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Associations Between Observed Child Communication and Teacher Structure In Inclusive
Preschool Classrooms for Children With and Without Autism

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Abstract

Associations Between Observed Child Communication and Teacher Structure In Inclusive
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By Emma Chatson

Intervention research for young children diagnosed with Autism Spectrum Disorder (ASD) has
focused on developing strategies to improve deficits in social-emotional reciprocity, which
includes children's initiations of communication. This study aims to understand the relationship
between preschoolers initiating communication and how teachers support the structure of the
interactions in inclusive, preschool classrooms. This was done by coding segments of 5-minute
videos of "center time" activities collected across 5 days, scheduled about one week apart.
Participants included 42 children, 20 with ASD and 22 without ASD, ranging from 24-62 months
of age. We hypothesized that Initiating Communication is strongly related to Teacher Structure,
ASD diagnosis, and level of social impairment. Results revealed that observational measures of
Initiating Communication were not significantly associated with Teacher Structure, ASD
diagnosis, or social impairment. Exploratory analyses showed that the association between
Initiating Communication and Teacher Structure may be stronger at the level of individual days
than averages across days. This shows that communication in the classroom varies for all
children, regardless of diagnosis or social impairment, and that there could be other factors that
influence children's communication other than Teacher Structure. This is important because it
questions previous assumptions of children's ability based on ASD diagnosis or level of social
impairment. Future directions include coding Initiating Communication for a longer period of
time, integrating automated measures to track communication in the classroom, and widening the
research sample to classrooms in community settings.

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Which classroom sounds more engaging to you: a classroom where children are sitting listening to the teacher talk at them, or a classroom where students are encouraged to learn from one another through engaging in conversations and facilitated activities? The latter example represents an actively engaging classroom. Previous research shows that students learn best in classrooms that are actively engaging; therefore, active engagement can be used to measure the effectiveness of classroom intervention (NRC, 2001; Sparapani et al., 2016). Because preschool classrooms include a broad variety of daily activities and routines, interventions should be researched and implemented within children's natural routines (Schreibman et al., 2015).

Intervention research for young children diagnosed with autism spectrum disorder (ASD) has primarily focused on developing strategies to encourage active and social engagement in preschool classroom settings. Autism spectrum disorder is a heterogenous neurodevelopmental disorder that can affect the ways one communicates, behaves, learns, and socializes with others (The National Institute of Mental Health, 2022). About 1 in 44 children have been diagnosed with ASD, therefore it is quite prevalent (CDC, 2021). Because autism is a heterogenous disorder, no person with autism presents the same (Lord et. al, 2020). To meet the diagnostic criteria for ASD, a child must present with deficits in social-emotional reciprocity, nonverbal communicative behaviors, and engagement in social relationships (American Psychiatric Association, 2013). Along with deficits in social-emotional reciprocity, a child must demonstrate two out of four outlined restricted and repetitive behaviors including stereotyped or repetitive movements, ritualized patterns including routines, restricted or fixated pervasive interests, and hyper-/hypoactivity to sensory input (American Psychiatric Association, 2013).

Individuals with autism experience specific difficulties with initiating communication because they must have deficits in social communication to meet the diagnostic criteria for

autism. Social communication is a broad term that encompasses both verbal and nonverbal communication (Fuller and Kaiser, 2020). Abnormal social communicative behaviors can present themselves as early as 2-6 months old as infants with autism significantly decrease their attention to others' eyes, which is one of the earliest indicators of social impairment (Jones and Klin, 2013). In young toddlers 2-3 years old with ASD, research has shown a significant decrease in the prevalence and variation of communication including noncomplex babbling, formation of consonants in syllables and words, and difficulty with word combinations (Landa, 2007). Deficits in social communication for children with ASD can include an atypical social approach, inability to share interests, emotion, or affections, inability to have conversations with others and difficulties with initiating communication with others (Watkins et al., 2017).

Early intervention is crucial for young children with ASD because it gives them strategies to help promote meaningful social relationships with their peers and help regulate their emotions, which are necessary skills in order to be actively engaged in a classroom (Hansen et al., 2014). Evidence based practices (EBPs) frequently target the improvement of social communication skills for young children with autism. A common EBP is a naturalistic intervention in school settings which entails the implementation of teaching skills for social-emotional reciprocity, play skills, stimulating interest and attention in play and socialization, as well as encouraging social communication with peers (Watkins et al., 2017). Teachers are encouraged to focus on the arrangement of their classroom environment, encourage and facilitate children's interactions with their peers and teachers, and prompting and reinforcing behavioral strategies based on individual students' needs (Watkins et al., 2017). Early interventions, particularly in naturalistic settings classrooms, help students with autism succeed in classrooms by encouraging social, emotional, and cognitive development as well as giving them the necessary skills to ask for help,

act appropriately in classroom settings, and make social connections with their peers (Siller at al., 2020; Watkins et al., 2017).

