Growing up and going to school

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UCLA
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Disclosure Statement

The studies discussed were funded through grants awarded by National Institutes of Health, Institute of Education Sciences, and Health Resources and Services Administration (PI, Kasari)
Recognition of my students who collaborated on the studies to be discussed
Remembering experiences at school

We have increasing knowledge about school experiences from highly verbal adolescents and adults with ASD

Recognition of differences between adult recollections and children going through it

Verbal ability differences....
Examples from verbal children
3rd graders, age 8

Unaware of his situation

Aware but poor strategies
Variability in Experiences

Great variability in how children experience their situations

Interventions need to consider these experiences but often do not

We tend to offer the same intervention to everyone…..

Important to ask children themselves, and to observe them in natural environments
Intervention targets
Modular Intervention Examples

Intervention targets

1 2 3
Modular Intervention Examples

1. Intervention targets

2

3. Putting it together
Social, communication and behavioral difficulties variable

- May be difficult to interact with peers, develop friendships
- Poor adaptation to social situations in the moment
- Trouble managing multiple demands
- Not all children have social impairment and need intervention!
Proliferation of programs

Most address social and communication impairments

They may or may not be tested

They may not be applicable to school context
So what to do?
Determining Intervention Targets
The importance of good assessment

Known Known.....

Need multiple measures; Children are different across context and by reporter
## Measurement Issues

<table>
<thead>
<tr>
<th>Approach</th>
<th>Challenges</th>
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<tbody>
<tr>
<td>Parent Report</td>
<td>Parents not at school</td>
</tr>
<tr>
<td>Teacher Report</td>
<td>Teachers not on playground</td>
</tr>
<tr>
<td>Self Report</td>
<td>Understanding?</td>
</tr>
<tr>
<td>Observations</td>
<td>Limited in time and scope</td>
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Complicated…..

Likely need multiple measures of children in school as a single measure may not characterize the child’s social environment accurately
Measure example 1.....

Proximal measures from children themselves
(self-and-peer report)
FRIENDSHIPS SURVEY

What is your name?  **Nahomy**  Date: 10/14/09

School Name:  
Age:  **6**

Are you a **BOY** or a **GIRL**? (circle one)

1. Are there any kids in your class that you like to hang out with?
   Who are they? (Use first names only; plus last initial if needed)

**My best FRIEND is**

**Faith**, **Hanna** and **Karolina**.

2. Circle the names of the 3 kids you **most** like to hang out with.

3. Put a STAR ★ next to the name of the ONE kid you **most** like to hang out with.

4. How often do you play with the friend with the STAR ★ next to their name? (circle one)

   almost everyday  sometimes  only once in a while

5. Are there any kids in your class that you don’t like to hang out with?
   Who are they? (Use first names only, plus last initial if needed)

   **Citali**, **Magli**, **Srg01**
   (Magali)  (Sergio)
6. What is your favorite game to play at school? Who do you play this game with?

   **Hid-and-Seek**
   **Magali**

7. Are there kids in your class who like to hang out together? Who are they?

Remember to think about Boys and Girls. Remember to put yourself if you hang out with a group.

Write the kids names and then draw a CIRCLE around each group.

**Faith**  **Magali**  **Hanna**

**Melven**  **Max**

**Degen**  **Max**

**Faith**  **Angolena**
FRIENDSHIPS SURVEY

What is your name? _____________ Date: ___________
School Name: _________________ Teacher Name: _______
Birthday: _______________

Are you a BOY or a GIRL? (circle one)

1. Are there any kids in your class that you like to hang out with? Who are they? (Use first names only; plus last initial if needed)
2. Circle the names of the 3 kids you most like to hang out with.
3. Put a STAR * next to the name of the ONE kid you most like to hang out with.
4. Are there any kids in your class that you don’t like to hang out with? Who are they? (Use first names only, plus last initial if needed)
5. Are there kids in your class who like to hang out together? Who are they?

Remember to think about Boys and Girls!
Remember to put yourself if you hang out with a group!

Draw a CIRCLE around each group!

Information We Get:
Friendship Nominations
Friendship Reciprocity
Non-Preferred Nominations

Information We Get:
Social Network Inclusion
Classroom Connections

(Kasari et al., 2012)
Social Network T1 (Grade 5)

Isolates: B2, K11***

Female

Male

Female

Female

Female

Female

Female
Few children isolated!

