstuck and on Target Kenworthy et al (2014)
- Unstuck and On Target: Teaching Flexibility and Goal Directed Behavior to Children with ASD Cannon et al (2011)
- The Incredible Flexible You & Superflex Michelle Garcia Winner
- Smart by Scattered Dawson & Guare (2009)
- Late Lost and Unprepared Cooper-Kahn & Dietzel (2008)
- Executive Skills in Children and Adolescents: A Practical Guide to Assessment and Intervention Dawson & Guare (2010)
- School Success for Kids With Asperger's Syndrome Silverman et al (2014)

