The evidence for effects on other classmates

- Examined the types of children often used in peer mediated models of intervention (peer buddies)
- Examined changes in peer models over the course of an intervention compared to non-peer models
- 107 typically developing peer models compared to 107 non-peer models (K-5th grade)

The Evidence…..

J Autism Dev Disord (2012) 42:1895–1905
DOI 10.1007/s10803-011-1437-0

ORIGINAL PAPER

Exploring the Social Impact of Being a Typical Peer Model for Included Children with Autism Spectrum Disorder

Jill Locke · Erin Rotheram-Fuller · Connie Kasari

Published online: 4 January 2012

Abstract This study examined the social impact of being a typical peer model as part of a social skills intervention for children with autism spectrum disorder (ASD). Participants were drawn from a randomized-controlled-treatment trial that examined the effects of targeted interventions on the social networks of 60 elementary-aged children with ASD. Results demonstrated that typical peer models had higher social network centrality, received friendships, friendship quality, and less loneliness than non-peer models. Peer models were also more likely to be connected with children with ASD than non-peer models at baseline and exit. These results suggest that typical peers can be socially connected to children with ASD, as well as other classmates, and maintain a strong and positive role within the classroom.

Keywords Peer models · Autism · Social networks

Introduction

Despite an increased focus on inclusion in regular education classrooms to improve social functioning (Kasari and Rotheram-Fuller 2007), children with autism spectrum disorder (ASD) are often less included in their classroom's social structure (Chamberlain et al. 2007; Kasari et al. 2011; Rotheram-Fuller et al. 2010). In an effort to improve these social relationships, researchers have employed typical classmates of children with ASD as part of their social skills interventions. Previous research has shown that peer-mediated interventions can effectively increase the social

Before study

- Peer models more highly connected in class
- Receive more friend nominations
- NOT different in reciprocity, rejections, loneliness

Participating in research as peer buddy…..

- Stayed at same level or improved their popularity

What can we take away?

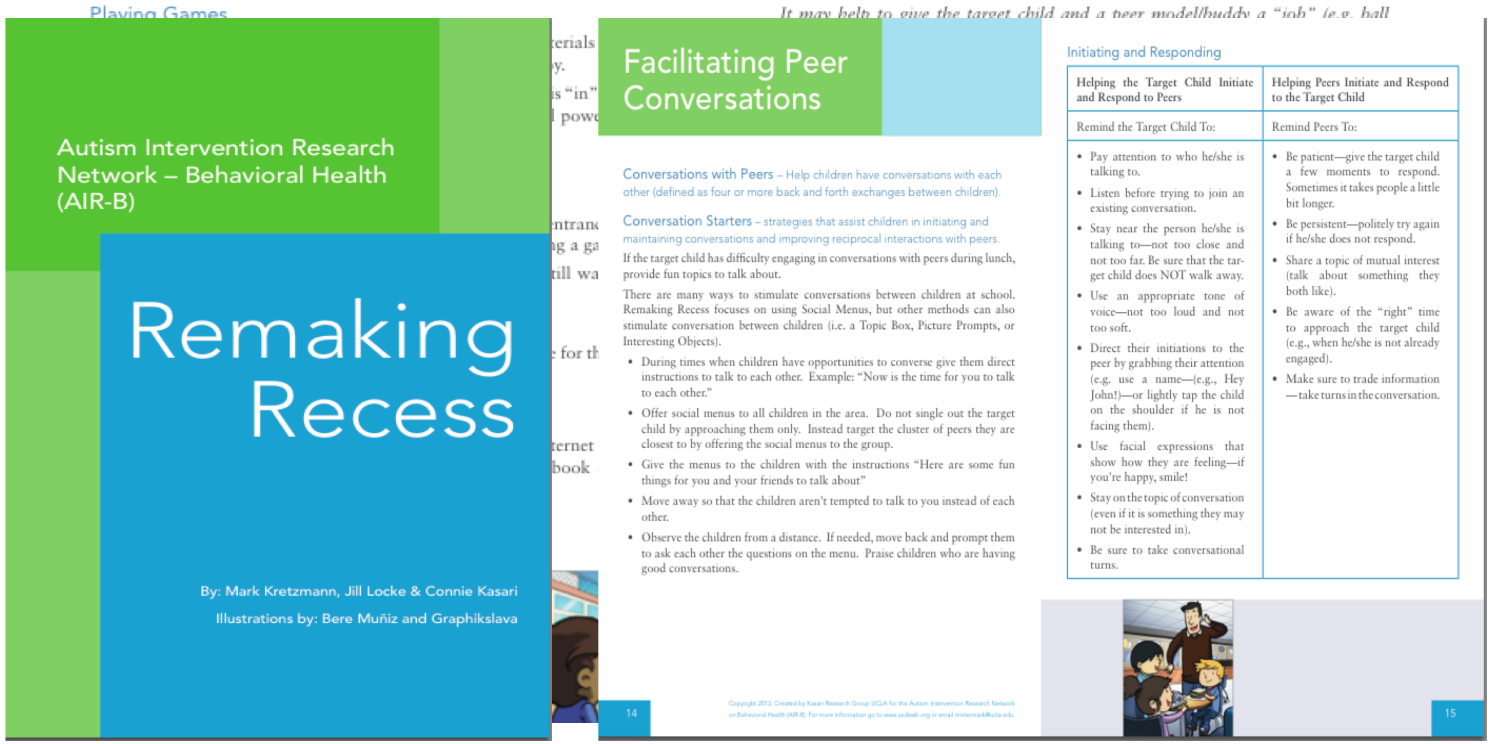
- Peers who befriend a child with ASD have special benefits
- They tend to be highly connected, more popular children
- Their popularity remains stable or improves
- Important to gauge peer interest in connecting to child with ASD---so as not to be burdensome