As clinicians and researchers, it is important to research naturalistic interventions to ensure the integrity and effectiveness of the intervention. To do this, researchers must be able to quantify and measure children's communicative behaviors and the teacher's implementation of the intervention. Measuring children's Active Engagement (AE) in preschool classrooms is challenging because of the variability of activities, the child's response across multiple classroom scenarios, and the way teachers implement their teaching strategies (Sparapani et al., 2016). A holistic measurement of AE has yet to be determined within the ASD research community because there are multiple facets of Active Engagement such as Emotional Regulation, Classroom Participation, Social Connectedness, Initiating Communication, and Flexibility (Sparapani et al., 2016). Measurement of communication frequency for children with ASD is necessary because a deficit in communication is a core characteristic in the diagnosis of ASD, and early interventions aid children to develop the skills they need to communicate with others (Bottema-Beutel et al., 2014).

This study addresses the relationship between preschoolers' active engagement, specifically how they initiate communication, and how teachers promote classroom structure through Active Facilitation and Supporting Language Use. Our study proposes three hypotheses of factors that influence the frequency of Initiating Communication (IC) in the classroom:

1. IC differs by ASD diagnosis.

2. IC is correlated with a child's level of social impairment (SRS scores).

3. IC is correlated with Teacher Structure variables: Active Facilitation (AF) and Supporting Language Use (SLU).

Methods

Setting

Data collection occurred during the 2019-2020 school year prior to the start of the COVID-19 pandemic at the Marcus Autism Center Preschool Program in Atlanta, Georgia. The Preschool Program includes tuition-funded classrooms for 2- and 3-year-olds, and a publicly funded Georgia Pre-K classroom for 4-year-olds. All classrooms include both neurotypical children and children diagnosed with autism spectrum disorder. The preschool operates from 7:30 am-5:00 pm on Monday through Friday and contains three classrooms: the 2's classroom, the 3's classroom, and the 4's classroom. The 2's and 3's classrooms are led by three teachers: one lead teacher and two assistant teachers while the 4's classroom has two lead teachers, one of them with a special education background, and two assistant teachers. The preschool program was founded by Emory University faculty and operates as a laboratory school. All students with autism in the program were diagnosed by clinically trained professionals who used standard diagnostic measures such as the Mullen Scales of Early Learning (Mullen, 1995), the Autism Diagnostic Observation Schedule 2 (Lord et al., 2012), and the Vineland Adaptive Behavior Scales (Sparrow and Cicchetti, 1989). While the daily routine differs between the classrooms, they all follow a typical preschool schedule with the same progression of activities every day. Activities include center playtime, outdoor play, large-group circle time, snack and lunch periods, and time designated for a nap.

Participants

Individuals in this study were children enrolled in the Preschool Program and teachers within the 2's, 3's, and 4's classroom. A total of 42 students, both neurotypical and children with ASD, and 10 teachers were coded. Participating children ranged between 24 to 62 months of age

($M = 46.74, SD = 11.07$). Upon enrollment in the Preschool Program, a parent survey was distributed in order to obtain the demographic information of the children, specifically their race, gender, ethnicity, household income, and diagnosis. Table 1 compares the participants' gender, race, ethnicity, and household income to ASD diagnosis.

Procedure

Parents completed surveys for the purpose of obtaining demographic data as well as social impairment scores for participants. Classroom videos were collected using GoPro cameras that were located in various placements around the classroom to collect different angles. GoPro cameras were set up in the classrooms by a lab coordinator on five schooldays scheduled about one week apart ranging from November 2019-January 2020 and recorded the entire classroom throughout the day. The videos coded for this project were randomly selected by lab coordinators. Selected videos were recordings of "center playtime" classroom routines and the videos were divided into 5-minute segments for coding procedures. Observational coding focused on children's active engagement and teacher structure including Initiating Communication, Active Facilitation, and Supporting Language Use. Coding was completed by a team of 4 undergraduate students and reliability was established. Each session was thoroughly coded by one student using rating scales and frequency measures for the 5-minute time intervals.

