Unstuck and On Target

Intensive Training Workshop

OBJECTIVES	The participant will be able to:
Lauren Kenworthy, PhD	Recognize executive functioning weaknesses and distinguish among, and accommodate, different executive profiles
Laura Anthony, PhD	Learn specific scripts or vocabulary and when to use them to increase executive function skills
Alyssa Verbalis, PhD	Learn about the evidence for the effectiveness of executive function intervention, particularly Unstuck and On Target

Solving Executive Function Challenges in Children with Autism

Lauren Kenworthy, PhD
Professor, Pediatrics, GW Medical School
Director, Center for Autism Spectrum Disorders
Children's National Medical Center

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Disclosures

I receive royalties for the sale of:

- Unstuck manuals
- Behavior Rating Inventory of Executive Function (BRIEF) forms and manuals

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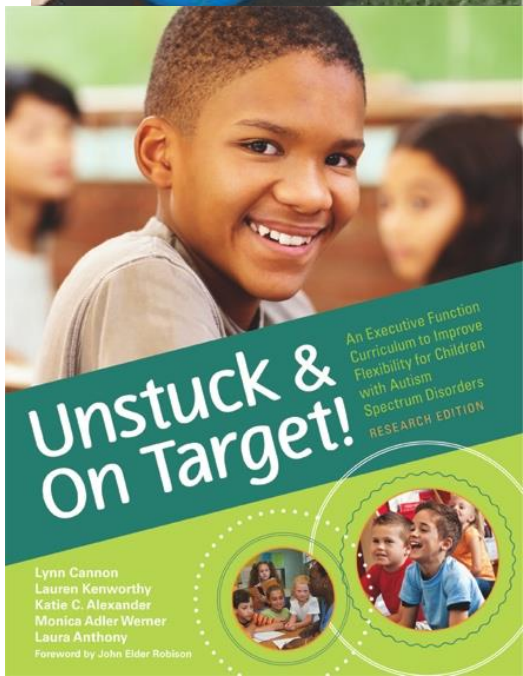
Unstuck Team

Ivymount Model Asperger Program/Take2 Summer Camp

- Katie Alexander
- Lynn Cannon
- Monica Werner

Children's National Center for Autism Spectrum Disorders

- Laura Anthony
- Lauren Kenworthy
- John Strang
- Cara Pugliese



Learning Objectives

PART 1 with Lauren:

- Recognize executive functioning weaknesses and distinguish among, and accommodate, different executive profiles

PART 2 with Laura:

- Learn specific scripts or vocabulary and when to use them to increase executive function skills.

PART 3 with Alyssa

- Learn about the evidence for the effectiveness of executive function intervention.

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GOAL: Increase your understanding of executive functions and how to enhance them

PLAN

1. What are Executive Functions (EF)?
   - EFs are fractionated and plastic
2. Why do they matter?
   - EFs are necessary for effective everyday functioning
3. How is EF expressed in autism?
   - Flexibility, Organization, Planning/Working Memory problems
4. How can we treat EF problems in autism?
   - In everyday settings, with phenotype specific accommodations & self regulatory scripts

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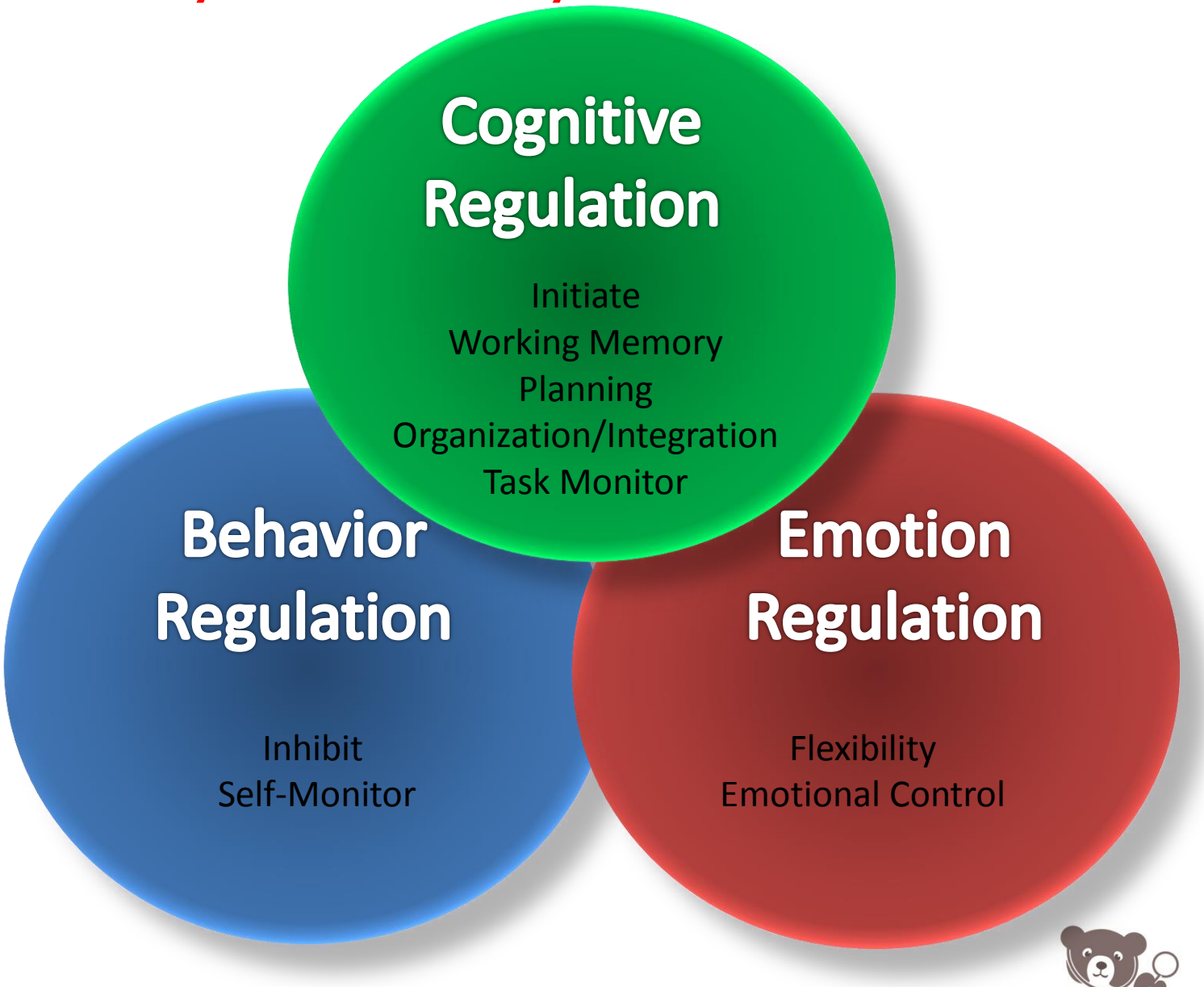
"The Unity and Diversity of Executive Functions"



Teuber, 1972; Gioia, et al 2002; 2016; Friedman & Miyake, 2017

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Neural Substrate of EF Develops Slowly

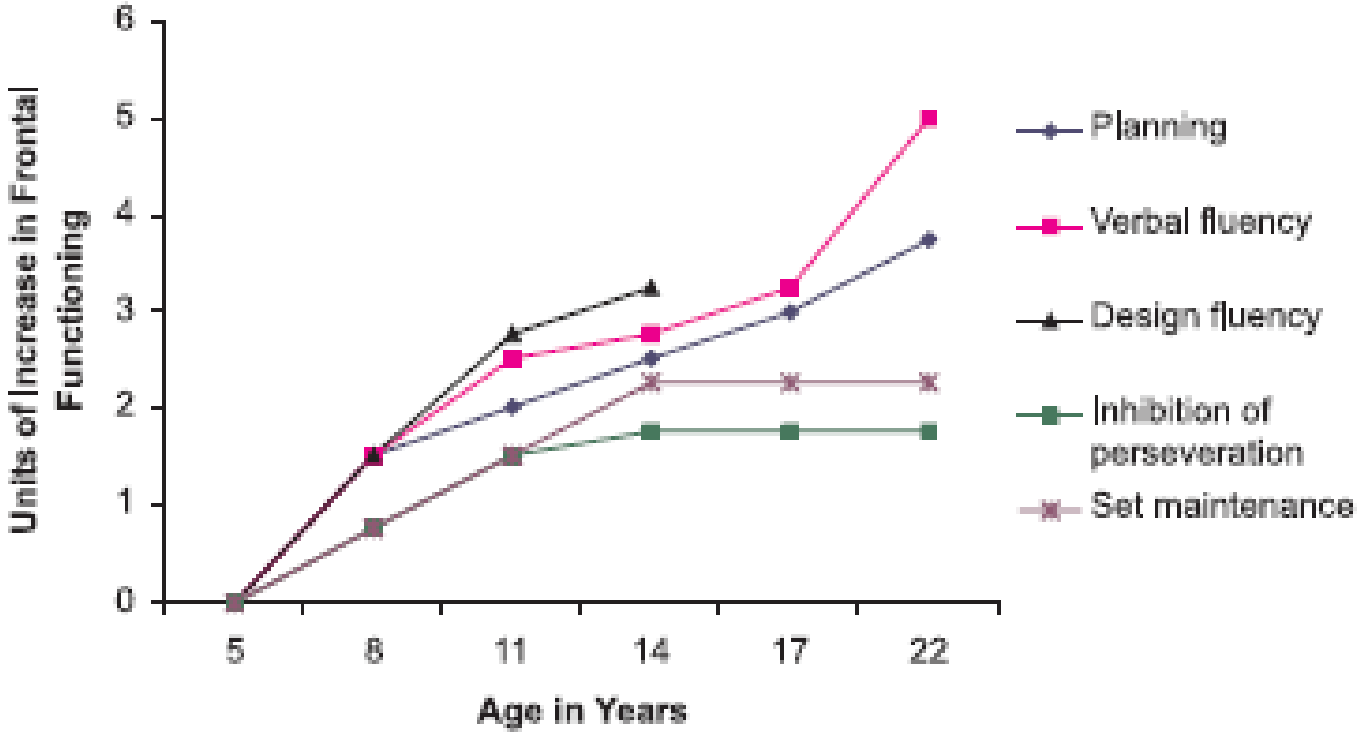
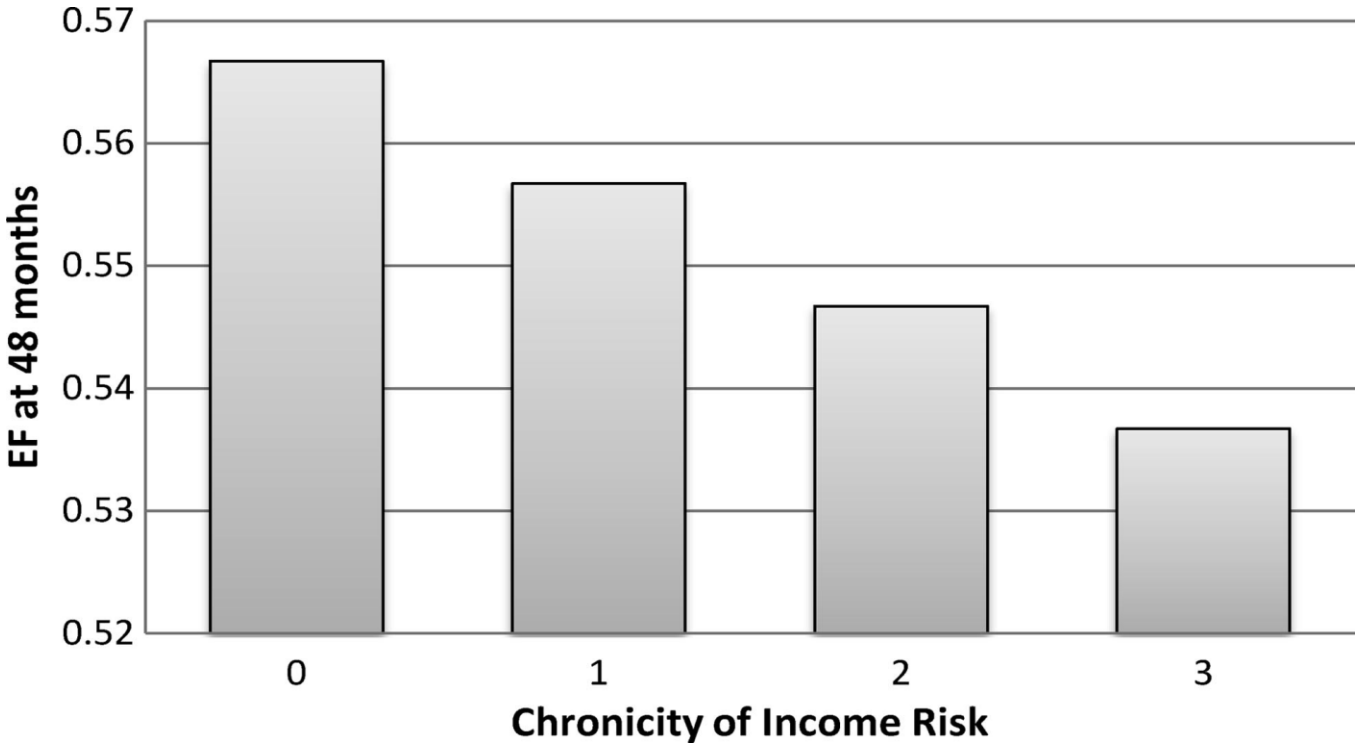


Figure 1. Developmental course of frontal functions based on average effect sizes of age-related change in performance on measures of frontal lobe functioning.

Romine & Reynolds, 2005; Best et al, 2011

Neural substrate of EF is plastic

- EF not only changes over time, it relies on functional neural networks that develop in the context of experience (Bernstein & Waber , 2007)



Raver et al, 2013

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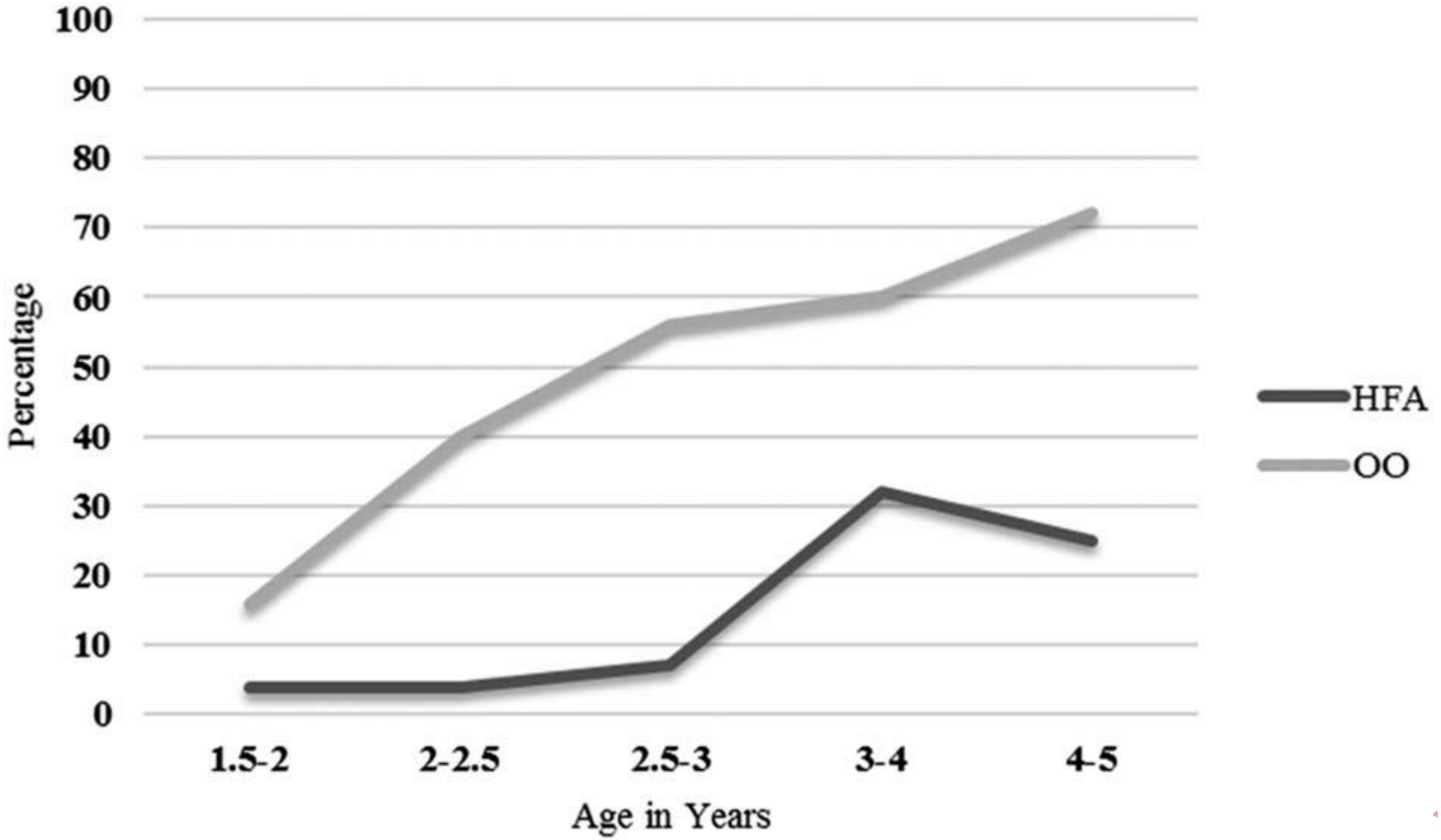
Autism is characterized by mutable developmental trajectories

Early ABA and Optimal Outcome in Autism

(Orinstein et al, 2014)



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Executive Dysfunction (Teuber, 1964):

"The curious dissociation between knowing & doing"

EF problems in ASD relate to:

- Autism Symptoms (Kenworthy et al 2009)
- Adaptive daily living skills (Lopata et al, 2012, Gilotty et al, 2002)
- Family stress (Lounds, 2007)
- Adult outcomes (Hume et al, 2009)
  - Over 25% of young adults *without* ID have no daytime activities of any kind (Taylor & Mailick Seltzer, 2010)

