



2022 AUCD Autism Acceptance Month Webinar Series

Hosted by Interdisciplinary Technical
Assistance Center (ITAC) on Autism and
Developmental Disabilities
Sponsored by Autism Special Interest Group
(SIG)

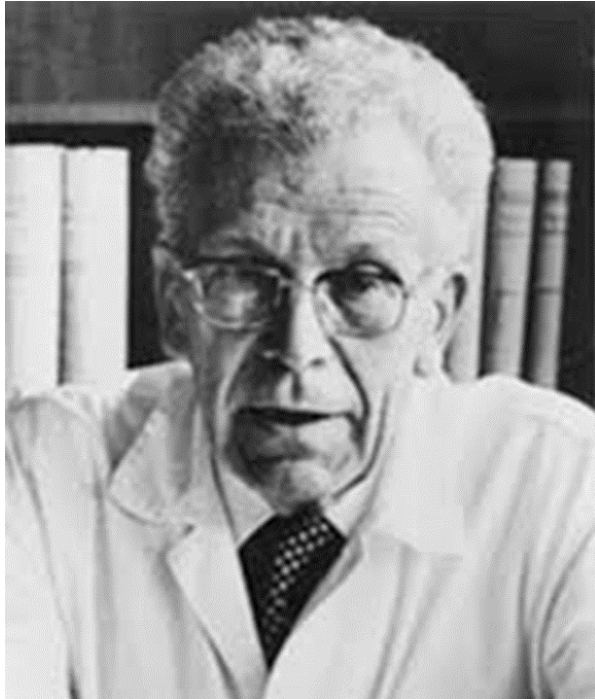


Building a lifespan socialization curriculum

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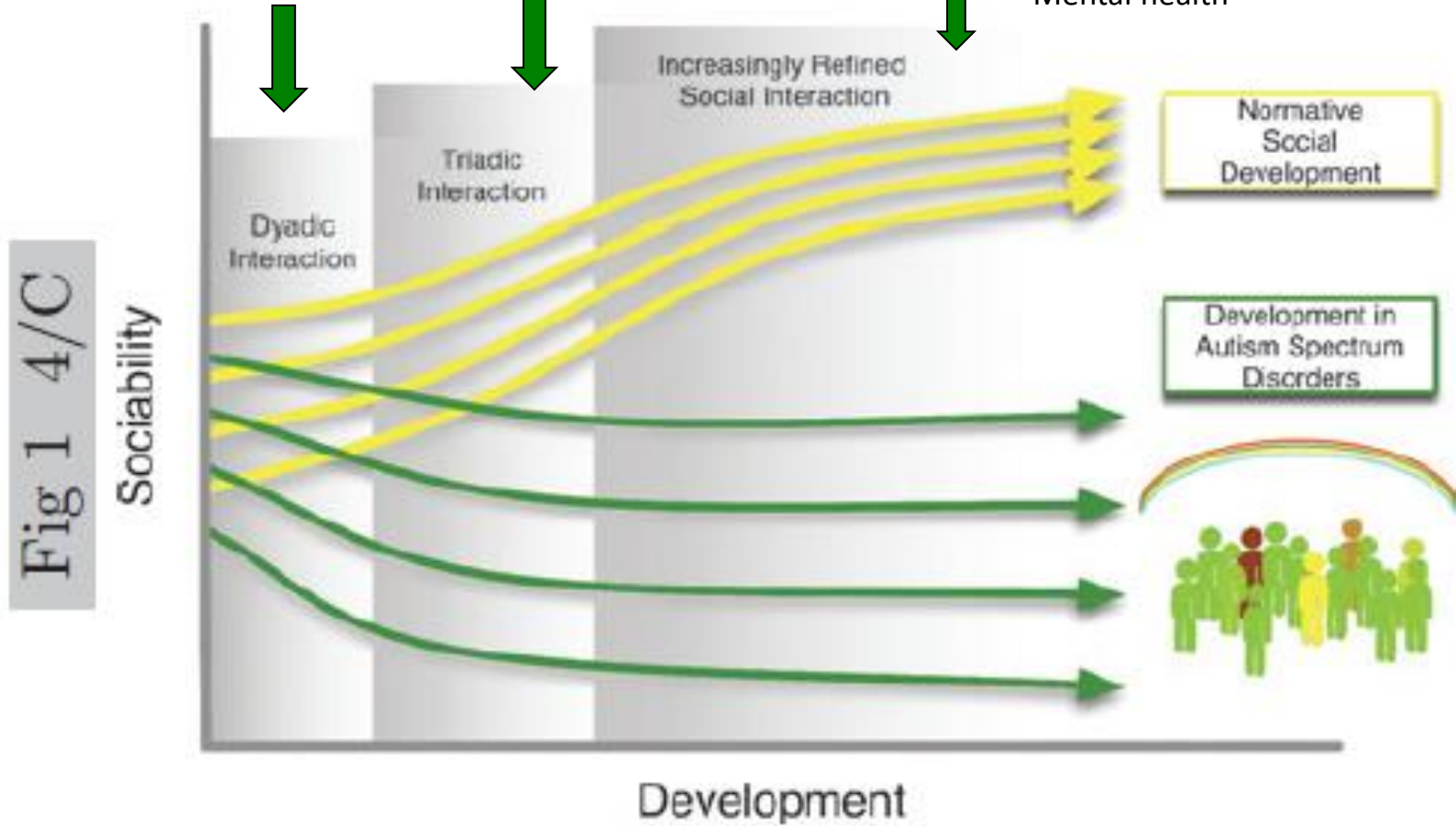
In early childhood, there are difficulties in learning practical skills and social adaptation. These difficulties arise out of the same disturbance which at school age causes learning and conduct problems, in adolescence job and performance problems, and in adulthood social & marital conflict.

---Hans Asperger, 1944, translated by Uta Frith, 1991, p. 68

Parent-child/dyadic interventions
 Early social communication skills
 Speech/Language
 Motor Skills
 Learning to learn skills (school readiness)

Peer relationships
 School adjustment
 Executive functions
 Daily living skills/independence
 Mental health

Peer and intimate relationships
 School adjustment
 Vocational skills
 Executive functions
 Daily living skills/independence
 Mental health



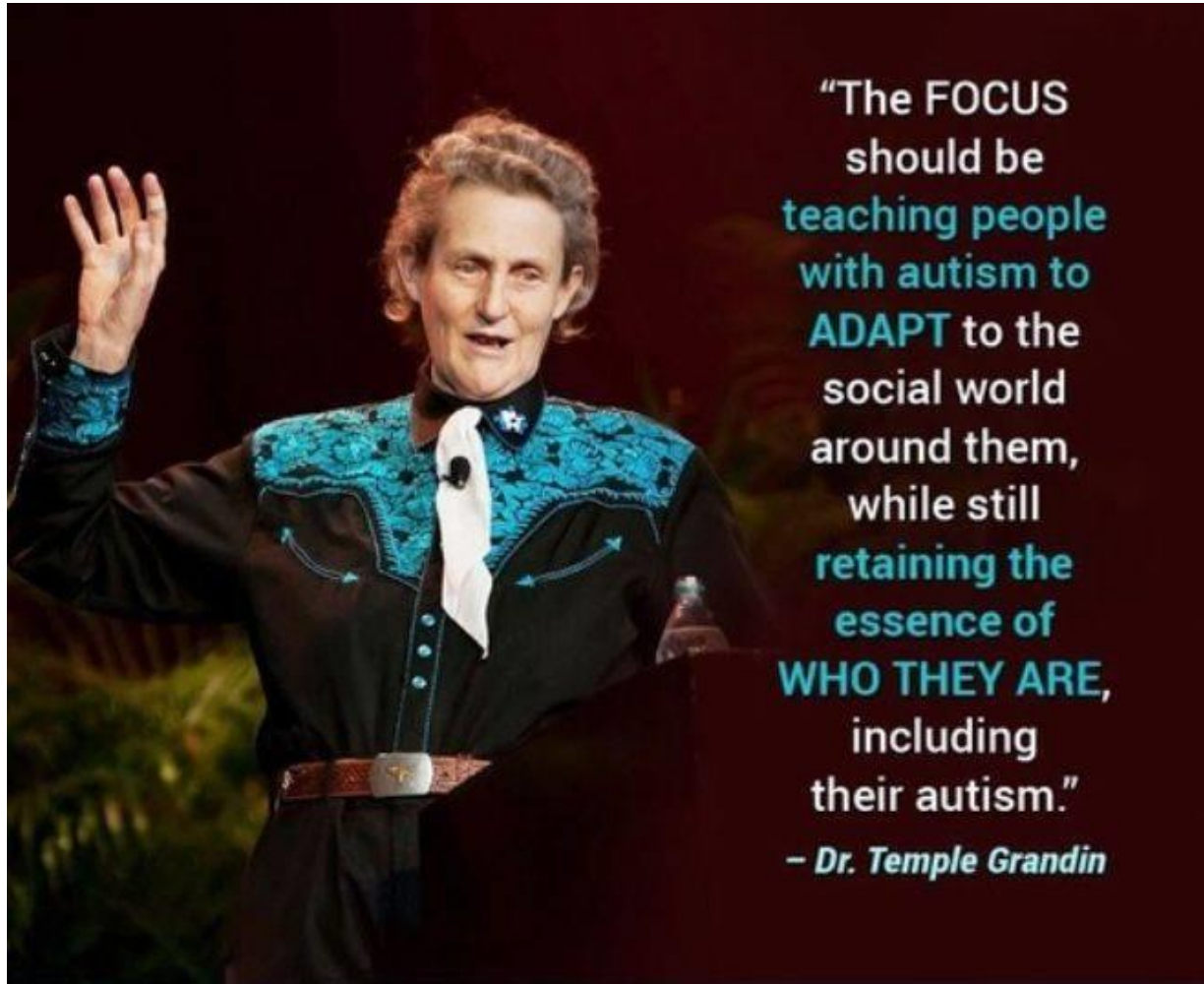
“I might hit developmental and societal milestones in a different order than my peers, but I am able to accomplish these small victories in my own time.”

