

Changes in Social Relationships and Reciprocity in Autism: A Longitudinal Case Study

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Abstract— Autism Spectrum Disorder (ASD) is a neurodevelopmental condition characterised by core difficulties in the area of social relationships and reciprocity, which can affect the ability to interact with others, understand social cues, and engage in meaningful social exchanges. These challenges often influence the child's communication, peer relationships, and participation in everyday social situations. The present study aimed to examine changes in social relationships and reciprocity in a child with ASD over a period of five years. The study adopts a longitudinal study design to understand the developmental trajectory and changes in social functioning of a child diagnosed with ASD over the course of therapy. The child was initially assessed and diagnosed with ASD at the age of four years. Social Skills Training (SST) was provided with a focus on social interaction and communication skills. Parent involvement and structured home-based activities were also incorporated to facilitate the practice and generalization of learned skills across different settings. Progress was monitored through clinical observations, caregiver reports, therapy records, and periodic assessments. The findings of the study indicated gradual improvements in eye contact, social smile, communication, peer interaction, and reciprocal social engagement. The child showed increased interest in social situations and an enhanced ability to initiate and respond during social interactions. The findings shed light on the importance of structured long-term individualized intervention, along with the caregiver's role in promoting social development in children with ASD. The findings also highlight the importance of early identification and intervention in gradual social and adaptive development.

Keywords: Autism Spectrum Disorder, social relationships, social reciprocity, social skills training, longitudinal case study

INTRODUCTION

Autism Spectrum Disorder(ASD) is a neurodevelopmental condition characterised by difficulties in social communication, limited interest, and repetitive behaviours (Hodges et al., 2020). The Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM 5) defines Autism Spectrum Disorders as a condition characterised by persistent deficits in social communication and social interaction across multiple contexts, and restricted, repetitive patterns of behaviour, interests, or activities (American Psychiatric Association, DSM-5 Task Force, 2017)

Children with deficits in social communication often prefer to be alone, spend time in their own world, and have difficulty understanding nonverbal communication. Repetitive behavioural patterns, restricted interests, and initiating and maintaining communication with others are challenging for them (Uke et al., 2024). In addition to impairments in joint attention and pointing, they manifest sensory difficulties, repetitive behaviours, and varying levels of intellectual disability. They also tend to have various comorbid mental or neurological conditions like attention difficulties, hyperactivity, anxiety, depression, and epilepsy (Uke et al., 2024; Lord et al., 2020).

Autism Spectrum Disorder(ASD) was initially seen as a rare condition in India. However, recent evidence shows that the reported prevalence of ASD has increased substantially in India. A comprehensive review published in 2024 states that 1 in 65 Indian children between the age group of two and nine are affected by ASD. Approximately 1.8 to 2 million children in India are thought to have ASD (Uke et al., 2024). However, many cases go undiagnosed in India due to limited

epidemiological research, lack of public awareness, and social stigma. Hence, the rate of children being diagnosed is far less than the actual number of cases in India.

Children diagnosed with ASD have difficulties in social relationships, reciprocity, and emotional expressions. Social relationships are the connections and interactions a child develops with parents, siblings, teachers, friends, and others. Children experience difficulty initiating interactions and maintaining conversations and relationships. They find it difficult to form bonds and attachments with others, understand others' point of view, maintain eye contact, and use communicative gestures (Syriopoulou-Delli et al., 2016). A similar finding was reported in a 2024 study by Rai. The study explored challenges in social interaction faced by children with ASD, which found that children with autism spectrum disorder (ASD) struggle greatly in social situations, which hinders their capacity to build relationships, speak well, and fit in. These challenges result from sensory, behavioral, and neurological sensitivities that affect how people interpret and react to social cues (Rai., 2024).

These challenges contribute to reduced peer acceptance, fewer reciprocal relationships, social isolation, and feelings of loneliness and rejection. These thereby influence emotional well-being and quality of life in children diagnosed with ASD. In a study conducted by Dean et al. in 2023, it was found that students with ASD reported more loneliness when they were mutually engaged with social groups than when they were isolated or alone (Dean et al., 2023).

Social reciprocity, one among the core components of social relationships, is impaired in children diagnosed with ASD. Social reciprocity refers to the equal, mutual exchange that occurs when people interact, such as playing, conversing, or working together. It also includes timely turn-taking and slowly evolving dynamics as the interaction progresses. Reciprocal behavior is essential to the minute processes of cooperative behavior between people who carry out tasks to accomplish common objectives (Van Ommersen et al., 2011). The impairments in social reciprocity in children diagnosed with ASD affect the development of meaningful social relationships in the individual.

Although challenges in social relationships and reciprocity are core characteristics of Autism, various longitudinal and follow-up studies show that some domains evolve over the course of development following consistent skill training and intervention. The trajectory of development depends on various factors such as intelligence, exposure, resources, access to interventions, and so on (Howlin et al., 2004).

