



TEACHTOWN®

District Name

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The background is a solid blue color. On the right side, there is a light blue, stylized graphic of a schoolhouse with a bell tower. A large, light blue arc curves across the upper half of the image, partially framing the schoolhouse.

Feasibility Study of *Meta-Play* in a Public Preschool Setting

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**A curriculum to develop and foster
imaginative thinking and pretend play**

What is *Meta-Play*?

What is *Meta-Play*?

A play-based curriculum and assessment designed to foster imaginative thinking and, in turn, pretend play and age-appropriate social skills.



What is *Meta-Play*?



The Meta-Play curriculum offers a systematic approach to fostering the **development of imagination** through play-based activities.

Unlike many other play-based curriculums, Meta-Play uses **play as a tool** to reach the outcome of **increased imagination skills**.

Other interventions, such as floor time and play therapy, are play-based and improved play skills are the desired outcome.

What is *Meta-Play*?



Meta-Play provides opportunities for students to engage with both teachers and peers in a positive, meaningful way through play-based activities to develop positive peer and adult relationships.

Additionally, *Meta-Play* offers a play-based approach to developing the age-appropriate social skills that students need to access to general education classroom and curriculum.

Study Goals and Details

The study addressed two main questions:

1. Can teachers implement *Meta-Play* in a public preschool classroom?
2. Is *Meta-Play* effective in improving children's **communication, social interaction, and imaginative use of materials**?

Setting

Two half-day intensive autism classrooms in a public preschool in a suburban school district in the Northeastern United States.

Participants

12 students ages 3 – 5 years old with autism, their parents, and their two teachers.

Meta-Play Implementation

- Teachers focused on all 14 *Meta-Play* activities between October and May.
- The implementation was tailored to work with classroom schedules:
Teachers implemented a set of 3—4 activities over a period of 4 to 8 weeks.

Teacher Training and Support

Teachers participated in a 6-hour training prior to implementation at the end of August followed by monthly coaching visits.

All training and coaching was delivered by a TeachTown consultant.

Parent Involvement

- Parents received a 1.5-hour training and materials on 3 *Meta-Play* activities.
- Parents were asked to engage their child with 2 activities a day and record daily activity use.

STUDY MEASURES AND RESULTS:

Can Teachers Implement *Meta-Play*
in a Public Preschool Setting?

Measures of *Meta-Play* Implementation



Three project-developed measures:

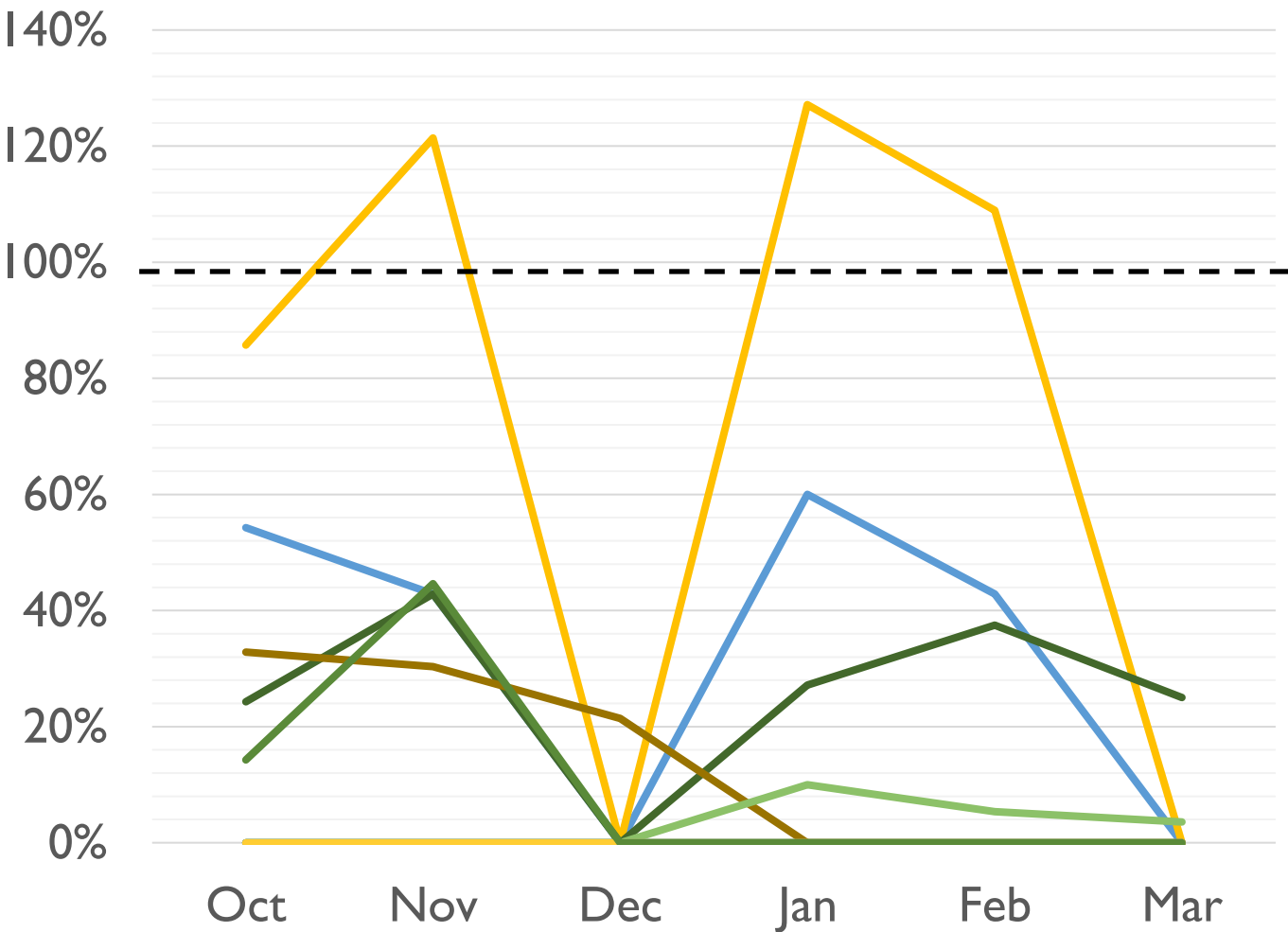
1. Parent Activity Log, completed daily by parents, measured parent involvement in *Meta-Play* activities at home
2. Teacher Activity Log, completed daily by teachers, measured teacher engagement in *Meta-Play* activities in the classroom
3. *Meta-Play* Implementation Rating Scale completed by a trained observer to measure implementation of *Meta-Play* in the classroom.