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!

Interventions needed on the playground!

Study 2: Playground specific interventions



Autism Intervention Research Network – Behavioral Health (AIR-B)

Remaking Recess

By: Mark Kretzmann, Jill Locke & Connie Kasari

Illustrations by: Bere Muñiz and Graphikslava

Facilitating Peer Conversations

Conversations with Peers – Help 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).

- During 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 menus 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.

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Initiating and Responding

Helping the Target Child Initiate and Respond to Peers	Helping Peers Initiate and Respond to the Target Child
Remind the Target Child To:	Remind Peers To:
• Pay attention to who he/she is talking to. • Listen before trying to join an existing conversation. • 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. • Use an appropriate tone of voice—not too loud and not too soft. • Direct their initiations to the peer by grabbing their attention (e.g. use a name—(e.g., Hey John!)—or lightly tap the child on the shoulder if he is not facing them). • Use facial expressions that show how they are feeling—if you're happy, smile! • Stay on the topic of conversation (even if it is something they may not be interested in). • Be sure to take conversational turns.	• Be patient—give the target child a few moments to respond. Sometimes it takes people a little bit longer. • Be persistent—politely try again if he/she does not respond. • Share a topic of mutual interest (talk about something they both like). • Be aware of the "right" time to approach the target child (e.g., when he/she is not already engaged). • Make sure to trade information—take turns in the conversation.

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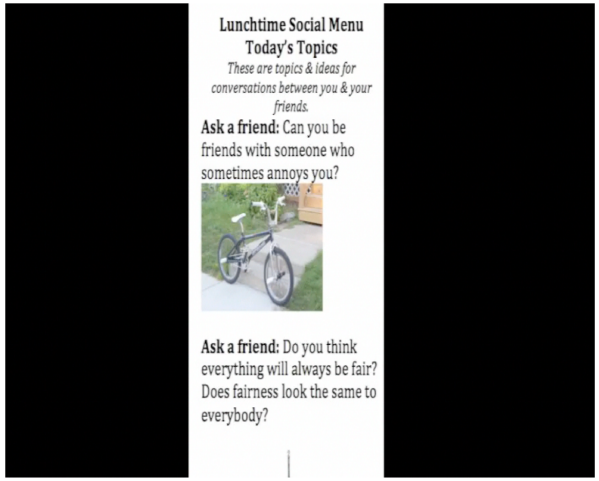
Principal does intervention!

Playground adult supervisor intervenes

Visual social conversation starters



Lunchtime Social Menu
Today's Topics
These are topics & ideas for conversations between you & your friends.

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?

Lunchtime Social Menu

Today's Topics
These are 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: Do you have any ideas for new inventions?

