Social Programming for School-age Students with Autism: Are We Doing All that We Can to Improve Long-Term Outcomes?

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Outline for Today

- Social challenges and outcomes
- Selecting and measuring social goals
- Recommended social interventions
- Teaching social communication skills
  - Preschool
  - Elementary
- Questions
Social Challenges

- Cardinal feature of autism (Volkmar et al., 2004)
- Deficit in **reciprocal** social interactions (Tremblay et al., 1981)
- **Pervasive** developmental disorder – leads to social isolation (McGovern & Sigman, 2005)
- Social competency gap widens across elementary years (Prizant et al., 1997)
- Priority for families, under addressed on IEP’s

Social Challenges

- Foundation for learning other critical skills – play, joint attention, language, pragmatics, social rules
- Social skills - strongest predictor for jobs, independent living, and relationships

(Strain and colleagues)
In the last 25 to 30 years...

- 1970’s and 80’s - peers taught to initiate
- 1980’s - PMI recommended practice in inclusive PS classrooms
- 2001 National Research Council
  - PMI an evidence-based communication intervention
- 2007-2009 Comprehensive Lit Reviews
  - PMI an empirically supported intervention with a solid research base (Bass & Mulick, 2007; Goldstein, et al., 2007; Chan et al., 2009)
- 2009 National Standards Project
  - Peer Training Package an Established Intervention

www.nationalautismcenter.org

Outcomes Across Ages

- Most gains in cognitive and language skills from preschool to early elementary
- Significant decline from middle childhood to adolescence
  - Is there a ‘sensitive’ period in PS?
  - Do PS experiences bring about more change?
  - More social opportunities in preschool

(Sigman & Colleagues, 1999; 2005)
Adolescent Outcomes

- Peer social engagement in middle childhood predict adaptive behaviors gains in high school (McGovern & Sigman, 2005)
- Individuals with ASD become more aware as they get older (Tantam, 2003)
- Young adults lack understanding of how to be a friend; report feeling lonely (Carrington et al., 2003)

Peer-Mediated Interventions (PMI’s) Can....

- Increase reciprocal social communication
- Influence peer perceptions of child as socially competent
- Decrease widening social gap
- Enhance longer term peer relations and friendships
- Provide meaningful access to regular ed curriculum: social and academic activities
Findings Across Ages

- Improvements across **variety** of skills
  - Requests, comments, social niceties, suggestions, gain attention, be flexible, maintain topics, initiations, responses
- Marked changes baseline to treatment
  - BL avge 1-9 per 10-min; TX avge 11-44 (Thiemann & Goldstein, 2001; 2004)
- Generalization of skill use across settings and communication skills

Other Important Findings...

- Decrease in inappropriate social communication and behaviors
- Improvements in peer perceptions and friendship ratings
- Improvements in adult perceptions of social competencies (socially valid outcomes)
- Feasible and acceptable for teachers
  - Primary concern is time and resources
A Parent’s Perspective

Mike Wasmer

Assessing Peer-Related Social Competence

- Multiple assessment strategies (e.g., direct observations, interviews, rating scales)
  - Social Interaction Teacher Impression Scale
  - Project Slide (Teacher Report)
  - Social Network Questionnaire – Parents
  - Pre-Treatment Teacher Survey of Social Priorities
- Standardized tests
  - Social Skills Rating System
  - Social Communication Questionnaire
  - Vineland Adaptive Behavior Scales
- Multiple sources of information – teachers, peers, parents
Project Slide Items

**Takes cues** from peers and **imitates** their behavior during routine activities.

**Recognizes transition** cue and stops ongoing activity.

Uses established procedures to **request** assistance.

**Engages** in appropriate activities following work completion.

**Solicits attention** from peers and adults appropriately.

Plays/works **cooperatively** with peers.

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Peer-Peer and Child-Peer Observations

- Across multiple environments
- Natural unstructured social times
  - Centers, Recess, Lunch, Art, PE
- Structured settings (with 1-2 peers)
- Short time periods (10-min)
- Rates of specific communication skills (both initiations and responses)
- Rates of peer responses and initiations
Measuring Social Progress

- Focus child initiations and responses
- Peer initiations and responses
- Multiple-turn verbal utterances/interactions
- Adult prompts vs. peer prompts
- Decreases in inappropriate social skills
- Use of skills across peers/school contexts
- Peer and focus child enjoyment
- Peer acceptance and friendship ratings

Pre-intervention: Kindy Recess
Post-intervention: Recess

Memory Game: Baseline
Preschool Social Communication Targets

- Play organizers
- Sharing materials
- Helping others
- Compliments
- Rough and tumble play
- Group entry skills