Parent *Meta-Play* Activity Log Results



Most parents engaged with *Meta-Play* activities at home less than half the expected time.

Parent Engagement in *Meta-Play* Activities at Home (n = 6)



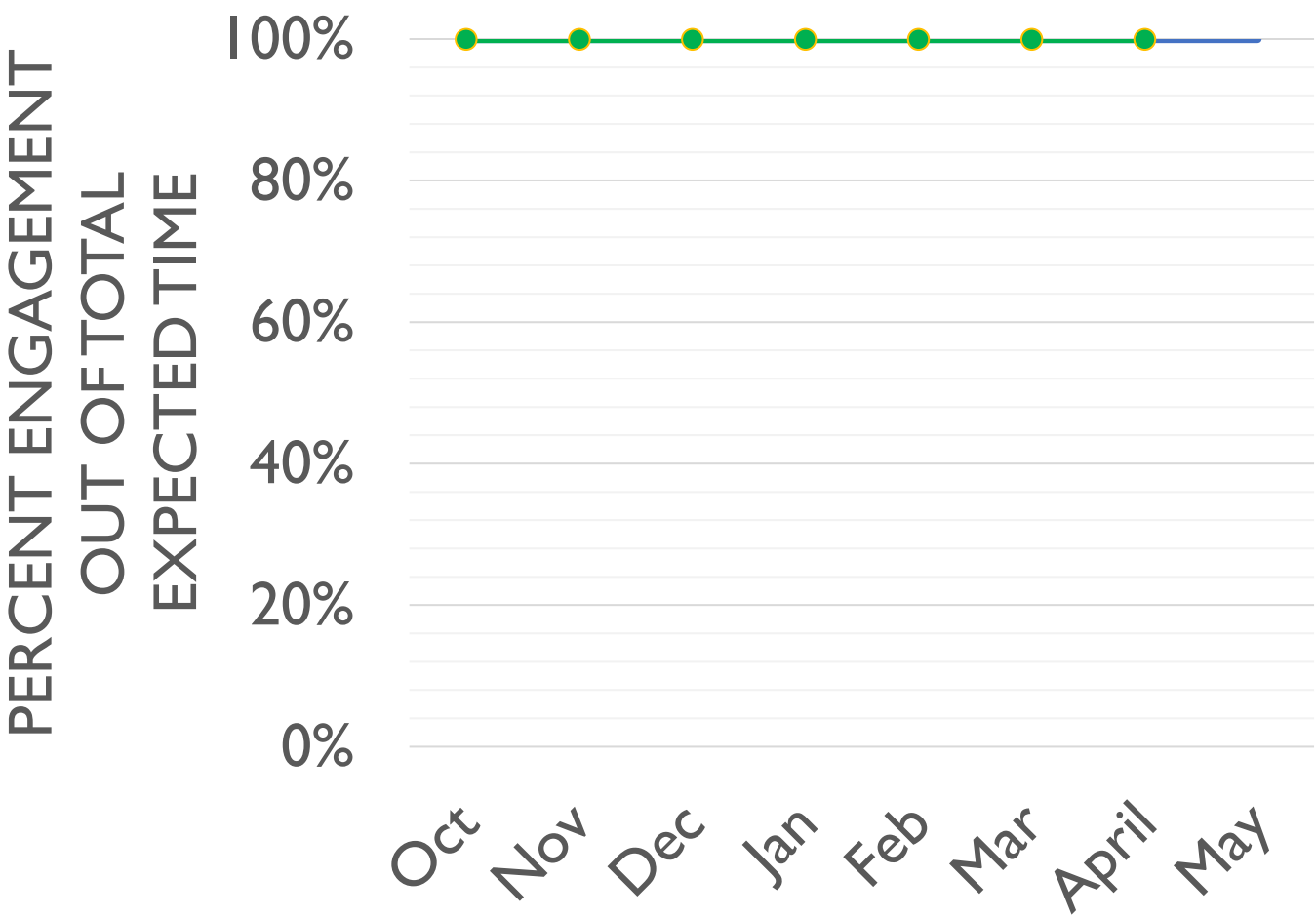
The dotted line represents expected engagement.