- Haley Moss

Fig 1 4/C

How do we build complex socialization approaches for or a complex condition?

- Lifespan, developmental models
- Semi-structured, evidence-based curricula
- Leverage technology for delivery and efficacy
- Augmenting and integrating interventions



“The FOCUS
should be
teaching people
with autism to
ADAPT to the
social world
around them,
while still
retaining the
essence of
WHO THEY ARE,
including
their autism.”

– *Dr. Temple Grandin*

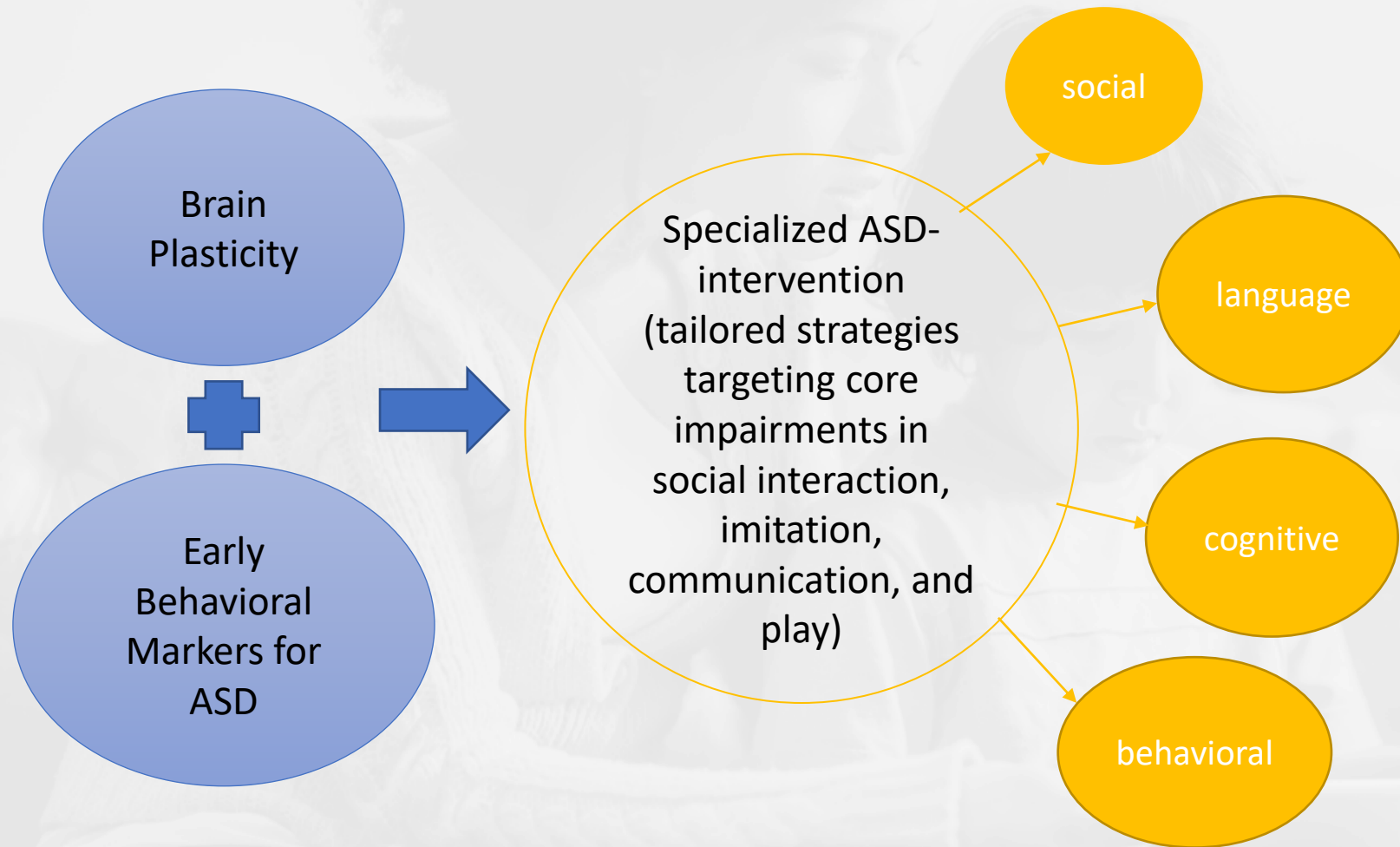
Early childhood goals: Promoting early, critical social skills



Early Start Denver Model



Early Intervention for Children with “Red Flags” for ASD



potential for early, focused and specialized strategies to improve functioning & mitigate later ASD symptom development

Naturalistic Developmental Behavioral Interventions (NDBIs)

Naturalistic Contexts

Developmental Strategies

- Increase responsiveness
- Increase social engagement
- Increase motivation to communication
- Create warm and affectively rich interactive context

Behavioral Strategies

- Teach new skills
- Provide opportunities for success
- Provide natural reinforcement to increase the likelihood of spontaneous skill use

Meaningful Interactions

Naturalistic Developmental Behavioral Interventions (NDBIs)

Improved social communication (joint attention, imitation, engagement), language, play, cognition, behavior

Increased parent efficacy, empowerment and responsiveness to the child

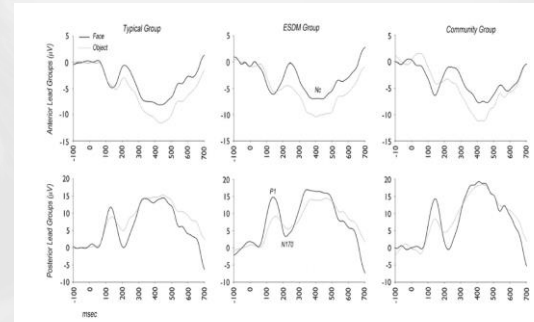


Figure 2. Event-related potential waveforms in response to faces (black, solid) and objects (gray, dotted) from children with typical development, Early Start Denver Model (ESDM) intervention, and community intervention.

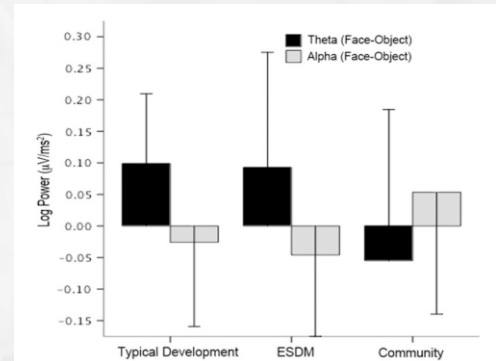


Figure 4. Differences in patterns of brain activation in children with typical development, Early Start Denver Model (ESDM) intervention, and community intervention. Note: Dependent variables are log EEG spectral power during viewing of the faces minus objects. Positive θ and negative α scores indicate greater brain activation during viewing of people's faces than of objects.

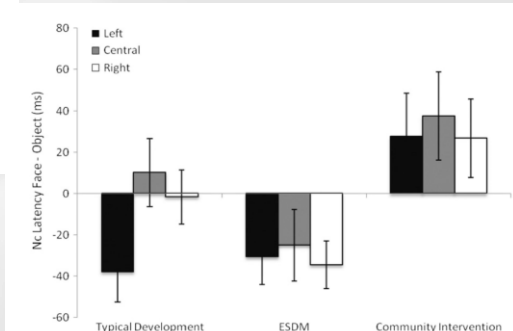


Figure 3. Differences in peak latency of component (Nc) responses to faces and objects for children with typical development, Early Start Denver Model (ESDM) intervention, and community intervention. Note: Negative scores represent faster responses to faces than to objects.

Online Reciprocal Imitation Training (RIT)



5KL2TR002387-02; Cohen Foundation Grant;
Autism Speaks Weatherstone Fellowship

Improving the Part C Early Intervention Service Delivery System for Children with ASD: A Randomized Clinical Trial