Joke: What stays in the corner but travels all over the world?
Answer: *a stamp*

Joke: Why can't a bicycle stand up by itself?
Answer: *because it's two-tired*

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

I Spy
Alphabet Story

Please recycle!

Lunchtime Social Menu

Today's Topics
These are topics and 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?

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

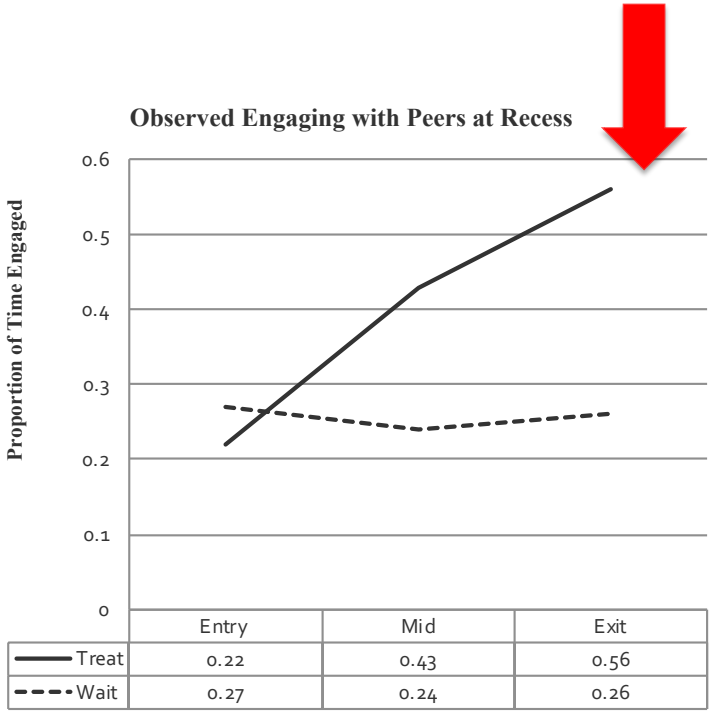
Joke: What time do you go to the dentist?
Answer: *Tooth-Hurty*

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

2 Truths and 1 Lie
One Word Story

Please recycle!

Paraprofessionals can improve child engagement on the playground (6 weeks)



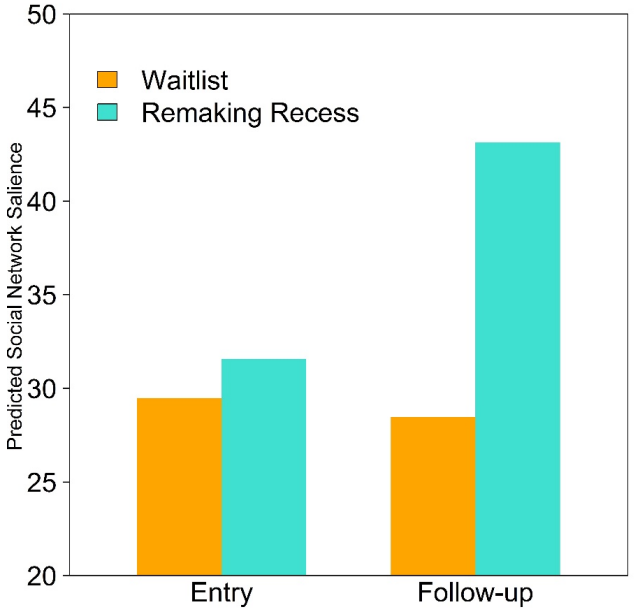
(Kretzmann, Shih & Kasari, 2014)

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

Study 3

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

Social groups at school

THE JOURNAL OF CHILD PSYCHOLOGY AND PSYCHIATRY

ACAMH THE ASSOCIATION FOR CHILD AND ADOLESCENT MENTAL HEALTH

Journal of Child Psychology and Psychiatry **:* (2015), pp **–** doi:10.1111/jcpp.12460

Kasari #10

Children with autism spectrum disorder and social skills groups at school: a randomized trial comparing intervention approach and peer composition

Connie Kasari,[1] Michelle Dean,[2] Mark Kretzmann,[3] Wendy Shih,[3] Felice Orlich,[4] Rondalyn Whitney,[5] Rebecca Landa,[6] Catherine Lord,[7] and Bryan King[3]