Teacher *Meta-Play* Activity Log Results



Teacher Engagement with *Meta-Play* Activities at School (n = 2 teachers)

Both teachers reported a high level of engagement with *Meta-Play* activities in their classrooms.



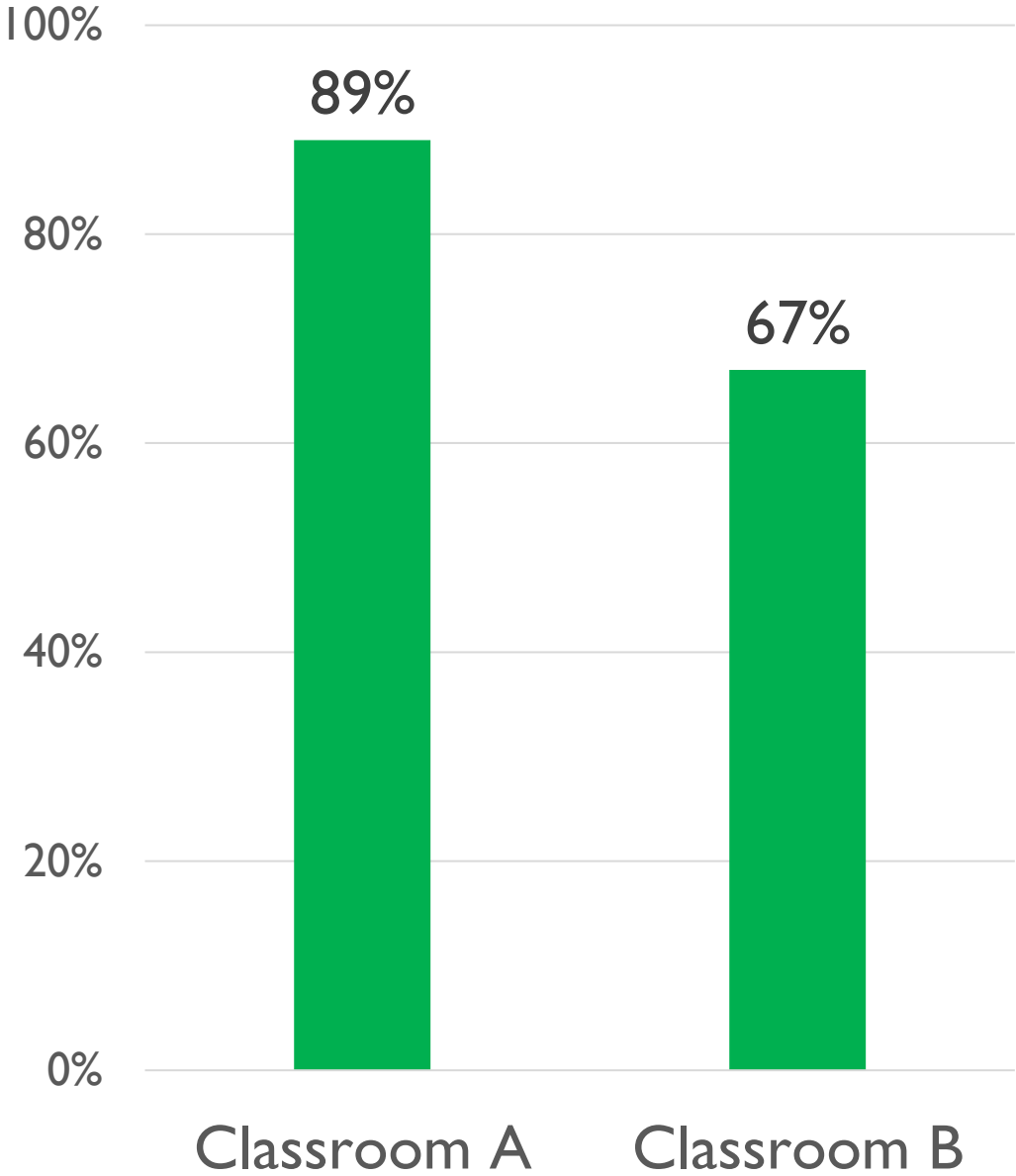
Implementation Fidelity in the Classroom