Intervention techniques for children with autism spectrum disorder (ASD) include educational practices, developmental perspectives, and behavioral strategies (Chung et al). Among these, Social Skills Training is acknowledged as the most widely used and successful approach for addressing social deficits in children with ASD. Social Skills Training is a structured approach intended to improve the acquisition or development of social skills. SST has three main goals, which are fostering skill acquisition, improving existing skills, and generalisation of social skills across persons and settings (Yizengaw, 2021). It is rooted in the social learning theory of Albert Bandura and behavioural learning. It focuses on the processes of observation, imitation or modelling, and reinforcements.

Numerous studies suggest that Applied Behavioural Analysis (ABA) is also one of the most effective methods of intervention to address the educational and behavioural needs of children with ASD (Chung et al). Evidence suggests that structured intervention, along with parental involvement, can bring positive changes in the developmental trajectory of children with ASD (Cheng et al., 2022; Avula et al., 2025). Yizengaw (2021) demonstrated that children who received social skills training showed significant increases in general social abilities, specifically in social reciprocity and social involvement, as well as a decrease in negative social behaviors. The findings imply that children with autism can improve their interpersonal interactions through structured social skills training (Yizengaw, 2021).

In a study conducted by Howlin et al in 2004, the authors explored the long-term prognosis in ASD. The findings show that social and communication abilities slightly improved in certain adults with ASD, particularly those with better cognitive abilities. However, challenges in communication, independence in daily living, social reciprocity, employment, and overall adaptive functioning were seen in the majority of adults with Autism. They concluded that higher childhood IQ contributed to better prognosis and favorable outcomes, although it didn't predict successful long-term adjustment. (Howlin et al., 2004).

These results highlight the fact that autism is not characterized by a single, permanent pattern of social functioning, but rather by a variety of developmental routes. Thus, longitudinal research offers special chances to investigate how reciprocity and social interactions change over time within individuals.

While there has been a lot of research demonstrating various interventions for improving social communication and developmental outcomes in autism, there have been very few

studies that have looked at change in social relationships and reciprocity in the same individual over time using a longitudinal approach. Most previous research is cross-sectional or based on large cohorts, providing limited insight into how these domains develop over time in naturalistic contexts. Group-based analyses may overlook valuable insights into developmental pathways that can be obtained from longitudinal case studies due to the significant heterogeneity of autism. As a result, the current study will use a longitudinal case study to examine changes in social relationships and reciprocity in an individual with Autism Spectrum Disorder.

Objectives

1. To assess social relationships and reciprocity in a child with ASD using the Indian Scale for Assessment of Autism.
2. To evaluate the changes in social relationships and reciprocity in a child with ASD following the Social Skills Training over the longitudinal follow-up period

METHOD

Research Design

The study adopts a longitudinal single-case study design to understand changes in social relationships and reciprocity in a child diagnosed with ASD. Clinical case records were retrospectively analysed to evaluate the changes in development over a period of 5 years.

Participant Details

The participant of the study is a 9-year-old male diagnosed with Autism Spectrum Disorder (ASD) at the age of four years following a comprehensive clinical evaluation conducted by a Clinical Psychologist. He initially presented with concerns of poor eye contact, delayed speech and language development, reduced attention span, limited social interaction, solitary play, poor sitting tolerance, restlessness, irritability, and behavioural difficulties characterized by escape-maintained behaviours.

He was born through a full-term caesarean delivery with a birth weight of 3.190 kg, and an immediate birth cry was present. His motor developmental milestones were achieved within the expected age range, while speech and language milestones were delayed. There was no significant history of medical illness, epilepsy, head injury, or family history of mental illness. He is the only child of his parents and lives in a joint family.

The participant is currently studying in Grade 2 at a Government school in Kerala. Since the age of four years, he has been receiving multidisciplinary intervention, including Occupational Therapy, Speech and Language Therapy, Behaviour Therapy, and Special Education. At present, he continues to receive Special Education and Behaviour Therapy, with intervention focusing on improving attention, social communication, adaptive behaviour, pre-academic and academic skills, and the management of maladaptive behaviours through structured behavioural strategies.

Tools used

The present study employed the following tools to meet the study objectives:

Sociodemographic sheet

The sociodemographic sheet developed by the researcher was used to collect information about the participant. The information collected includes name, age, gender, education status, family type, socioeconomic status, developmental history, and other significant history. This information, collected from the parent, was used to understand the participant in depth for tailoring the intervention strategies.

Indian Scale for Assessment of Autism (Deshpande, 2008)

The Indian Scale for Assessment of Autism (ISAA) is an objective tool developed by the Government of India to measure the severity of autism. The test consists of 40 items rated on a 5-point Likert scale ranging from never to always. The items are classified into 6 domains: social relationship and reciprocity, emotional responsiveness, speech-language and communication, behaviour patterns, sensory aspects, and cognitive component. ISAA has strong psychometric properties, with Cronbach's alpha ranging from 0.88 to 0.93, test-retest reliability ranging from 0.60 to 0.85, and criterion-related validity. The current study focuses only on the domain 'social relationships and reciprocity' to meet the study objectives.

