Adolescence and Autism Spectrum Disorder: Personalizing Care for Better Outcomes

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Disclosures

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Objectives

- Appreciate the importance of structured social skills interventions for individuals with ASD
- Understand the importance of considering social and ecological validity when designing these interventions
- Gain understanding of how to assess skill proficiency, strategies for choosing target skills, evidence based instructional methods, and best practices for measuring progress

The Importance of Intervention

Addressing the core deficit
Background

• Autism Spectrum Disorder (ASD)
  – Social interaction and communication deficits
  – Overly restrictive and repetitive patterns of behavior

Autism Spectrum Disorder (ASD)

• Significant variability in presentation and severity across individuals

<table>
<thead>
<tr>
<th>Level</th>
<th>Support Required</th>
<th>Severity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 3</td>
<td>Requiring very substantial support</td>
<td>Severe deficits</td>
</tr>
<tr>
<td>Level 2</td>
<td>Requiring substantial support</td>
<td>Marked deficits</td>
</tr>
<tr>
<td>Level 1</td>
<td>Requiring support</td>
<td>Noticeable impairments</td>
</tr>
</tbody>
</table>

+/- Intellectual Disability

+/- Other Dev or MH Concerns
Autism

- Deficits in social-emotional reciprocity
- Deficits in nonverbal communication used for social interaction
- Deficits in developing, maintaining, and understanding relationships

- Stereotyped or repetitive motor movements, use of objects, or speech
- Insistence on sameness, inflexible adherence to routine
- Highly restricted, fixed interests abnormal in intensity or focus
- Hyper- or hyporeactivity to sensory input or unusual interests in sensory aspects of the environment

Adolescence

- Changing concept of self
- Increased capacity for self-reflection

- Increasing importance of peer group
- Decreasing power of adult recognition

- Longer term thinking and concerns
- Vocational roles emerging
Adolescents with ASD

- Who am I?
- Where do I belong?
- What do I have to offer?

Social Communication Deficits

Rigorous and Restricted Patterns of Behavior

ASD across the Lifespan

- Social communication deficits, specifically non-verbal communication and social reciprocity, often become more impairing with time.
ASD across the Lifespan

• More recent improvements in EI have shown better short-term outcomes
  – 3 – 25% achieve optimal outcomes (average IQ and functioning independently in the community)
• But what about adolescents?
  – 64 – 89% of youth with ASD report experiencing peer victimization in the past year compared to 22% of neurotypical youth
  – High self-report loneliness, anxiety, and depression
  – 40% or less attend college or any post-secondary education/training

Billstedt et al. (2005); Levy & Perry (2011); Shattuck et al. (2017)

According to a 2011 needs of assessment of over 1300 caregivers of adolescents with ASD in PA, where was the greatest clinical service deficit?

• Social skills training, 55%
• Transition planning, 37%
• Vocational training, 29%
• Speech and language therapy, 28%
• Mental health counseling, 25%
• Medication management, 9%
Social Processing Deficits

• Core to ASD
• Socialization deficits are a major source of impairment regardless of cognitive or language ability.
• These deficits do not remit with development whereas other symptom areas of ASD can.
• Currently there is no established evidence base for social skills interventions for adolescents and adults.

Specific Categories of Deficits

• Joint Attention Failures
• Poor Prosody and Pragmatics
• Lack of Central Coherence
• Executive Functioning Challenges
  — Social Referencing
• Underdeveloped Theory of Mind
  — Perspective taking
Social and Ecological Validity

Keeping it real.

Making the “unwritten curriculum” concrete
Ecological Validity

- Refers to how well the study applies to the “real world”
- Especially important in psychosocial interventions
- The degree of validity is dependent on study design and setting
- High ecological validity can sacrifice variable control and reliability
- Need to balance need for replicability with importance of ready generalization

Social Validity

- Explores whether intervention is socially valued and relevant to the participant.
- Important to consider the impact of targeted skills for society and the individual.
- Highly dependent on participants’ backgrounds and station.
- At times, relevant stakeholders may have differing opinions as to the value of an intervention.
Social Fluency

COMBINATION OF ACCURACY AND SPEED IN EXECUTING SOCIAL AND COMMUNICATION SKILLS

ALLOWS INDIVIDUALS TO FUNCTION EFFICIENTLY AND EFFECTIVELY IN A VARIETY OF SOCIAL SETTINGS

THE BASIS FOR SUCCESSFUL SOCIAL TRANSACTIONS

Social Flexibility

RESPONDING TO CHANGES IN SOCIAL CONTINGENCIES

BUILDS RAPPORT, CONFIDENCE, AND TRUST

ALLOWS GREATER ADAPTABILITY TO NEW SOCIAL ENVIRONMENTS

BASIS FOR POSITIVE PEER INTERACTIONS
Social Responsiveness
READILY REACTING TO VERBAL AND NON-VERBAL SUGGESTIONS, INFLUENCES, OR EFFORTS DURING A SOCIAL INTERACTION