1R01MH122726-01

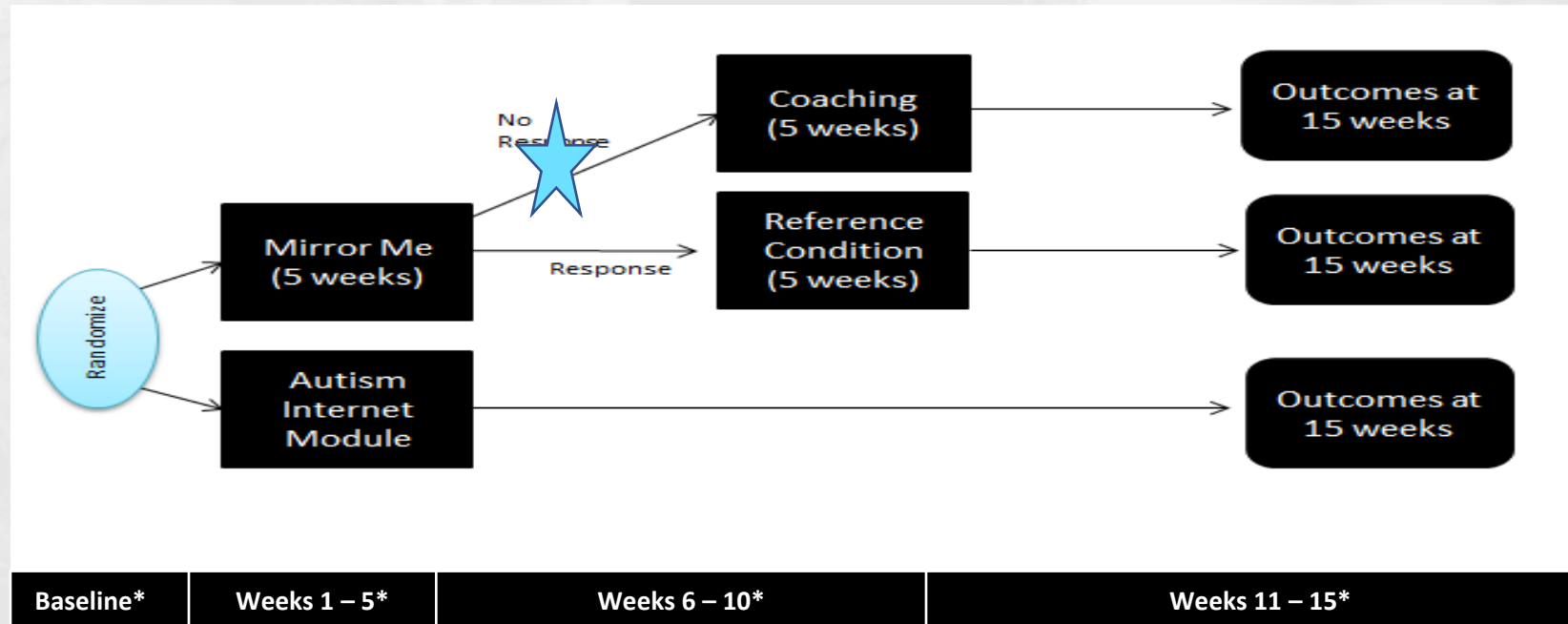


Examining a stepped-care telehealth program for parents of young children with autism: A proof-of-concept trial

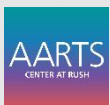


“Responder” Status

Parent Fidelity (RIT Fidelity Form) and Parent Self-Efficacy (Early Intervention Parenting Self Efficacy Scale-EIPSES)

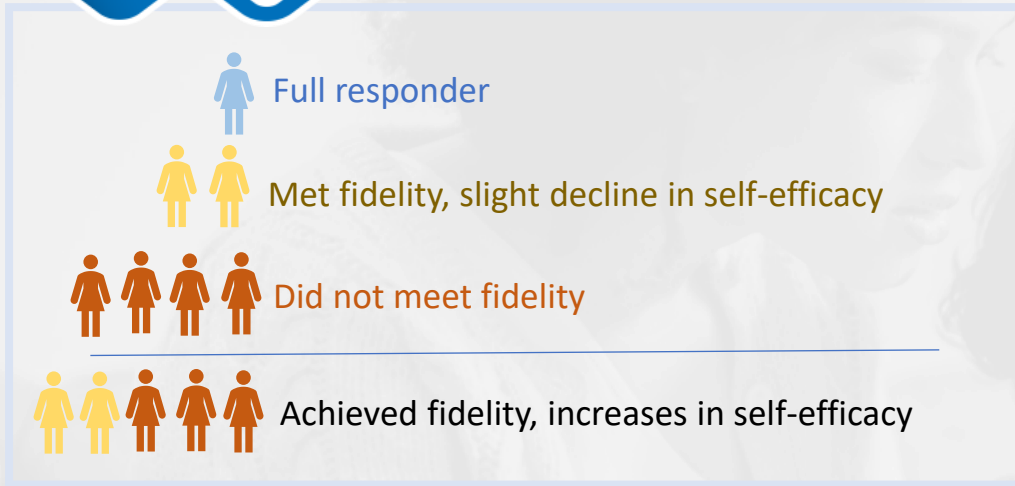


*data collection





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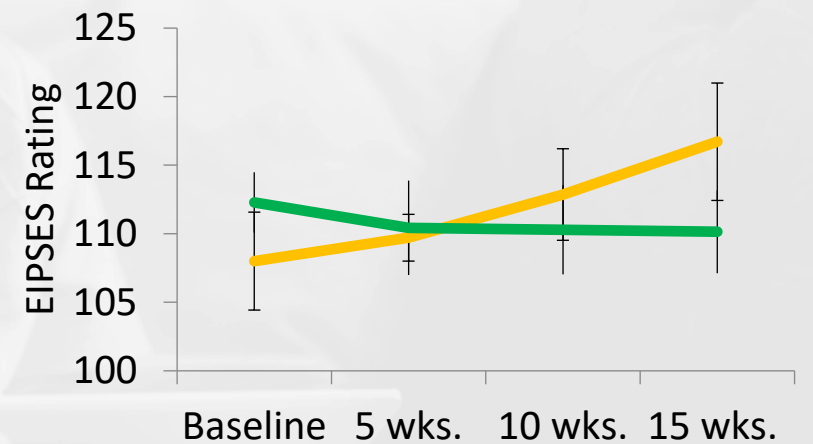
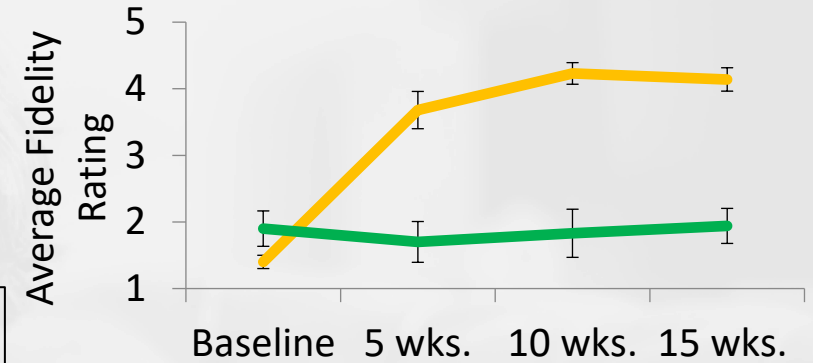


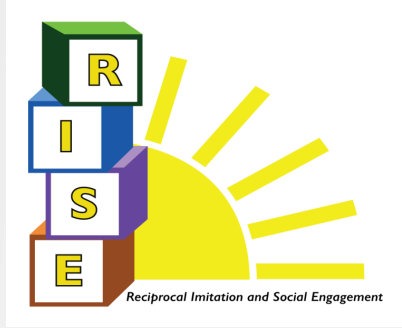
Mirror Me
Control

Table 2. Online RIT Parent/Family and Child Outcomes (n=15)

Variable	Intervention		Control		F	ANCOVA			Pairwise	
	Adjusted M	SE	Adjusted M	SE		p	Cohen's D	Mean Difference	95% CI	
Parent/Family Outcomes										
RIT Fidelity	4.33	0.27	1.77	0.26	44.59	0.00	3.86	2.56	1.72,3.39	
EIPSES	118.19	2.88	108.33	2.70	6.19	0.03	1.44	9.86	1.22, 18.50	
FQOL Total	108.02	2.72	103.20	2.55	1.68	0.22	0.75	--	--	
Child Outcomes										
UIA	8.54	1.33	4.40	1.24	4.75	0.05	1.26	--	--	
SCC Total	146.61	5.72	129.34	5.35	4.84	0.05	1.27	17.27	0.16,34.37	

Note. EIPSES = Early Intervention Parenting Self Efficacy Scale; FQOL = Beach Center Family Quality of Life Scale; UIA = Unstructured Imitation Assessment; SCC = Social Communication Checklist.





Part C of IDEA

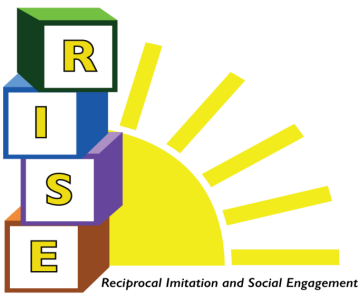
Federal grant program that assists states in serving families of infants and toddlers with disabilities, birth-age 3

Often provides first-line intervention for children with or suspected of ASD

Serves families from diverse backgrounds

Family involvement is a fundamental aspect

Existing infrastructure provides opportunity for scalability



Specific Aims

Test

Test the effectiveness of parent coaching in RIT as delivered by EI providers for improving child- and parent-level outcomes

Analyze

Analyze mechanisms by which parent coaching in RIT improves child outcomes

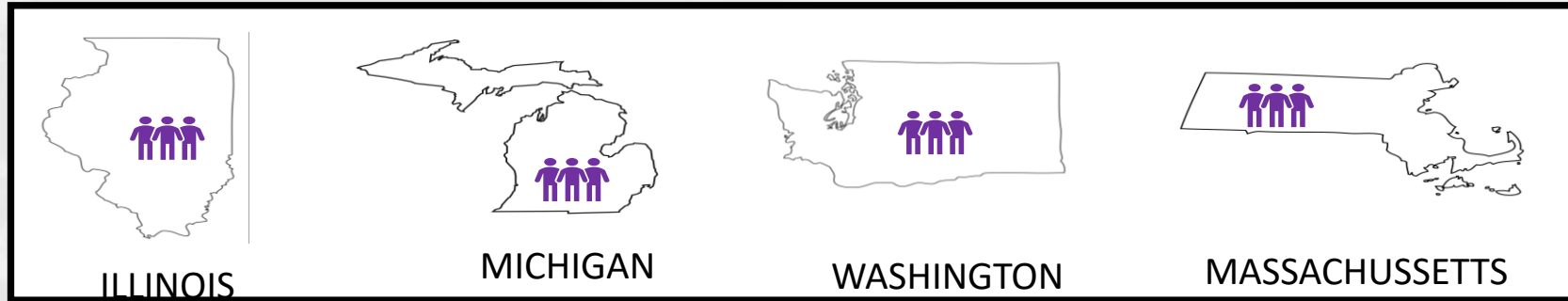
Identify

Identify potential sources of practice variation to inform refinement of RIT training and development of quality assurance protocols