Most are peripheral to the main social groups, just loosely attached to others.

Social Networks

- Girls and boys with ASD most often identify with their own gender when choosing friends and socializing.
  - Some age effects with boys with ASD connected to girls at young ages; shifts by 3rd grade

- Rejection (who do you not like to play with)
  - Boys > Girls
  - ASD > Typically Developing
How do self and peer report align with observations?
Coding of interactions during recess

We code engagement states, and initiations and responses of children to each other using the Playground Observation of Peer Engagement (POPE)
Recess comparisons

- 51 typical and 51 ASD classmates
- Matched on gender, classroom, grade, age and ethnicity
- ASD: 30% recess solitary; 40% jointly engaged
- Typical: 9% solitary; 70% jointly engaged

**Figure 3.** Solitary and joint engagement comparisons of children with ASD and their matched peers. Black bars indicate the median and the diamonds are the averages. The length of the whiskers of the box plot represents ±1.5 interquartile range from the 25th percentile or the 75th percentile.

What do we take away?

- Measurement is critical, and likely multiple measures needed

- Need to consider differences in girl and boy social behavior

- Not all children require interventions; children with same level of engagement on playground as typical classmates likely do not require intervention (Shih, W., Patterson, S. Y., & Kasari, C. (2016). Journal of Clinical Child & Adolescent Psychology, 45(4), 469-479.)
Intervention Examples
Most common intervention for children with ASD in in schools?

1. Paraprofessional aide (shadow teacher)

2. Peers....buddy system in elementary; mentor in secondary
Study 1: Peer versus adult mediated

- 60 children
- All above 65 IQ
- Fully included general education
- 1\textsuperscript{st} through 5\textsuperscript{th} grade
- Primary measure: Social network change

Kasari, Rotheram-Fuller, Locke, Gulsrud, JCPP, 2012
Study situated in schools

Child Assisted Approach

Peer Mediated Approach

Kasari, Rotheram-Fuller, Locke, & Gulsrud, 2012, JCPP
Modular, individualized approach

**Child Assisted**

- Observed child on playground, obtained teacher reports, peer networks, self reports

- Determine top 3 problems for child engaging with peers

- Worked on 1 at a time
Modular, individualized approach

Peer Mediated
- 3 peers willing from the class
- Had peers identify some children who had difficulty on playground
- Had peers generate ideas to help engage all children on the playground
2 x 2 study design
4 conditions

<table>
<thead>
<tr>
<th>CHILD</th>
<th>PEER</th>
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<tbody>
<tr>
<td>(1:1)</td>
<td>(3 peers)</td>
</tr>
<tr>
<td>NO Treatment</td>
<td>CHILD+PEER</td>
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6 weeks, 12 sessions
3 month follow up
Social Networks at School

Based on work of Cairns & Cairns
What we learned

Intervening with the peers made the most difference in engaging the children with ASD
Social Network Centrality

Second Grade - T1

Isolates: A1, C3, E5***

Second Grade - T2

Isolates: A1, C3, E5***

Second Grade - T3

Isolates: L12, M13, N14, S19
Also what we learned

<table>
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<th>CHILD (1:1)</th>
<th>PEER (3 peers)</th>
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- Other Findings favoring Peer Mediated Interventions:
  - Number of Received Friend Nominations (d=.74)
  - Less isolated on playground (growth curves over tx)
  - Improved rating of social skills (by Teachers) (d=.44)

6 WEEK TREATMENT (12 SESSIONS)

12 WEEK FOLLOW UP
Limits of generalization
Connecting observations to self and peer report

• IF child was connected to other children and had a reciprocated friend in class
• S/he was no more engaged on the playground!
What can we take away?

- Peers matter.
- Considerations may differ for boys and girls, and by age.
- Change is possible, but consider the context in which you want change.
- Interventions are needed on the playground!
Study 2: Playground specific interventions

Facilitating Peer Conversations

**Conversations with Peers** - Helps children have conversations with each other (defined as four or more back and forth exchanges between children).

**Conversation Starters** - strategies that assist children in initiating and maintaining conversations and improving reciprocal interactions with peers.

If the target child has difficulty engaging in conversations with peers during lunch, provide fun topics to talk about.

There are many ways to stimulate conversations between children at school. Remaking Recess focuses on using Social Menus, but other methods can also stimulate conversation between children (i.e. a Topic Box, Picture Prompts, or Interesting Objects).

