What Parents and Teachers Can Do To Improve Social Skills in Adolescents with Autism Spectrum Disorders

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Overview of Presentation

• Social deficits among teens with ASD
• Consequences of peer rejection
• Limitations of existing social skills interventions
• Effective methods of social skills instruction
• PEERS intervention strategies
  – Ecologically valid social communication skills
  – Role-play demonstrations
  – Perspective taking questions
• Summary of research findings
• Research directions
Social Deficits Among Adolescents with ASD

- Poor social communication
  - One-sided conversations
  - Repetitive themes
  - Focus on restricted interests
- Poor social awareness
  - Difficulty understanding social cues
  - Difficulty understanding the purpose of peer groups
- Poor social motivation
  - Less involvement in social activities
  - Lack of peer entry attempts
- Poor social cognition
  - Difficulty understanding the perspectives of others
  - Poor theory of mind

Consequences of Social Deficits for Adolescents with ASD

- Peer rejection
  - Teasing and bullying
  - Bad reputations
- Social neglect and isolation
  - Very few get-togethers
  - Limited peer network
  - Few friendship options
  - No peer group / crowd
- Peer conflict
  - Arguments may result in the termination of friendship
- Lack of close reciprocal friendships
  - Friendships usually focused on restricted interests
  - Poor friendship quality

Limitations of Social Skills Training

• Do not assess treatment outcome
• Fails to tailor teaching methods to shared strengths and weaknesses
• Do not teach ecologically valid social skills
• Do not include homework assignments
• Skills do not generalize to other settings
• Do not include parents and/or teachers in the treatment

(Gresham, Sugai, & Horner, 2001; White, Keonig, & Schaill, 2007; DiSalvo & Oswald, 2002; Rogers, 2000; Rao, Beidel, Murray, 2008)
PEERS®

Program for the Education & Enrichment of Relational Skills
(Laugeson & Frankel, 2010)

• Manualized intervention
• Parent-assisted program
  – Concurrent parent and teen sessions
  – Parents are trained as social coaches
• Addresses core deficits for ASD
• Focuses on friendship skills
• Teaches ecologically valid social skills
• 14 week curriculum
  – 90 minute weekly sessions
• Evidence-based for ASD
  – Teens in middle and high school

Other programs:
• PEERS® School-Based Program
  – Teacher-facilitated daily instruction
• PEERS® for Young Adults
  • Young adults (18-24 years of age)
Evidence-Based Methods of Social Skills Instruction

- Small group format
  - 7-10 group members
- Concurrent parent / caregiver sessions
  - Expand social opportunities
  - Social coaching
  - Homework compliance
- Didactic instruction
  - Structured lessons
  - Concrete rules / steps of social etiquette
  - Socratic method of instruction
- Role-playing / modeling
  - Appropriate and inappropriate demonstrations
- Behavioral rehearsal
- In session coaching
  - Performance feedback
- Real-life practice
  - Homework assignments
  - Parent / caregiver assistance

(Matson, 1984; Davies & Rogers, 1985; Fleming & Fleming, 1982; Mesibov, 1984; Gresham, Sugai, & Horner, 2001; Gralinski & Kopp, 1993; Rubin & Sloman, 1984, Frankel & Myatt, 2003; Rao, Beidel, & Murray, 2008; Laugeson et al., 2008)
Overview of PEERS® Curriculum

- Conversational skills
- Electronic communication
- Choosing appropriate friends
- Appropriate use of humor
- Peer entry strategies
- Peer exit strategies
- Get-togethers
- Good sportsmanship
- Handling verbal teasing
- Handling physical bullying
- Changing a bad reputation
- Handling arguments
- Handling rumors and gossip
- Graduation

Photo of PEERS courtesy of Associated Press

UCLA PEERS Clinic
www.semel.ucla.edu/peers/
(310) 26-PEERS
peersclinic@ucla.edu
Clinical Example: Conversational Skills

**QUESTIONS:**

What are most teens told to do to meet new people?