RISE Study Approach

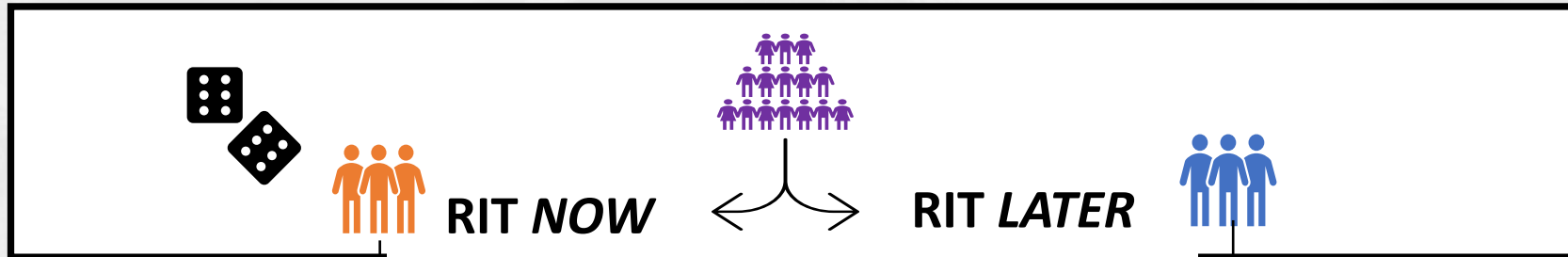
1

Enroll EI providers from 4 states



2

Randomize providers into groups:
RIT-Now or **RIT-Later**



3

Families on provider caseloads complete a brief eligibility screening



4

RIT NOW
Providers coach caregivers in using RIT techniques.

RIT LATER
Providers and caregivers continue with standard EI sessions.

Along the way, children and families are monitored to see if those receiving RIT coaching (RIT Now) have different social-communication and family-level outcomes as those who receive standard EI sessions (RIT Later).



Social goals in school-aged children

- Academic integration & enhancement
- Peer relationships
- Family/sibling dynamics
- Health
- Life skills
- Mental health



Common socialization interventions for school-age children

Social scripts

Social Stories

Video Modeling

Comic strip conversations

CBT

Social skills training (SST)

Social skills groups

Peer mediated interventions

Other models

Relationship Development Intervention

Theater-based interventions

Gaming

Robot facilitated

Social skills groups: treatment targets & evidence (Gates, Kang, & Lerner, 2017)

Treatment effectiveness	Hodge's g	Effect size	p
Self-report	.92	Large	<.001
Parent	.47	Medium	<.001
Teacher	ns	ns	.11
Moderating variables			
Social knowledge	1.15	Large	<.01
Social performance	.28	Small	<.001

Overall **medium** effect size

Limited evidence for:

- Maintenance
- Generalization
- Functional outcomes

Measurement challenges

- Historically few RCTs
 - Limited data from RCTs using active comparators
- Un-blinded behavioral assessment
- Sensitivity of cognitive assessments
- Focus on knowledge

Social cognitive interventions

SOCIAL BEHAVIOR DIFFICULTIES

Difficulties identifying emotions

Ability to attribute beliefs, thoughts, feelings, plans, intentions to oneself or others^{1,2}

Impaired understanding of nonliteral language^{3,4}

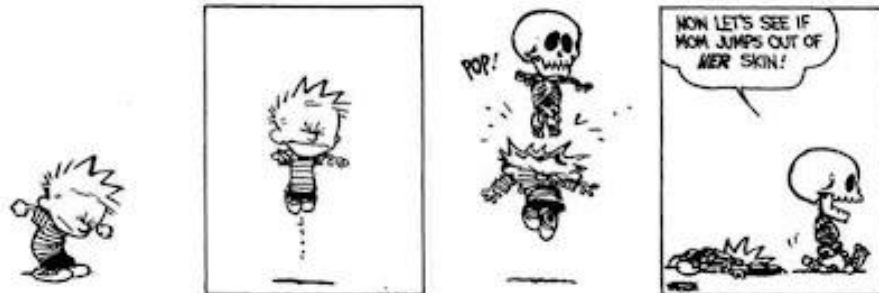


NEURAL CORRELATES

Adults with ASD show abnormally low activation in the **fusiform gyrus (FG)** when viewing faces^{5,6,7}

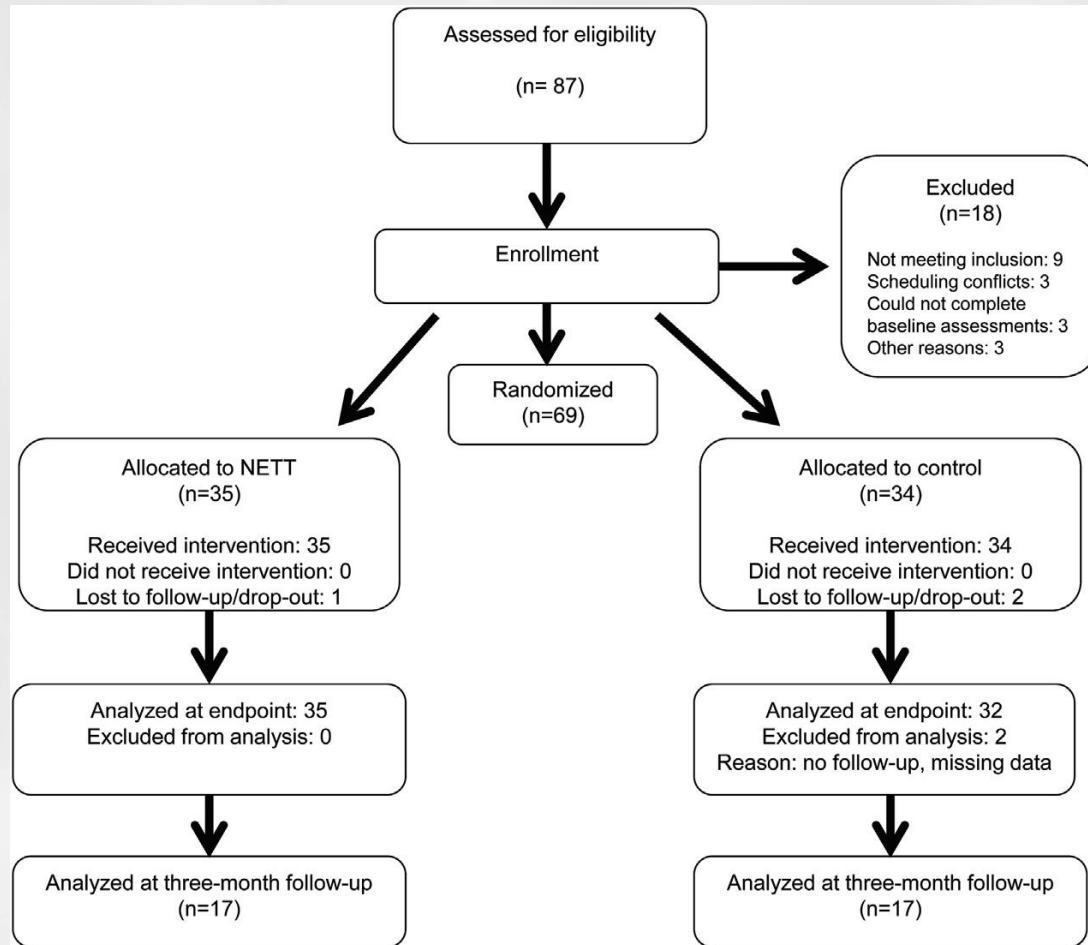
Reduced activation in the **medial prefrontal cortex (MPFC)** during 'theory of mind' tasks^{8,9}

Fail to activate voice-selective regions in the **superior temporal sulcus** despite showing normal activation in response to nonvocal sounds¹⁰



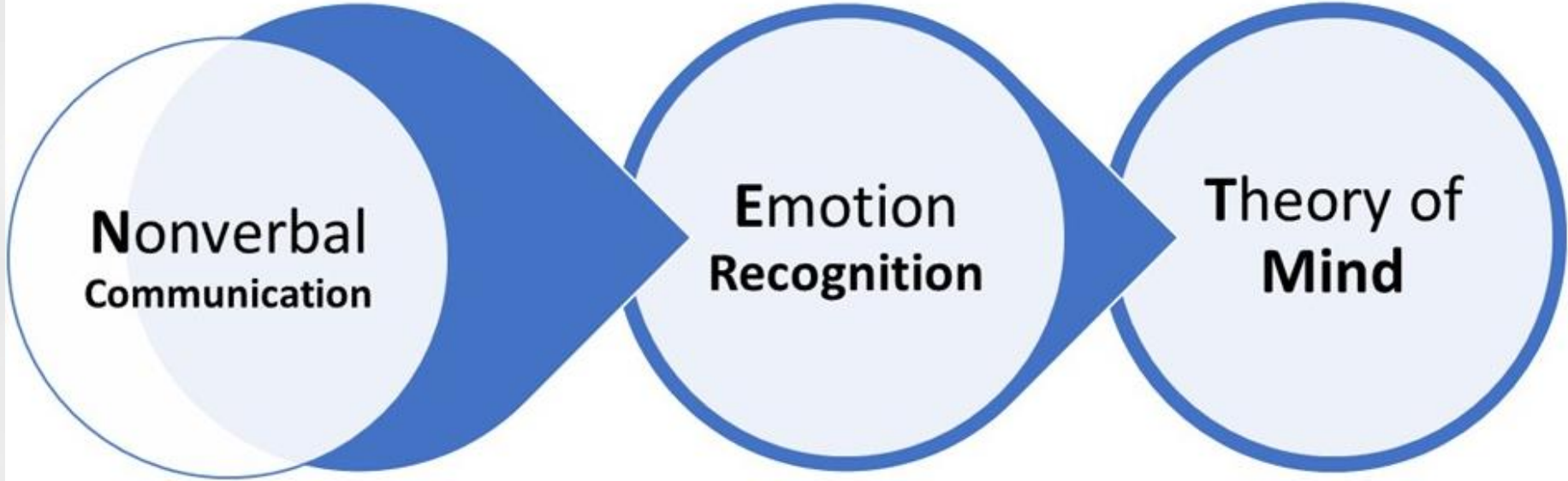
1. Frith U, et al. Neuron 2001; 32(6), 969–979; 2. Baron-Cohen S, et. al. Cognition 1985; 21(1), 37–46. 3. Happé FG. Cognition 1993; 48(2), 101–119; 4. Martin & McDonald. J Autism Dev Disord. 2004; 34(3):311–328. 5. Schultz RT, et al. Arch Gen Psychiatry 2000; 57(4) 331–340 6. Pierce K, et al. Brain 2001; 124 2059–2073. 7. Hubl D, et al. Neurology 2003; 61(9):1232–1237. 8. Happé F, et al. Neuroreport 1996; 8(1):197–201. 9. Castelli F, et al. Brain 2002; 125(8) 1839–1849. 10. Gervais H, et al. Nat Neurosci 2004; 7(8):801–802