- **Dining times when children have opportunities to converse give them direct instructions to talk to each other.** Example: “Now is the time for you to talk to each other.”
- **Offer social menus to all children in the area.** Do not single out the target child by approaching them only. Instead target the cluster of peers they are closest to by offering the social menu to the group.
- **Give the menus to the children with the instructions “Here are some fun things for you and your friends to talk about.”**
- **Move away so that the children aren’t tempted to talk to you instead of each other.**
- **Observe the children from a distance.** If needed, move back and prompt them to ask each other the questions on the menu. Praise children who are having good conversations.

Initiating and Responding

| Initiating the Target Child | Initiating the Target Child
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<thead>
<tr>
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<th></th>
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</thead>
<tbody>
<tr>
<td><strong>Initiating:</strong></td>
<td><strong>Responding:</strong></td>
</tr>
<tr>
<td>Help the Target Child Initiate and Respond to Peers</td>
<td>Help Peers Initiate and Respond to the Target Child</td>
</tr>
<tr>
<td>Remind the Target Child To:</td>
<td>Remind Peers To:</td>
</tr>
<tr>
<td>- Pay attention to who he/she is talking to.</td>
<td>- Be patient—give the target child a few moments to respond. Sometimes it takes people a little bit longer.</td>
</tr>
<tr>
<td>- Listen before trying to join an existing conversation.</td>
<td>- Be persistent—politely try again if he/she does not respond.</td>
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<tr>
<td>- Stay near the person he/she is talking to—not too close and not too far. Be sure that the target child does NOT walk away.</td>
<td>- Share a topic of mutual interest (talk about something they both like).</td>
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<tr>
<td>- Use an appropriate tone of voice—not too loud and not too soft.</td>
<td>- Be aware of the “right” time to approach the target child (e.g., when he/she is already engaged).</td>
</tr>
<tr>
<td>- Direct their attention to the peer by grabbing their attention (e.g., use a name—“Hey John!”—or lightly tap the child on the shoulder if he is not facing them).</td>
<td>- Make sure to trade information—take turns in the conversation.</td>
</tr>
<tr>
<td>- Use facial expressions that show how they are feeling—if you’re happy, smile!</td>
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Remaking Recess covers topics like…

- Assessment
- Conflict Mediation
- Communication
- Social Engagement
- Flexible Thinking
Principal does intervention!
Visual social conversation starters

**Lunchtime Social Menu**

**Today's Topics**
These are ideas for conversations between you and your friends.

**Ask a friend:** What are your favorite songs?

**Ask a friend:** Would you rather wrestle a skunk or eat an insect?

**Ask a friend:** Do you have any ideas for new inventions?

**Joke:** What makes music on your head?
**Answer:** A headband

**Joke:** What time do you go to the dentist?
**Answer:** Tooth-Hurty

**Today's Games**
Ask a friend to play one of these games today or make up your own game together.

- I Spy
- Alphabet Story
- Please recycle

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**Lunchtime Social Menu**

**Today's Topics**
These are topics and ideas for conversations between you and your friends.

**Ask a friend:** Would you rather have one thousand dollars or one thousand pieces of candy?

**Ask a friend:** Can you be friends with someone who sometimes annoys you?

**Ask a friend:** Do you think everything will always be fair? Does fairness look the same to everybody?
Paraprofessionals can improve child engagement on the playground (6 weeks)

(Kretzmann, Shih & Kasari, 2014)
Larger Multi-site Study

Extension Study

- 80 verbal children with ASD in inclusive settings
- K-5th grade
- 69 classrooms, across 35 schools
- 3 sites (Los Angeles, Philadelphia, Rochester)
- 39 RR, 41 WL

Social network connectivity pre-intervention to follow up

Shih et al, in press, School Psychology Review
What can we take away?

- Paraprofessionals can make change in child engagement on the playground.

- Studies have been uneven, sometimes improving observations by blinded observers, and sometimes not.

- Suggests there is likely great variability day by day, or that.....

- Some children may need more intensive interventions.
Some children will benefit from direct instruction
Supporting social skills

In thinking about inclusion......