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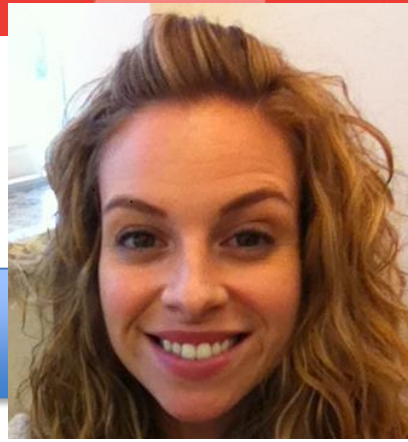
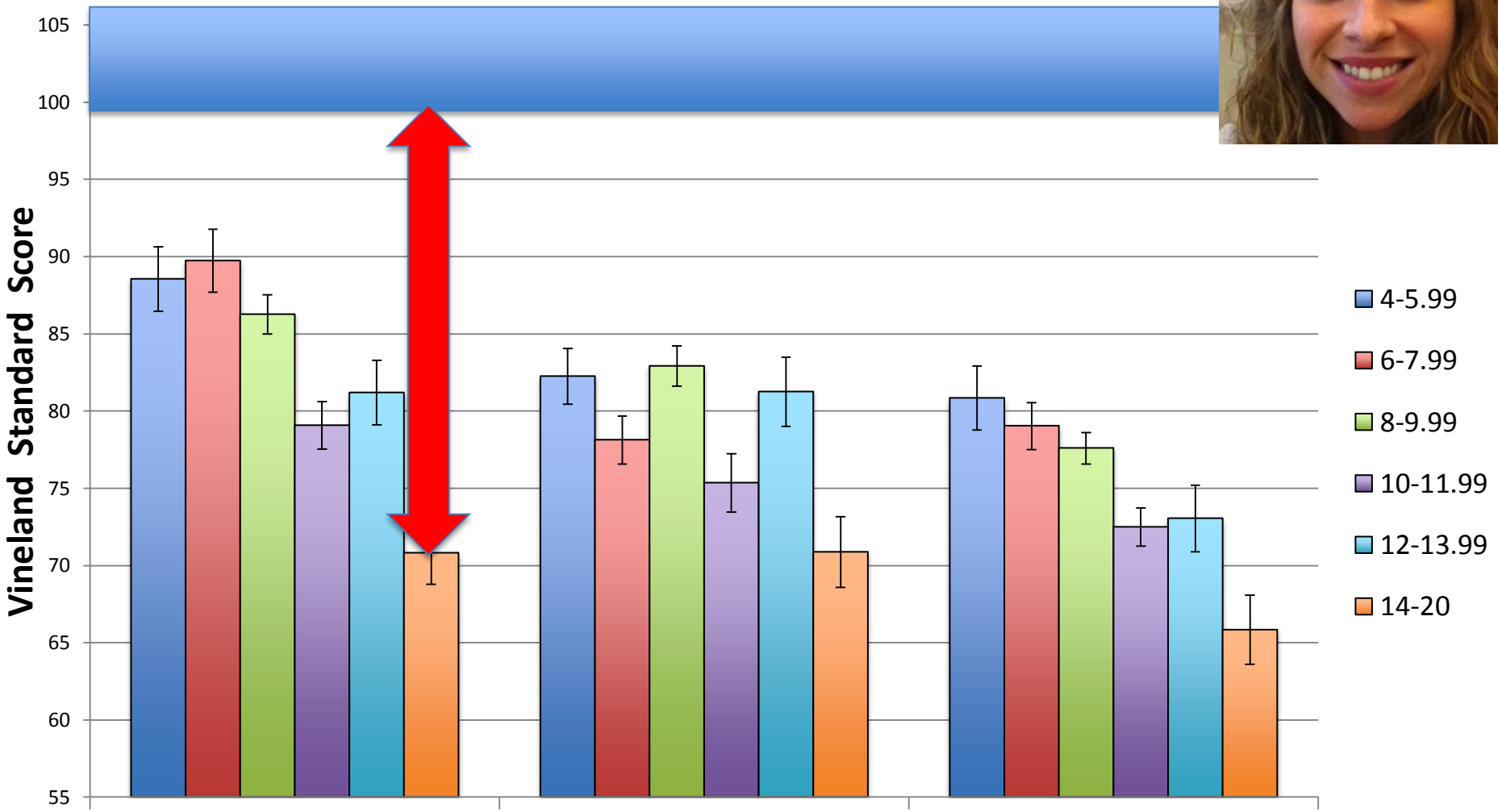
Adaptive Skills by Age Group

(ASD n=421; Mean IQ =103)



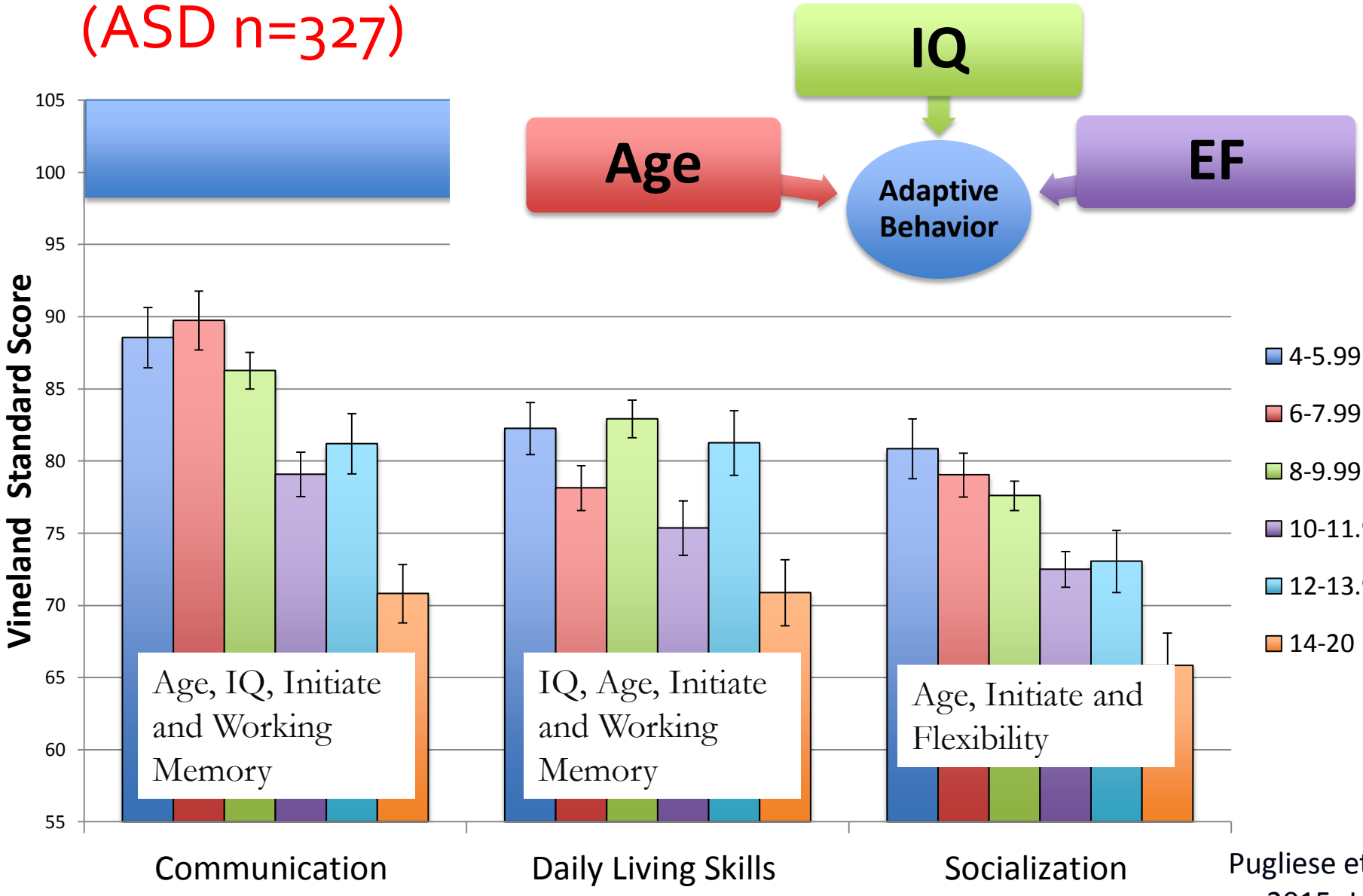


Pugliese et al, 2015

Mean Domain Scores in Each Age Group

Adaptive Skills by Age Group

(ASD n=327)



Pugliese et al, 2015, JADD

EF relates to autism sx & 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, 2014)

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Looks Like *Won't*…	Could be *Can't*
Oppositional, Stubborn	Difficulty shifting Avoiding overload
Can do it if he wants to	Difficulty shifting Lack of salience
Self Centered	Impaired social cognition Poor self monitoring
Won't put good ideas on paper	Poor fine motor Disorganization
Sloppy, erratic	Poor self monitoring Overloaded
Won't control outbursts	Overloaded Disinhibition
Doesn't care what others think	Impaired social cognition Poor self monitoring

Greene, 1998; Bernstein, 2000

- Julia Bascum video re: need to know what you can't do, so you can figure out accommodations and support

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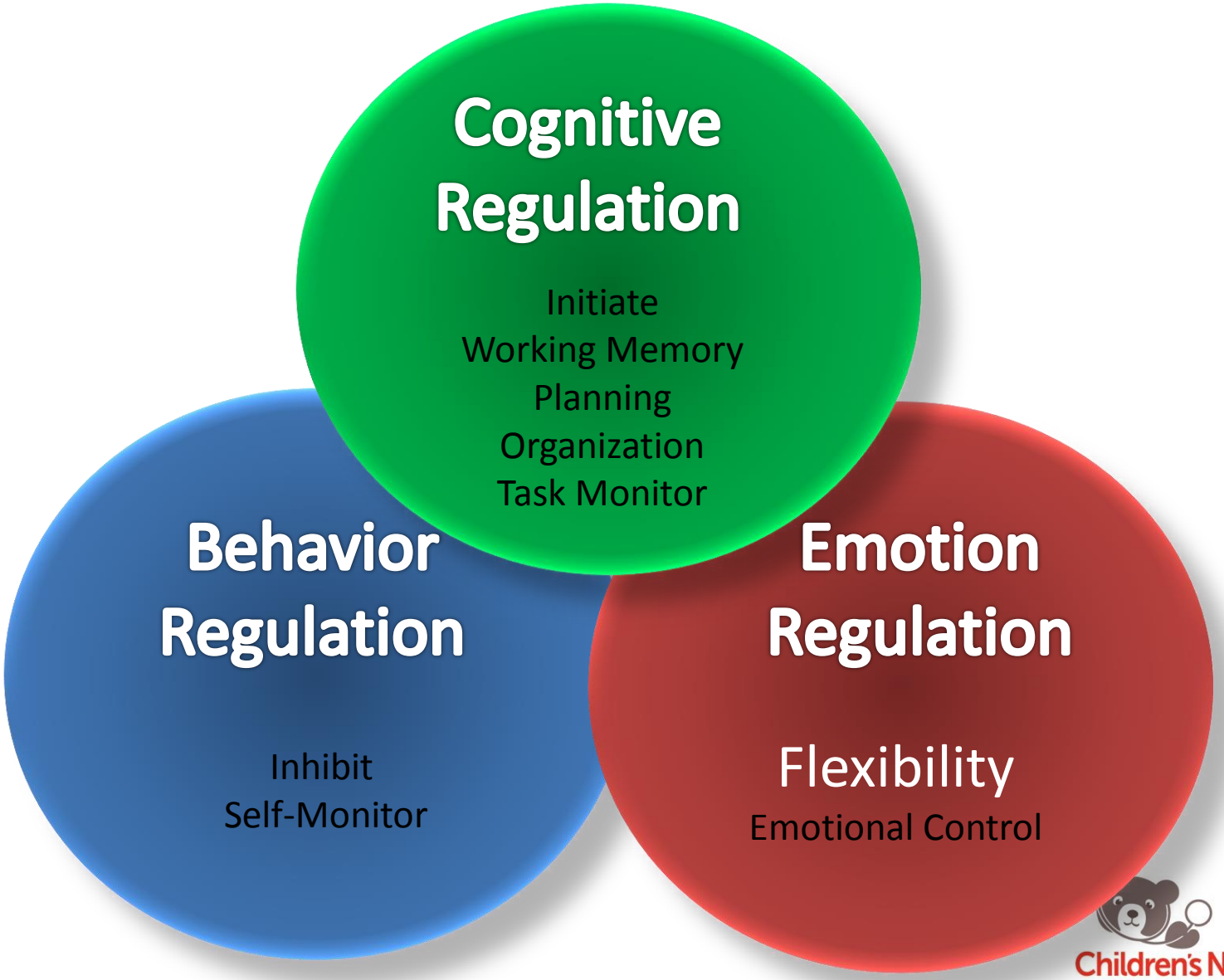

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"Asperger's is like a vise on your brain. And each unexpected event is like another turn on the vise…it just keeps building until you feel like you're going to explode. Sometimes when you explode, it comes out the wrong way."

- A young student with ASD

(Rumsey, 1985; Hill, 2004, Kenworthy et al, 2008)

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What does cognitive inflexibility look like?

Can't or Won't?

- Accept feedback, different opinions, ideas
- Transition
- 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

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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, 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

Schopler, Mesibov & Hearsey, 1995

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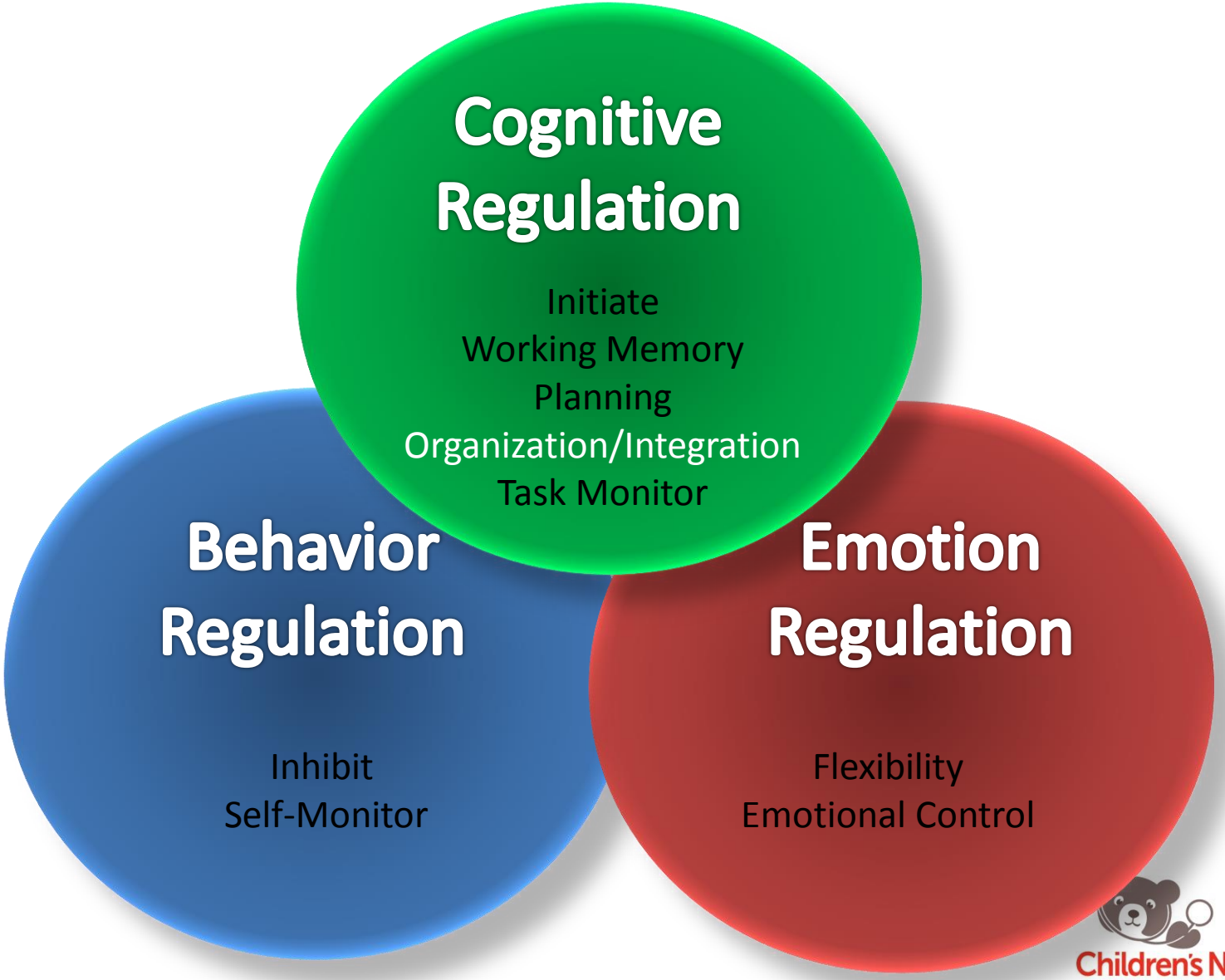
Inflexibility Strengths

- Deep datasets
- Expertise in areas of interest
- Persistence
- Reliability
- Loyalty
- Routines that don't interfere
- Inflexibility is adaptive. It limits unexpected, overloading events.