Results



Trained observers rated adherence to *Meta-Play* procedures high in Classroom A and moderate in Classroom B.

Mean Percentage of Adherence Ratings that were “Always”



Students Demonstrated an Increased Frequency in the Following Behaviors with *Meta-Play*



- Engagement with peers and adults in positive ways
- Imaginative use of materials with others
- Engagement in purposeful pretend play
- Joint attention
- Engagement in unpredictable activities with others
- Responses to simple requests
- Imitation of an adult's facial expression

STUDY MEASURES AND RESULTS:

Is *Meta-Play* effective in improving children's communication, social interaction and imaginative use of materials?

Autism Diagnostic Observation Schedule- 2nd Edition (ADOS-2)

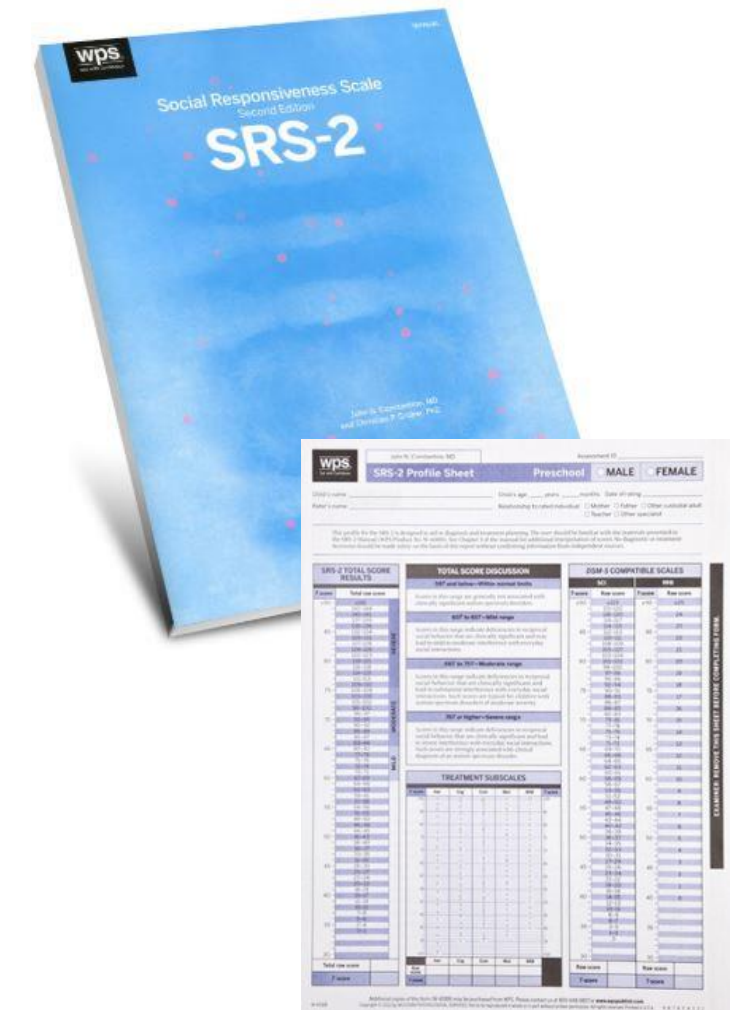
- Semi-structured observations and set of activities involving the child and a trained examiner
- Examiner from RI-CART trained to research reliability and 3 trained school psychologists
- Yields standardized scores
- Higher scores indicate more severe autism-related behaviors.