[1]Center for Autism Research and Treatment, University of California, Los Angeles, CA; [2]Department of Special Education, California State University, Channel Islands, CA; [3]Department of Psychiatry, University of California, Los Angeles, CA; [4]Seattle Children's Hospital, University of Washington, Seattle, WA; [5]Department of Occupational Therapy, Clarkson University, Potsdam, NY; [6]Kennedy Krieger Institute, Johns Hopkins University School of Medicine, Baltimore, MD; [7]Center 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

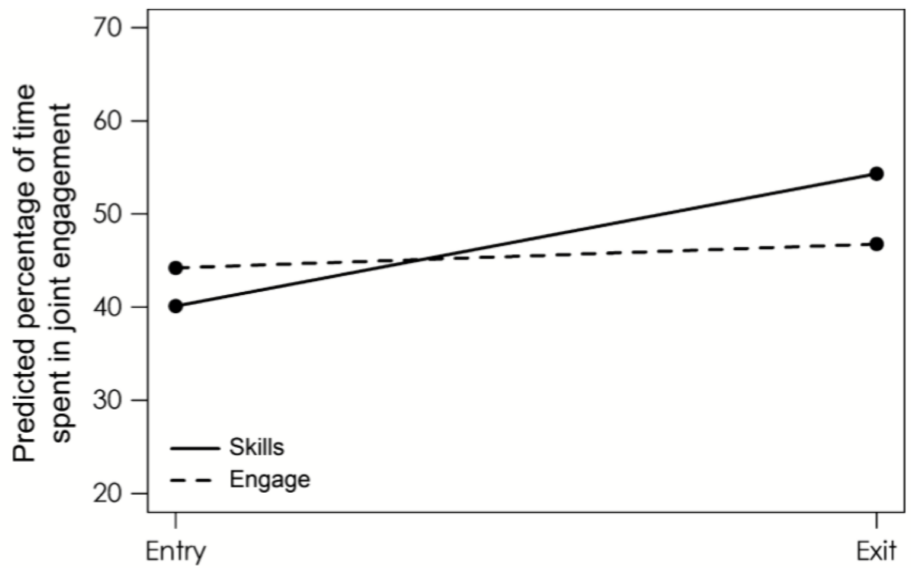
- RCT of 137 children with ASD, K-5th grade
- 120 classrooms
- Peer group and approach:

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

3

Putting it together

What needs to happen to help all children in a school setting?