Julia Bascum Video, Linking Accommodations—great example of how routines help—instead of having to invent for the first time how to get dressed in the morning—the failure of routines— it is inflexible of me to insist on the routine but that inflexibility accommodates my trouble keeping track



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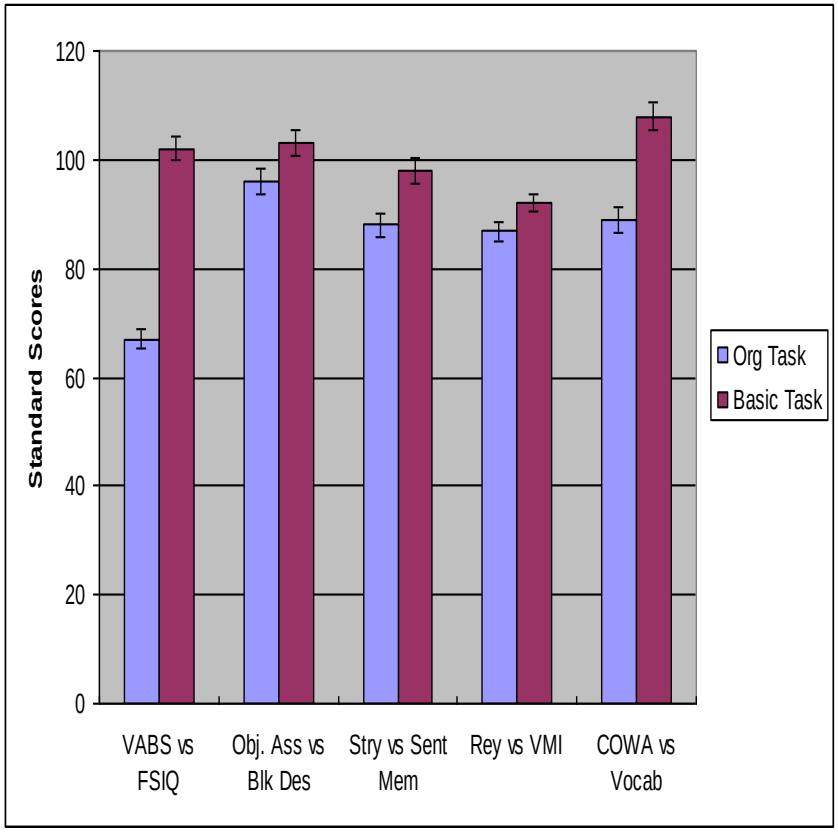
Organization/Integration

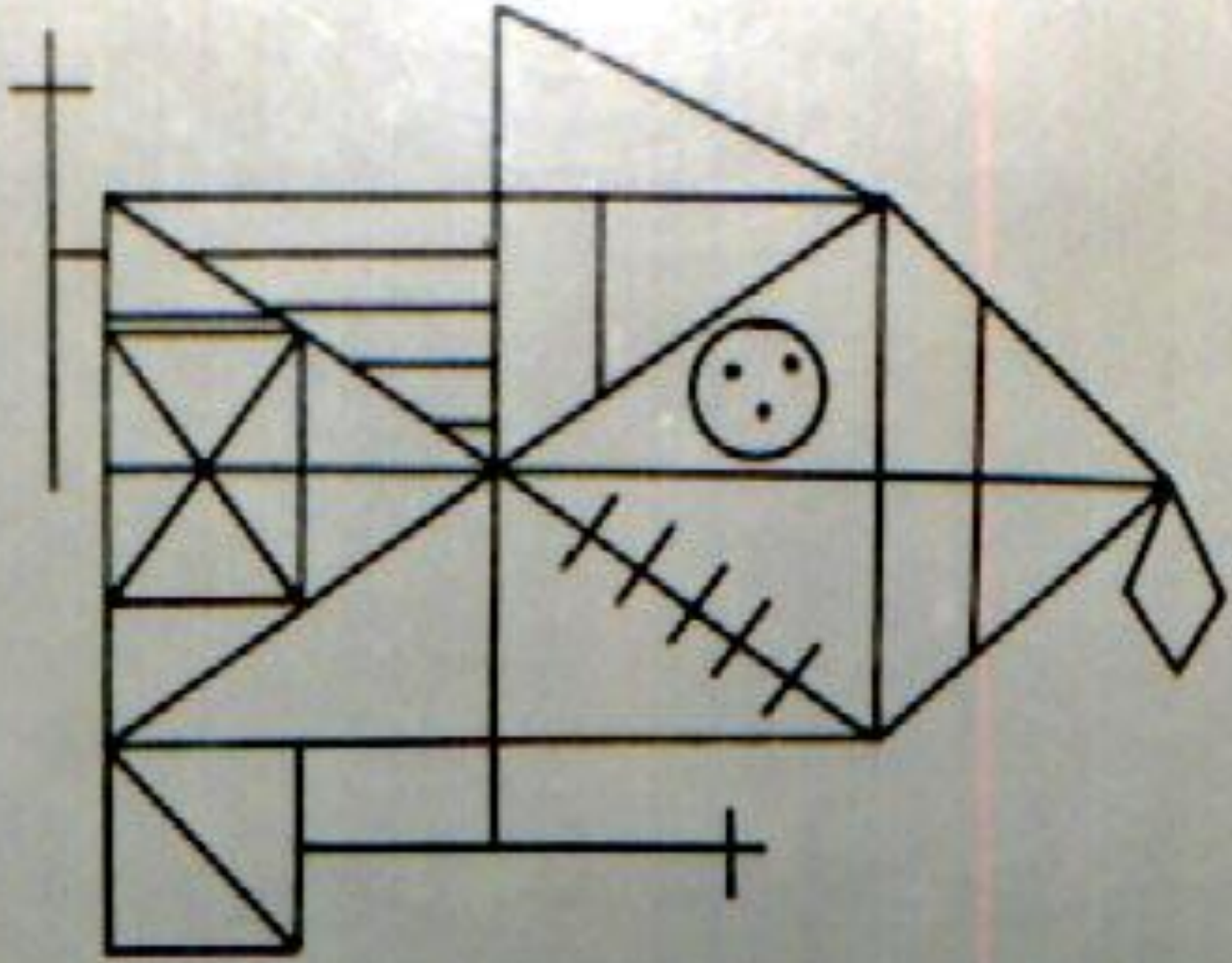
- Setting and understanding goals
- Prioritizing
- Identifying main idea and organizing thinking
- Seeing the forest for the trees

(Ozonoff, 1991; Hughes, 1994; Hill, 2004; Mesibov, Shea, & Schopler 2004)

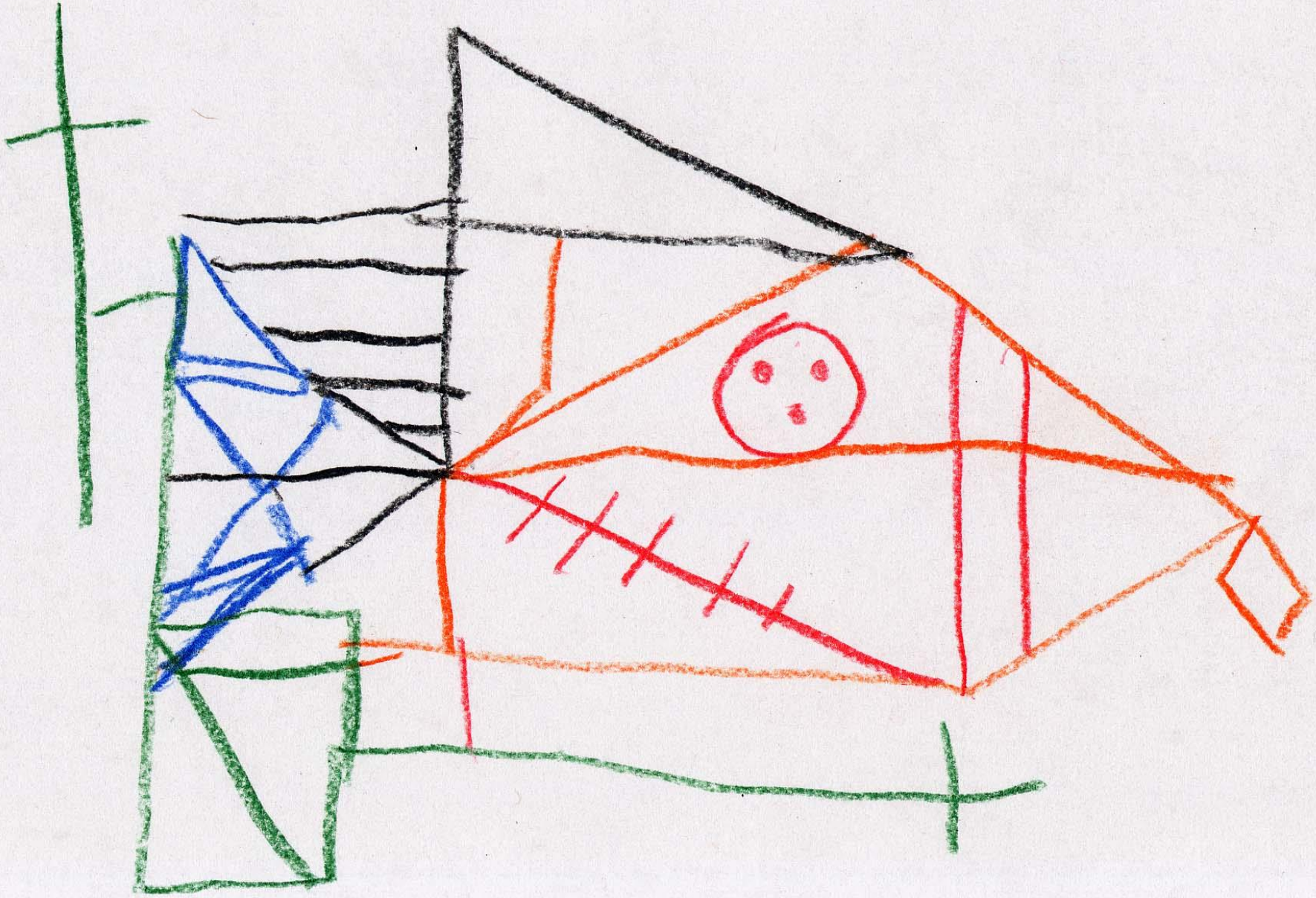
Managing complexity



Kenworthy et al, 2005



Rey Osterrieth Complex Figure



What do organization/integration deficits look like?

Can't, or Won't?

- Disorganized language
- Literal language
- Asks for lots of structure in new situations
- Gets stuck on details- doesn't let go of small mistake/inconsistency
- Dominates discussions without knowing it
- Behaves worse in unstructured groups
- Doesn't set goals
- Trouble learning from mistakes
- Poor written expression, Doesn't get good ideas onto paper
- Draw meaning from a reading assignment
- Know what to study for on a test

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Disorganization Risks and Accommodations

Lack of generalization

- Put new information in familiar context
- Explicitly review inferences, nuances
- Teach in the setting where the behavior is expected
- Structure

Difficulty knowing what is important/Getting Stuck on details

- Emphasis on goals
- Break things down
- Explicit short rules, recipes, checklists and routines
- Structure

Don't show what they know

- Study guides, closed format tests
- Writing rubrics
- Structure

Lack of awareness and overwhelm

- Safe Person
- Structure

Schopler, Mesibov & Hearsey, 1995

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The Power of a Safe Person

Russell Lehmann &David Apkarian @ STORYCORPS

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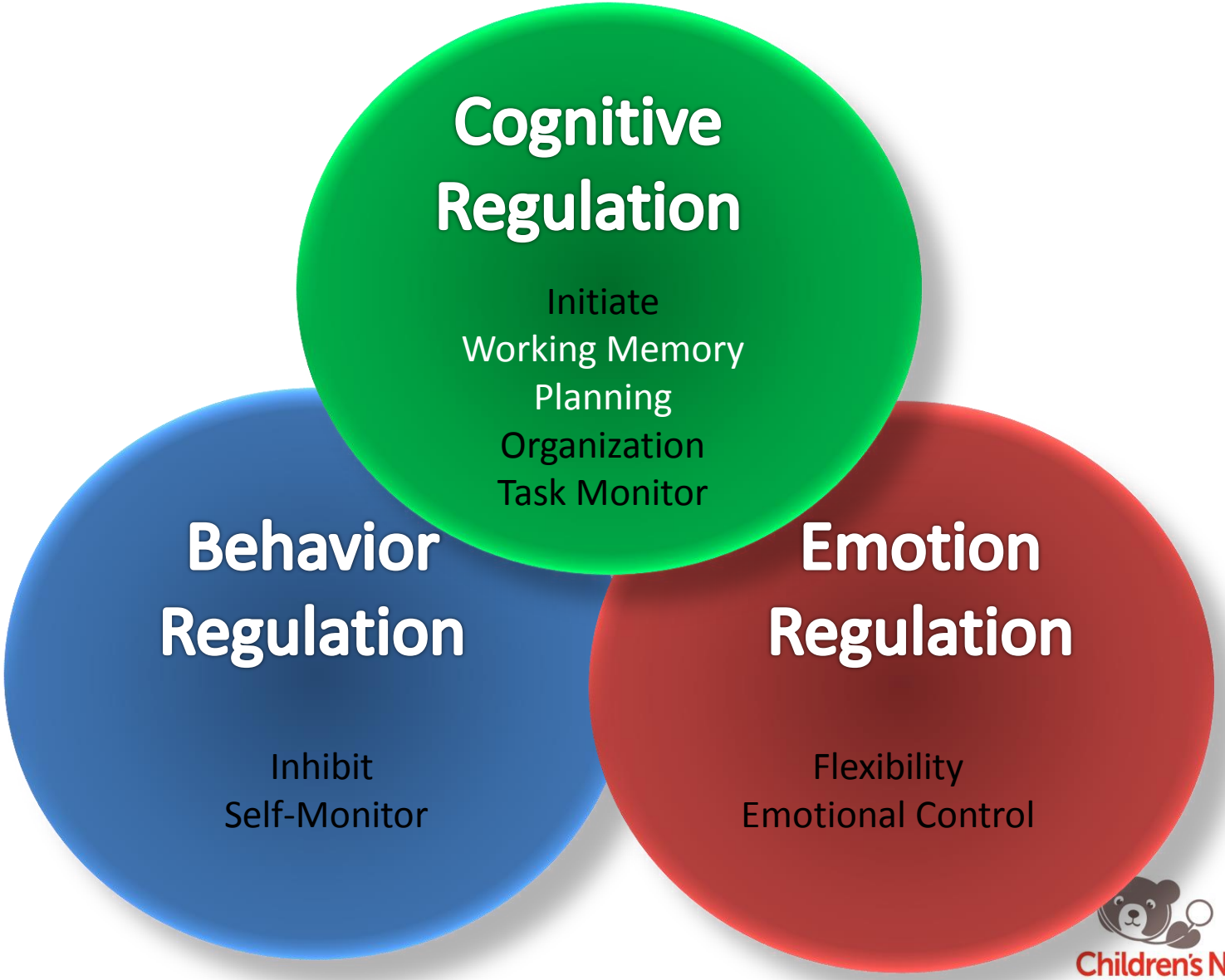
Detail Processor Strengths

- Patience for details
- Respect, follow, use rules
- Good with recipes, checklists and routines
- Powerful computer related thinking
- Classification strengths
- Attention to detail—Sherlock Holmes
- Mastery of detailed datasets
- Large Vocabulary



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Planning

- Video of young girl completing the Tower of London Task

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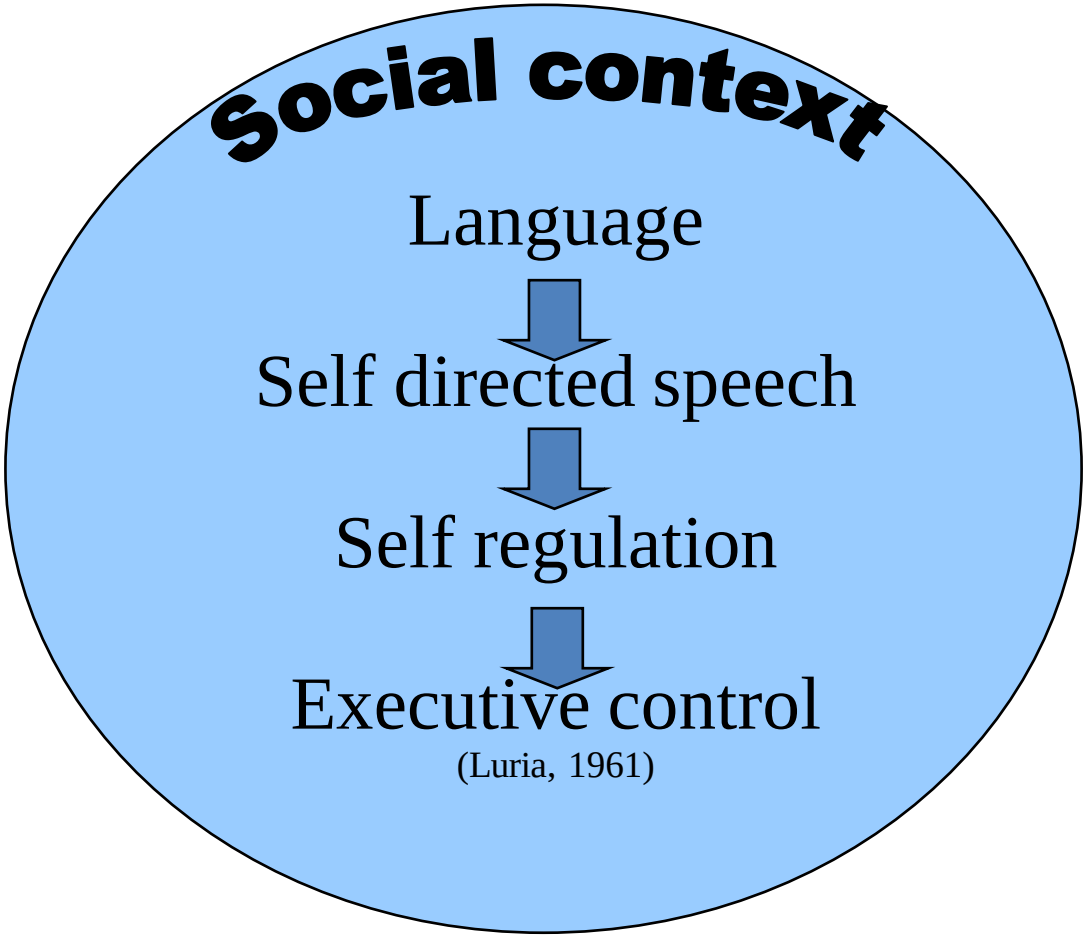
The Importance of Inner Speech



Lev Vygotsky
Thinking and Speech (1934)

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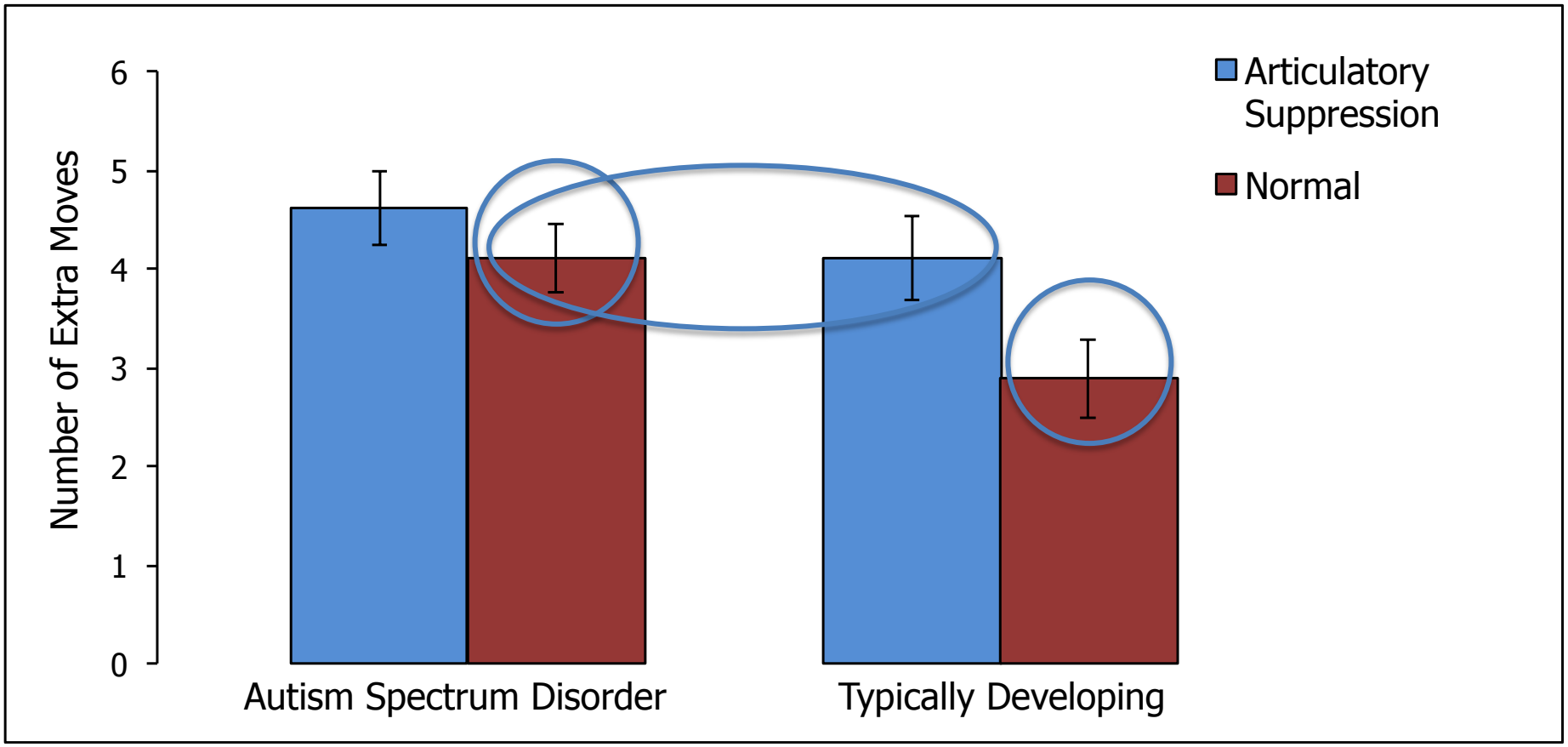
Inner Speech and Planning