What do most teens with ASD do to start a conversation with someone?
PEERS Ecologically Valid Social Skill: Starting a Conversation

- Find a common interest
  - Make a comment
  - Ask a question
  - Give a compliment
- Trade information
  - Ask the person about him/herself
    - Usually related to common interest
  - Answer your own questions
  - Ask follow-up questions
- GOAL: Find common interests
  - Friendships are based on common interests

- Role play demonstrations
- Perspective taking questions

PEERS Treatment Manual (Laugeson & Frankel, 2010)
Common Conversational Error in ASD: Conversation Hogging

- Use repetitive themes
  - Perseverate on restricted interests
  - Disregard the other person’s interests
- One-sided conversations
  - Elicit fewer extended responses from others
  - Fail to identify common interests
- Difficulty providing relevant information
  - Focus on the details
  - Miss the big picture
- Highly verbose

- Role play demonstration
- Present Rule: Don’t be a conversation hog
- Perspective taking questions

PEERS Treatment Manual (Laugeson & Frankel, 2010)
Common Conversational Error in ASD: Interviewing

- Ask a series of unrelated questions
- Make unexpected leaps in topics
- Difficulty providing personal information
- One-sided conversations
  - Give fewer reciprocal responses
  - Fail to identify common interests
- Role play demonstration
- Present rule: Don’t be an interviewer
- Perspective taking questions

PEERS Treatment Manual (Laugeson & Frankel, 2010)
Common Conversational Error in ASD: Policing

- Poor social cognition
  - Difficulty predicting social world
- Dichotomous thinking
  - Black-and-white thinking
- Rule-driven
- Notice rule violations
- Feel compelled to point out rule violations

- Role play demonstration
- Present rule: Don’t police
- Perspective taking questions

PEERS Treatment Manual (Laugeson & Frankel, 2010)
Common Conversational Errors in ASD: Volume Control Issues

- Speaking too loudly
  - ADHD
  - Mood disorder

- Speaking too softly
  - Anxiety
  - Depression

- Role-play demonstrations
- Perspective taking questions
- Present rule: Use good volume control

PEERS Treatment Manual (Laugeson & Frankel, 2010)
Common Conversational Errors in ASD: Body Boundary Issues

- Standing too close
  - ADHD
  - Mood disorder

- Standing too far away
  - OCD
  - Anxiety
  - Depression

- Role play demonstrations
- Perspective taking questions
- Present rule: Use good body boundaries (arm’s length away)

PEERS Treatment Manual (Laugeson & Frankel, 2010)
Common Social Errors in ASD: Poor Eye Contact

- Very little eye contact
  - Appear disinterested

- Too much eye contact
  - Intrusive
  - Uncomfortable

- Role play demonstrations
- Perspective taking questions
- Present rule: Use good eye contact

PEERS Treatment Manual
(Laugeson & Frankel, 2010)
Parent-Mediated Social Skills Training for Adolescents with ASD

(Laugeson, Frankel, Gantman, Dillon, & Mogil, 2012)

Evidence-Based Social Skills Training for Adolescents with Autism Spectrum Disorders: The UCLA PEERS Program

Elizabeth A. Laugeson · Fred Frankel · Alexander Gantman · Ashley R. Dillon · Catherine Mogil