Measures

Initiating Communication Coding Guidelines

Children's Active Engagement will be operationalized as Initiating Communication (IC). The Initiating Communication coding guidelines used definitions from the Classroom Measure of Active Engagement (CMAE) to label and quantify IC. The CMAE evaluates students' active engagement by measuring the amount of time children spend directing their attention towards others, the frequency of spontaneously directing their communication towards others, and their

social eye gaze (Sparapani et al., 2016). IC coding guidelines are a count measure, meaning each coder documented the number of times a child initiated communication according to coding guidelines. To assign a code for Initiating Communication, the child must meet three expectations: 1) their behavior was a communicative gesture, vocalization, or verbalization; 2) the student's behavior was directed towards another person; 3) the behavior must be used to serve a communicative function, meaning it must be both purposeful and intentional.

1. Communicative gestures include giving (must be initiated by the student), purposeful touching of a partner (touching or moving the partner's hand, arm, body, or face, hitting, biting, pushing), pushing/pulling an object or body toward or away from the partner (to indicate "mine" or "I don't want it"—must convey a message), head shaking or nodding (to agree or disagree), pointing or tapping, reaching, showing (holding something up for others to see), depictive gestures/signs (pantomime-like gestures), waving or clapping, raising hand (to be called on), throwing or dropping objects purposefully (to indicate "I don't want this" or "you take it"). Vocalizations include all sounds and vocals (including laughing and crying) and verbalizations include all speech sounds, word approximations, single words, or multi-word sentences.

2. The student's behavior must be directed towards another person. The communicative gestures, vocalizations, or verbalizations must be directed towards the partner they are communicating with. Directed behavior is signaled by eye gaze and body or head orientation toward the person while the behavior is appropriate to the context.

3. The student's behavior must be used to serve a communicative function, meaning it must be both purposeful and intentional. This means that the child is getting their wants and needs met, they are sharing enjoyment or interest, or they are drawing attention to themselves. A score for IC for a child is calculated as a sum of the recorded codes throughout the duration of the video.

Teacher Structure Coding Guidelines – Active Facilitation and Supporting Language Use

Teacher structure will be operationalized as Active Facilitation (AF) and Supporting Language Use (SLU) derived from the Classroom Assessment Scoring System (CLASS). CLASS is the only observational tool designed to measure associations between teaching and student achievement and development (Center for Advanced Study of Teaching and Learning, 2017). Operationalizing teacher structure with AF and SLU highlights the importance of the teacher's role in naturalistic interventions because they encourage children to initiate social interactions in the classroom. Active Facilitation is when the teacher facilitates opportunities for exploration and learning, teacher guides the child's exploration, and the teacher is actively involved in children's activities to support learning and development. Scores are divided into Low (1, 2), Mid (3, 4, 5), and High (6, 7) categories. A teacher who receives a Low score monitors, observes, or manages activities passively. They do not intentionally provide opportunities or guide children's learning and development. A teacher who receives a Mid score may provide intentional opportunities and guidance related to development and learning and is also actively involved with children during some activities. A teacher who receives a High score spends most of their time actively involved with children and consistently provides opportunities for communication and guides learning and development.

Supporting Language Use is when the teacher actively encourages and facilitates back-and-forth exchanges and contingent responding, as well as poses open-ended questions. Scores are also divided into Low (1, 2), Mid (3, 4, 5), and High (6, 7) categories. A Low score is assigned when there is little to no conversational language heard in the classroom and the language is teacher-controlled or absent. A Mid score is given when the teacher provides some opportunities for children, while also neglecting to acknowledge the child's lead in the

conversation. A teacher who receives a High score uses conversational language and provides frequent opportunities for students to initiate conversations and pose questions.

Parent Social Responsiveness Scale Second Edition (SRS-II)

Social impairment is defined as deficits in social behavior that are associated with ASD and will be measured using the Parent Social Responsiveness Scale-II. The SRS-II is a 65-item rating scale that measures deficits in social behavior that are associated with autism spectrum disorder (Constantino and Gruber, 2012). Using a 4-point Likert scale ranging from 0 (not true) to 3 (almost always true), it asks parents and teachers to rate the severity of a wide range of symptoms they have observed, based on criteria outlined in the DSM-V. Passing standardization procedures yielding raw scores and T scores, higher scores on this scale show greater intensity of social impairment. The scale also demonstrates a high internal consistency ($\alpha = 0.94$-0.96) with validity scoring moderate to high (0.84-0.96) (Bruni, 2014). The SRS Scale measures various facets of Social Responsiveness such as communication and cognition. This study will specifically use the SRS Total Score.