Issues to consider

- Propinquity
  - Children more likely to be friends with those they have contact with
  - Geographical compatibility

- Homophily
  - Children connect to other children on common interests, other similar characteristics (age, gender, cultural background)
Engage versus Skills groups

ENGAGE group---Typical and ASD from same classes; approach interest based

OR

SKILLS group---all ASD from different classes; approach didactic
Children with autism spectrum disorder and social skills groups at school: a randomized trial comparing intervention approach and peer composition

Connie Kasari, Michelle Dean, Mark Kretzmann, Wendy Shih, Felice Orlich, Rondalyn Whitney, Rebecca Landa, Catherine Lord, and Bryan King

1Center for Autism Research and Treatment, University of California, Los Angeles, CA; 2Department of Special Education, California State University, Channel Islands, CA; 3Department of Psychiatry, University of California, Los Angeles, CA; 4Seattle Children’s Hospital, University of Washington, Seattle, WA; 5Department of Occupational Therapy, Clarkson University, Potsdam, NY; 6Kennedy Krieger Institute, Johns Hopkins University School of Medicine, Baltimore, MD; 7Center for Autism and the Developing Brain, Weill Cornell Medical College, White Plains, NY, USA

Background: Peer relationships improve for children with autism spectrum disorder (ASD) in clinic-based social skills groups but rarely generalize to real world contexts. This study compares child outcomes of two social skills interventions conducted in schools with children in Kindergarten through fifth grade. Method: Children with ASD were randomized to one of two interventions that varied on group composition (mixed typical and ASD vs. all ASD or social difficulties) and intervention approach (didactic SKILLS based vs. activity-based ENGAGE groups). Interventions were implemented at school for 8 weeks (16 sessions) with an 8-week follow-up. Innovative measures of peer
Study found ASD-ASD more engaged together at school

- RCT of 137 children with ASD, K-5th grade
- 120 classrooms
- Peer group and approach:

ENGAGE OR SKILLS group---conducted during lunch period (~20 minutes) 2 times per week

Kasari, Dean, Kretzmann.....Lord, King JCPP, 2016
Results

- SKILLS was more effective for improving playground engagement.

Figures 2 Predicted time in joint engagement across group and time
Important moderator

- Teacher relationship was important..

- Good teacher relationship.....did better with ENGAGE

- Poorer teacher-child relationship and higher rated behavior problems---children did better with SKILLS intervention
What can we take away?

- Inclusion may be the right placement for lots of reasons
  
- Children will likely connect to other children like themselves (and this may be other children with ASD) (homophily)
  
- Issue is whether children have access to each other (propinquity)

- Teacher support and relationship with child is important

- Gender an important variable, especially with limited numbers of girls identified
Putting it together to Personalize Interventions

What needs to happen to help all children in a school setting?
Methodologies are needed to personalize, tailor and target interventions

Address for whom the intervention works, and why.....
Sequence of treatments

Adaptations based on child response
Adaptive Intervention designs systematize clinical practice

**DEFINITION:** A sequence of decision rules that specify whether, how, when (timing) and based on which measures, to alter the dosage (duration, frequency or amount), type or delivery of treatment(s) at decision stages in the course of care.
The Future...the known unknown ---research designs to personalize intervention

Figure 2: Contextual Interventions

- **First-phase**
  - RR
  - Parent
  - Peer

- **Second-phase**
  - Early Responders
  - Slow Responders
  - Continue Peer
  - Continue Parent
  - Peer + Parent

- **Third-phase**
  - Subgroup: A, B, C, D, E, F, G, H

- **N=32 children with autism are recruited. Baseline assessments collected and Remaking Recess (RR) intervention begins in weeks 0-4.**

- **Week 0**
  - Study/School Year Begins

- **Week 4**
  - Randomization

- **Week 12**
  - Randomization

- **Week 20**
  - Responder Status

- **Week 28**
  - End of Treatment

- **Week 36**
  - Study/School Year Ends

**Abbrviations and Notes:**
- RR → Remaking Recess Intervention
- CS → Classroom Supports (1 child with autism per classroom)
- Peer → Peer-mediated Social Skills Intervention
- Parent → Parent-mediated Social Skills Intervention
- Early vs Slow Responders → CGI by paraprofessionals
Conclusion

- What we know.....
  - Need multiple assessments given variability of ASD
  - Interventions work in context expecting change
  - Interventions need to be adapted to school culture

- What we know we still do not know......
  - While children need multiple and often sequential interventions, the actual sequence is unknown
  - We need to focus on combining and sequencing interventions systematically for different children—we cannot predict with confidence how well a child will do with a particular intervention
airbnetwork.org
kasarilab.org