Original Paper

N=28

Treatment Group
n=14

14 week intervention

Waitlist Group
n=14

Wait 14 weeks

14 week follow-up

14 week intervention
## Baseline Demographics

<table>
<thead>
<tr>
<th></th>
<th>Treatment  $(n=14)$</th>
<th>Waitlist  $(n=14)$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td>$M = 14.3$</td>
<td>$M = 15.0$</td>
</tr>
<tr>
<td><strong>Grade</strong></td>
<td>$M = 8.8$</td>
<td>$M = 9.4$</td>
</tr>
<tr>
<td><strong>Percent Male</strong></td>
<td>$M = 85.7$</td>
<td>$M = 78.6$</td>
</tr>
<tr>
<td><strong>Percent Caucasian</strong></td>
<td>$M = 57.1$</td>
<td>$M = 42.9$</td>
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<tr>
<td><strong>Percent Mainstreamed</strong></td>
<td>$M = 64.3$</td>
<td>$M = 50.0$</td>
</tr>
<tr>
<td><strong>KBIT-2 IQ Composite</strong></td>
<td>$M = 94.1$</td>
<td>$M = 104.5$</td>
</tr>
<tr>
<td><strong>VABS-2 Composite</strong></td>
<td>$M = 72.0$</td>
<td>$M = 75.4$</td>
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</table>
PEERS® Outcome Measures

- **Parent Measures**
  - Social Responsiveness Scale (SRS-P) *
  - Social Skills Rating System (SSRS-P) *
  - Quality of Socialization Questionnaire (QSQ) *

- **Teacher Measures**
  - Social Responsiveness Scale (SRS-T)
  - Social Skills Rating System (SSRS-T) *
    - At 14-week follow-up ONLY

- **Teen Self-Report Measures**
  - Quality of Socialization Questionnaire (QSQ) *
  - Test of Adolescent Social Skills Knowledge (TASSK) *
  - Friendship Qualities Scale (FQS)
  - Piers-Harris Self-Concept Scale

* Measures reaching significance from pre- to post-test and/or follow-up (6/9)
**Parent Report**

*Social Responsiveness Scale (SRS-P)*

SRS-P

Social Responsiveness Total Score

*(T Scores)*

$p < 0.01$

**Difference Scores**

Pre–Post = DS

**T Scores**

$M = 50$

$SD = 10$

---

**Improvement in Social Responsiveness (Total)**

Mean Change in Scores

- Treatment
- Waitlist

Condition
Parent Report

Social Responsiveness Scale (SRS-P)

SRS-P Social Awareness Subscale (T-scores)
\[ p < 0.02 \]

SRS-P Social Cognition Subscale (T-scores)
\[ p < 0.02 \]
Parent Report

Social Responsiveness Scale (SRS-P)

SRS-P Social Communication Subscale (T-scores)

\[ p < 0.01 \]

SRS-P Social Motivation Subscale (T-scores)

\[ p < .05 \]
Parent Report

*Social Responsiveness Scale (SRS-P)*

SRS-P Autistic Mannerisms Subscale (T-scores)

\[ p < .05 \]
Parent Report

Social Skills Rating System (SSRS-P)

SSRS-P
Social Skills Scale
(Standard Scores)
$p < 0.01$

Difference Scores
Post-Pre = DS

Standard Scores
$M = 100$
$SD = 15$

Improvement in Social Skills

Mean Change in Scores

Condition

Treatment
Waitlist
**Parent Report**

**Social Skills Rating System (SSRS-P)**

**SSRS-P Assertion Subscale**  
*(raw scores)*  
$p < 0.01$

**SSRS-P Cooperation Subscale**  
*(raw scores)*  
$p < 0.01$

**SSRS-P Responsibility Subscale**  
*(raw scores)*  
$p < 0.02$
Parent and Adolescent Report

**QPQ-P**
Parent-Reported Hosted Get-togethers
$p < 0.01$

**QPQ-A**
Adolescent-Reported Hosted Get-togethers
$p < 0.03$

**TASSK**
Adolescent Social Skills Knowledge
$p < 0.01$
14-Week Follow-Up Assessment
Social Responsiveness Scale-Parent (SRS-P)

Social Responsiveness Scale T1-T3 ($p < 0.01$)

<table>
<thead>
<tr>
<th>Testing Time</th>
<th>Treatment Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1</td>
<td></td>
</tr>
<tr>
<td>T2</td>
<td></td>
</tr>
<tr>
<td>T3</td>
<td></td>
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</tbody>
</table>

Social Communication Subscale T1-T3 ($p < 0.01$)