Additional Variables

The demographic variables of the child's age, ASD diagnosis, and SRS Scores will be compared with scores associated with Initiating Communication and Teacher Facilitation scores. ASD diagnosis will also be used to compare demographic variables such as gender, race, ethnicity, household income (Table 1).

Reliability Tests

Reliability describes the consistency of a measure, or in other words, whether two independent raters agree in their scores (American Psychological Association, 2022). For this study, reliability was calculated using single measure intraclass correlation coefficients (ICC). We primarily examined interrater reliability, which reflects the likelihood of coders reporting the

same scores across two or more trials (Koo and Li, 2016) The ICC form is two-way mixed

effects with absolute agreement and single rater/measurement. The ICC for Initiating

Communication was .710, which indicates moderate reliability, was calculated by double-coding

39 classroom videos. The ICC for Active Facilitation and Supporting Language Use were

calculated by double-coding 75 classroom videos and were .801 and .776 respectively which

indicates good reliability. All coefficients were based on single measures, meaning that the

coefficient reflects the reliability of one typical single rater, rather than the average of all of the

coders in this study.

Analysis

Analyses will be reported in three sections: The first section will describe the descriptive

analyses of all variables including SRS Total score, Active Facilitation, Supporting Language

Use, Initiating Communication, and age. The second section describes the relationship of the

overall average of IC, AF, and SLU scores aggregated across the five repeated observations

along with SRS Scores, and ASD diagnoses which was tested using correlations and t-tests. The

third section is dedicated to exploratory analyses to investigate associations between IC and

teacher structure separately for each observation day. We propose that Initiating Communication

scores will differ between those with and without an ASD diagnosis because of the diagnostic

criteria for deficits in social communication. Because social impairment is a diagnostic criterion

for ASD, we hypothesize that those with more social impairment will have different IC scores

than those who have less social impairment. We believe that Initiating Communication scores

will be related to Teacher Structure scores because teachers help facilitate students' social

interactions in the classroom. Furthermore, we anticipate neurotypical children receive lower

levels of structure from their teachers, compared to children with ASD. Therefore, neurotypical children may receive lower scores on AF and SLU than children with autism.

Results

Descriptive Analyses

We first checked distributional assumptions of SRS Total Scores, IC average scores, AF average scores, SLU average scores, ASD Diagnosis, and Age. Frequencies, averages, and standard deviations can be found in Table 2. Upon noticing the skewness of Initiating Communication scores, we transformed the scores by calculating the log of each score to create a more normal distribution for correlation analyses.

Average IC, Teacher Structure, SRS, and ASD

This correlational analysis was based on the average of scores over the 5-days of assessment for IC, AF, and SLU. Upon running correlations between the average of the variables of interest, we found there were no significant correlations between Initiating Communication and SRS Scores $r(42) = .196$, $p = .246$. An independent t-test analysis revealed no significant relationship between Initiating Communication and ASD diagnosis t(40) = .335, $p = .370$. We also found no significant relationship between Initiating Communication and the Teacher Structure variables including Active Facilitation $r(42) = .179$, $p = .258$ and Supporting Language Use $r(42) = .052$, $p = .746$. There was a significant correlation between the average of AF and SLU variables $r(42) = .860$, $p < .001$.

T-test analyses revealed AF and SLU scores are not significantly related to ASD diagnosis $t(40) = -1.091$, $p = .141$, and $t(40) = -1.212$, $p = .116$ respectively, meaning there is not a significant difference in scores between children with and without an ASD diagnosis.

However, children with ASD received a higher SRS Total score than those without a diagnosis $t(35) = -2.978$, $p = .003$.

Exploratory Analyses

Because there were no significant correlations between the variables of interest amongst the total average scores of the five days, we ran exploratory analyses across the five days of classroom observation for Initiating Communication, Active Facilitation, and Supporting Language Use. The only significant relationship across all three classrooms between IC and AF $r(34) = .357$, $p = .038$ and IC and SLU $r(34) = .418$, $p = .014$ occurred on Day 4. On days 1, 2, 3, and 5, the p-values for these relationships were greater than .330, signifying that there was no significant relationship between IC, AF, and SLU. On day 1, IC was not related to AF or SLU significantly $r(33) = .114$, $p = .526$ and $r(33) = .039$, $p = .831$. On day 2, IC was not significantly correlated with either AF or SLU $r(30) = .038$, $p = .843$ and $r(30) = .072$, $p = .706$ respectively. On Day 3, IC was not significantly correlated with either AF or SLU $r(32) = -.037$, $p = .840$ and $r(32) = -.178$, $p = .330$. On Day 5, the relationship between IC and AF and SLU were $r(35) = .137$, $p = .434$ and $r(35) = .121$, $p = .490$.