Known Known and the Future

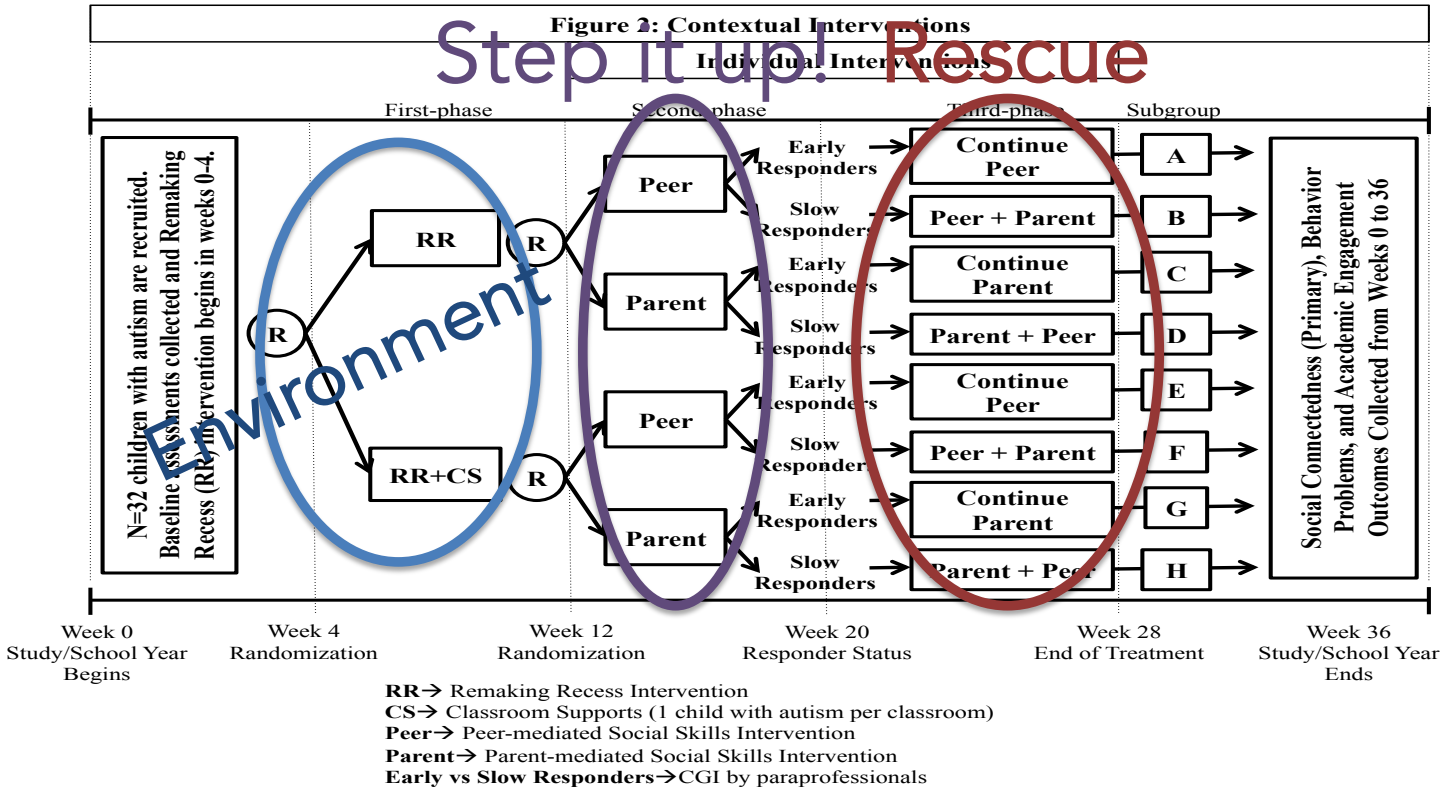
Autism is a complex disorder where individual ability ranges from highly gifted to severely disabled

There are many interventions designed specifically for ASD but vary on ability

Heterogeneity in response to interventions

A single treatment is not effective for all individuals

The Future…the known unknown ---research designs to personalize intervention



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

There are also children who are not verbal,
or socially experienced with other children
but are in your class

ASD children we know least about: Minimally Verbal Children with Autism

Between 25-30% of children with autism remain minimally verbal by school age (Tager-Flusberg & Kasari, 2013; Anderson 2009)

Best social outcomes are for children who can talk by school age (Lord, 2000; Rutter, 1978)

Relatively unstudied population

- Excluded from research studies due to lower IQ and difficulty in testing (Kasari et al, 2013)

Newer Research

QUESTION: Can children learn to speak over age 5?

Controversy over use of an augmentative and alternative communication devices (a device that produces speech for child)

Heterogeneity → Sequences of Treatment

Researchers recognize there is high heterogeneity in response to any one treatment

- What works for one child may not work for another
- What works now for a child may not work later

This may be particularly true of complex children like those who are minimally verbal

- They often have not benefitted from existing treatments; hence why they are still minimally verbal
- But we often know this early in treatment, much earlier than we do something about it

Communication Interventions for Minimally Verbal Children With Autism: A Sequential Multiple Assignment Randomized Trial

Connie Kasari, PhD, Ann Kaiser, PhD, Kelly Goods, PhD, Jennifer Nietfeld, MA, Pamela Mathy, PhD, Rebecca Landa, PhD, Susan Murphy, PhD, Daniel Almirall, PhD