<table>
<thead>
<tr>
<th>Testing Time</th>
<th>Treatment Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1</td>
<td></td>
</tr>
<tr>
<td>T2</td>
<td></td>
</tr>
<tr>
<td>T3</td>
<td></td>
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</tbody>
</table>

Social Awareness Subscale T1-T3 ($p < 0.05$)

<table>
<thead>
<tr>
<th>Testing Time</th>
<th>Treatment Group</th>
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<td>T1</td>
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<tr>
<td>T2</td>
<td></td>
</tr>
<tr>
<td>T3</td>
<td></td>
</tr>
</tbody>
</table>
14-Week Follow-Up Assessment

Social Responsiveness Scale-Parent (SRS-P)

Autistic Mannerisms Subscale T1-T3 ($p < 0.05$)

Social Cognition Subscale T1-T3 ($ns$)

Social Motivation Subscale T1-T3 ($ns$)
14-Week Follow-Up Assessment
Social Skills Rating System-Parent (SSRS-P)

Social Skills Scale T1-T3 ($p < 0.01$)

Assertion Subscale T1-T3 ($p < 0.01$)

Cooperation Subscale T1-T3 ($p < 0.01$)

Responsibility Subscale T1-T3 ($p < 0.01$)
14-Week Follow-Up Assessment

Social Skills Rating System-Parent (SSRS-P)

**Problem Behaviors Scale T1-T3 (p < 0.01)***

**Self-Control Subscale T1-T3 (p < 0.05)***

**Externalizing Subscale T1-T3 (p < 0.01)***

* New findings at follow-up
14-Week Follow-Up Assessment

QPQ and TASSK

Hosted Get-Togethers - Adolescent Report
T1-T3 ($p < 0.05$)

Hosted Get-Togethers - Parent Report
T1-T3 ($p < 0.05$)

Teen Social Skills Knowledge T1-T3 ($p < 0.01$)
14-Week Follow-Up Assessment

Social Skills Rating System-Teacher (SSRS-T)
Social Responsiveness Scale-Teacher (SRS-T)

* New findings at follow-up

Social Skills Scale T1-T3 ($p < 0.03$) *

Assertion Subscale T1-T3 ($p < 0.02$) *

Social Responsiveness Scale T1-T3 (ns)
Parent-Mediated Social Skills Training for Adolescents with ASD
(Laugeson, Frankel, Gantman, Dillon, & Mogil, 2012)

- Adolescent self-report:
  - Social Skills Knowledge (TASSK)
  - Frequency of social interaction with peers (QPQ-A)

- Parent-report:
  - Frequency of social interaction with peers (QPQ-P)
  - Overall Social Skills (SSRS-P)
    - Cooperation
    - Assertion
    - Responsibility
  - Overall Social Responsiveness (SRS-P)
    - Social awareness
    - Social cognition
    - Social communication
    - Social motivation
    - Autistic mannerisms

- 14-week follow-up assessment
  - Maintenance of treatment gains
    - Except SRS-P Social Cognition and Motivation
  - New treatment gains
    - SSRS-P Problem Behaviors (parent-report)
      - Self Control
      - Externalizing
    - SSRS-T Social Skills (teacher-report)
      - Assertion