Wallace et al. (2009) *Journal of Autism and Developmental Disorders*

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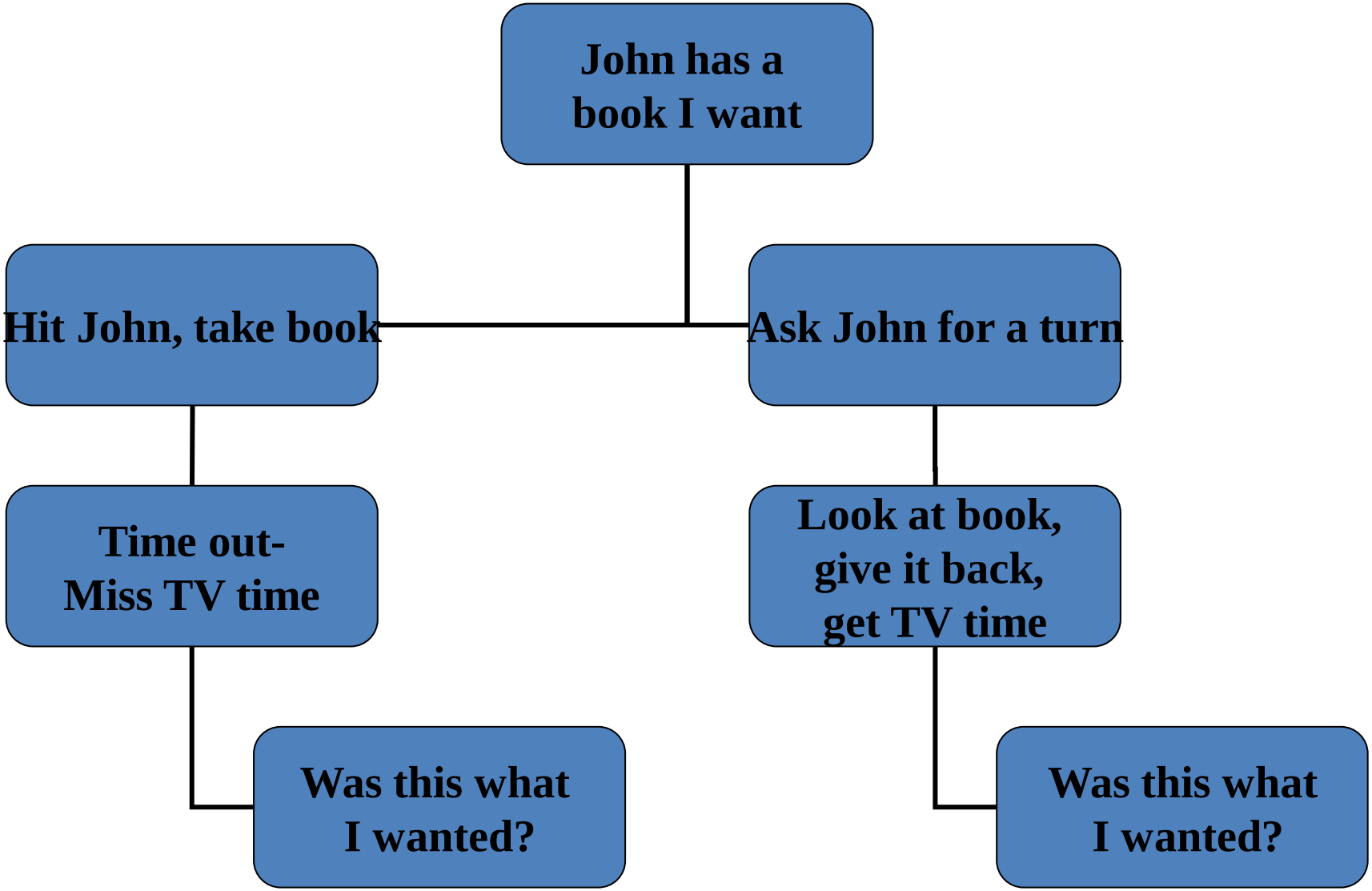
Poor planning/Inner Speech/Working Memory Looks Like: Won't follow directions, work independently

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

Schopler, Mesibov & Hearsey, 1995

Break it Down and Make it Visual



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   - Flexibility, Organization, Planning/Working Memory ?
4. How can we treat EF problems in autism?
   - Phenotype specific accommodations & teaching self regulatory scripts in everyday settings

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Teaching Executive Function Skills

OR… bridging the dissociation between knowing and doing

The Challenge:

- EF is a complex set of abilities
- Self regulation is hardest when it is most needed
- EF skills are hard to generalize
- You can't teach "doing" without doing

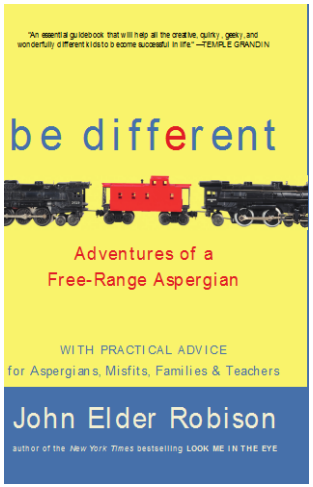
The Strategy:

- Phenotype Specific (= Individualized) Treatment
- Accommodate, then remediate
- Teach self regulatory scripts/vocabulary to automaticity
- Embed teaching in the real world: School & Home
- Teach process: Make implicit explicit & Model the skills
- Collaborate: "With, not for"

Ylvisaker, 1998; Ylvisaker et al, 2003, Ylvisaker et al, 2006

Accommodate, then Remediate

Neural Diversity is a civil right…



Overwhelmed people can't learn

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

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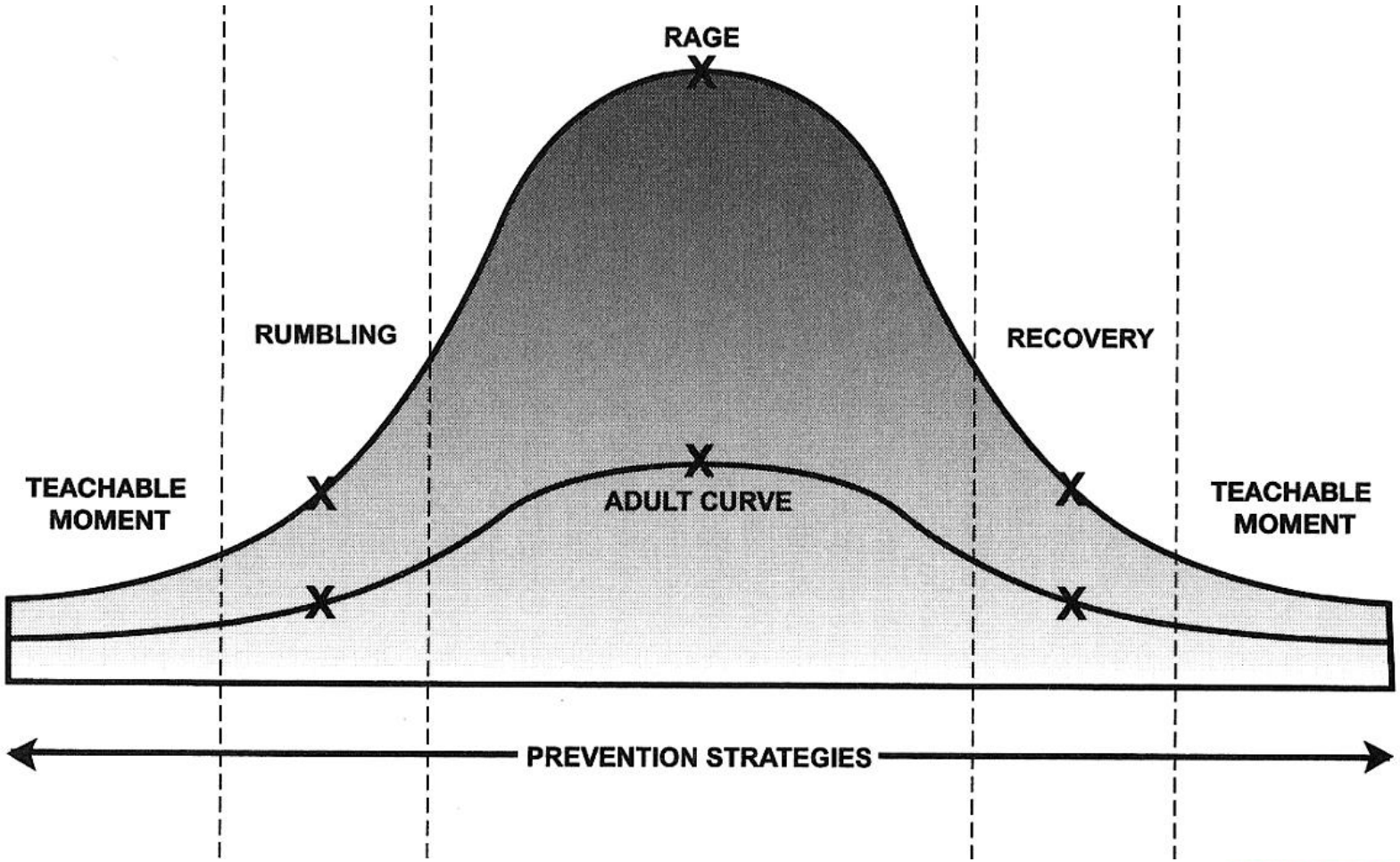
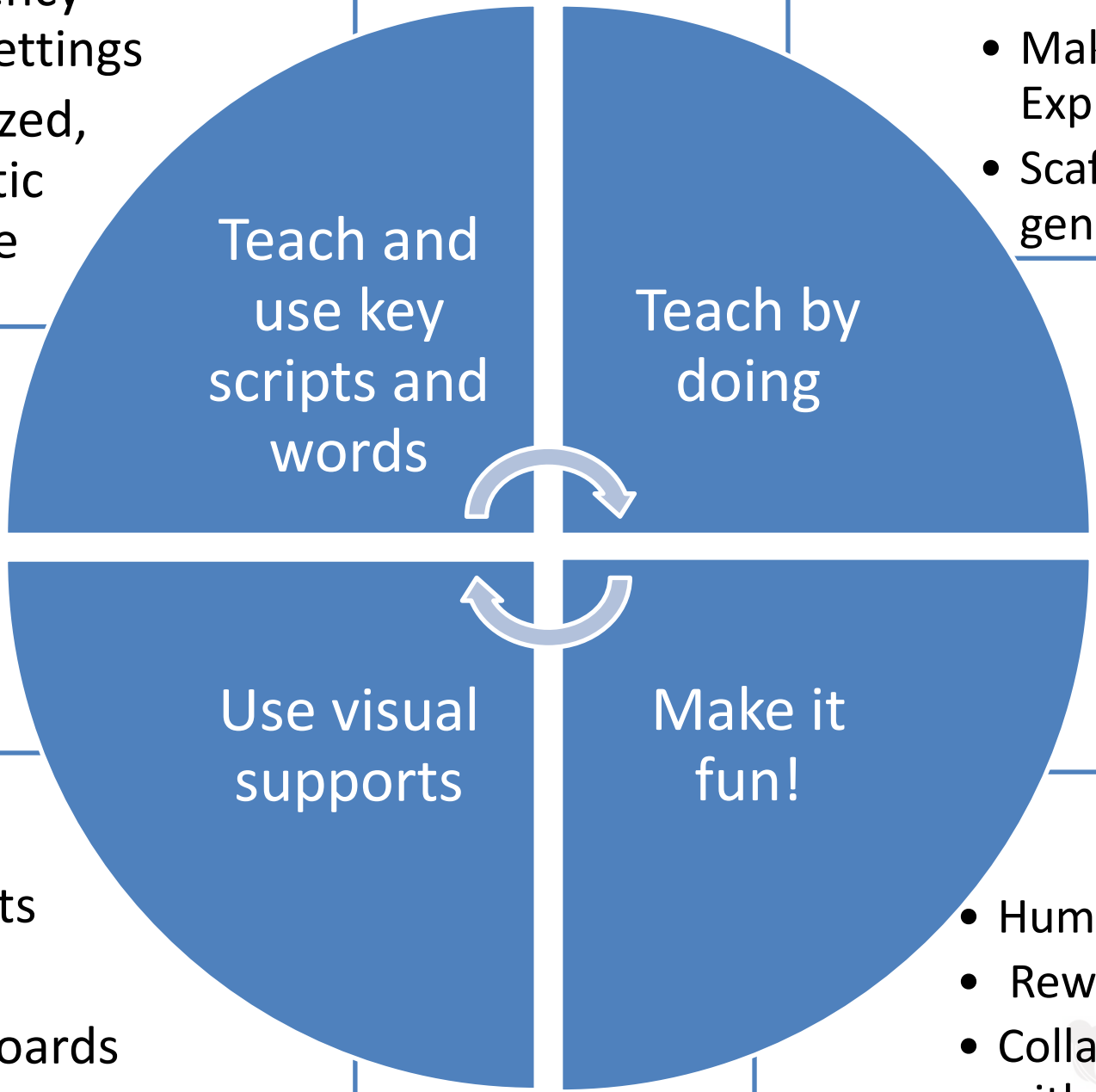
Overload: Looks like anxiety, impulsivity, meltdowns

Brenda Smith Myles: *AS and Difficult Moments*



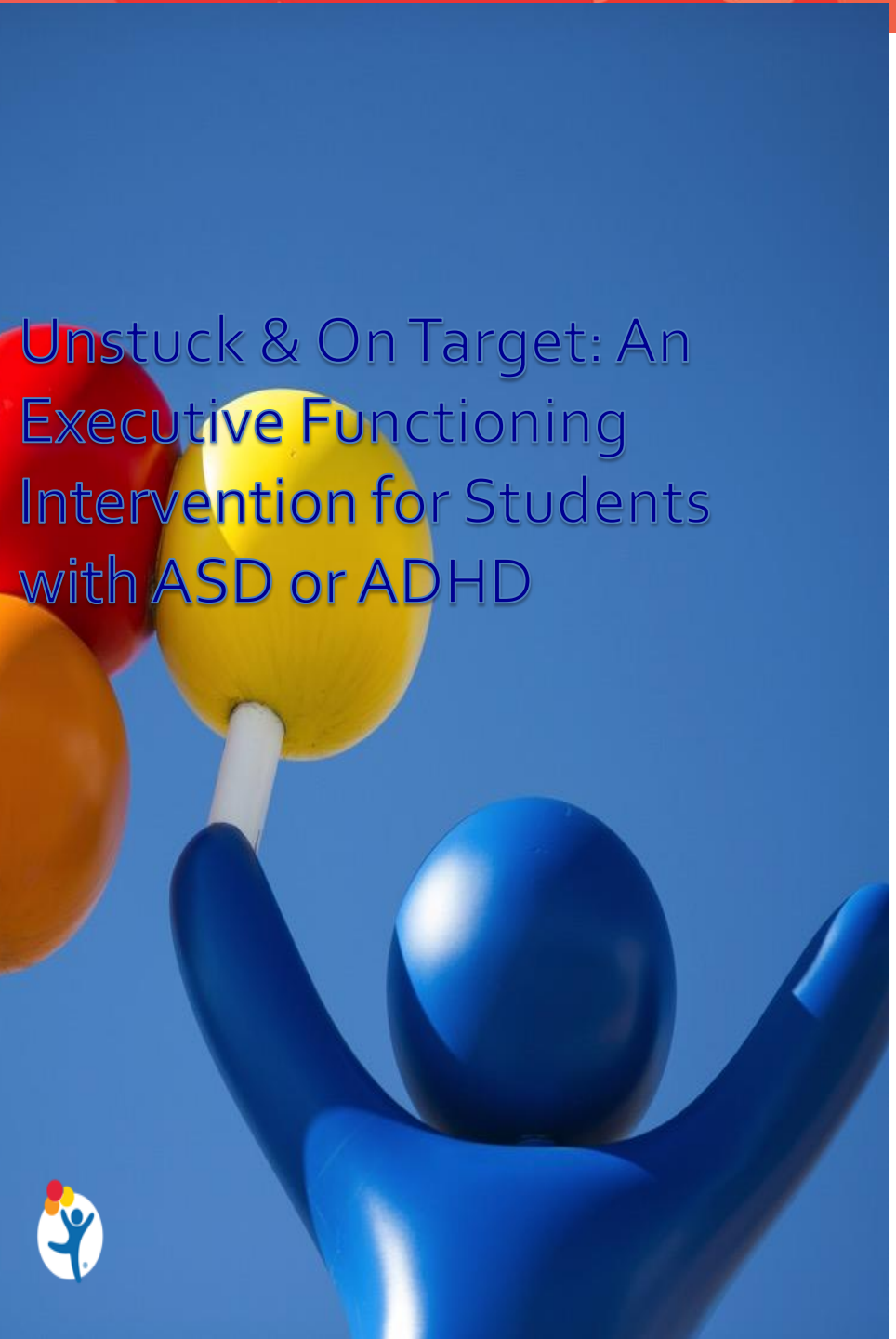
- Consistency across settings
- Memorized, automatic language

- Coach
- Make Implicit Explicit
- Scaffold-fade-generalize



- Checklists
- Cues
- White Boards

- Humor
- Rewards
- Collaborate with child



Unstuck & On Target: An Executive Functioning Intervention for Students with ASD or ADHD

Laura Anthony, PhD

Associate Professor
Dept of Psychiatry, School of Medicine
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Pediatric Mental Health Institute
Children's Hospital of Colorado

School Mental Health, 10/21/17

Conflicts of Interest: Royalties on *Unstuck* manuals

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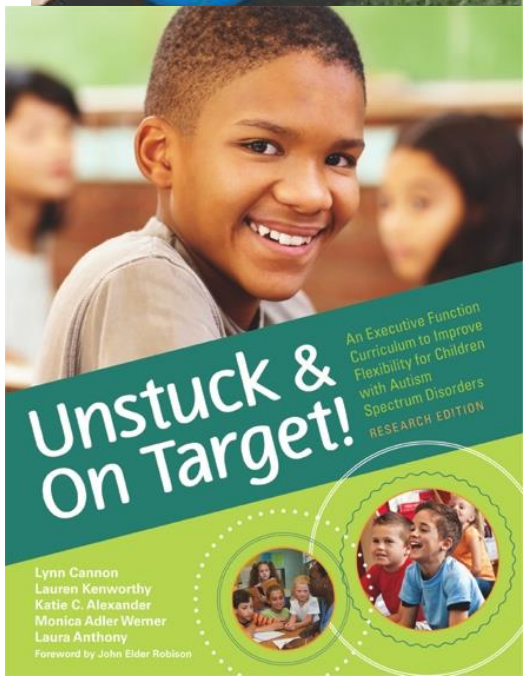