Student Outcome Measures

Social Responsiveness Scale-2nd Edition (SRS-2) Parent Report

- Standardized parent report measure of autism-related behaviors
- 65 Likert scale items
- Yields T scores
- Higher scores indicate more severe autism related behaviors.

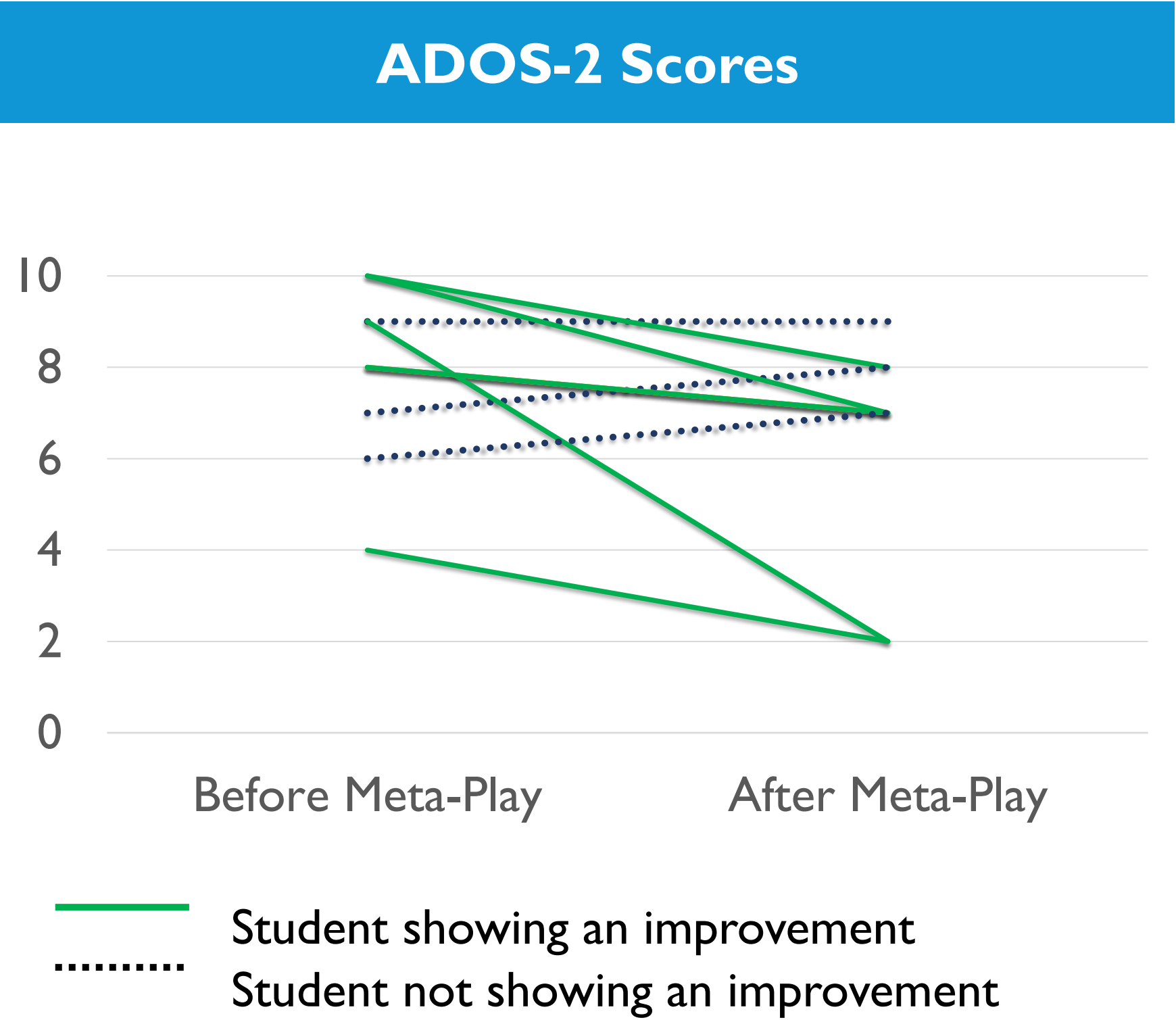


Interpretation of ADOS-2 and SRS-2 Scores

ADOS-2 Score	SRS-2 Score	Level of Autism-Related Behaviors
10	76 or Higher	High / Severe
9		
8		
7	66 to 75	Moderate
6		
5		
4	60 to 65	Low / Mild
3		
2	59 and Below	Minimal to No Evidence
1		

ADOS-2 Results

After seven months of *Meta-Play*, 7 out of 10 participants showed a reduction in autism-related behaviors on the ADOS-2.

