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
“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

How do we build complex socialization approaches for 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

**Naturalistic Developmental Behavioral Interventions (NDBIs)**

- Interpersonal exchange & positive affect
- Shared engagement with materials
- Adult responsivity & sensitivity to child cues
- Natural language interchange
- Verbal & nonverbal communication
- ABA teaching principles
- Family/parent component

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Early Start Denver Model
Early Intervention for Children with “Red Flags” for ASD

Brain Plasticity

Early Behavioral Markers for ASD

Specialized ASD-intervention (tailored strategies targeting core impairments in social interaction, imitation, communication, and play)

- social
- language
- cognitive
- behavioral

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

Dawson et al., 2010; Ingersoll 2010; Kasari et al., 2015; Landa et al., 2011
Naturalistic Developmental Behavioral Interventions (NDBIs)

**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

Schreibman et al., 2015; Dawson et al., 2012
Online Reciprocal Imitation Training (RIT)

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

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

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)

<table>
<thead>
<tr>
<th>Baseline*</th>
<th>Weeks 1 – 5*</th>
<th>Weeks 6 – 10*</th>
<th>Weeks 11 – 15*</th>
</tr>
</thead>
</table>

*data collection

Wainer, Arnold, Leonczyk, & Soorya (2021)
Examining a stepped-care telehealth program for parents of young children with autism: A proof-of-concept trial

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

<table>
<thead>
<tr>
<th>Variable</th>
<th>Intervention</th>
<th>Control</th>
<th>ANCOVA</th>
<th>Pairwise</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Adjusted M</td>
<td>SE</td>
<td>Adjusted M</td>
<td>SE</td>
</tr>
<tr>
<td>Parent/Family Outcomes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RIT Fidelity</td>
<td>4.33</td>
<td>0.27</td>
<td>1.77</td>
<td>0.26</td>
</tr>
<tr>
<td>EIPSES</td>
<td>118.19</td>
<td>2.88</td>
<td>108.33</td>
<td>2.70</td>
</tr>
<tr>
<td>FQOL Total</td>
<td>108.02</td>
<td>2.72</td>
<td>103.20</td>
<td>2.55</td>
</tr>
<tr>
<td>Child Outcomes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UIA</td>
<td>8.54</td>
<td>1.33</td>
<td>4.40</td>
<td>1.24</td>
</tr>
<tr>
<td>SCC Total</td>
<td>146.61</td>
<td>5.72</td>
<td>129.34</td>
<td>5.35</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Test</th>
<th>Test the effectiveness of parent coaching in RIT as delivered by EI providers for improving child- and parent-level outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analyze</td>
<td>Analyze mechanisms by which parent coaching in RIT improves child outcomes</td>
</tr>
<tr>
<td>Identify</td>
<td>Identify potential sources of practice variation to inform refinement of RIT training and development of quality assurance protocols</td>
</tr>
</tbody>
</table>
Enroll EI providers from 4 states

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

Families on provider caseloads complete a brief eligibility screening

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)

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

<table>
<thead>
<tr>
<th>Treatment effectiveness</th>
<th>Hodge’s g</th>
<th>Effect size</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-report</td>
<td>.92</td>
<td>Large</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Parent</td>
<td>.47</td>
<td>Medium</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Teacher</td>
<td>ns</td>
<td>ns</td>
<td>.11</td>
</tr>
</tbody>
</table>

Moderating variables

| Social knowledge          | 1.15      | Large       | <.01  |
| Social performance        | .28       | Small       | <.001 |
Difficulties identifying emotions

Ability to attribute beliefs, thoughts, feelings, plans, intentions to oneself or others

Impaired understanding of nonliteral language

Adults with ASD show abnormally low activation in the fusiform gyrus (FG) when viewing faces

Reduced activation in the medial prefrontal cortex (MPFC) during ‘theory of mind’ tasks

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

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

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

Nonverbal Communication
• Gaze & gesture games
• Nonverbal synchrony

Emotion Recognition
• Emotion recognition & emotion vocabulary
• Emotional valence
• Reactions to emotional situations

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 $d = .88$


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).
Examining limitations

• Treatment targets:
  • Knowledge, Performance, Cognition + Pragmatic language
  • Caregiver and family variables
  • Duration, Settings, “Booster"

• Augmentation: Cognitive enhancers
  - Oxytocin
  - Vasopressin

Mindreading: The interactive guide to emotions (Autism Research Centre)

Avatars with “Wizard of Oz” capabilities

Affective Language During Setting Image of Thematic Apperception Test

- ASD Group-Baseline
- ASD Group-Week 12
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

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 identity
- Preferences

### What Does Your Family Believe?

<table>
<thead>
<tr>
<th>Gender</th>
<th>Appearance</th>
<th>Relationships</th>
</tr>
</thead>
<tbody>
<tr>
<td>What does it mean to be male/female?</td>
<td>What is attractive?</td>
<td>What makes a good relationship?</td>
</tr>
<tr>
<td>How are males/females different?</td>
<td>Do people have to be young to be attractive?</td>
<td>How are relationships different? (boyfriend, parent, child, business)</td>
</tr>
<tr>
<td>How are males/females “supposed” to act?</td>
<td>What messages do you give in the way you dress?</td>
<td>How should people show affection?</td>
</tr>
<tr>
<td>Is there a double standard for males/females? Should there be?</td>
<td>How do these messages affect your relationships with other people?</td>
<td>How can people resolve disagreements?</td>
</tr>
</tbody>
</table>

### The Genderbread Person

- Identity
- Attraction
- Expression
- Sex

- Gender Identity
- Measurement
- Gender Expression
- Female
- Male
- Non-binary

- Sexual orientation
- Bi
- A
- Q

- Biological Sex
- Male
- Female

- Sexual Harassment
How to Teach

• Pictures
• Sequences
• Social stories
• Matching activities
• Sorting
• Vignettes
• Role play
• Social behavior maps
How to teach:
Break it down
Ex: Getting ready to date

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

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