Discussion

This study aims to understand the relationship between preschoolers initiating communication in the classroom and how teachers support the structure of the interactions in the classroom using coding schemes and video footage from inclusive classrooms. This was done by coding segments of video footage of "center time" activities. These videos were collected from inclusive classrooms at the Marcus Autism Center Preschool Program across 5 days, scheduled about one week apart. Classroom videos were coded for Initiating Communication, which is a child behavior, and Active Facilitation, and Supporting Language Use which are teacher behaviors.

After coding each video, analyses were performed to determine whether there was a significant relationship between Initiating Communication and Teacher Structure variables, SRS scores, and ASD diagnosis. Correlations and t-tests were used to determine the relationship between the variables of interest averaged across the five days of observation. We did not find a significant relationship between Initiating Communication and Teacher Structure variables, SRS scores, and ASD diagnosis. Exploratory analyses were also performed to determine if there was a significant relationship between IC and Teacher Structure variables during each day of observation. We found that the relationship between IC and Teacher Structure variables was significant on only one day of observation.

Our first main finding, which contradicted our original hypotheses, is that Initiating Communication Scores were not associated with ASD diagnosis or Social Impairment. This contradicts previous research which states that children with ASD typically struggle significantly with social communication as compared to typically developing children (Watkins et al., 2017). To find that Initiating Communication scores did not differ across children with and without

ASD is important because it questions assumptions of ability based on one's diagnosis or reported deficits in social responsiveness. There are many reasons why IC scores did not differ between children with and without autism in the Preschool Program, one of them being how well teachers structure the classroom to include and support each student. The teachers use a two-tiered research-based curriculum including the Creative Curriculum as well as a classroom model called "SCERTS" to promote autism-specific learning goals and supports (Preschool Parent Handbook). The classroom model "SCERTS" stands for Social Communication, Emotional Regulation, and Transactional Support. The Creative Curriculum emphasizes the importance of learning through social and environmental interactions, which translates into using a set of guiding principles and practices that are adaptable to various classroom settings and developmental levels (Preschool Parent Handbook). Each child with autism has individualized goals within these categories in relation to their development within the classroom environment, as these are significant challenges faced by children with ASD (Prizant et al., 2022.). While children with an ASD diagnosis are the only ones who receive specific SCERTS goals from the classroom speech-language pathologist, Preschool Program teachers use the SCERTS model to aid all children in the classroom when they need support (Prizant et al., 2022.). For example, teachers can use emotion regulation techniques, such as deep breathing, to help console a child who is overwhelmed. Because the teachers design activities that are purposefully inclusive and since support is individualized for each child with ASD, these factors may allow for the children to communicate equally.

Our second main finding is that when using the average of all scores across the 5 observation days, we did not find an association between Initiating Communication, Active Facilitation, and Supporting Language Use. However, exploratory analyses showed that these

associations may exist or may be stronger at the level of individual days than averages across days. We assumed that the relationship between IC and Teacher Structure variables would be strong due to the evidence-based intervention techniques teachers use to facilitate social communication in the classroom, like the SCERTS model (Prizant et al., 2022.). However, there could be many reasons why this relationship was not present across each analysis of the five observation days. While teachers can use intervention techniques in the classroom to support children, children's engagement varies significantly throughout the day in preschool classrooms (Vitiello et al., 2012). Changes in activities throughout the day due to transitions from activity to activity can significantly impact a child's behavior because they can be sensitive to environmental cues (Vitiello et al., 2012). Therefore, taking the average of scores across a five-day period in five-minute video segments may hide the true relationship between student communication and Teacher Structure.

Yet, we still observed a slight correlation between IC and Teacher Structure variables on an individual day of observation which is still significant. One reason for this could be the type of activity we observed for this study. Prior research has determined that on average, children interact with teachers most during teacher-structure settings whereas children interact with peers most during child-led activities, like recess (Vitiello et al., 2012). We observed videos of the "center time" routine, which entails teachers facilitating various activities for the children that are semi-structured. For example, during "center time," a teacher could split the children into various groups and have them color sheets of paper, count blocks, or put a puzzle together while the teacher oversees and prompts each group of children. Since children are responsive to environmental cues and they are more likely to interact with a teacher during teacher-facilitated activities, this could explain some of the significance of the relationship between Initiating

Communication and Teacher Structure variables. Other analyses revealed a significant relationship between the two Teacher Structure variables: Active Facilitation and Supportive Language Use. This is also an important finding because it confirms the strength of the relationship between the two variables, which shows that they are intended to measure the same construct: Teacher Structure. The strength of these correlations affirms our decision to use these measures in our study.