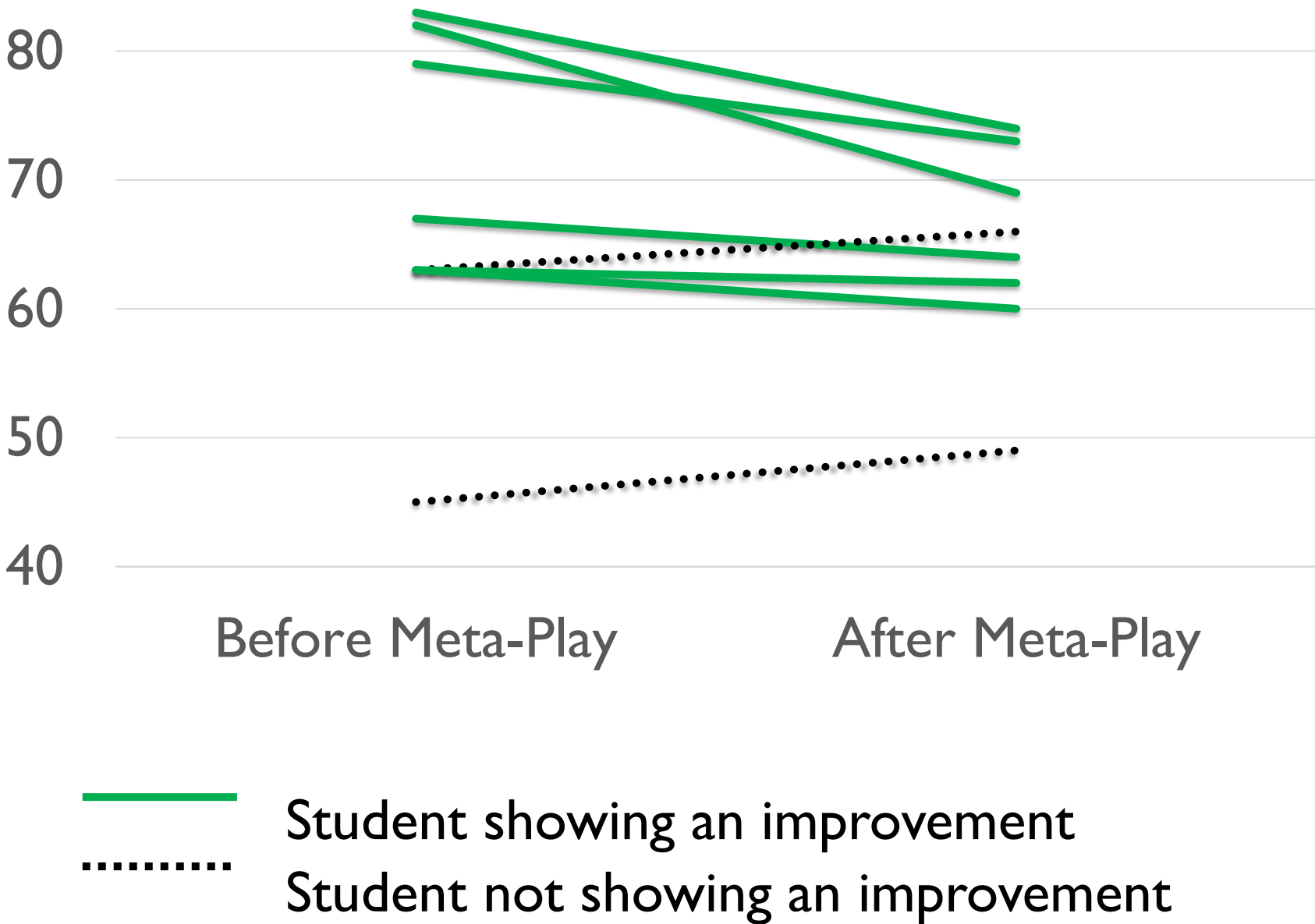


SRS-2 Results



After seven months of *Meta-Play*, 6 out of 8 participants showed a reduction in autism-related behaviors on the SRS-2.

