Friendship in Children & Adults with ASD

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What is Friendship?

- A special type of peer relationship characterized by:
  - Closeness & trust
  - Mutual affection
  - Companionship & preference
  - Interactions over time
  - Reciprocity
Why is Friendship Important?

- Friendships promote:
  - Positive social, cognitive, and emotional development
  - Greater well-being and happiness
  - Greater sense of belonging
  - More positive perceptions of school
  - Stronger academic performance

(Hamm & Faircloth, 2005; Hartup & Stevens, 1999; Hodges et al., 1999; Ladd, 1990; Wentzen & Caldwell, 1997)
Friendship in Children with ASD

- Compared to others, children with ASD have:
  - Fewer friends
  - Less closeness and companionship in friendships
  - Briefer friendships
  - Fewer get-togethers and shared activities
  - Higher rates of social exclusion & bullying

(Bauminger & Shulman, 2003; Dean et al., 2014; Koning & Magill-Evans, 2001; Locke et al., 2010, Petrina et al., 2014)
Friendship in Children with ASD

• Children with ASD also report greater loneliness than children without ASD
• Loneliness in children with ASD is associated with lower self-worth and greater anxiety

What is Loneliness?
Unhappiness due to lack of friends or companionship

(Bauminger et al., 2000, 2003, 2004; Petrina et al., 2014)
Study 1: Friendship & Emotional Functioning
Mazurek & Kanne (2010)

- Children and adolescents with ASD are at high risk for anxiety and depression.
- In children without ASD, having **at least one good friend** leads to:
  - Less anxiety, depression, and loneliness
  - Greater self-esteem and well-being

**Question:**
Does friendship play an emotionally protective role for children and adolescents with ASD?
Study 1: Methods

Participants:

• 1,202 children and adolescents with ASD who were part of the Simons Simplex Collection (SSC) study
  • Ages 4-17
  • Most (86%) were boys

Measures

• Child Behavior Checklist (CBCL)
• Autism Diagnostic Interview – Revised (ADI-R)
• Autism Diagnostic Observation Schedule
• IQ Tests
Study 1: Methods

Friendship Measure: Parent interview response (ADI-R item #65):

0 = One or more relationships with same-aged peer(s) that include sharing personal activities and seeing outside of pre-arranged groups. This relationship has clear reciprocity.

1 = One or more relationships that have some shared activities outside a pre-arranged group, includes some initiation, but limited in interests or reciprocity.

2 = Personal relationships with others that includes seeking contact, but only in groups, school, or work.

3 = No peer relationships that involve reciprocity.
Study 1: Results

**BOYS**
- No Peer Relationships: 24%
- Pre-arranged Relationships: 32%
- Limited friendships: 28%
- At least one reciprocal friendship: 16%

**GIRLS**
- No Peer Relationships: 27%
- Pre-arranged Relationships: 37%
- Limited friendships: 25%
- At least one reciprocal friendship: 11%
Study 1: Results

• Children with lower IQ scores and those with more ASD symptoms were less likely to have friends.

• After accounting for IQ and ASD symptoms, friendships were related to symptoms of anxiety and depression, however:
  • Children who experienced the most anxiety and depression were those who had friendships that were limited in either responsiveness or reciprocity.
Study 1: Results

![Bar chart showing anxiety/depression levels across different types of friendships and relationships.]

- Reciprocal Friendship(s)
- Limited Friendship(s)
- Pre-Arranged Relationships
- No Peer Relationships
Study 2: Friendship & Activities
Dovgan & Mazurek (In Press)

- Children with ASD struggle to develop and maintain friendships
- Extracurricular activities may serve as one opportunity for developing friendships
- Engagement in activities may also enhance well-being and mood

Questions:
Are children with ASD who participate in extracurricular activities more likely to have friends?
Study 2: Methods

Participants:
- 129 children & adolescents with ASD (6-18 years)
- Mostly boys (86%)

Measures
- IQ Tests
- Vineland Adaptive Behavior Scales
- Child Behavior Checklist (CBCL)
  - Measure of friendship and activities
Study 2: Methods

Friendship Measure: parent response to CBCL item #V1:
• “About how many close friends does your child have?”
  • Response options are: none, one, two or three, four or more.