Strain & Colleagues

Elementary School-Age Social Communication Targets

- Share
- Comments: labels, describe actions
- Make suggestions: set-up, ideas for play, talk about rules, negotiate, solve conflicts
- Social niceties: cheer, give compliments
- Gain attention: name, tap on shoulder
- Requests: for objects and actions
- Talk about taking turns

Thiemann-Bourque and Colleagues
Data Collection Practice

Peer Networks Project: Improving Social Communication, Literacy, and Adaptive Behaviors for Young Children with ASD

Kamps, D., Heitzman-Powell, L., Thiemann-Bourque, K., & Schwartz, I.
IES, 2009-2013
Peer Networks Project Social Communication Data Sources

- **Treatment Sessions**
  - Small group setting
  - High in structure- (preselected activity, targeted communication phrases/skills, adult and peer prompting)

- **Social Probes**
  - Small group setting
  - Less structure- (4 available activities, no adult prompting)

- **Generalization probes**
  - Large, naturalistic setting- (centers, recess, lunch, etc.)

- **Interactions and opportunities change across these settings**

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Communication Changes With Training

- **What do peers do without training?**
  - Talk about the focus child in third person
  - Question behaviors of focus child
  - Not inclusive of focus child
  - In small group settings with training, peers make efforts to engage the focus child, use familiar phrases, include in activities.

- **What do focus children do without training?**
  - Sit and watch- not participating
  - Play alone
  - Disengaged with all play materials
  - Try but unsuccessful due to play skills, language skills, etc.
  - In small group settings with training, focus children make increased efforts to communicate, rely on text cues or peer prompts to use specific phrases, remain engaged.
What about in other settings?

- **Generalization settings**
  - Fast-paced with rapidly shifting topics, people, etc.
  - Large groups- easy to get “lost in the mix”
  - Not uncommon for 0 social initiations or responses with peers to be observed per 10 minute observation

- **Difficult to identify social opportunities during the day**
  - But these opportunities are there!
    - Transition times
    - While others are finishing individual work
    - Small group academic work
    - Often spontaneous, unplanned activities

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Data Collection Methods

- Communicative acts include social initiations and responses between peers and a focus child.
  - Adult to focus child not included
  - Adult to peer not included

- 10-minute observation periods from throughout the first year of the Peer Networks Project
  - Treatment Sessions- continuous throughout academic year
  - Social Probes- pre, mid, post academic year
  - Generalization- pre, post academic year
Treatment Sessions

102 Social Networks Data

Baseline

Treatment

Frequency

Sessions

Peers

Focus Child

Treatment Sessions

110 Social Networks Data

Baseline

Treatment

Frequency

Sessions

Peers

Focus Child
What does this all mean?

- Peers and focus children respond to training in a small group setting
  - Social communication increased across treatment sessions
  - Limited social change when structure is low and prompting does not occur
- What we typically think of as "social" times during the day may actually provide limited opportunities for social communication for focus children
  - Need to modify and make environmental adjustments to improve social communication in these settings
  - Take advantage of these times to improve outcomes

Simple Strategies to Consider

- Provide more opportunities, or recognize the ones that are already there
- In generalization settings, if no interaction is occurring, prompt a peer first, then the focus child
- Teach specific language skills to
  - Get someone’s attention
  - Ask for an object
  - Comment
  - Ask for help
  - Be socially polite
Simple Strategies to Consider

- Have social opportunities built into your routines
- Provide the right level of support
  - Initial prompting- then fade away
  - Visual supports, social cues available in the classroom
  - Set up a successful environment, activity selection, etc.
- Notice and react when children are playing alone, and make it a BIG deal when they’re engaged with others
- *Peer training and the right setting improves social communication, but we need to be sure we are providing these opportunities for everyone*

Recommendation: Peer-Mediated Interventions (PMI)

- Social interactions and relationships are **reciprocal**: MUTUAL…GIVE-AND-TAKE…JOINT…SHARED
- Peers model social communication targets
- Peers provide natural reinforcement and feedback
- Motivation for engaging and learning skills
- View student as more socially competent
Nuts and Bolts of PMI’s

- Recruit 4 to 6 peers without disabilities
  - Rotate in dyads with student with ASD
- Natural social learning opportunities 3 to 4 times per week, 20-30 min, across the day
- Supportive social environment (e.g., game preferences, small groups, same peers)
- Systematic adult-guided social skill instruction
  - Prompt through the peers
  - Structured and unstructured social times