Tools You Can Use Today

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GOAL: Increase your understanding of how to teach executive functions

PLAN

1. Teach flexibility, organization & planning skills using specific scripts or vocabulary and other tools

CHECK

1. Did I get done when I said I would?
2. Do you have questions?

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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
- Show, model and coach

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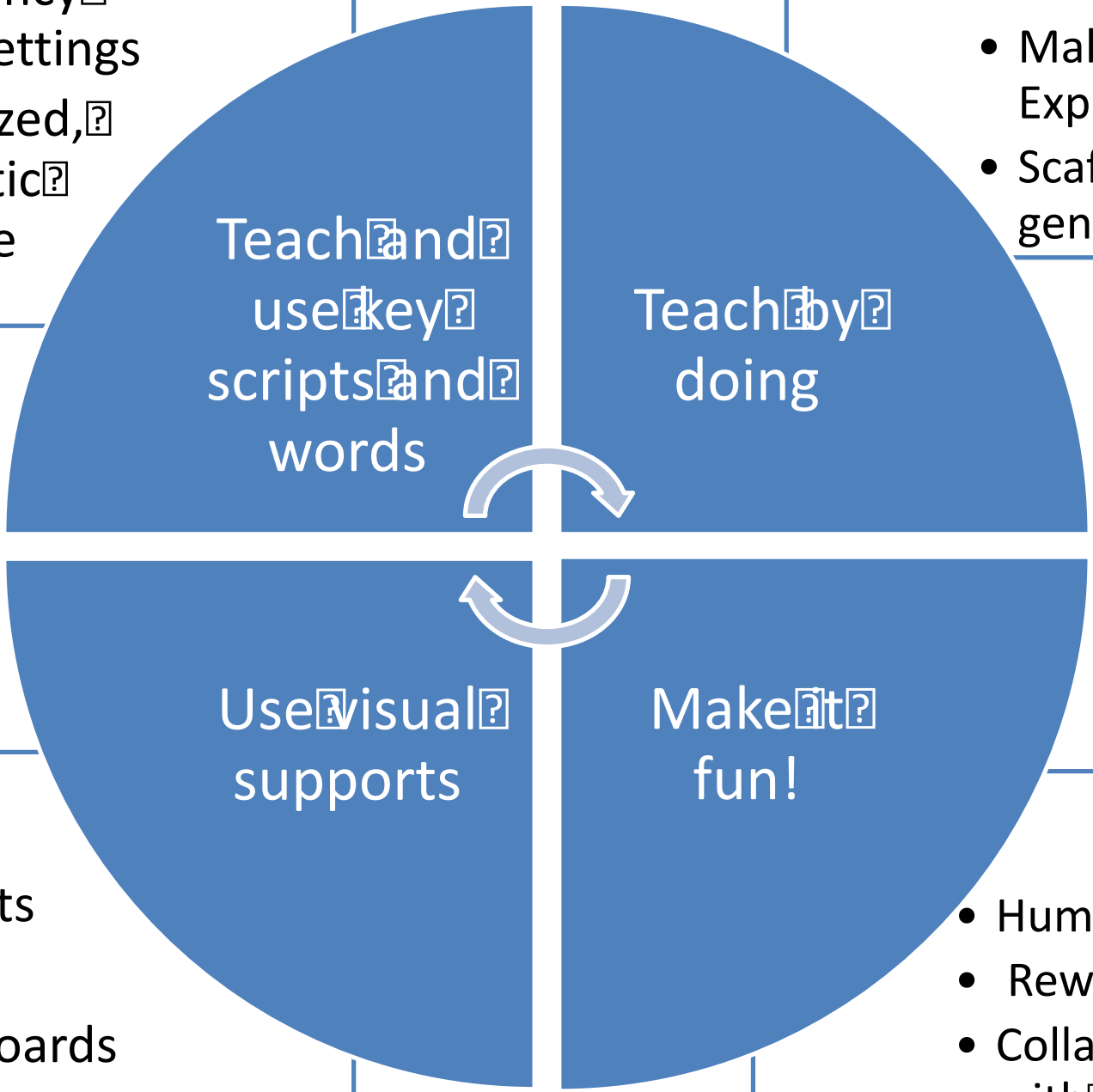
- Consistency across settings
- Memorized, automatic language

- Coach
- Make Implicit Explicit
- Scaffold-fade-generalize



- Checklists
- Cues
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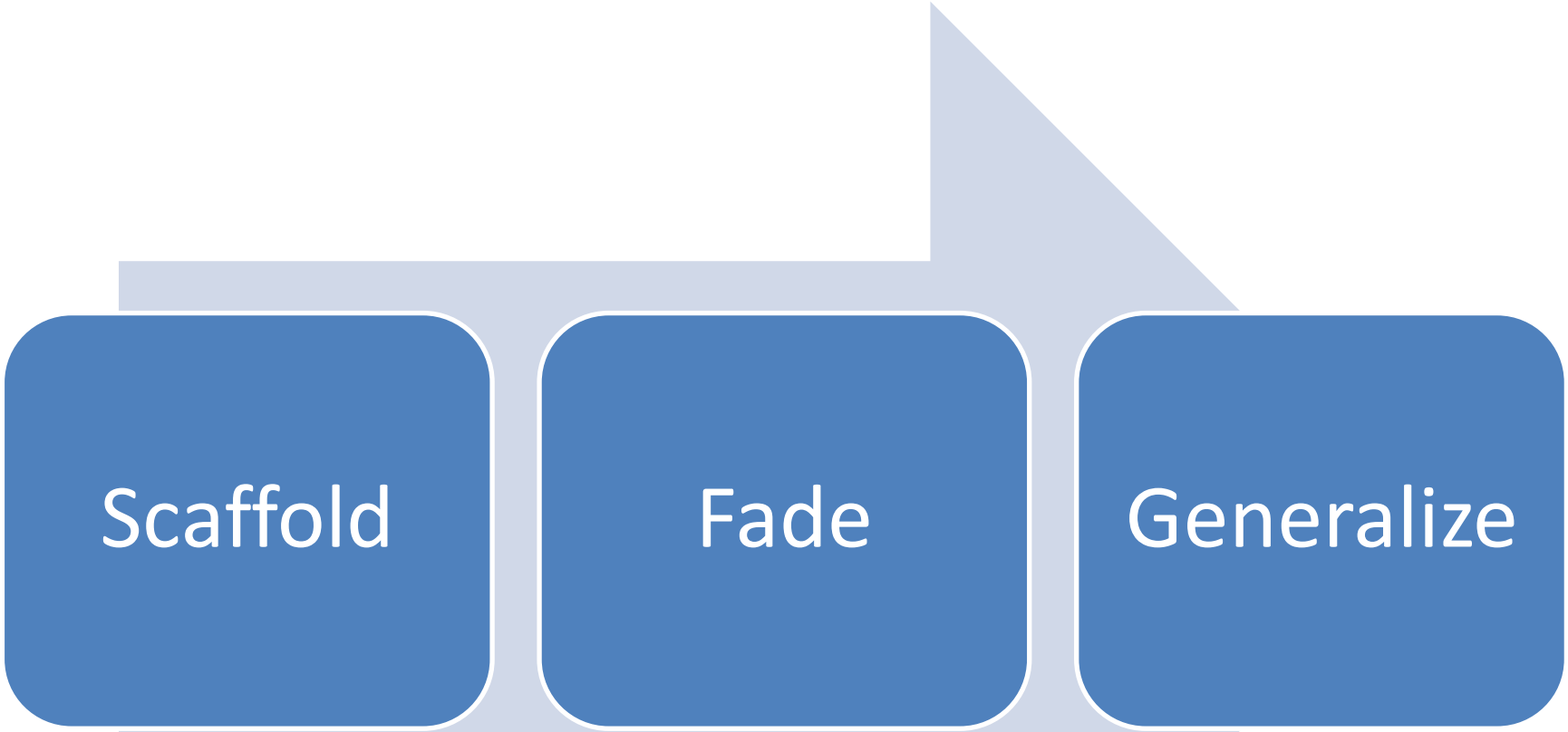
- Humor
- Rewards
- Collaborate with child



http://www.bianys.org/learnet

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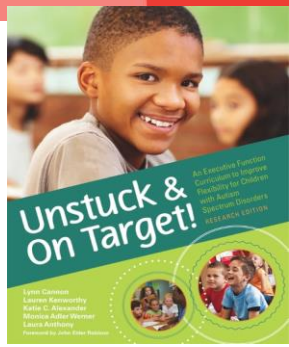
Unstuck and On Target!



Introduction	• Guide to Using This Manual
Topic 1	• The Meaning of Flexibility
Topic 2	• Cognitive Flexibility Defined
Topic 3	• Coping Strategies
Topic 4	• Perso[illegible]Heroes
Topic 5	• Why Be Flexible?
Topic 6	• Your Goals: Getting What You Want
Topic 7	• Scripts for How to Be Flexible
Topic 8	• Journey [illegible]arget Island
Topic 9	• Being Flexible Makes You a Good Friend
Topic 10	• Flexible Futures

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The Story of Silly Putty (Why, Plan A/Plan B)

Photo credits to Maurice Tome

http://schoolwithinschool.org/look-forward-to-succeeding/

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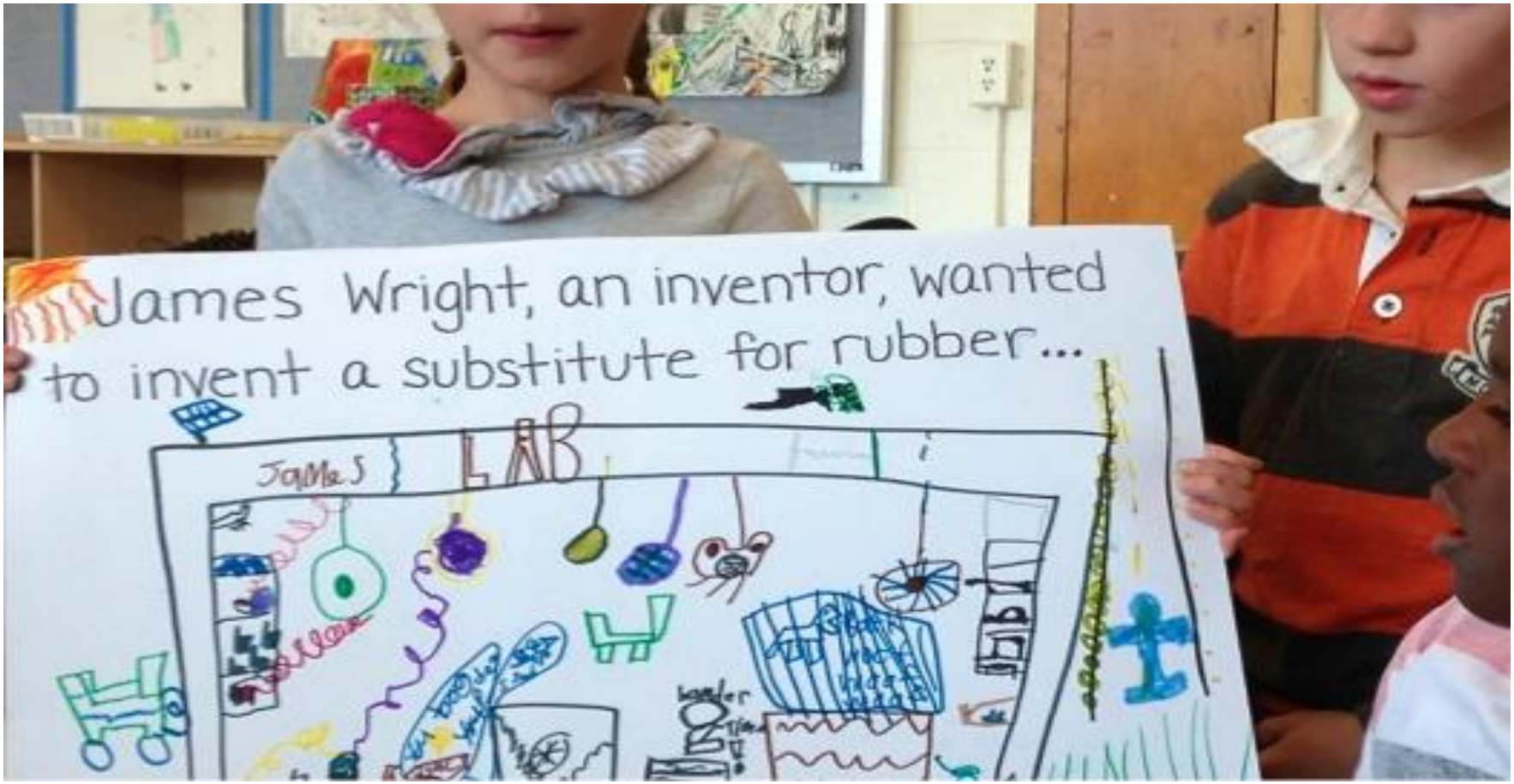
The Story of Silly Putty



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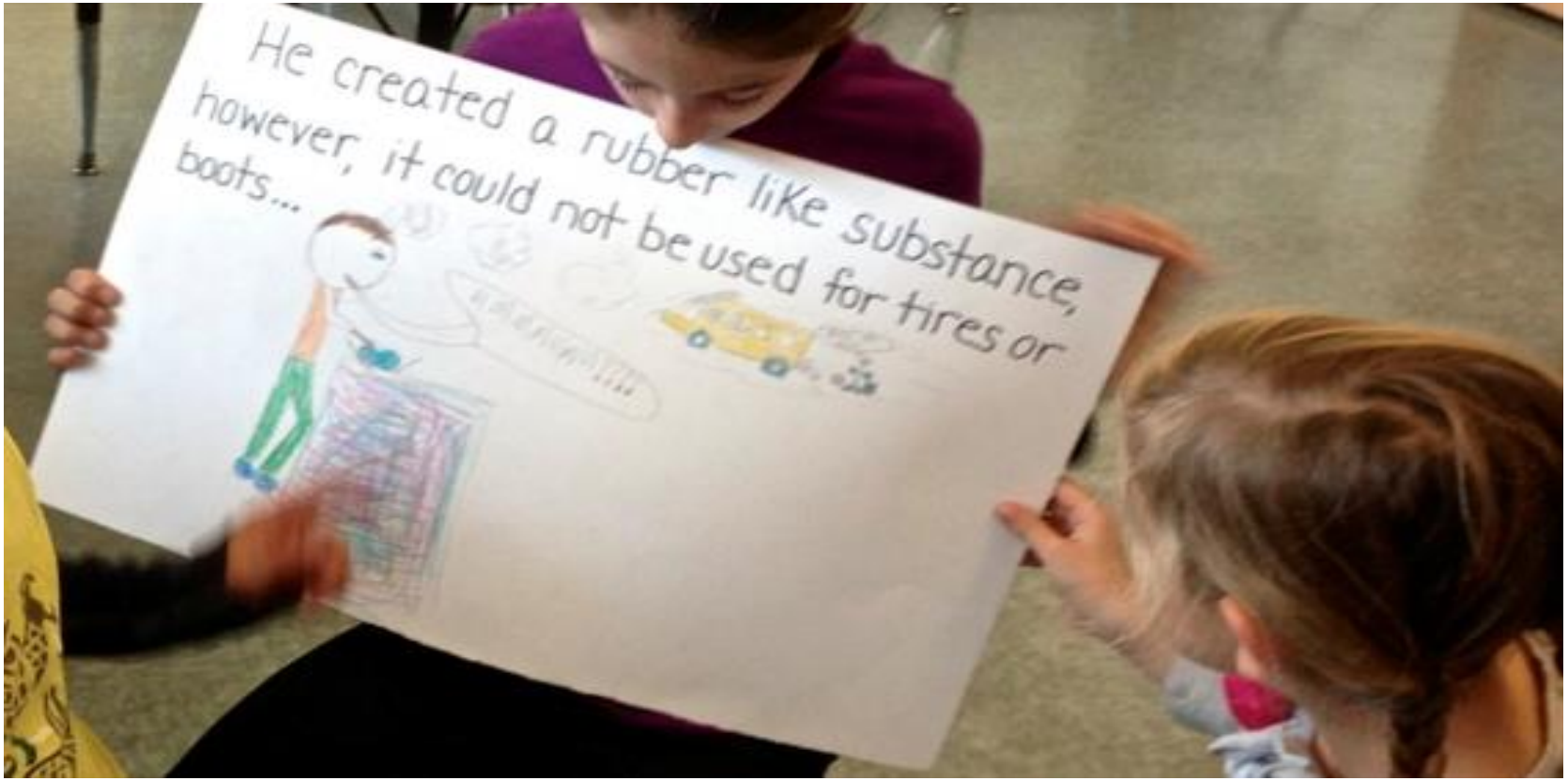
The Story of Silly Putty