Activities Measures: parent response to CBCL items #I, II, and III:
• These items ask parents to list activities in which the child participates:
  • Up to three sports
  • Up to three hobbies
  • Up to three clubs.
Study 2: Results

**SPORTS**
- Three Sports: 39%
- One Sport: 17%
- Two Sports: 26%

**CLUBS**
- No Clubs: 52%
- One Club: 32%
- Two Clubs: 12%
- Three Clubs: 4%

**HOBBIES**
- No Hobbies: 2%
- One Hobby: 5%
- Two Hobbies: 36%
- Three Hobbies: 57%
Study 2: Results

- Children with ASD who participated in more activities had more friends
  - Even after adjusting for effects of IQ
- Children with ASD who participated in more activities were more likely to have at least one friend
Study 3: Friendship in Adults with ASD

Mazurek (2014)

- Adults with ASD face challenges with day-to-day functioning, and are at high risk for mental health challenges.
- Loneliness may contribute to increased anxiety and depression, and may reduce overall well-being among adults with ASD.

Questions:

Does friendship play an emotionally protective role for adults with ASD?
Study 3: Methods

Participants:

• 108 adults with ASD (ages 18-62); 52.6% men; 47.4% women
• Recruited through the Interactive Autism Network (IAN)

Measures

• Autism Spectrum Quotient (AQ) Short Form
• UCLA Loneliness Scale
• Unidimensional Relationship Closeness Scale (URCS)
• Satisfaction with Life Scale (SWLS)
• Rosenberg Self-Esteem Scale (RSE)
• Patient Health Questionnaire (PHQ)
60.2% had a close or best friend (39.8% did not)

Frequency of Contact with Close Friend

- **Get Together In Person**
- **Talk by Phone**
- **Talk using Social Media**

- **Several times per day**: 25%
- **Once per day**: 20%
- **3-5 days per week**: 15%
- **1-2 days per week**: 10%
- **Every few weeks**: 5%
- **Less than once per month**: 35%
Study 3: Results

• Adults with ASD with greater loneliness reported:
  • Higher levels of depression and anxiety
  • Less satisfaction with life
  • Lower self-esteem

• Adults with ASD with a close friend reported significantly less loneliness than those without a close friend
  • Greater relationship closeness was associated with even lower levels of loneliness

• A greater number of friends was also associated with less loneliness
Conclusions

• Reducing loneliness may help to reduce symptoms of depression and anxiety in individuals with ASD

• Helping to build close and reciprocal friendships may be an important intervention target for enhancing overall well-being in both children and adults with ASD
Study References


Rewiring the social brain & Building social skills across the lifespan

Latha V. Soorya, PhD, BCBA
Associate Professor, Department of Psychiatry
Director, AARTS Center @ Rush

Autism, Assessment, Research, Treatment, & Services Center
What questions will we answer today?

- What are important social skills goals for youth with ASD?
- What social skills therapies are appropriate at each developmental stage?
- What is the evidence for social skills therapies?
“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
Goals of social skills therapies

In early childhood, focus is on building functional, spontaneous communication with others.
Early childhood goals:
Promoting early, critical social skills

- Interpersonal exchange & positive affect
- Shared engagement with materials
- Naturalistic Developmental Behavioral Interventions (NDBIs)
- Adult responsivity & sensitivity to child cues
- Natural language interchange
- Verbal & nonverbal communication
- Family/parent component

ABA teaching principles

Early Start Denver Model
Online Early Intervention: Reciprocal imitation Training

10-week e-health intervention: Making parent-child playtime fun

Mirror Me Study
PI: Allison Wainer, PhD

- Children 16 to 60 months with (or suspected) ASD
- Target: social imitation difficulties
- Parents participate in a brief online parent training program teaching play skills

In early childhood, focus is on building functional, spontaneous communication with others.