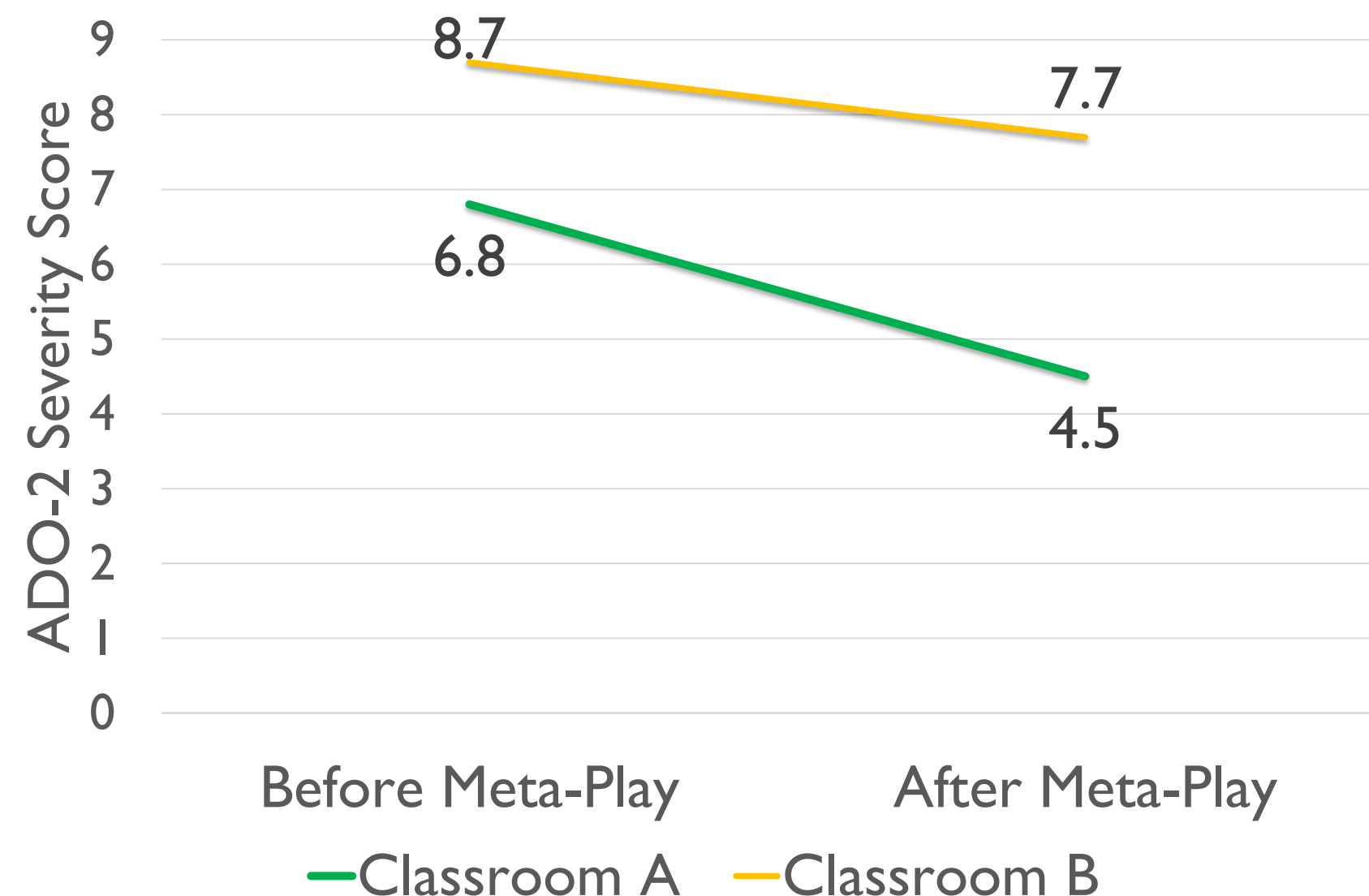
SRS-2 Scores



ADOS-2 Results by Level of Implementation Fidelity

On average, autism-related behaviors associated with the ADOS improved in both classrooms, but improvement was greater in the classroom with a higher level of implementation fidelity.

Average ADOS-2 Scores



SUMMARY OF RESULTS AND THE IMPORTANCE OF THE RESULTS

Summary of Results

After using *Meta-Play* over 7 months in a half-day preschool program:

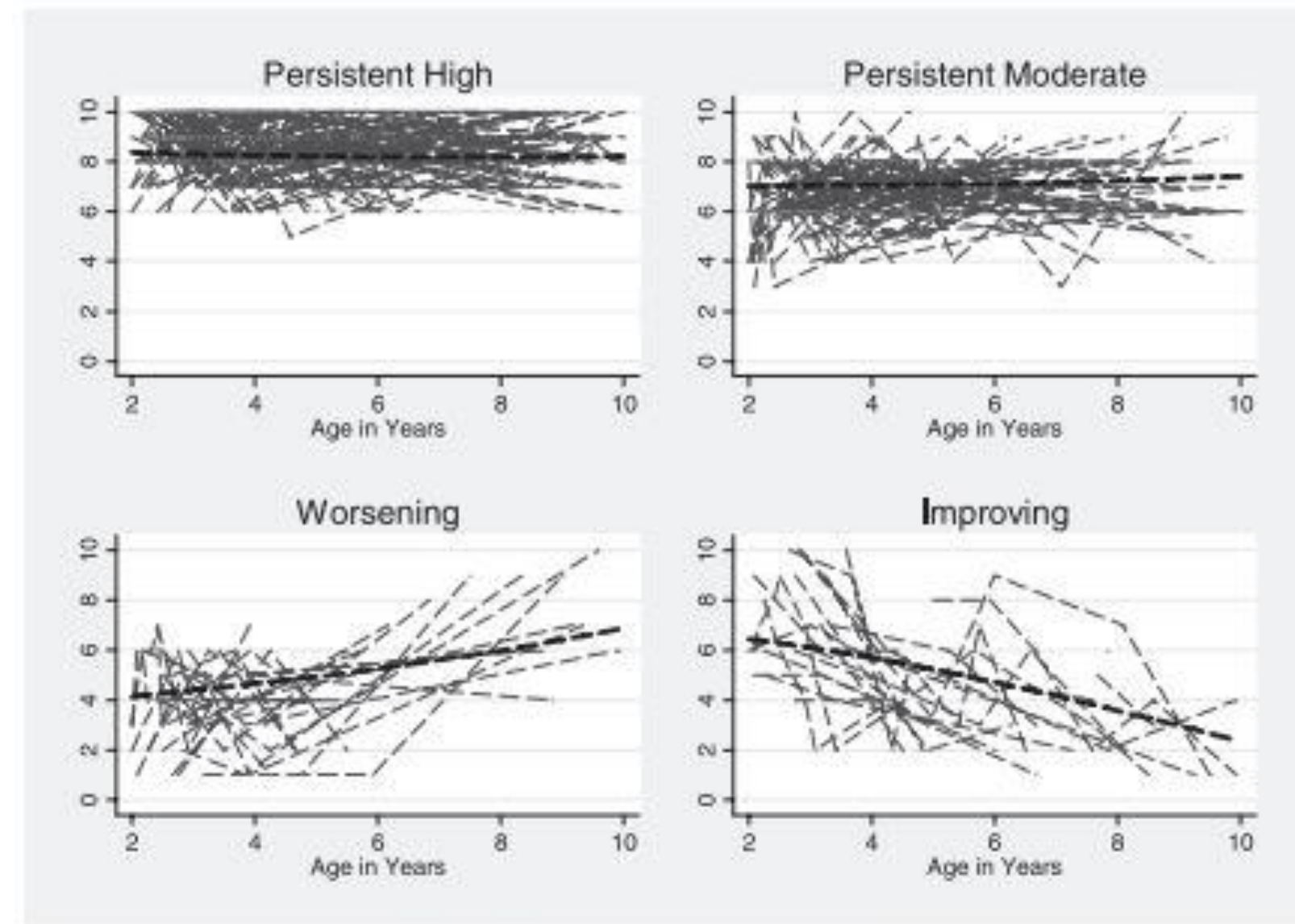
- Teachers successfully implemented *Meta-Play* in a classroom setting.
- Student outcomes included increased communication, social interaction, and imaginative use of materials.
- The majority of participants demonstrated a reduction in autism-related behaviors.
- The results showed a decrease in the number of students that scored in the *high level of autism behaviors* range from 7 to 3 students.
- One student who met criteria for autism prior to *Meta-Play*, scored in the *minimal to no evidence* range after *Meta-Play*.

Research shows the majority of children with autism show no change in autism-related behaviors over time

Gotham, Pickles & Lord (2012) *Pediatrics*, 130(5)

A study of the trajectories of autism severity in children (n = 334) using ADOS scores found:

- 84% of children showed stability in level of autism behaviors over many years.
- Small groups lessened (9%) or increased (7%).



Note. Y-axis depicts ADOS Calibrated Severity Score.

FIGURE 1

ADOS severity score latent trajectory classes. y axis depicts ADOS CSS.

The Importance of the Study Results

The results from the current study are important because most children with autism show stability in core autism-related behaviors associated to the ADOS over time (Gotham et al., 2012), yet this study demonstrated a significant reduction in autism-related behaviors after seven months of participating in *Meta-Play*.

The Importance of the Study Results

The study showed that participating in *Meta-Play* provided students with many opportunities to **engage with teachers and peers in a positive and meaningful way** through play-based activities and develop age-appropriate social skills that are important for **accessing the general education classroom and curriculum.**

Without a systematic approach to fostering the development of imagination, the students may not have been inclined to engage as frequently with others in positive and meaningful ways.



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