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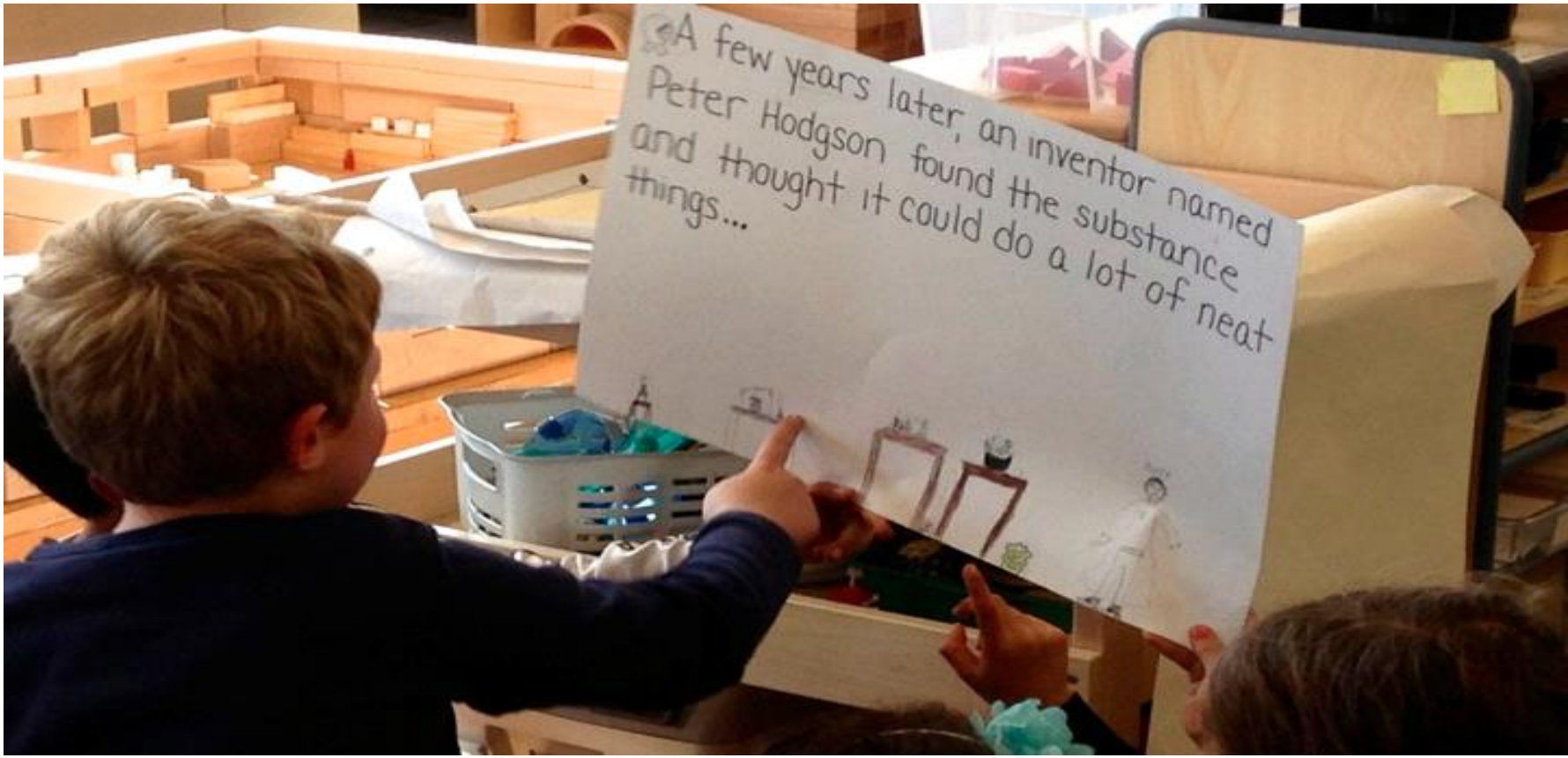
The Story of Silly Putty



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The Story of Silly Putty

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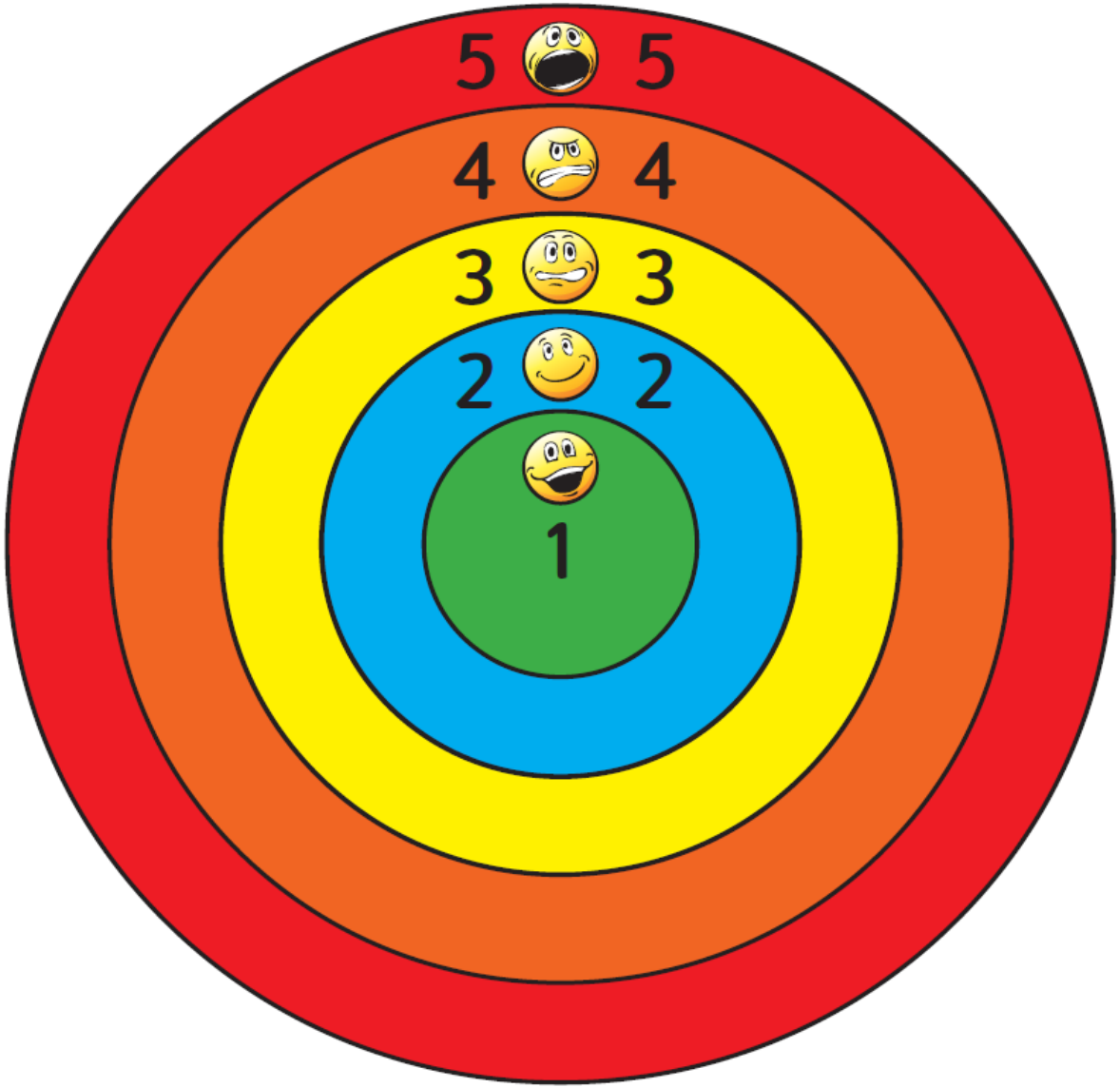
Teaching: Why Be Flexible

- 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

Feelings Target



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Feelings Target

- Video of Dr. Anthony reviewing the feelings target with Stevie

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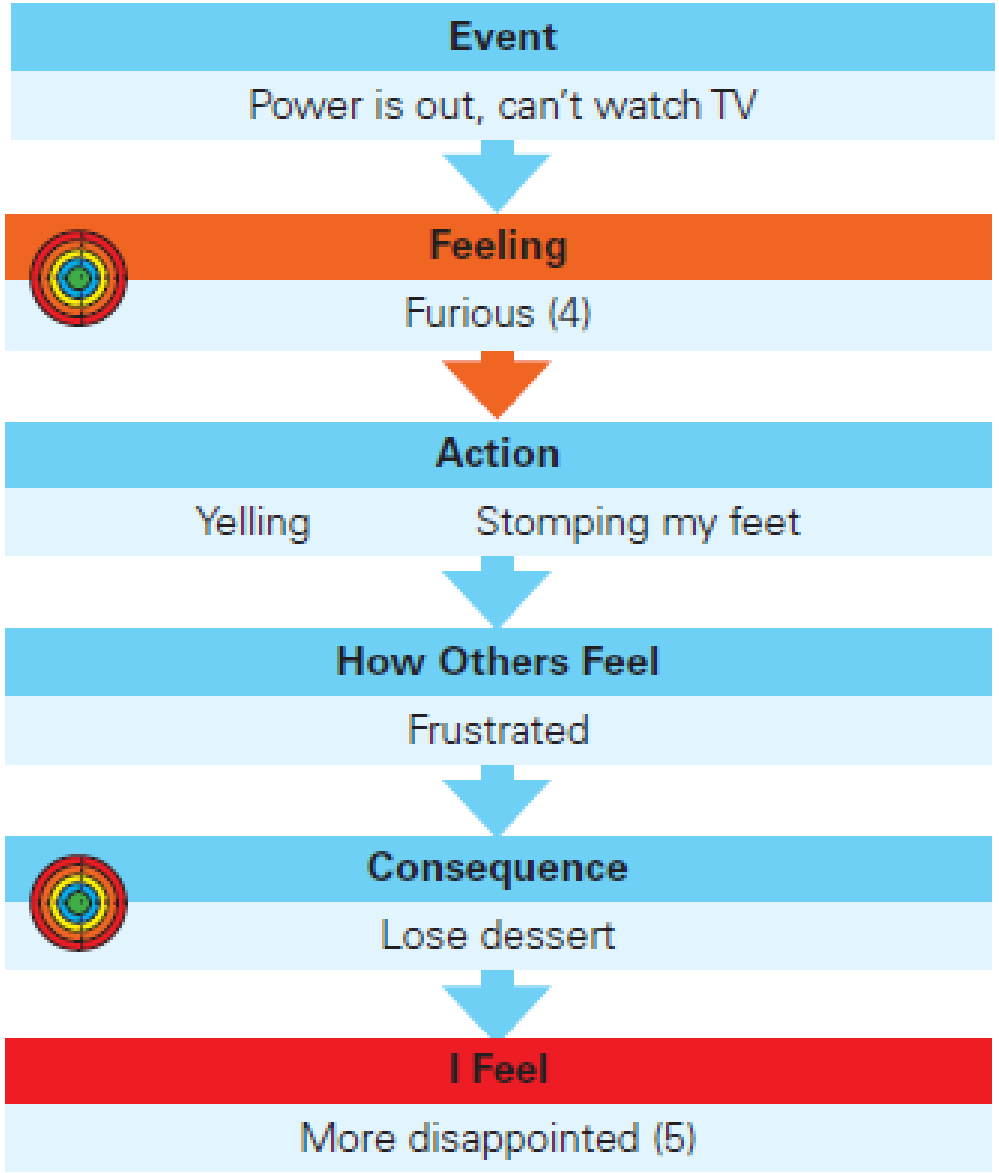
Feelings Chain

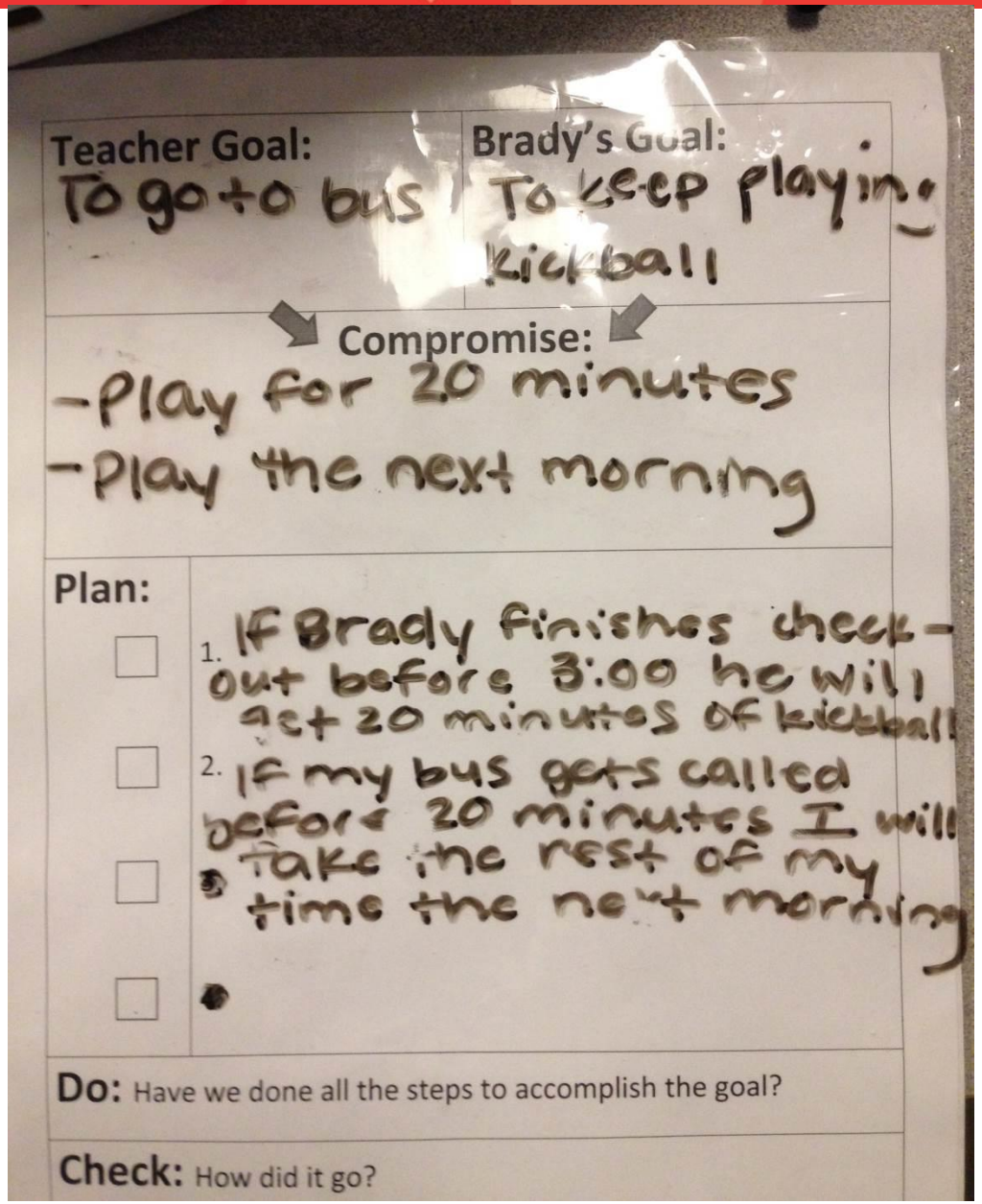


Teach How to Be Flexible: Self-Regulatory Scripts

- ✓ Avoid too much talking
- ✓ Refer to the big picture
- ✓ Build an alliance—you're collaborating!
- ✓ Need to be practiced

How to be Flexible: Words and Scripts

Flexible	• Great job being flexible
Unstuck	• I'm getting stuck on ___, how can I get unstuck?
Compromise	• Let's compromise so we both get some of what we want
Plan A/Plan B	• What is our plan? • What is our Plan B?



Teacher Goal:	Brady's Goal:
To go to bus	To keep playing kickball

Compromise:

- Play for 20 minutes
- Play the next morning

Plan:

- [ ] 1. If Brady finishes check-out before 3:00 he will get 20 minutes of kickball
- [ ] 2. If my bus gets called before 20 minutes I will take the rest of my time the next morning
- [ ]
- [ ]

Do: Have we done all the steps to accomplish the goal?

Check: How did it go?

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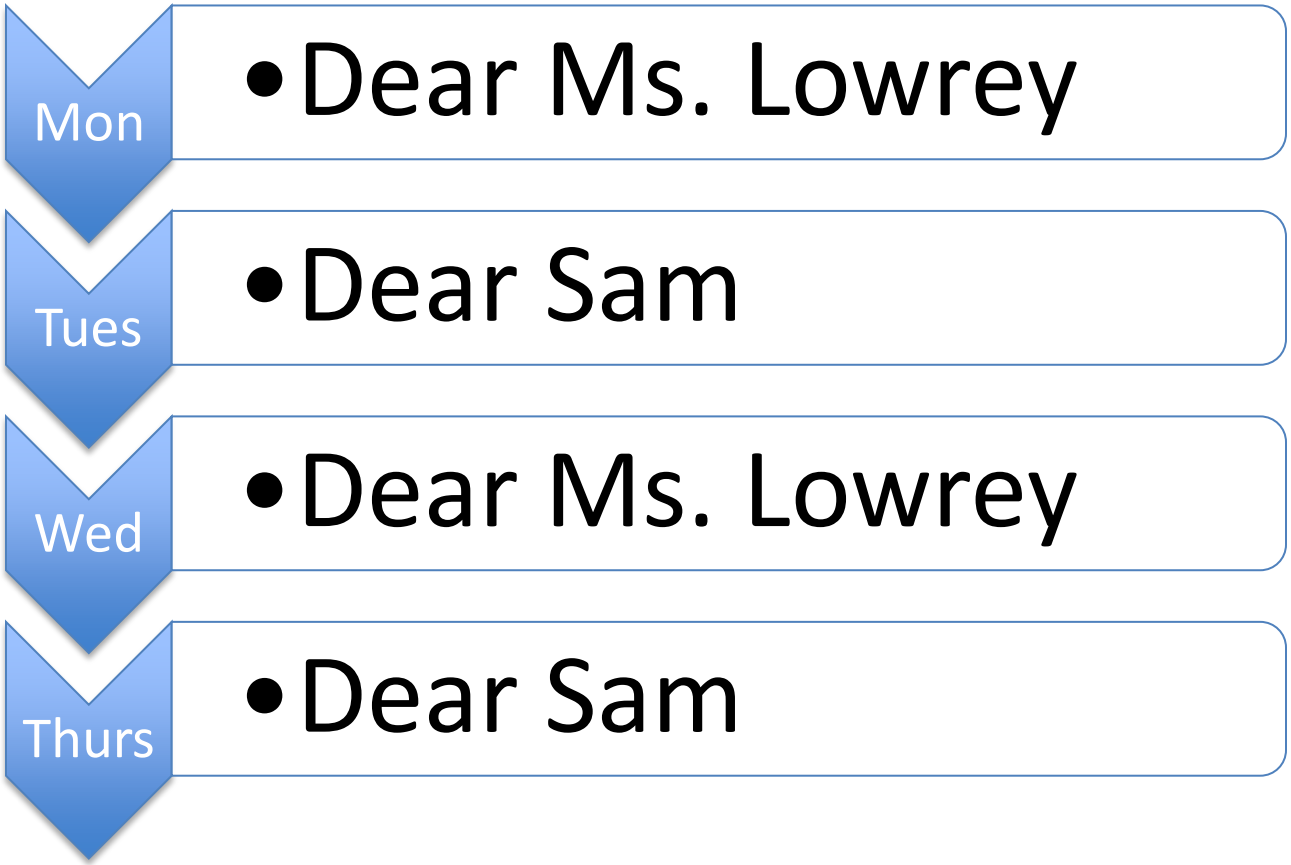
An Unstuck Email Exchange:



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Flexibility Scripts

Big Deal/Little Deal	• How can we make this big deal into a little deal?
Choice/No Choice	• Is this a no choice situation?
Handling the Unexpected	• What will change? • What will stay the same? • Why is the change happening?

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Modeling Plan A/ Plan B & Little Deal

- Video of School within a school classroom when the teacher is modelling UOT language

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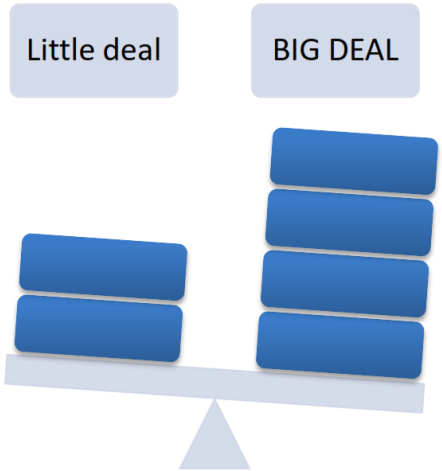
Unstuck and On Target Home Practice 10

Your child had their tenth session of Unstuck and On Target today.