BASIS FOR GREATER SOCIAL INTIMACY WITHIN SOCIAL RELATIONSHIPS
Assessing Social Proficiency

Concerns
1. Peer rejection/bullying
2. Loss of friendships
3. Manipulation by peers
4. Increased awareness of social struggles
5. Social isolation

• Ask for description of social behaviors in a variety of settings and contexts
• Assess for:
  – Maintenance of social relationships
  – Social referencing deficits and other more nuanced social behaviors (e.g., shifting contingencies)
Assessing Skill Proficiency

• More predictable and structured the interaction, the more easily mastered (remember need for flexibility and responsiveness)

• 1:1 interactions are typically more easily mastered than group dynamics (remember joint attention and central coherence challenges)
Choosing Target Skills

• Make certain that the skill is needed/valued by the individual
  – Build from current strengths whenever possible
  – Consider safety needs
• Align skills with direct application in real world settings of value to the individual
• Support skill development in a variety of contexts and contingencies
  – Maximize flexibility

Assess Community Participation

<table>
<thead>
<tr>
<th>Number of Days</th>
<th>Did you do this activity...</th>
<th>Is this activity important to you?</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ACTIVITY]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Activity</th>
<th>Number of Days</th>
<th>Did you do this activity...</th>
<th>Is this activity important to you?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shopping</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Restaurant, coffee shop</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Church, synagogue, place of worship</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Movies</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Park, recreation center</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Theater, cultural event</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zoo, garden, museum</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Work for pay</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Volunteer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Library</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Watch a sports event</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gym, pool, pick-up sport</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barber shop, salon, spa</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support group</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extracurricular activity (non-sport)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extracurricular activity (sport)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time with family</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time with friends (outside of school)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Adapted from Salzer et al. (2014)
Community Participation

- Variables of interest
  - Number of days (intensity)
  - Number of activities (variety)
    - Important activities
    - Unimportant activities
  - List of important activities done not enough

Adapted from Salzer et al. (2014)

Evidence Based Interventions

WHAT IS VIDEO MODELING?
- Video modeling is a visual method for teaching behaviors or skills that uses video recording. The video model can be the individual (in the case of video self-modeling) or another person performing the behavior.
- Video modeling can be used for many different types of skills from adaptive skills to social skills.

HOW IS VIDEO MODELING USEFUL?
- A person can watch a specific behavior being completed, whether it is washing dishes, using transportation, or practicing a social skill such as a job interview. Video self-modeling is when a person is able to watch themselves successfully complete this skill.
- The MMSSP uses video modeling and video self-modeling to improve active listening, verbal turn taking, and other conversational skills.
Evidence Based Interventions

HOW DO I DO VIDEO MODELING AT HOME?

- Choose and define a specific behavior to teach, creating a list of steps to complete the skill.
- Plan the video self-modeling by creating a script.
- Record the video of the successful completion of the skill and then watch the video. When you are watching the video, observe what makes the skill successful.
- For conversational skills, include another person such as a friend, neighbor, or a family member. Observe their body language, verbal turn taking, and facial expressions during the conversation.

General Guidelines

- Practice skills in guided exposures
  - Increasing fluency and flexibility
- Practice with a variety of partners (peers, NT peers, paid supports)
  - Increasing responsiveness
- Get to application of skills quickly
  - Should have ready person-centered resonance
Measuring Progress

• Assess execution of skills in socially relevant environments
  – Operationalize the skill
  – Independence in executing target skill
• Assess changes in community participation
  – Persistence and expansion
  – Skills execution in highly valued activities of most import
• VISUALIZE YOUR DATA
Multi-media Social Skills Project

• Three manualized curriculums
  – Adolescents (13- to 17/18-years-old)
  – Adults (18- to 35-years-old)
    • Skills Acquisition
    • Skills Refinement
  – 12/16 week intervention
  – Each session is 3 hours and has two components
    • Skills building using video modeling
    • Peer generalization with same-age, neurotypical peers
Multi-media Social Skills Project: Adolescent Curriculum