NETT: Nonverbal communication, Emotion Recognition, & Theory of mind Training: Comparative randomized controlled trial (RCT)



Characteristic	Seaver- NETT (n=35)	Control (n=34)	<i>p</i> ¹
Age in years (M, SD)	10.05 (1.27)	9.87 (1.32)	.57
Full Scale IQ (M, SD)	94.86 (17.34)	93.72 (16.79)	.79
Verbal IQ (M, SD)	97.91 (16.70)	96.44 (15.20)	.70
Sex (N, % male)	30 (85.7%)	27 (84.38%)	.88
Vineland Adaptive Behavior Composite (M, SD)	80.25 (11.28)	79.63 (9.14)	.81
ADOS Module 3 Overall Total (M, SD)	12.25 (4.36)	10.41 (4.67)	.12
BASC-2 Behavior Symptoms Index (M, SD)	68.15 (9.79)	70.90 (10.74)	.28
BASC-2 Hyperactivity T score (M, SD)	63.85 (13.90)	67.00 (12.21)	.34
BASC-2 Anxiety T score (M, SD)	57.21 (10.48)	58.74 (12.19)	.59
Social cognition composite (M, SD)	0.15 (.84)	-0.18 (.79)	.10
Social behavior composite (M, SD)	-0.04(1.01)	0.05 (.70)	.67

Soorya, Siper, Beck, Soffes, Halpern, Gorenstein, Kolevzon, Buxbaum, & Wang (2015). Randomized comparative trial of a social cognitive skills group for children with autism spectrum disorder. *JAACAP*



Nonverbal Communication

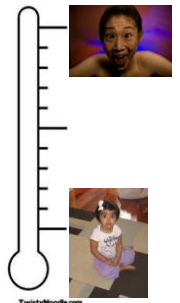
- Gaze & gesture games
- Nonverbal synchrony



Emotion Recognition

- Emotion recognition & emotion vocabulary
- Emotional valence
- Reactions to emotional situations

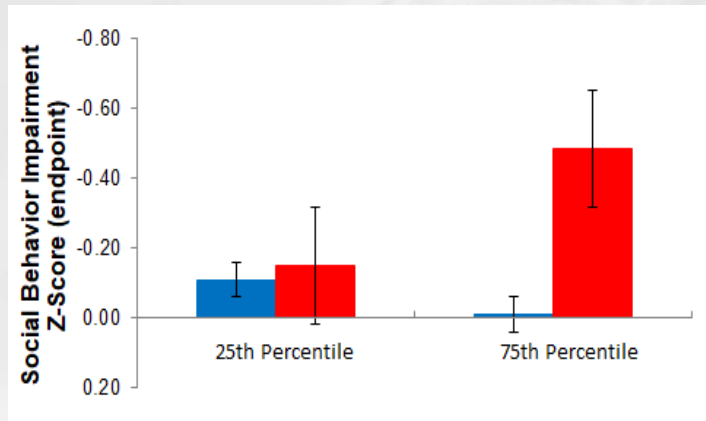
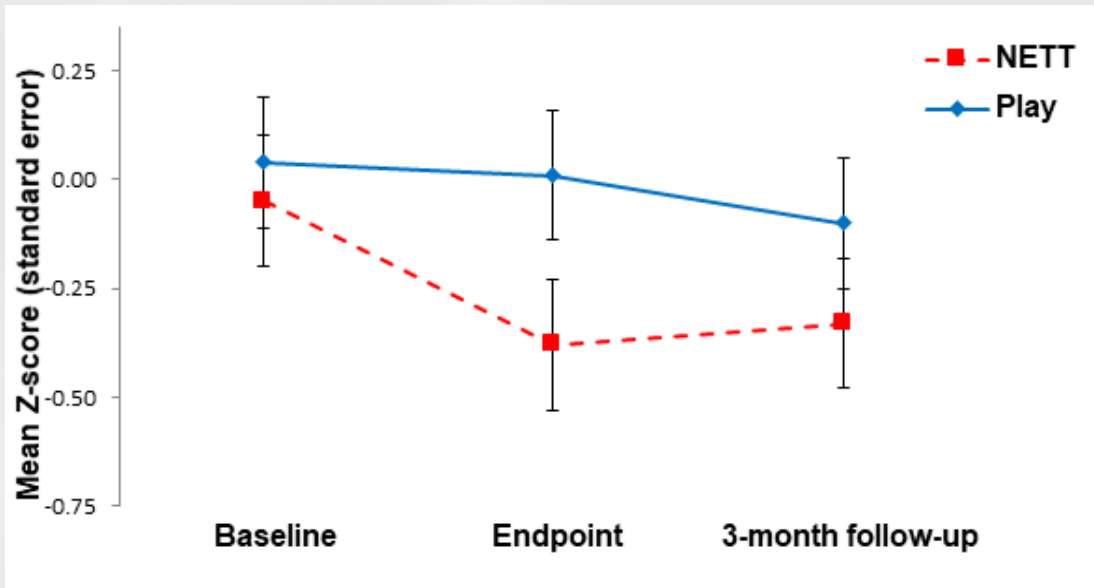
thermometer



Theory of Mind

- Perspective taking activities
- Non-literal language (irony, metaphors)

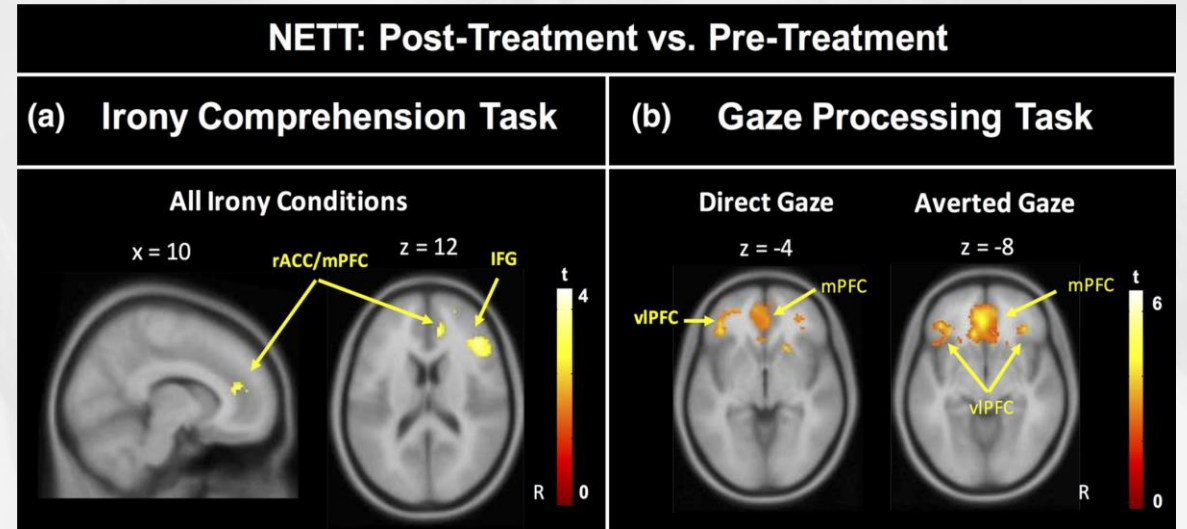




Behavioral outcomes from NETT: Improvements in composite measure of social behavior impairment (*Children's Communication Checklist-2, Griffith Empathy Scale*)