There are limitations in this study that are worth noting. First, 5-minute video segments are a relatively short period of time to observe classroom interactions, as compared to the length of a typical school day. Perhaps, to capture a more holistic observation of classroom activities, researchers should code longer videos to include more classroom interactions that were not captured during a five-minute period. Classroom context matters for social interactions and the missing footage could have left out crucial information that could have informed some coding decisions. Second, the sample size is relatively small, and it is not representative of the general population. Due to its inclusion criteria, the Preschool Program is highly selective and constitutes a limited number of spots for children with autism who must be able to participate in the classroom and socialize with other children (Preschool Parent Handbook, 2021). Because this is a selective program, this is not a truly random sample of children with ASD. Third, the coding systems we used could have omitted certain interactions in the classroom that did not meet the criteria of the coding guidelines. Lastly, "center time" play is a specific time during the day where the teachers assign the children to certain activities with other children. This structure can prevent children from interacting with other peers in the classroom because they are assigned to a certain activity with a random group of their peers. This could have eliminated other typical social interactions between children that were not captured on the video footage.

Even with these limitations, this study presents key findings toward implementing this type of study on a larger scale. This research brings up valuable questions: How can we quantify naturalistic intervention impacts if there is a significant amount of variability in these types of intervention settings? How can we capture the relationships between variables, if there are any, while still accounting for factors that are out of our control? One way to begin remedying this problem is to code longer videos over more days of observation to capture more interactions in the classroom. Future studies can compare Initiating Communication across multiple classroom settings including teacher-facilitated activities and child-led activities to see if there is a difference between child-teacher communication and peer-peer communication. Another way to improve this type of study would be to integrate automated measures to capture Initiating Communication more effectively in the classroom. A recent community-implemented study showed that using automated measures like the Language Environmental Analysis system (LENA) to capture frequency of communication and a Global Positioning System (GPS) system to track location in the classroom can be effective methods to quantify communication, particularly in community settings (Little et al., 2019). Implementing the LENA system along with GPS tracking in the classroom can reveal additional patterns of communication that can further deepen our understanding of preschooler's initiation of communication. A final way to improve this study would be to widen the sample to a community-based sample. One of the study's limitations was a lack of representation within the autism community based on inclusion criteria for the classroom. Including members of the community not only within the study, but the research process itself can reveal the needs and priorities of those who are directly affected by this research like children with autism, families, and teachers (Frazier et al., 2018). Studying children's communication patterns will inform clinicians and researchers about the effectiveness

of naturalistic interventions, encourage teachers to create more inclusive environments in their

classroom for all children, and motivate policymakers to advocate for children with autism and

implement research-based policies for inclusive classroom practices.

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Tables

Table 1.

Demographic Characteristics of the Sample at Program Entry.

Baseline Characteristic	ASD Diagnosis	No ASD Diagnosis (n)
	n	*n*
Gender		
Male	14	16
Female	6	6
Race		
Black/African American	6	5
White	7	15
Asian	1	1
Other/Mixed	1	1
Unknown	5	0
Ethnicity: Hispanic/Latino/Spanish?		
No	15	17
Yes	2	5
Unknown	3	0
Household Income		
Between $20,000-$50,000	1	4
Between $50,001-$80,000	1	2
Between $80,001-$120,000	3	6
Above $120,000	9	8
Missing	6	2

Note. ASD = Autism Spectrum Disorder. *n* = number of children. Demographic information for the children in this sample was obtained through a parent survey at the time they were admitted to the Preschool Program.

Table 2.

Descriptive Analyses of Variables of Interest.

Variable	*n*	*M*	*SD*
SRS Total Score	37	53.81	11.52
AF	42	3.30	1.02
SL	42	2.85	.85
IC	42	5.99	3.16
Age	42	46.74	11.07

Note. *n* = number of children. *M* = Mean. *SD* = Standard Deviation. SRS = Social Responsiveness Scale. AF = Active Facilitation. SL = Supporting Language Use. IC = Initiating Communication. Age = Age of children in months.