• Module 1: Social Fluency
  – Week 1: Reading Social Clues
  – Week 2: Introductions
  – Week 3: Conversation Basics
  – Week 4: Fluency
• Module 2: Social Flexibility
  – Week 5: Seeking Friends
  – Week 6: Relationship Maintenance: Empathy & Support
  – Week 7: Relationship Maintenance: Conflict Resolution
  – Week 8: Fluency
• Module 3: Social Responsiveness
  – Week 9: Sarcasm & Humor
  – Week 10: Negative Peer Interactions
  – Week 11: Dating Skills
  – Week 12: Fluency

Multi-media Social Skills Project

• Results are positive indicating that there is a significant improvement over time in behaviors targeted by the intervention
• This intervention is currently being administered within an outpatient clinic setting and regularly has an extensive wait-list
## Discrete Verbal Behaviors

<table>
<thead>
<tr>
<th>Verbal Behaviors</th>
<th>Pre (M; SD)</th>
<th>Post (M; SD)</th>
<th>T-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open-ended Question</td>
<td>0.98 (1.41)</td>
<td>2.53 (2.74)</td>
<td>-2.60*</td>
</tr>
<tr>
<td>Comments</td>
<td>11.01 (8.83)</td>
<td>20.98 (20.39)</td>
<td>-2.47*</td>
</tr>
<tr>
<td>Comments (2)N=16</td>
<td>5.25 (.79)</td>
<td>11.65 (2.14)</td>
<td>-2.63*</td>
</tr>
</tbody>
</table>

* *p < .05; **p < .01; ***p < .001

<table>
<thead>
<tr>
<th>Verbal Behaviors (TYP)</th>
<th>Pre (M; SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Questions</td>
<td>8.67 (6.27)</td>
</tr>
<tr>
<td>Comments</td>
<td>22.67 (10.89)</td>
</tr>
</tbody>
</table>

## Discrete Non-Verbal Behaviors

<table>
<thead>
<tr>
<th>Non-verbal Behaviors</th>
<th>Pre (M; SD)</th>
<th>Post (M; SD)</th>
<th>T-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neutral Affect</td>
<td>161.97 (95.36)</td>
<td>75.63 (65.03)</td>
<td>4.84***</td>
</tr>
<tr>
<td>Positive Affect</td>
<td>141.08 (21.64)</td>
<td>225.07 (14.90)</td>
<td>-4.52***</td>
</tr>
<tr>
<td>Positive Affect (1)N=18</td>
<td>83.20 (43.19)</td>
<td>119.22 (36.37)</td>
<td>-2.80*</td>
</tr>
<tr>
<td>Positive Affect (2)N=17</td>
<td>55.96 (42.08)</td>
<td>79.36 (45.24)</td>
<td>-2.22*</td>
</tr>
<tr>
<td>Silence</td>
<td>178.81 (50.71)</td>
<td>133.41 (50.71)</td>
<td>3.58**</td>
</tr>
<tr>
<td>Eye Contact</td>
<td>92.92 (67.46)</td>
<td>158.09 (69.41)</td>
<td>-4.09**</td>
</tr>
</tbody>
</table>

* *p < .05; **p < .01; ***p < .001

<table>
<thead>
<tr>
<th>Non-verbal Behaviors (TYP)</th>
<th>Pre (M; SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silence</td>
<td>8.67 (13.55)</td>
</tr>
<tr>
<td>Eye Contact</td>
<td>218.67 (92.31)</td>
</tr>
</tbody>
</table>
Complex Social Behaviors

Multimedia Social Skills Project

- **Future directions**
  - Adaptation for school-based groups
  - Development of intervention for individuals with ASD and ID/complex communication needs
  - Integration of group-based anxiety intervention
Employment Journey
by Archer

Within the Autism social group, finding a job that frequently comes up is people’s work experience. A theme that many of them have shared is getting fired because they couldn’t meet the social requirements of their jobs.

I started towards my current job in my senior year when I shadowed my boss for my high school’s Shadow Day. At the time, the only reason why I decided to shadow my boss was because he was connected to a company that I knew and trusted. Some employers that I knew had offered to get me a temporary part-time job over the holidays. On the day that I shadowed my boss, I mentioned to him that I was interested in working at the warehouse. He told me that he would see what he could do and that I should follow-up with him.

www.asdnext.org

www.paautism.org
Spotlight on ASERT Social Skills Projects

- [http://www.paautism.org/resources/All-Resources/All-Resources-Details/itemid/8338/Spotlight-on-ASERT-Social-Skills-Projects](http://www.paautism.org/resources/All-Resources/All-Resources-Details/itemid/8338/Spotlight-on-ASERT-Social-Skills-Projects)

www.paautism.org/eLearning
Thanks

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• Jamal Essayli

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