D/d

Session Summary: Your child learned about the difference between a Big Deal and a Little Deal today in group. A BIG DEAL is a large problem, takes a long time to fix and usually takes a lot of people to solve. A little deal is something that is a small problem, can be fixed quickly and doesn't take many people to solve.



What you can try at home:

1. Keep in mind that whether or not something is a **Big Deal** is very personal!
   - Just because something is a **Big Deal** to you, does not automatically mean that it will be a **Big Deal** to your child.
     i. For example, it might be a **Big Deal** to you for the family to go to church together, but it is a **Little Deal** for your child. Or maybe it is the other way around.
     ii. Maybe it is a **Big Deal** for your child that they are always on time, but you feel like being 5 minutes late is no **Big Deal**. Or maybe it is the other way around.

2. Don't tell your child something is not a **Big Deal**. Instead, try saying something like this:
   - *"It is ok if something feels like a **Big Deal**. I'll help you figure out how to turn it into a **Little Deal**."*
   - *"If you have a **Big Deal** problem you can always ask for help. We all need help with a **Big Deal**."*

3. Praise your child for asking for help with a **Big Deal**, or for being able to recognize when something is a **Little Deal**.
   - *"Is this a **Big Deal** or a **Little Deal** to you?"*
   - *"You are right, this does feel like a **Big Deal**. Let's figure out who to ask for help."*

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GWPDC script (Goal, Why, Plan, Do, Check)

Goal	**To have fun at recess**
Why	**Recess is my free time**
Plan A **Plan B** **Plan C**	**Ask Johnny if he wants to play soccer** **(If J says, "no") Ask Melissa to play soccer** **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?**

GWPDC

- Video of Katie Alexander modelling GWPDC with Stevie

Modeling Flexibility Scripts

- **Accidents:** After a child spills something at the dining table, you could say, "When that spilled and was starting to drip on me, I felt like it was a really *Big Deal*, but then I realized I could make it a *Little Deal* by mopping it up and you helped clean it up. Thanks."

- **On a play date or at recess.** When a child wants to play Legos, but his or her friend wants to play a board game: "How can you be *flexible* and still reach your goal of having fun with your friend?" "Can you *compromise* and play a board game first and then Legos? Then you will both get what you want in the end, which is better than not getting what you want at all."

- **Unpopular Chores**: If you got a parking ticket: "Oh, how I wish paying this parking ticket was a *choice* situation…"

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Current Projects and Extensions

- e-Unstuck (3C Institute)
  - SBIR funded by NIMH Develop and test training modules on an e-learning platform
- Middle school version (Strang, PI, OAR)
- High School/transition age (Pugliese, PI, OAR, NIMH KAward)

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GOAL: Increase your understanding of how to teach executive functions

PLAN

1. Teach flexibility, organization & planning skills using specific scripts or vocabulary and other tools

CHECK

1. Did I get done when I said I would?
2. Do you have questions?

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e-Unstuck Addresses: Disparities in Access to Treatment

- **Overcomes geographical isolation**
- **Limits financial constraints**
  - raising a child w/ ASD costs ~$3 million more than is typical (Ganz, 2007)
- **Reduces time pressure**
  - parents of children w/ ASD have less leisure time (Smith, 2010)
- **Exponentially increases access**
- **Diversifies the trainers**

UNSTUCK AND ON TARGET
COURSE FOR PARENTS

Children's National™

UNSTUCK AND ON TARGET
COURSE FOR PARENTS

Welcome back, Laura Anthony

Log Out

MY DASHBOARD | BINDER

- Introduction
- Executive Function Overview
- Can't, Not Won't
- Accommodate
- Motivate
- Words That Build Flexibility
- Identifying Feelings
- Coping Strategies
- Goal, Why, Plan, Do, Check

INTEGRATION

Learn how to integrate the Unstuck strategies and skills to give yourself multiple ways to build your child's flexibility, confidence, and independence.

Replay

Quick Review:

- Executive Function Insight
- Can't, Not Won't Insight
- Accommodate Insight
- Motivate Insight
- Flexibility Words Insight
- Identifying Feelings Insight
- Coping Strategies Insight
- GWPDC Insight

UNSTUCK
AND ON TARGET
COURSE FOR PARENTS

EF Overview Executive Function Profile

This profile uses your answers about your child to rate their executive function skills. The Frequency of Difficulty column indicates their level of struggle with the executive function. Though your child might be struggling with several executive function skills, we recommend that you focus on one at a time to give you and your child an opportunity to make progress. There's an action tip for each executive function to support your problem solving.

Executive Function	Description	Frequency of Difficulty
Flexibility	The ability to shift from one thing to the next without getting stuck, adapt to new situations, and adjust to unexpected changes in routine.	**High**
ACTION TIP:	Start talking to your child today about "Plan B." Anytime something doesn't go as expected, say, "We need a Plan B," Create a Plan B anytime you expect Plan A might not work out. Say, "Let's come up with a Plan B before we leave the house."	

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E-Unstuck engages parents in active

- Video of e-unstuck training

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School Mental Health Conference 2017

HOW WELL DOES IT WORK? THE PROCESS OF RESEARCHING UOT'S EFFECTIVENESS

Alyssa Verbalis, PhD

Pediatric Neuropsychologist
Clinical Research Program Lead
Center for Autism Spectrum Disorders
Children's National Health System

School Mental Health Conference, 10/21/17

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Participatory Research

- A community-based, participatory approach (Brooke et al., 1986; Israel et al., 1998):
  - engagement with community and policy partners
  - development of the intervention, data collection and analysis plan in collaboration with key stakeholders
  - assessing fidelity in the "real world"
  - ensuring that the formative and summative evaluation data will be shared with others who might benefit from the lessons learned (CDC, 1999)

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The test of any intervention is the test of that intervention in a context.

Traditional RCT		Community Practice
tx delivery at desired intensity and duration	System	tx subject to programmatic and funding priorities
Highly trained and supervised in tx	Clinician	Variable training, supervision, motivation and caseload
Restrictive inclusion and exclusion criteria	Participant	Whoever shows up

Slide Courtesy of David Mandell

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Pre-RCT Development Process

- Needs assessment with experts and stakeholders
- Classroom observations of experts in action
- Focus groups with school staff, parents, and children to define key elements
- Feasibility and acceptability trial with direct feedback from students with ASD
- Skip efficacy altogether

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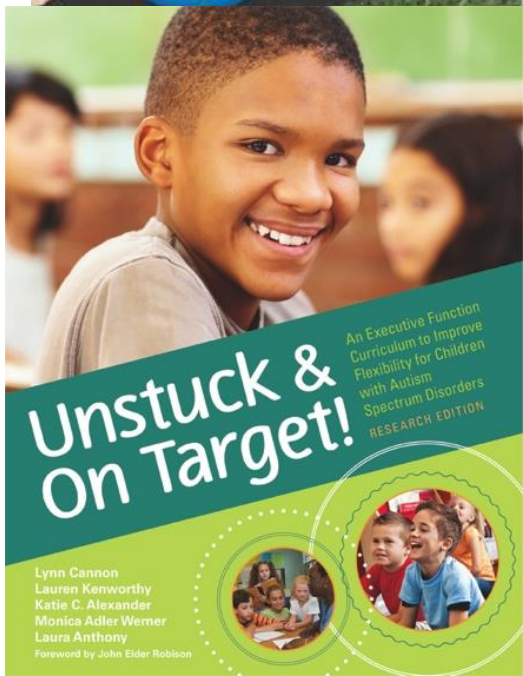
Result: Two Published Manuals

Ivymount Model Asperger Program/Take2 Summer Camp

- Katie Alexander
- Lynn Cannon
- Monica Werner

Children's National Center for Autism Spectrum Disorders

- Laura Anthony (now UCD)
- Lauren Kenworthy



Unstuck Trial #1:

(NIMH 1 R34 MH083053-01A2)

THE JOURNAL OF CHILD PSYCHOLOGY AND PSYCHIATRY
ACAMH THE ASSOCIATION FOR CHILD AND ADOLESCENT MENTAL HEALTH
Journal of Child Psychology and Psychiatry 55:4 (2014), pp 374–383 doi:10.1111/jcpp.12161

Randomized controlled effectiveness trial of executive function intervention for children on the autism spectrum

Lauren Kenworthy,[1,2,*] Laura Gutermuth Anthony,[1,2,*] Daniel Q. Naiman,[3] Lynn Cannon,[4] Meagan C. Wills,[1] Caroline Luong-Tran,[1] Monica Adler Werner,[4] Katie C. Alexander,[4] John Strang,[1,2] Elgiz Bal,[1] Jennifer L. Sokoloff,[1] and Gregory L. Wallace[5]

[1]Children's National Medical Center, Center for Autism Spectrum Disorders, Rockville, MD, USA; [2]The George Washington University School of Medicine, Washington, DC, USA; [3]Department of Applied Mathematics and Statistics, Johns Hopkins University, Baltimore, MD, USA; [4]The Ivymount School, Rockville, MD, USA; [5]Laboratory of Brain and Cognition, National Institute of Mental Health, National Institutes of Health, Bethesda, MD, USA

- Interventions delivered at school by school staff with fidelity
- Parent training, teacher training, pull out groups, fidelity monitoring, interventionist supervision

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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)

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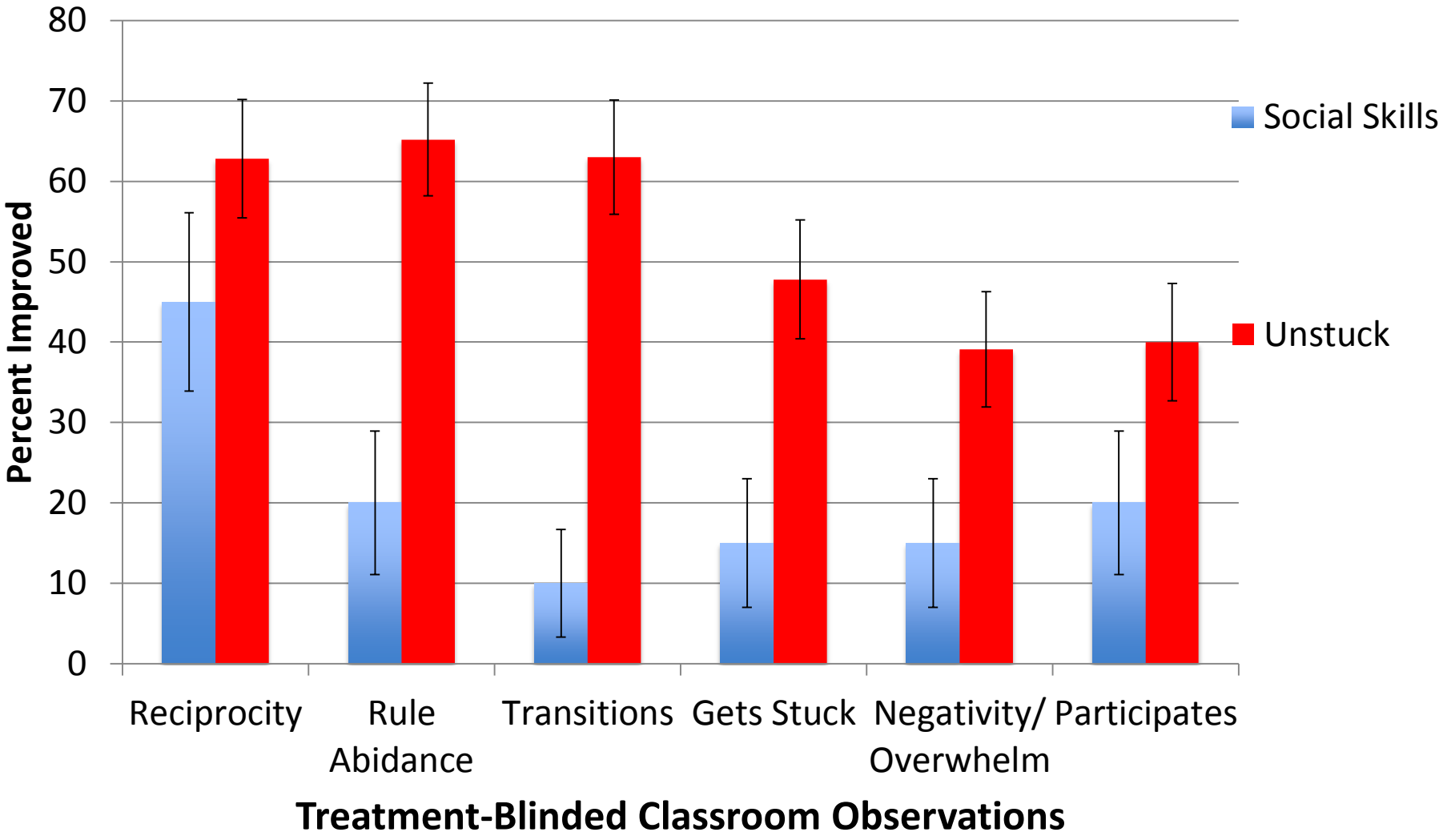
Effects in the Classroom



Kenworthy/Anthony et al., 2014

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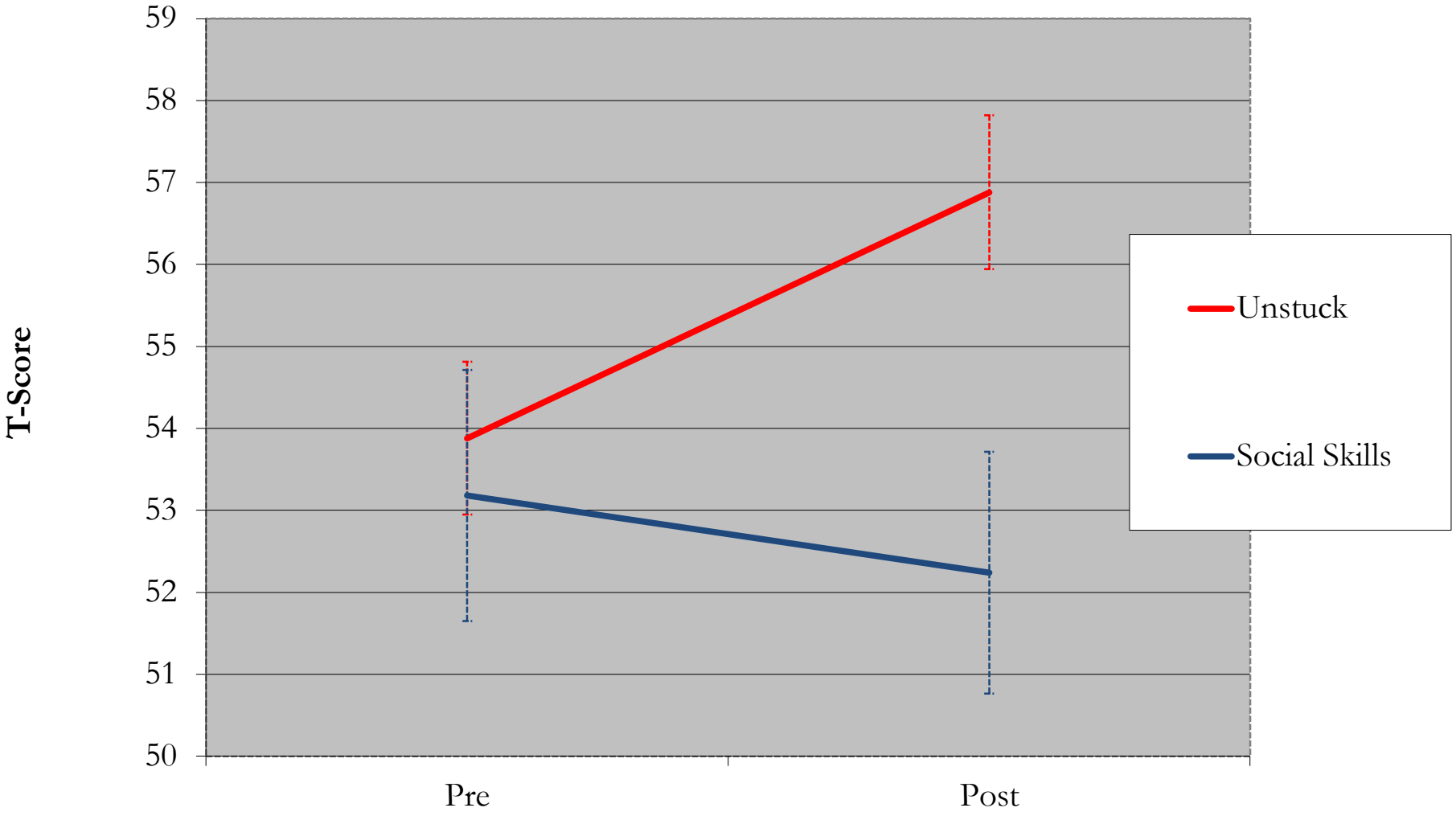
WASI Block Design

Higher Score = Better Performance



Cohen's *d*=0.65

Kenworthy & Anthony et al., 2014

Pre-RCT Development Process

- Needs assessment with experts and stakeholders
- Classroom observations of experts in action
- Focus groups with school staff, parents, and children to define key elements
- Feasibility and acceptability trial with direct feedback from students
- Skip efficacy altogether

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Unstuck Trial #2: Addressing Disparities Comparative Effectiveness Trial

Stakeholder Advisory Board

Yetta Myrick, Chair
Vivian Jackson
Michael Cordell
Megan Berkowitz
Rosario Paredes
Sara Cooner
Bettrys Huffman
Michael Bloom
Katherine Price
Nancy Van Doren
Molly Whalen
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Cara Pugliese
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Lynn Cannon

Kaitlyn Tiplady
Meredith Powers
Jillian Martucci
Katerina Dudley
Chelsea Armour
Sydney Seese
Jonathan Safer
Nicole Kahn
Rocio Mendez
Leah Rothschild
Mary Skapek

PCORI AD-1304-7379

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Trial #2

- 3rd – 5th graders (50 with ASD and 100 with ADHD) from three school systems in 21 Title 1 schools.
- Random assignment to Unstuck or Contingency Behavior Management
  - Both target EF/Flexibility
  - Both must be effective
- Adapted interventions for use with (all at once!!):
  - Title 1 schools
  - Either ADHD or ASD
  - Spanish or English speaking families
  - Greater family involvement
  - Strength based, student centered
- School personnel administers treatments in school, plus parent and teacher training

Planned Adaptations for Low Income Families

- Intensive stakeholder input
- User friendly texts with lots of visuals and shorter descriptions
- Real-world examples (not "picking up your dry cleaning")
- Diverse photos and names used throughout
- Time for practice built into training sessions
- Parent check-ins with a family navigator
- Training sessions scheduled at convenient times with childcare provided

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Planned Adaptations for Latino families