Objective: This study tested the effect of beginning treatment with a speech-generating device (SGD) in the context of a blended, adaptive treatment design for improving spontaneous, communicative utterances in school-aged, minimally verbal children with autism. **Method:** A total of 61 minimally verbal children with autism, aged 5 to 8 years, were randomized to a blended developmental/behavioral intervention (JASP+EMT) with or without the augmentation of a SGD for 6 months with a 3-month follow-up. The intervention consisted of 2 stages. In stage 1, all children received 2 sessions per week for 3 months. Stage 2 intervention was adapted (by increased sessions or adding the SGD) based on the child's early response. The primary outcome was the total number of spontaneous communicative utterances; secondary measures were the total number of novel words and total comments from a natural language sample. **Results:** Primary aim results found improvements in spontaneous communicative utterances, novel words, and comments that all favored the blended behavioral intervention that began by including an SGD (JASP+EMT+SGD) as opposed to spoken words alone (JASP+EMT). Secondary aim results suggest that the adaptive intervention beginning with JASP+EMT+SGD and intensifying JASP+EMT+SGD for children who were slow responders led to better posttreatment outcomes. **Conclusion:** Minimally verbal school-aged children can make significant and rapid gains in spoken spontaneous language with a novel, blended intervention that focuses on joint engagement and play skills and incorporates an SGD. Future studies should further explore the tailoring design used in this study to better understand children's response to treatment. Clinical trial registration information—Developmental and Augmented Intervention for Facilitating Expressive Language (CCNIA); http://clinicaltrials.gov/; NCT01013545. J. Am. Acad. Child Adolesc. Psychiatry, 2014;53(6):635–646. **Key Words:** autism spectrum disorders, minimally verbal, school-aged, communication intervention, SMART design

Participants and Interventions

Participants

- 5-8 year old minimally verbal children with ASD
- Module 1 ADOS
- <20 functional words
- 2 previous years of early intervention
- >24 month receptive language on 2 of 3 assessments

Interventions

- Most had ABA so goal was to give them different intervention
- JASPER+EMT (a behavioral language tx)
- 2 60-minute sessions per week for 3 months (intensified to 3 sessions if SLOW)
- Therapist mediated + parent in second phase