Week 12: $B = -0.31$, $SE = .14$, $p = .04$, Cohen's $d = .88$

Soorya, et al, 2012, JAACAP



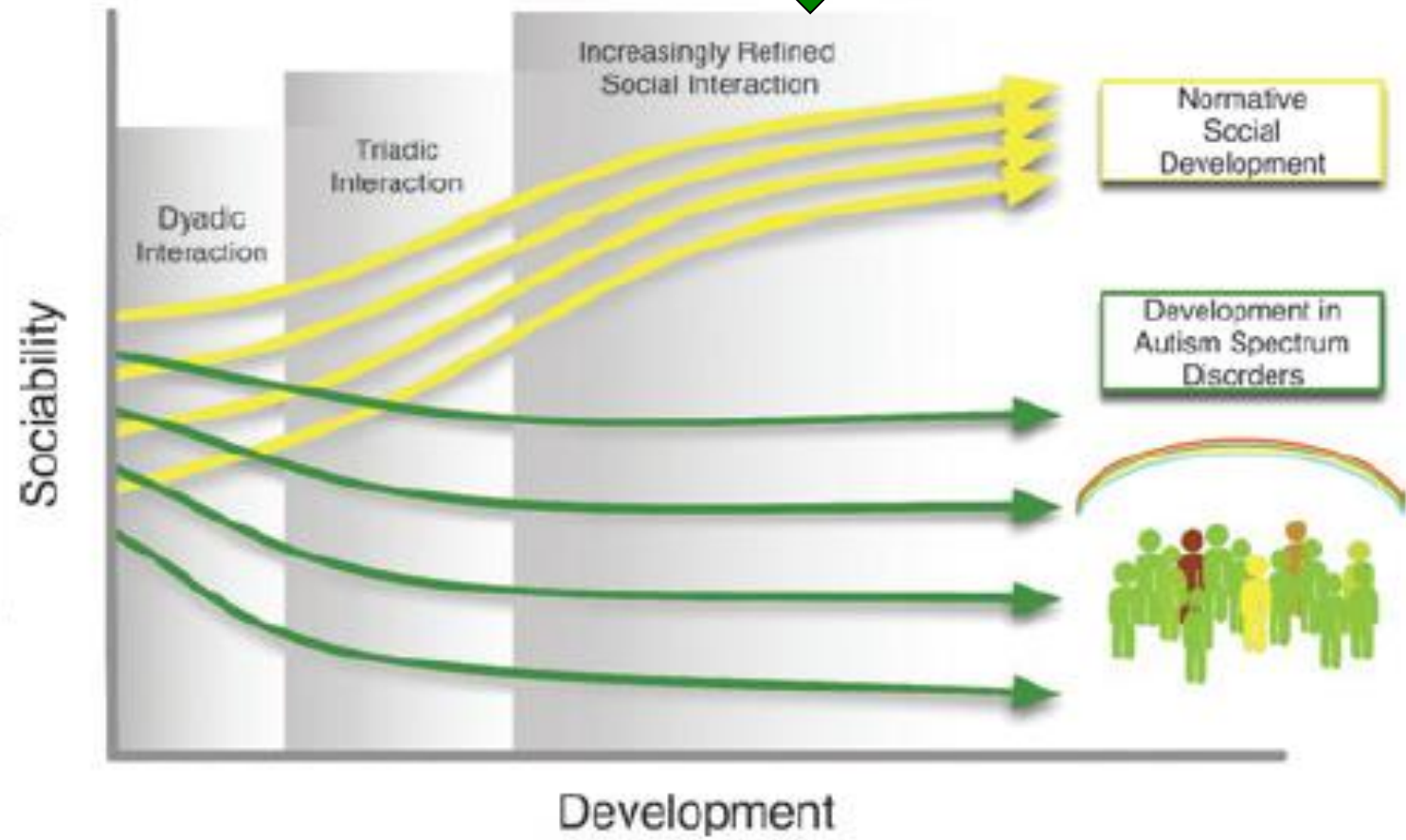
Social cognitive outcomes from NETT. No group differences on neuropsychological measures of emotion processing (DANVA-2, RMET).

Increased medial prefrontal cortex activity found on irony and gaze processing tasks were found for NETT but not facilitate play. Ibrahim, et al, (2021).

Peer and intimate relationships
School adjustment
Vocational skills
Executive functions
Daily living skills/independence
Mental health



Fig 1 4/C

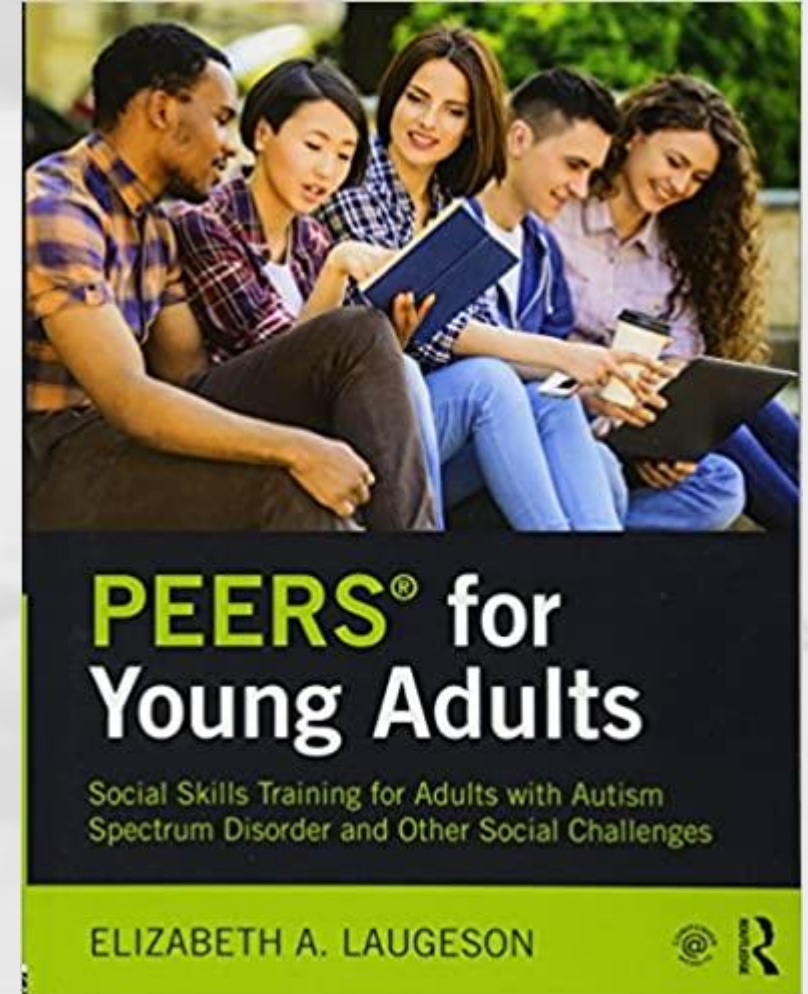


PEERS®

Program for the Education & Enrichment of Relational Skills

(Laugeson & Frankel, 2010)

- Parent-assisted program
- Concurrent parent and child/teen sessions
- Focuses on friendship skills and handling peer conflict and rejection
- Teaches ecologically valid social skills
 - Conversational skills
 - Electronic communication
 - Choosing appropriate friends
 - Appropriate use of humor
 - Peer entry/exit strategies
 - Get-togethers
 - Dating & relationships
 - Peer rejection
 - Peer conflict



PEERS[®] Evidence-Based Methods for Teaching Social Skills

- Small group / class format
- Didactic lessons
 - Concrete rules and steps of social etiquette
 - Ecologically valid social skills
- Role-play demonstrations
 - Model social behavior
 - Appropriate and inappropriate demonstrations
 - Perspective taking questions
- Behavioral rehearsal exercises
 - Practice with coaching
- Homework assignments
 - Practice in natural social settings
 - Helps generalize skills
- Parent and teacher coaching



Photo of PEERS courtesy of Associated Press

Clinical Example: Teasing

QUESTIONS:

What are most teens and adults told to do in response to teasing?

What do most teens and adults with social challenges do in response to teasing?

PEERS[®] Rules for Handling Teasing

- Do not walk away, ignore the person, or tell an adult
- Don't show you're upset or tease back
- Act like what the person said did not bother you
- Provide a SHORT COMEBACK that shows what the person said was lame:
 - Whatever!
 - Anyway...
 - So what?
 - Big deal!
 - Who cares?
 - Yeah and?
 - And your point is?
 - Am I supposed to care?
 - Is that supposed to be funny?
 - (Shrug shoulders)
 - (Roll eyes)
- Then walk away or remove yourself

Curriculum adaptations

- Curriculum validated among adults with IQ ≥ 80
- Who are we excluding when offering this intervention?
- Common modification strategies:
 - Increase duration of group
 - Be prepared to develop parallel behavioral supports (e.g., break cards)
 - Streamline didactic content presented in each week
 - Incorporate “prerequisite” concepts in curriculum
 - Customize homework to follow each individual’s trajectory

Sexuality & ASD

Sexuality, intimate relationships, puberty

- Communication
- Knowing what you want
- Knowing what others want
- Making those two wants meet
- Navigating situations when they don't meet expectations
- Thinking through consequences