Recommendation: Written-Text and Picture Cues

- Help children organize social information
- Continuous access to ideas, comments, questions directly related to activity
- Help children learn social rules
- Decreases adult dependency
- Peers use the scripts – provide models
- Peers aware of what child is trying to communicate and respond appropriately
Examples Social Cues used in PECS books

- Here you go
- Let's play
- I found it

Text and Picture Cues: Two Communication Skills
Written text and picture cues

- Controlled, short phrases written at child’s level (reading and vocabulary)
- Choice of 2 (or more) cues that directly relate to a target skill
- Assume some decoding or sight word skills; but not always
- General phrases to allow for many practice opportunities (e.g., “Here you go”)
- Available to student throughout activity and can be made portable (e.g., lanyards)
Pics and Pals: A Peer-Mediated PECS Intervention for Preschoolers with Autism

Funded by Kansas Center for Autism Research and Training (K-CART, 2009 – 2011)

Rationale for Study

- PECS most common in preschool
- Classmates and siblings not using PECS
- No studies found - train peers to use PECS
- Behavior regulation acts – predict severity of autism and communication (Wetherby et al., 2007)
- Communication systems should provide opportunities for reciprocal social interactions
- PECS geared for communication with adults
Research Questions

(1) What are the effects of combining a buddy skills training program and PECS instruction on communicative exchanges between preschoolers with autism and their peers?

(2) Does the intervention lead to collateral increases in receptive vocabulary?

Participants

- Four preschoolers with autism (2;11 to 5;0)
- Moderate to severe autism
- PLS-4 Standard Score range 51 to 70
- Nonverbal or minimally verbal (less than 15 spontaneous, functional words; echoic)
- Attend a center for children with autism – integrated therapies (1:1, SLP, OT, PECS)
- Five preschoolers (peers) from a neighborhood daycare center (age 3;4 to 4;11)
Overview of PS Intervention

- Observe child-peer social interactions over 4 to 5 days – have PECS available
- Buddy training – STAY-PLAY-TALK – for all peers over 5 days
- Pair peer with focus child in social activity – daily opportunities (10 min)
- Brief 2-3 min review of expectations prior to each social group
- Measure changes in social skill use

(English, Goldstein, and Colleagues 1997)

Buddy Training: Stay-Play-Talk

Five 30-45 min sessions with peers only
1. Sensitization Training - video examples of different ways to communicate
2. Stay – sit close; move when buddy moves
3. Play – share and take turns
4. Talk with pictures –
   “Pick and put”
   “Take, say, and give”
5. More ways to talk – say name, comments
6. Review of all skills
Examples of Social Phrases

- Here you go
- Let's play
- I found it
Collateral Changes in Social Vocabulary/Phrases

Questions?

15 MINUTE BREAK
Elementary Social Intervention

- Recruit peers based on teacher input
- Observe child-peer social interactions in triads - structured and unstructured
- Adult provides direct instruction on targeted social communication skill(s) to all students
- Adult *sits back* and observes, prompts peer
- Set up natural social routines across-the-day
- Measure changes in social skill use

Direct Instruction Steps

- Adult introduces and defines target skill (using text and picture cue cards)
- Adult models and role plays skill use with students
- Student-student role play and rehearsal
- Adult reviews reinforcement system
- Game play - 6 to 10 min activity
- Prompt skill use through peers
- Adult provides feedback on skill use
Example Activities and Games

- Board games/cards (free time, indoor recess)
- Blocks and building
- Math games and manipulatives
- Early phonics and reading games
- Money and time (clock) games
- Art and PE – in dyads with trained peer
- Recess – tag, four square, obstacle course
- Lunch – placemats, pictures, restaurant cards

Recruiting Peers

- Age-appropriate social skills
- Similar interests
- Similar class schedules or groupings
- Well-liked by classmates
- Expressed interest
- Parent permission
Creating Text Cues to Match Games

- Memory game
- Building a train set
- Creating valentines cards
- Gear toy – gears spin on base
- Other??