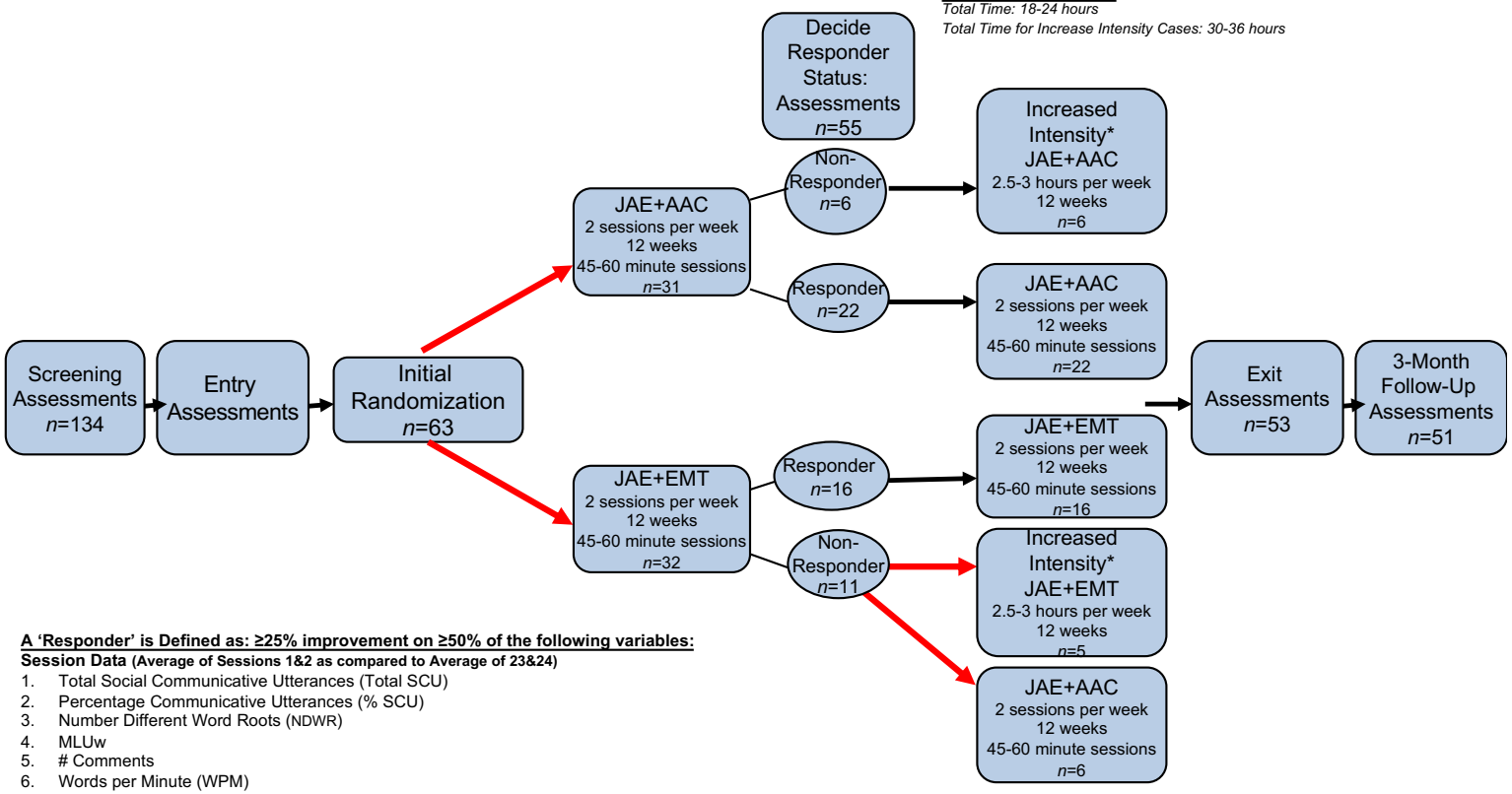
CCNIA Treatment Flowchart

Months 1–3 +/- 3 weeks

Parent Training: Required to observe minimum of 6 times, with a mini-workshop provided by another therapist (*20 min. per mini-workshop*).
Total Parent Training Time: 2 hours
Therapist-Child Treatment:
Total Time: 18-24 hours

Months 4–6 +/- 3 weeks

Parent Training: Required to complete 6 Parent workshops and 18 coaching sessions.
Total Parent Workshop Time: 6 hours
Total Parent Coaching Time: 6 hours (avg. 20 min. per coaching session, may start with 15 min. and expand to no more than 30 min.)
Therapist-Child Treatment:
Total Time: 18-24 hours
Total Time for Increase Intensity Cases: 30-36 hours



A 'Responder' is Defined as: ≥25% improvement on ≥50% of the following variables:

Session Data (Average of Sessions 1&2 as compared to Average of 23&24)

1. Total Social Communicative Utterances (Total SCU)
2. Percentage Communicative Utterances (% SCU)
3. Number Different Word Roots (NDWR)
4. MLUw
5. # Comments
6. Words per Minute (WPM)
7. Unique Word Combinations *(only include if the child's target talk is 2+ words)*

Language Sample (Screening compared to Month 3)

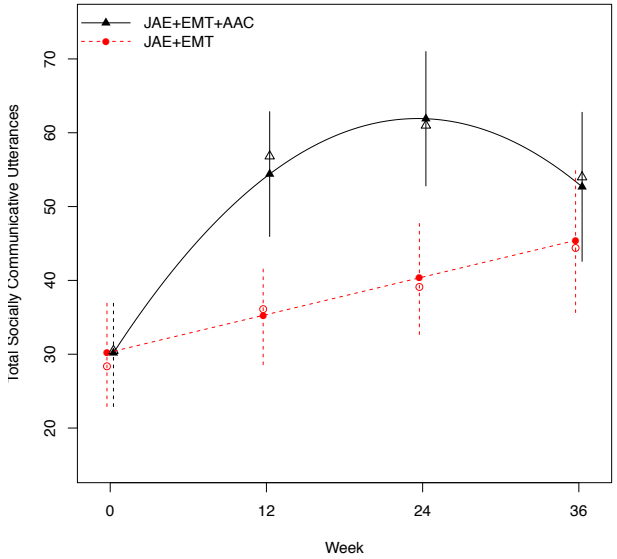
8. Total Social Communicative Utterances (Total SCU)
9. Percentage Communicative Utterances (% SCU)
10. Number Different Word Roots (NDWR)
11. MLUw
12. # Comments
13. Words per Minute (WPM)
14. Unique Word Combinations *(only include if the child's target talk is 2+ words)*

*Increased Intensity: Some participants may be able to come in for a 3rd session each week (45-60 minutes per session). A second option is longer sessions (i.e., 1.25 - 1.5 hours) twice a week to maintain the increased intensity.
Target: 2.5 - 3 hours of treatment per week.