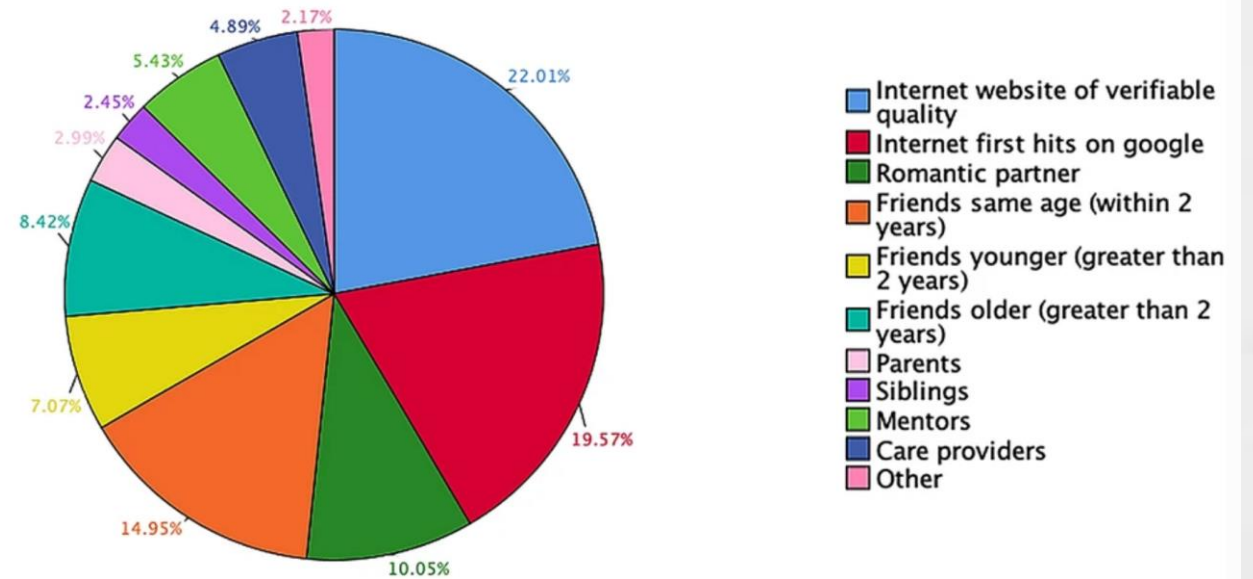
Characteristics of ASD

- Difficulty with social communication
- Difficulty identifying emotions/feelings in self
- Difficulty recognizing emotions/feelings in others
- Compromising can be... challenging
- Negotiating mentally and conversationally through rigid thinking
- Executive functioning in the face of physical urges

Formal vs. Informal Sexuality Education

- 96% female and 97% male teens receive sex ed before 18 (CDC, 2010)
- Almost no one learns the social basics
- Lots of “big ideas” in sexuality
- *Quite common for students receiving special education to “skip” sex ed*

Where do you get information about assertiveness/saying "no" in romantic or sexual situations?



Crehan, Rocha, & Dufresne, 2022

Sex Ed: Domains to Address

- Human Development (including reproduction, puberty, sexual orientation, and gender identity)
- Relationships (including families, friendships, romantic relationships and dating)
- Personal Skills (including communication, negotiation, and decision-making)
- Sexual Behavior (including abstinence and sexuality throughout life)
- Sexual Health (including sexually transmitted diseases, contraception, and pregnancy)
- Society and Culture (including gender roles, diversity, and sexuality in the media)

(Planned Parenthood)

1 – Human development

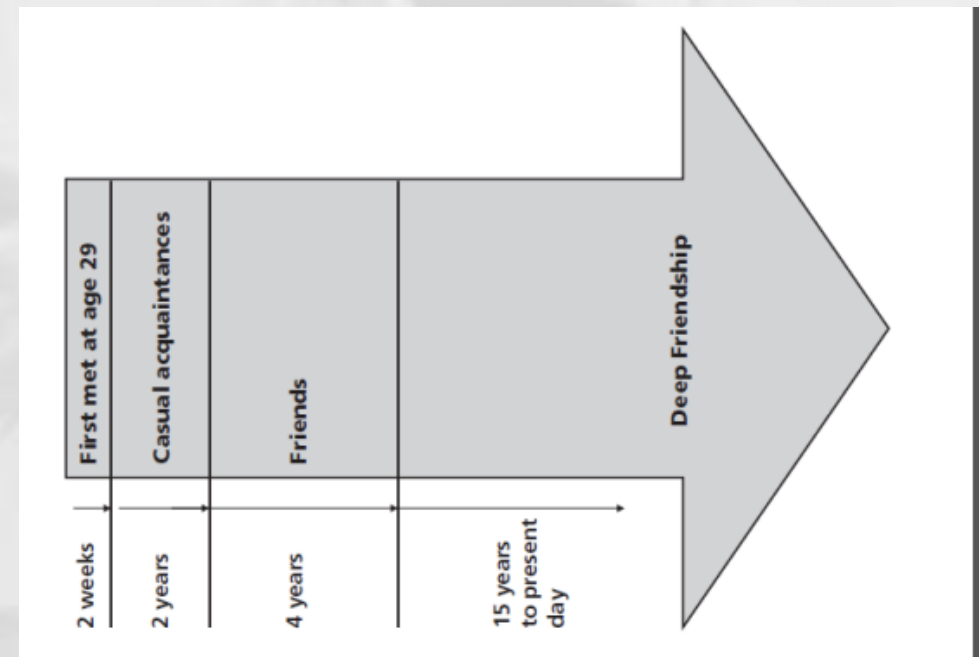
What to teach: facts

- Hygiene and Self-Care
 - How-to
 - Schedules
- Terms for Anatomy
 - Proper
 - Slang
- Developmental stages
- Puberty

2 – Relationships

Intimate & Romantic

- Important skills:
 - Boundaries – private/public, yours & of others
 - Differentiating between friendship and romantic interests & levels of intimacy
 - Defining what a romantic relationship is and the student's particular goals
 - Dating Skills – before, during & after
 - Social perception of sexual content
 - Leaving opportunities for sexual experiences if someone is not partnered
 - Avoiding danger and abuse



5 – Society & Culture

What to teach:

- Family beliefs
- Sexual orientation
- Gender identify
- Preferences

WHAT DOES YOUR FAMILY BELIEVE?		
<p>Gender</p> <ul style="list-style-type: none"> • What does it mean to be male/female? • How are males/females different? Alike? • How are males/females "supposed" to act? • Is there a double standard for males/females? Should there be? 	<p>Appearance</p> <ul style="list-style-type: none"> • What is attractive? • Do people have to be young to be attractive? • What messages do you give in the way you dress? • How do these messages affect your relationships with other people? 	<p>Relationships</p> <ul style="list-style-type: none"> • What makes a good relationship? • How are relationships different? (boyfriend, parent, child, business) • How should people show affection? • How can people resolve disagreements?
WHAT DOES YOUR FAMILY BELIEVE?		
<p>The Family</p> <ul style="list-style-type: none"> • What makes a family? • What rules does your family have about privacy? • What responsibilities does each family member have? 	<p>Sexual Communication</p> <ul style="list-style-type: none"> • What attitudes do people have about: talking about sexuality? sexual slang? physical affection? • Why do people often laugh and make jokes about sexuality? • What is sexual harassment? 	<p>Life Choices</p> <ul style="list-style-type: none"> • <i>What do people think about teens and: sexual behavior? abortion? contraception? homosexuality? choices in adulthood? (single, married, parenthood)</i>

The Genderbread Person v3.3 by its pronounced METROsexual.com

Gender is one of those things everyone thinks they understand, but most people don't. Like *Inception*, Gender isn't binary. It's not either/or. In many cases it's both/and. A bit of this, a dash of that. This tasty little guide is meant to be an appetizer for gender understanding. It's okay if you're hungry for more. In fact, that's the idea.

Gender Identity
How you, in your head, define your gender, based on how much you align (or don't align) with what you understand to be the options for gender.

Gender Expression
The ways you present gender, through your actions, dress, and demeanor; and how those presentations are interpreted based on gender norms.

Biological Sex
The physical sex characteristics you're born with and develop, including genitalia, body shape, voice pitch, body hair, hormones, chromosomes, etc.

Sexually Attracted to
Romantically Attracted to

For a bigger bite, read more at: <http://bit.ly/genderbread>

How to Teach

- Pictures
- Sequences
- Social stories
- Matching activities
- Sorting
- Vignettes
- Role play
- Social behavior maps

From C. Davies & M.A. Dubie, *Intimate Relationships and Sexual Health*.