Tips for adapting text cues and increasing engagement

- Keep it simple to start – 1 cue, 1 skill
- Use only parts of games
- Incorporate child interests (monitor perseverative behaviors)
- Clear roles and rules
- Bins with lids to hold materials
- Create opportunities for communication turns
- Keep turns moving quickly: peer-child-peer-child
Navigating the Transition to MS: Peer Network Programming

- Recruit 4-6 peers: same elementary school
- Observe student-student social interactions - structured and unstructured times
- Meet with peer group only two 30 min sessions
- Adult provides guidance to peers, and direct instruction to focus child as necessary
- Peers select appropriate social skills, monitor
- End of week meeting to discuss, review, and brainstorm social issues and plan for next week

Content of First 30-min Peer Network Meeting

- Explain what a Peer Network is
- Discuss how groups will work
  - Map schedules, activity preferences, suggestions for skills to target, review data sheets, take pictures for books
- Review schedule for meetings (2x /wk)
- Commitment from students
- Commitment from staff/adults
Content of Second 30-min Peer Network Meeting

- Discuss social skill to start with
- Talk about strategies to work on target skill
  - Social stories, comic conversation starter sheets, pictures on preferred topics, text and pictures cues
- Discuss importance of Weekly Data Sheets
- Train peers how to rate social interactions on weekly data sheet – model and role play different skills
- Discuss Weekly Meeting Report format

Peer Data Sheet Example Questions

1. Who said Hi or started talking first? Me, My Buddy

2. The number of times my buddy STARTED talking first or asked me a question to START a conversation was _______.
   Not very often (0 to 2 Starts)  Sometimes (3 to 4 Starts)  Most of the time (5 to 6 Starts)  A lot of the time (7 or more Starts)

3. The total number of times my buddy WAS FRIENDLY and said nice things, shared, or was polite (gave you a compliment, cheered, let someone go first, said “please”, “thank-you”, or “sorry”) was _____.
   Not very often (0 to 2 nice words)  Sometimes (3 to 4 Nice words)  Most of the time (5 to 6 Nice words)  A lot of time (7 or more)

4. My buddy seemed to be having fun and enjoyed hanging out with me (smiled, said nice words, laughed appropriately, stayed with me).
   1  2  3  4
   Not Really A little bit Most of the time Very Much!!
Content of First Group Session with Focus Child (Triad)

• Introduce students, show/take pictures, generate group name
• Schedule and what groups are about
• Ask focus student to choose strategies – social story, cue card examples, lanyards, books??
• Read social story, text cues re: target skill
• Practice using target skill and text cues in game situation for 10-15 min
• Peers fill out **Weekly Data Sheet** at end of session (and during unstructured hallway time)

Content of weekly meeting at end of week with all students - 30 min

• Nominate a peer to take notes
• Discuss social strategies used during week
• Successful and unsuccessful?
• Facilitate discussion of social problems/issues
• Guide discussion to appropriate replacement behaviors or strategies to solve problems
• Schedule and what groups are about
• Collect data **Weekly Data Sheets** from peers
### Weekly Meeting with T.A.C.K.S Club

<table>
<thead>
<tr>
<th>Issues</th>
<th>Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Keeps talking about the same thing</td>
<td>• Use cue cards (to help with other topics)</td>
</tr>
<tr>
<td>• Uses bad words</td>
<td>• Positive reinforcement; not give up</td>
</tr>
<tr>
<td>• Tells us goodbye too soon</td>
<td>• Remind to only say goodbye at end of time</td>
</tr>
<tr>
<td>• Not knowing what to talk about</td>
<td>• Talk to new people</td>
</tr>
<tr>
<td></td>
<td>• Write words in bubbles; use topic cards; magazines</td>
</tr>
</tbody>
</table>

### Weekly Meeting with Build It Up Club

<table>
<thead>
<tr>
<th>Issues</th>
<th>Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Hard time starting a conversation</td>
<td>• Ask him to ask a question first</td>
</tr>
<tr>
<td>• Doesn’t pay attention</td>
<td>• Ask, “What do you want to talk about?”</td>
</tr>
<tr>
<td>• Talks about the same things</td>
<td>• Use words we were taught (e.g., “You already know that answer”; “Time to move on”)</td>
</tr>
<tr>
<td>• Saying goodbye too early</td>
<td>• Stay positive</td>
</tr>
<tr>
<td>• Doesn’t want to talk to us or his friends</td>
<td></td>
</tr>
</tbody>
</table>
Interesting Outcomes: MS

- Peer and focus child responses increased in both peer networks (compared to initiations)
- Greater responsiveness observed in generalization settings (behaviors tripled) than in structured small group games
- Peers reliably able to collect data on changes in social communication skills using rating scales
- Peers able to lead groups and discussions independently

Are we doing all we can to...

- Learn PMI and direct teaching strategies
- Observe changes in social reciprocity, social competency, and peer acceptance
- Put in many hours, possibly over years
- Create brief, frequent, and successful social opportunities across the day
- Focus on balancing costs and benefits to both
- Develop school-wide level programs to impact long-term social relationships
Thank you for coming!!

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