Primary Research Assessment

Minimally verbal and meaningful outcomes

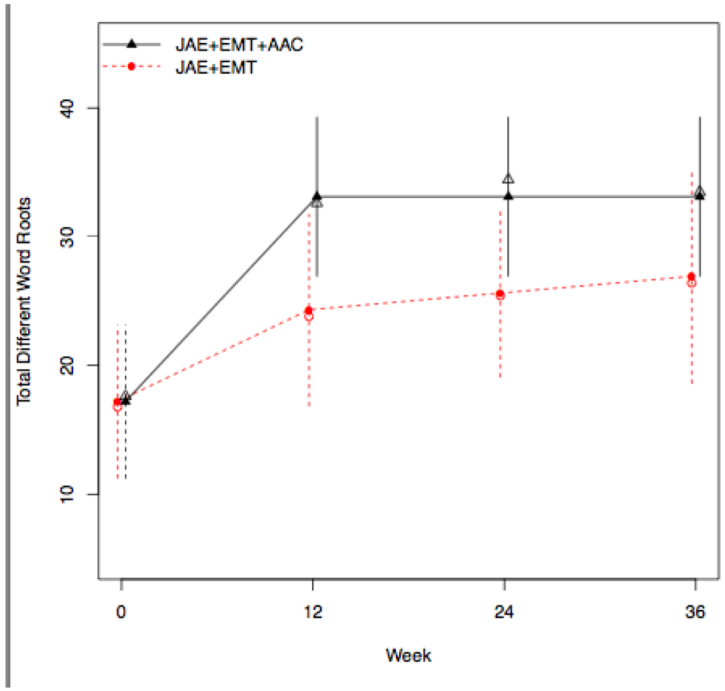
Socially Communicative Utterances



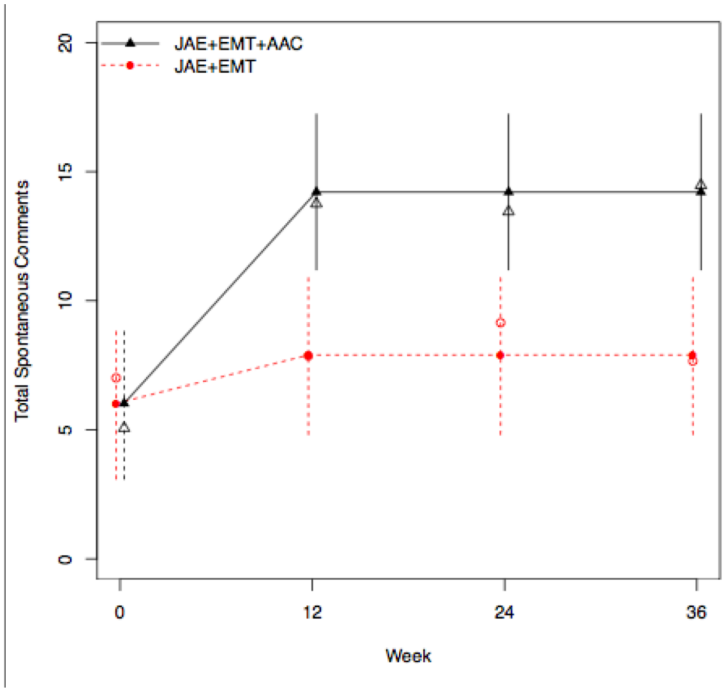
Kasari, Kaiser, Goods, Landa, Neitfeld, Mathy, Murphy, Almirall, JAACAP, 2014

Secondary Research Assessments

Novel Words



Comments



Kasari, Kaiser, Goods, Neitfeld, Mathy, Landa, Murphy, Almirall, JAACAP, 2014

What we learned

- Access to communication critical
- Embedding the AAC within an evidence based intervention also critical
- Using AAC does not inhibit speech; actually facilitates speech

Conclusion: What matters?

- Peers matter (consider homophily and propinquity)
- Interventions needed where change is expected (e.g., playground)
- Approach you choose must fit the situation….there is not a single effective intervention!
- Interventions need to consider the context, and the child (minimally verbal or verbal)
- Teaching staff critical to child success!

Conclusion

- Known Known
  - Need multiple assessments given variability of ASD
  - Interventions work in context expecting change
  - Access to communication with AAC facilitates speech
- Known Unknown
  - While children need sequential interventions, the actual sequence is unknown
- Unknown Unknown
  - Likely many things…..keep an open mind!

Acknowledgements

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Stephanie Shire, PhD,

Shafali Jeste, MD

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