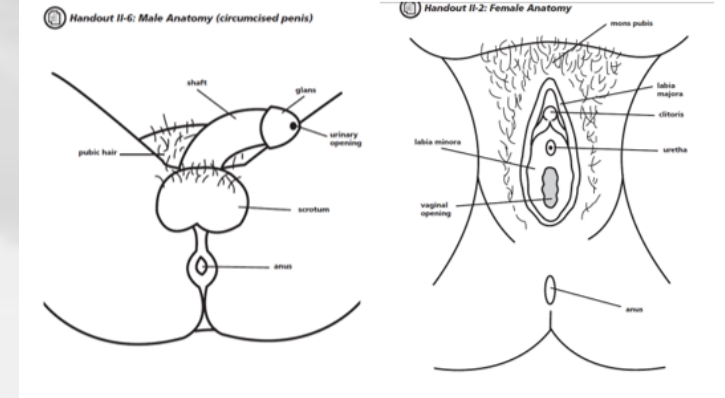


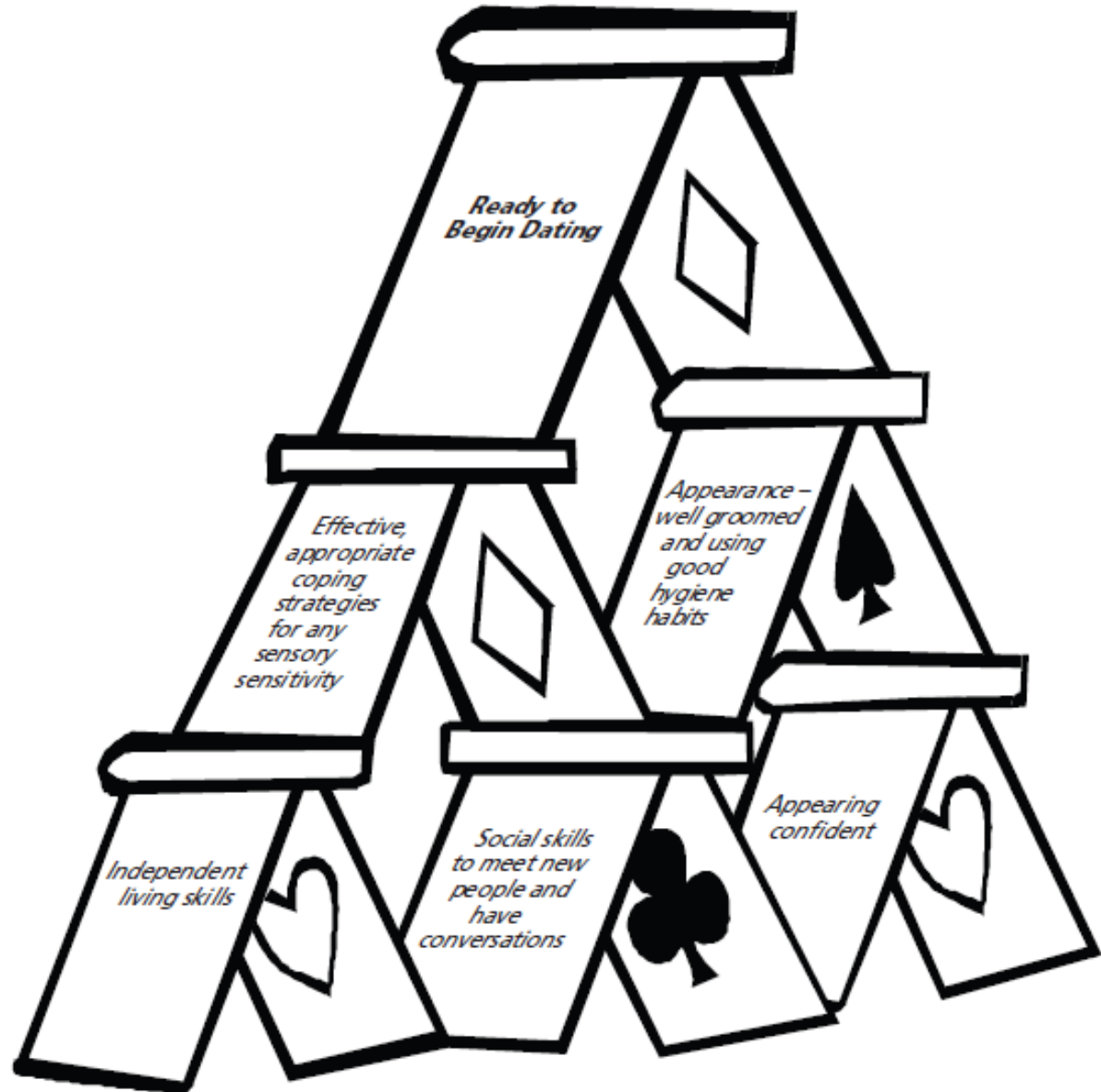
Table II.2
What Do We Call It? Activity

Breasts	Buttocks	Erection	Penis	Testicles	Vulva	Semen
Bee stings or mosquito bites (small)	Arse (UK) or Ass (US)	Boner	100% all-beef thermometer	Balls	Axe wound	Baby batter
Boobs	Back door (anus)	Chub	Anaconda	Bollocks	Box	Cum
Buju	Badonadonk (large female)	Get it up	Baby arm	Goolies	Bean (clitoris)	Emission
Bosoms	Badonadonk (large female)	Hard on	Baby maker	Knackers	Bearded clam	Jerk juice
Bubbies	Balloon knot (anus)	Horn	Bald-headed yogurt slinger	Nuts	Beaver	Jism
Fun bags	Behind	Jimber	Big dick and the twins (penis and testicles)	Nads (shortened form of gonads)	Beef curtains	Jiz
Good set of lungs	Booty	Love handle	Morning wood	Plums	Bush	Joy juice
Hooters	Bum	Morning wood	Pitch a tent		Camel toe (visible under tight clothing)	Man seed
Jugs	Business class (large)	Bum	Saluting the sky		Chach	Protein shake
Love pillows	Butt crack	Sponge	Cock		Cha cha	Spooze
Mammaries	Can	Stiff	Dick		Cherry (hymen)	Spunk
Melons	Fanny (US English only - see note for UK under vulva)	Stiffy	Dong		Clit (clitoris)	
Puppies	Load	Woody	Helmet (glans)		Cunt	
Rack	Onion		Knob		Fanny (UK English only)	
Tatas	Patootie		Johnson		Fish taco	
The girls			Joystick		Fur burger or pie	
The twins			Love shaft		Minge	
Tits			Meat and two veg (penis and testicles)		Muff	
			Member		Pink sausage wallet	
			One eyed trouser snake		Piss flaps (lips)	
			Package		Poonani	
			Pecker			

How to teach: Break it down

Ex: Getting ready to date

From C. Davies & M.A. Dubie,
*Intimate Relationships and Sexual
Health.*

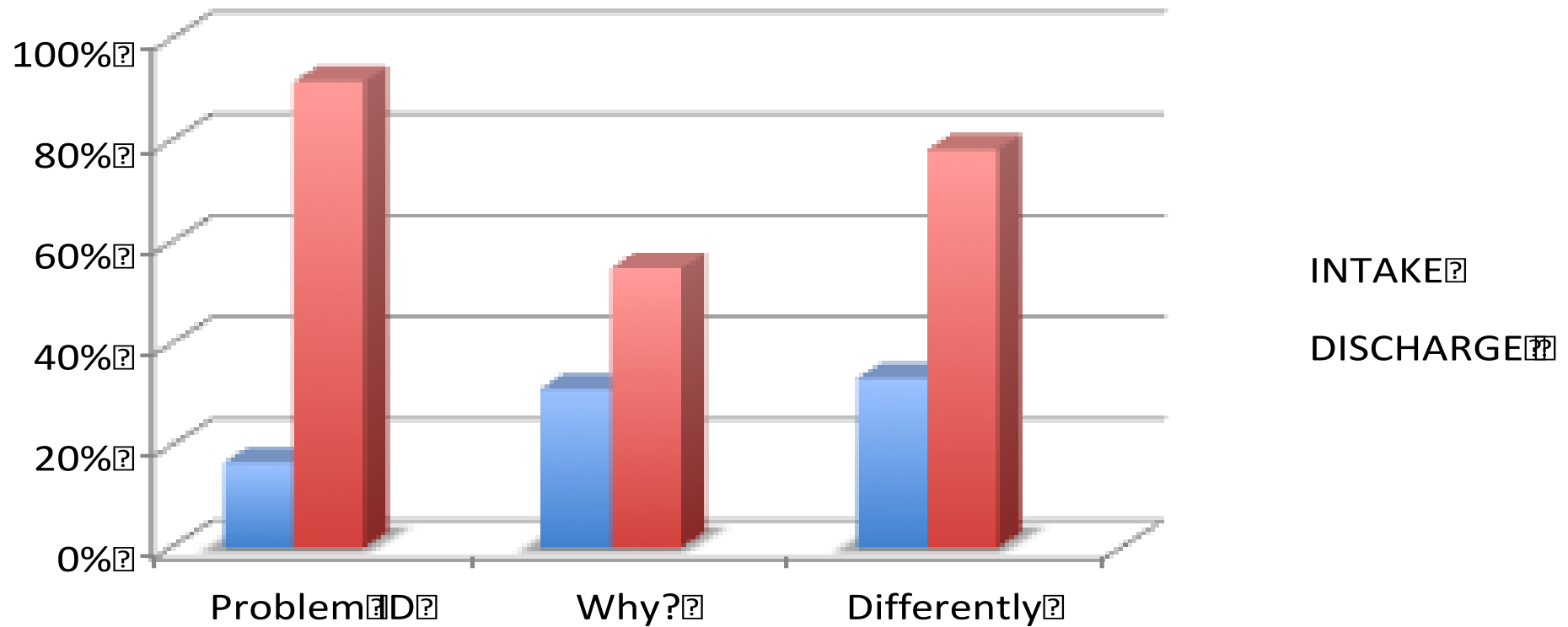


Social Problem Solving Vignettes as Outcome Measures

John is 20 years old. He likes Vanessa, an 18 year old young woman who works with him. John asked Vanessa to go on a date. She said she was busy and could not go. John asked again the next week, and Vanessa explained that she was not interested in dating John. He called her that evening to ask again. (Analogous form presented in post.)

Pre-Intervention			Post-Intervention		
What is the Problem?	Why is it a Problem?	What Should Be Done Differently?	What is the Problem?	Why is it a Problem?	What Should Be Done Differently?
<i>John keeps asking Vanessa for a date, who is younger than him</i>	<i>Vanessa is younger</i>	<i>John should ask someone his own age</i>	<i>He asked too many times</i>	<i>He is being annoying</i>	<i>Self-control</i>
<i>Vanessa is not interested in dating John</i>	<i>She was very busy</i>	<i>Vanessa should take a break and date John</i>	<i>John keeps asking Vanessa</i>	<i>It might disturb Vanessa</i>	<i>Leave Vanessa alone</i>

Percent of Correct Responses



Burns, Crehan, & Loftin, 2017

Creating comfort around an uncomfortable topic

- First reactions to sexual topics/conversations can really set the tone!
 - Either with the individual or reacting to stories about friends, in the news, etc
- Encouraging and modeling questions... and identifying behaviors in movies and shows to normalize talking about these topics in safe spaces!
- Offering ways of confidentially asking questions across settings (e.g., question box, leaving a notebook that gets handed back and forth)

In summary:

It's simple, right?

- Assess needs
- Make a plan that is...
 - Scientifically accurate
 - Developmentally appropriate
 - Socially valid
 - Tailored to the learning needs and goals of the individual
- Assess progress
- Recruit supports
- Practice, practice, practice

Autism Resource Directory:

312-563-2272

AARTS Center:

312-942-0819

www.aartscenter.org

www.rush.edu/autism