- Translation of all materials into Spanish
  - Joint efforts by bilingual team (1 native Spanish speaker and 2 native English speakers)
  - Additional teaching around "difficult to translate" words and concepts
- Use of "charla" model
  - PowerPoints used as handouts, rather than projected, used as discussion guide
  - Emphasis on sharing of parenting experiences

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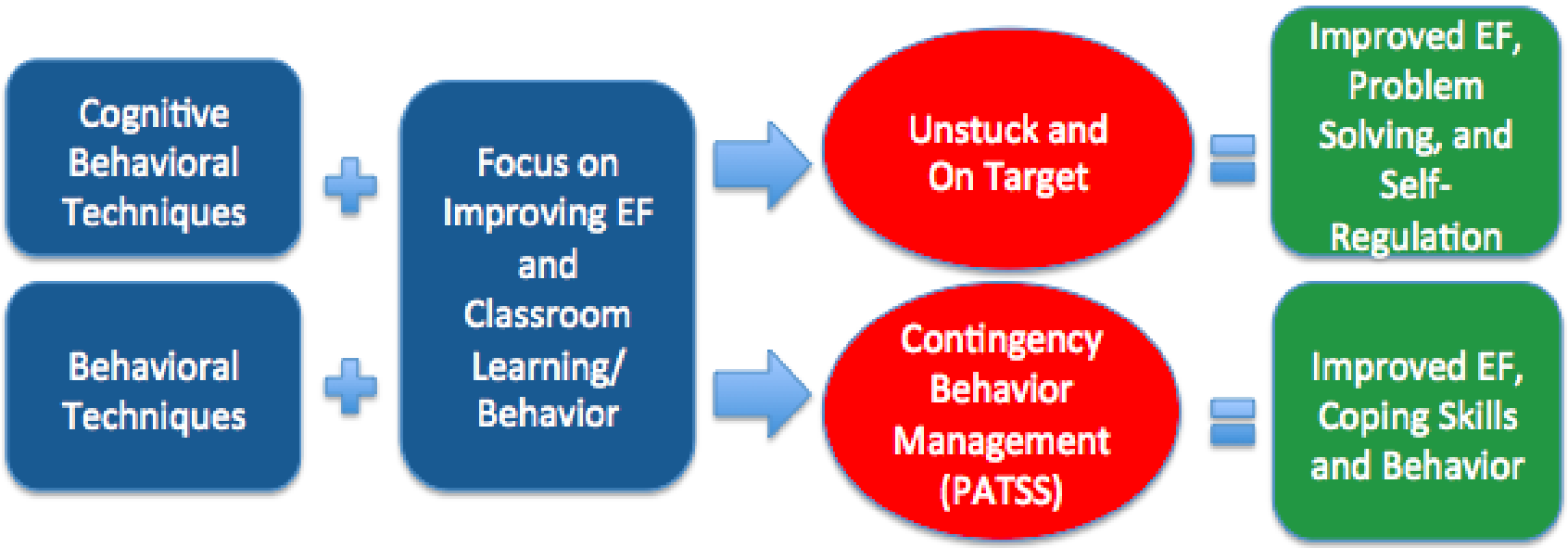
A *randomized, clustered, parallel comparative effectiveness design:*

- **Randomized –** Schools will be randomly assigned (not kids)
- **Clustered –** Treatments will be delivered by school staff and will be matched for "dose" of intervention and training. **(Also pragmatic).**
- **Parallel** – Follow-up 9 months after they complete treatment to evaluate the maintenance of any gains, thus preventing a cross-over design.
- **Adaptive** – To meet the needs of our community (not parallel after all)



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Demographics at Baseline

	PATSS	UOT	t/X^2	P-value
ASD	N=26	N=22		
Age: mean years	9.8 (0.9)	10.0 (0.8)	-0.7	.51
Sex: % male	100	92	1.7	.18
FSIQ: mean standard score	97 (12)	100 (15)	-0.8	.40
Income: mean $1000	123 (105)	80 (58)	-1.8	.09
Ethno-racial group: % Hispanic/White/Black/Other	11/61/11/15	36/32/14/18	6.6	.16
ADHD	N=43	N=55		
Age: mean years	9.6 (0.9)	9.5 (0.8)	-0.26	.79
Sex: % male	74	74	0	.99
FSIQ: mean standard score	100 (16)	94 (12)	-0.8	.40
Income: mean $1,000	89 (66)	64 (61)	-1.9	.06
Ethno-racial group: % Hispanic/White/Black/Other	**37/35/19/9**	**37/13/31/18**	**9.9**	**.04**

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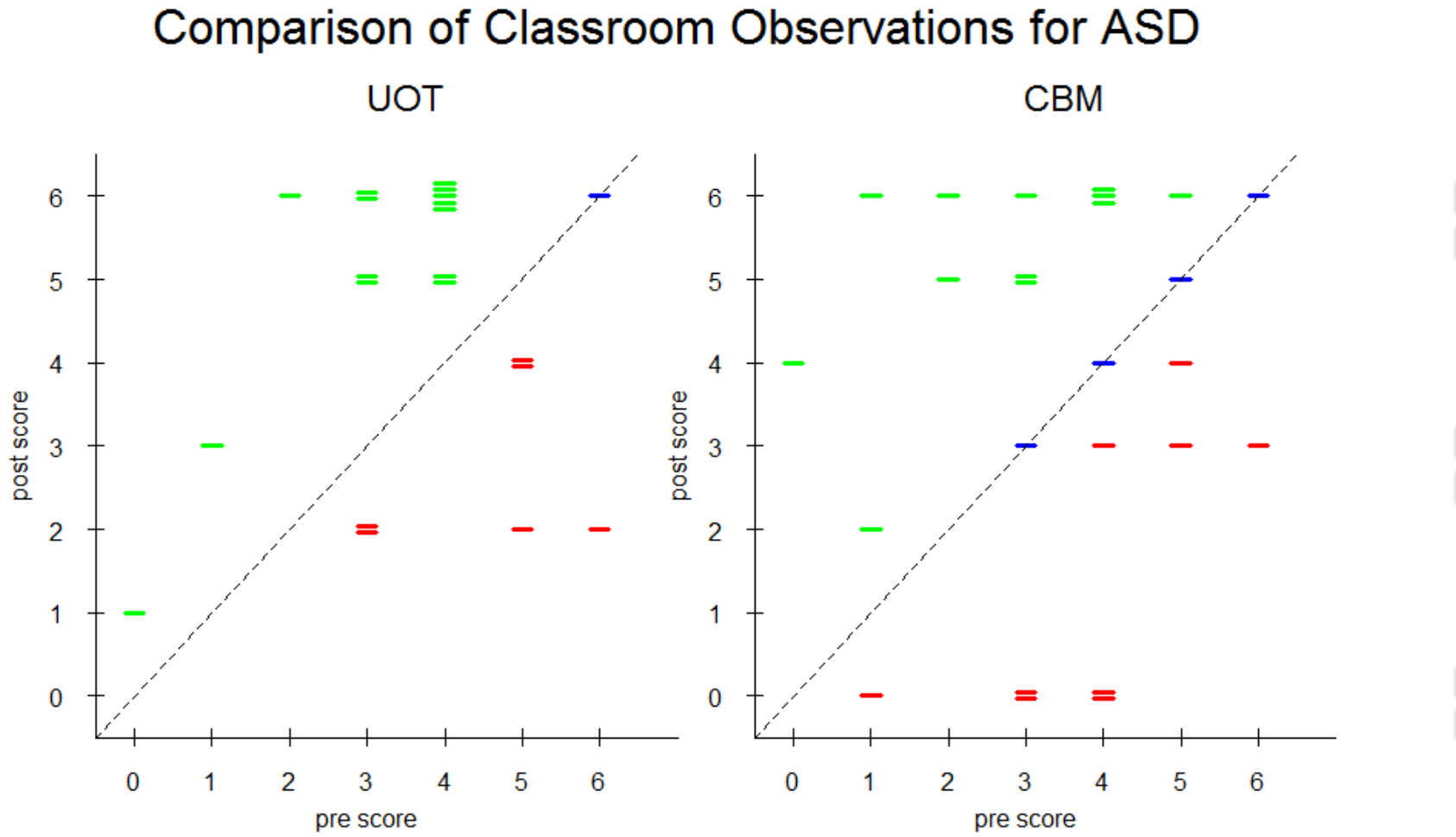
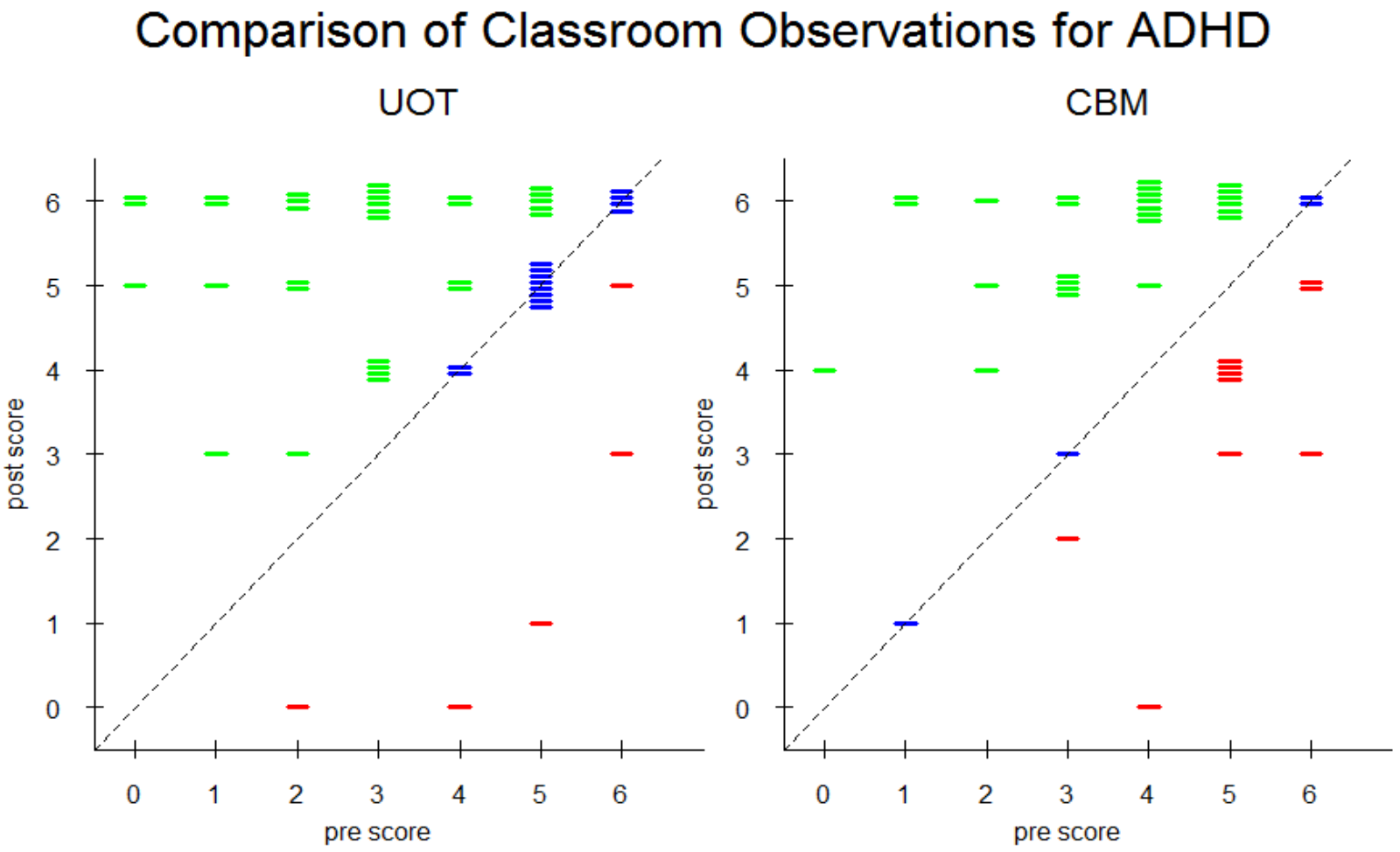
Which Works Better for ASD?



Proportion of kids who improved to kids who got worse: Fisher=.000**

Proportion of kids who improved to kids who got worse: Fisher=.648

Which Works Better for ADHD?



Fisher=.000**

Fisher=.008**

Better

Same

Worse

Blinded Outcomes Pre-Post Paired Sample t-tests

ASD

	CBM			Unstuck		
	N	*t*	Cohen's *d*	N	*t*	Cohen's *d*
Block Design	25	**2.67****	**.53 (Med)**	19	**2.77****	**.60 (Med)**
CT Flexibility	24	1.24	.25 (Small)	18	**1.82***	**.43 (Med)**
CT Plan	24	1.67	.34 (Small)	19	**1.88***	**.43 (Med)**
Class Obs	24	0.78	.16 (Small)	21	**1.93***	**.42 (Med)**

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Blinded Outcomes Pre-Post Paired Sample t-tests

ADHD

	CBM			Unstuck		
	N	*t*	Cohen's *d*	N	*t*	Cohen's *d*
Block Design	39	1.68	.27 (Small)	49	**3.18****	**.45 (Med)**
CT Flexibility	34	**4.00****	**.69 (Med)**	40	**4.43****	**.70 (Med-Lg)**
CT Plan	34	**3.53****	**.60 (Med)**	48	**3.55****	**.51 (Med)**
Class Obs	40	**3.32****	**.52 (Med)**	51	**4.41****	**.62 (Med)**

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These student or family factors do not relate to classroom outcome:

1. **IQ**
   r=.165
   p=.055
2. **Age**
   r=-.033
   p=.69
3. **Income**
   r=.062
   p=.495
4. **Race**
   White non-Latino (30%) change the least
5. **Language spoken in the home**
   English only (51%) changes the least on CBM

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These implementation factors do not relate to classroom outcome:

1. Treatment fidelity
2. # of sessions
3. Role of school-based group leader
4. Parent knowledge gains

Student Feedback

How much did you enjoy the group?

"Not at all" "A little bit" "A lot"

85.1%	69.8%	*
Rated UOT "A lot"	Rated CBM "A lot"	t=2.018, df=128, p=.046

Parent Feedback

How much did your child's school group help your child?

0-4 Scale

44.1%	**25.0%**	**
Rated UOT "Really Helpful"	Rated CBM "Really Helpful"	t=2.767, df=117, p=.007

Overall satisfaction?

0-4 Scale

56.7%	**44.8%**	**
Rated UOT "Very Satisfied" Range 2-4	Rated CBM "Very Satisfied" Range 0-4	t=3.015, df=116, p=.003

How likely are you to use these techniques in the future?

0-4 Scale

64.6%	**34.1%**	*
Rated UOT "Very Likely"	Rated CBM "Very Likely"	t=2.055, df=90, p=.043

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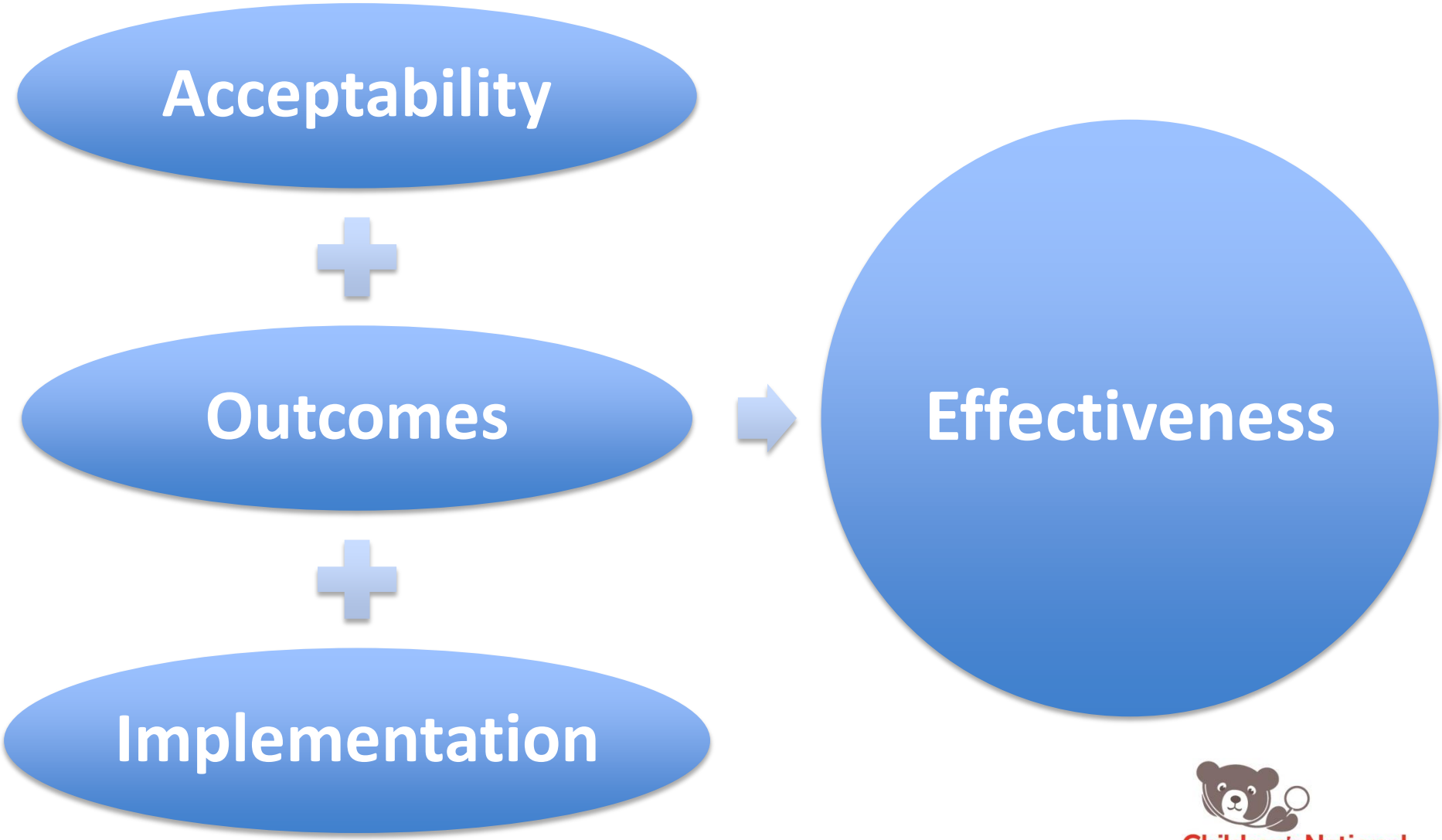
Unstuck & CBM are feasible and can be delivered with fidelity in low-income schools and with Spanish or English speaking families



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Which should you choose?

Target:	ASD		ADHD	
	UOT	CBM	UOT	CBM
Classroom behavior	✓	x	✓	✓
Student acceptability	✓	x	✓	x
Parent acceptability	✓	x	✓	x
Problem-solving	✓	✓	✓	x
Social Flexibility	✓	x	✓	✓
Planning	✓	x	✓	✓

THANK YOU

to PCORI and the dedicated school staff, children and families who made this project possible

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