In middle childhood, consider ASD as a social learning disability. This means social skills are ideally taught daily, across settings, and using developmentally appropriate methods with peers.
Social goals in school-aged children

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

• Peer network (Haring & Breen, 1992)
  • peer networks = existing cliques of same-aged peers providing prompting and reinforcement for social interactions.
  • Peer networks have been shown to aid in promoting social integration of children with disabilities

• Peer Mediated interventions
  • Neuro-typical peers are taught to initiate and respond positively to peers with ASD
  • Enhances performance
    • Decreases anxiety
    • Improves generalization
  • Provides opportunity for adults to remain as facilitators rather than playmates
    • Examples: lunch bunch, after school programs, facilitated play dates

Asd is a social learning disability

• Deficits that can be either due to an acquisition or performance deficit

• Highly contextual & best taught in natural settings/situations

• Skills that should be taught using same procedures used to teach academic skills
  - Provide instruction in core deficits (e.g. emotion recognition)
  - Use compensatory strategies (e.g. visual aides)
  - Evaluate curriculum specific goals and normative (i.e. developmental) standards
  - Suggests treatment important in academic settings
Social Skills Groups: Popular but Effective?

SOCIAL SKILLS Training (SST) Groups

1. **Set Goal** - Choose and clearly define a manageable social skills goal.

2. **Teach** - Explain what behavior looks like and why behavior is important.

3. **Model** - Demonstrate the desired social behavior.

4. **Practice** - Role-play the desired behavior.

5. **Prompt** - Prompt for a natural display of desired behavior.

6. **Reinforce** - Reinforce group members after the demonstrate desired behavior.

7. **Generalize** - Encourage practice of the behavior outside the group.
SST Group Evidence

• 15-week trial
  • SST, treatment as usual (TAU), and SST with parent training (PT)

• Responders
  • SST > TAU in adolescents
  • SST > TAU in females

• Maintenance
  • Effects were not maintained at 3-month follow-up

• Generalization
  • Teachers reported improvements only after SST+PT

Social Cognition Difficulties in Youth with ASD

• Difficulty identifying emotions

• Ability to attribute beliefs, thoughts, feelings, plans, intentions to oneself or others (Frith, 2001, Baron-Cohen et al, 1985)

• Impaired understanding of nonliteral language (Happe et al., 1993; Martin & McDonald, 2004)
Outcomes from Social cognitive Therapies

NETT: Nonverbal synchrony, Emotion recognition, & Theory of mind Training

A cognitive behavioral therapy for social cognitive skills in children with ASD

Social behavior

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

Social cognition

- Immediate improvements in social behavior after 12 sessions
- Responders: children with higher verbal IQs

Brain correlates of Social Deficits

- Adults with ASD show abnormally low activation in the fusiform gyrus (FG) when viewing faces (Schultz et al., 2000; Pierce et al., 2001; Hubl et al., 2003)

- Fail to activate voice-selective regions in the superior temporal sulcus despite showing normal activation in response to nonvocal sounds (Gervais et al., 2004)

- Reduced activation in the medial prefrontal cortex (MPFC) during ‘theory of mind’ tasks (Happe et al., 1996; Castelli et al., 2002)

Neural changes associated with NETT social cognitive groups
(Wang, et al, 2012)
NETT- Control: Post – Pre

MPFC
In early childhood, focus is on building functional, spontaneous communication with others.

In middle childhood, consider ASD as a social learning disability. This means social skills are ideally taught daily, across settings, and using developmentally appropriate methods with peers.

In adolescence & adulthood, building independence and social skills requires individual, familial, and societal solutions.

Stable symptoms in 80%, notable improvements in 10% (Gotham, et al., 2012)

Predictors of outcome (Howlin, 2013, Taylor & Seltzer, 2011)

- Social factors
  - Parental involvement

- Individual variables
  - IQ & Language
  - Peer relationships
US GAO Roundtable (2016): Five goals for adulthood

- Postsecondary education
- Employment
- Maximizing independent living
- Health & Safety
- Maximizing community integration
Building complex treatments for a complex condition

- Lifespan treatment model
- Augment/Optimize Interventions
  - Combining behavioral & medication treatments
  - Leveraging technology
Autism Resource Directory: 312-563-2272

AARTS Center: 312-942-0819

www.aartscenter.org
www.rush.edu/autism