Table 3 Mean difference scores for outcome variables for treatment and delayed treatment control groups (standard deviations are in parentheses)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group</th>
<th></th>
<th></th>
<th></th>
<th>p</th>
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<tbody>
<tr>
<td></td>
<td>treatment</td>
<td>delayed</td>
<td>treatment</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>n = 14</td>
<td>n = 14</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TASSK-R</td>
<td>9.14 (2.07)</td>
<td>0.71 (3.05)</td>
<td>&lt;.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>QPQ-A host</td>
<td>4.43 (6.90)</td>
<td>0.29 (0.83)</td>
<td>&lt;.03</td>
<td></td>
<td></td>
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<tr>
<td>QPQ-P host</td>
<td>1.57 (1.83)</td>
<td>0.21 (0.70)</td>
<td>&lt;.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SASSR-P social skills total</td>
<td>11.77 (5.86)</td>
<td>0.71 (10.25)</td>
<td>&lt;.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SSRS-P cooperation</td>
<td>2.69 (2.02)</td>
<td>0.07 (2.50)</td>
<td>&lt;.01</td>
<td></td>
<td></td>
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<tr>
<td>SSRS-P assertion</td>
<td>3.31 (2.18)</td>
<td>0.64 (3.00)</td>
<td>&lt;.01</td>
<td></td>
<td></td>
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<tr>
<td>SSRS-P responsibility</td>
<td>2.54 (1.98)</td>
<td>-0.36 (3.71)</td>
<td>&lt;.02</td>
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<td></td>
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<tr>
<td>SRS-P total</td>
<td>11.54 (6.96)</td>
<td>1.43 (7.74)</td>
<td>&lt;.01</td>
<td></td>
<td></td>
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<tr>
<td>SSRS-P social awareness</td>
<td>18.38 (9.53)</td>
<td>6.14 (10.3)</td>
<td>&lt;.02</td>
<td></td>
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<tr>
<td>SSRS-P social cognition</td>
<td>9.00 (7.53)</td>
<td>-0.14 (8.55)</td>
<td>&lt;.02</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SSRS-P social communication</td>
<td>12.92 (7.74)</td>
<td>0.29 (9.55)</td>
<td>&lt;.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SSRS-P social motivation</td>
<td>8.08 (8.70)</td>
<td>-1.14(10.70)</td>
<td>&lt;.05</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SSRS-P autistic mannerisms</td>
<td>10.69 (8.95)</td>
<td>2.71 (6.70)</td>
<td>&lt;.05</td>
<td></td>
<td></td>
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</table>

n = 7
Research Directions

PEERS Virtual Coach
(Laugeson, PI)

- High-functioning adolescents with ASD
- $N = 30$
- Test the effectiveness of a “virtual coach”
- Compare three groups:
  - PEERS parent-assisted treatment as usual
  - PEERS parent-assisted with virtual coach
  - Delayed treatment control
Research Directions

PEERS fMRI Study
(Dapretto, PI)

• fMRI treatment outcome study
• Pre-post treatment design
• Investigating changes in neural pathways associated with improved social skills
• Behavioral paradigms:
  – Peer rejection (cyber ball)
  – Self-awareness
Research Directions

PEERS for Preschoolers
(Park, PI)

- 16-week manualized social skills group
- Evidence-based
- 3-6 year old high-functioning children with ASD
- $N = 30$
- Puppet-facilitated lessons
- Parent-assisted
- Compare treatment to delayed treatment control
Future Publications

The Science of Making Friends:
Teaching Teens and Adults with Autism How to Make and Keep Friends
- Parent Trade Book
- Spring 2013
- Jossey-Bass

The PEERS Manual for School-Based Professionals:
Social Skills Training for Adolescents With Autism Spectrum Disorders
- School-based curriculum
- Teacher-facilitated
- Daily lesson format
- Weekly lesson format
- Summer 2013
- Routledge
PEERS Manual, Training and Research Scholarships

• Publication of PEERS Manual
• PEERS Training
  – November 6 – 9, 2012
  – February 26 – March 1, 2013
  – Four-day training (20 hours total)
  – Three times per year
  – Includes:
    • PEERS manual
    • Unpublished SCHOOL MANUAL
    • Research and clinical material
• PEERS Training Research Scholarships
  – Graduate students and post-doctoral fellows
  – 3-4 scholarships awarded each training
  – Submission: CV and 2 page LOI
  – Held at the UCLA Semel Institute
    • (310) 26-PEERS
    • peersclinic@ucla.edu
For more information...

4:15 – 5:30 pm

Moving Autism Research from the Laboratory to the Classroom (6B)
(PEERS School-Based Curriculum)

5:30 – 6:00 pm

PEERS® Book Signing