Intervention

Theoretical basis

The intervention was tailored on the basis of Social Learning Theory by Albert Bandura and Applied Behavioural

Analysis (ABA), by following a developmental approach to social development in childhood. Social learning theory emphasizes the role of modelling, imitation, and observation in learning and skill acquisition (Bandura, 1986). To help with the acquisition and maintenance of target behaviors, ABA principles, including prompting, shaping, positive reinforcement, task analysis, and generalization, were used (Cooper et al., 2020). The intervention was tailored to the child's age, developmental level, and growth over the follow-up period. The intervention sequence was created based on evidence that developmentally appropriate, tailored intervention benefits children with Autism Spectrum Disorder (Schreibman et al., 2015; "Educating children with autism 2001," n.d.)

Social Skills Training

The participant was offered an individualised Social Skills Training (SST) program targeting social relationships and reciprocity. The aspects that were focused on during SST include eye contact, name-calling response, social smile, joint attention, turn-taking, making requests, parallel play, cooperative play, peer interaction, conversation skills, and emotion recognition. The intervention goals were set based on the participant's developmental level and were modified as the intervention progressed. Reinforcements were also provided based on the reinforcement list created after the enquiry with the caregiver. Play-based activities, role-playing, modelling, behavioural modification techniques, and prompting were incorporated into the skill training. Table 1 indicates the developmentally sequenced social skills training module with the intervention focus and activities for each year.

Sessions were given daily with a duration of 45 minutes. Parents were actively involved during the intervention. They received training on how to carry out structured activities at home regularly and were encouraged to provide opportunities for the child to practice and generalise skills gained through training. Parental feedback was taken in each session to understand the child's level of functioning and development.

Table 1: Social Skills Training implemented during the intervention period with intervention focus and activities sequenced developmentally

Age	Intervention focus	Activities Used
4 - 5 years	Eye contact, social smile, name calling response,	Bubble play, Peek-a-Boo, singing action songs, mirror game,

	joint attention, engagement	social	funny face game, tickle anticipation game
5-6 years	Initiation of interaction, relating to people, responding to social and environmental cues		Requesting games, treasure box, choice-making activities, family photo matching, puppet play, role play, "Come Here" game, name response game, Follow the Leader
6-7 years	Functional reduction of solitary and repetitive play, turn-taking	play,	Feeding dolls, cooking game, doctor-patient play, ball rolling, building towers, simple board games
7-8 years	Cooperative peer interaction	play and	Ring games, group art, cooperative block building, structured group play
8-9 years	Generalization and maintenance of reciprocal interaction and relationships	and peer	Peer interaction in natural settings, group activities, conversation practice, reinforcement of previously acquired social skills

Procedure

After obtaining informed consent from the parents, a detailed clinical interview was taken, and socio-demographic details were collected using the sociodemographic sheet developed by the researcher. Baseline assessment was done using the Indian Scale for Assessment of Autism (ISAA) with a focus on the social relationships and reciprocity domain. An individualised social skills training was planned and implemented for a period of 5 years. Parental feedback was obtained during each session to assess the performance of the child, and the intervention goals were modified accordingly. Throughout the intervention period, progress was monitored through therapist observations, parental feedback, therapy records, and periodic reviews. After the follow-up period of 5

years, the participant was reassessed using ISAA to evaluate the improvement in functioning. The baseline score and follow-up score were compared along with parental reports and clinical observations to evaluate the changes in social relationships and reciprocity.

Ethical Considerations

Informed consent was collected from Parents after briefing them about the purpose, procedures, risks, and benefits of the study. Participation in the study was entirely voluntary, and participants had the right to withdraw at any time without facing consequences. Participants' personal and sensitive information was kept confidential, and efforts were taken to anonymize data whenever possible. Access to participant data was restricted only to the principal researchers to maintain confidentiality. Measures were implemented to ensure the security and integrity of participant data, including encryption and secure storage methods.

RESULTS

The study aimed to examine changes in social relationships and reciprocity in an individual with Autism Spectrum Disorder. A 4-year-old child was selected as the participant of the study and was assessed on social relationships and reciprocity with the Indian Scale for Assessment of Autism (ISAA). The study followed a longitudinal design where the child was given Social Skills Training (SST) for a period of 5 years daily. The assessment was done periodically every 6 months on the same domain using ISAA. Parents were also actively included in the intervention, and parental feedback was taken in each session to modify the intervention on the basis of development.

In the baseline assessment, the parents rated all the items in the ISAA domain social relationships and reciprocity by 5, thus giving a total domain score of 45. It shows that the social relationships and reciprocity of the child is markedly impaired. In the subsequent reassessments, a gradual reduction in scores was noted. The child scored 43, 40, 35, 29, 24, 20, 18, 15, 14 at the ages 4.5, 5, 5.5, 6, 6.5, 7, 7.5, 8, 8.5 and 9 years, respectively. Table 2 shows the changes in ISAA Social Relationship and Reciprocity domain scores longitudinally from 4 years to 9 years.

Table 2: Longitudinal changes in ISAA Social Relationship and Reciprocity domain

Age	4 years	4.5 years	5 years	5.5 years	6 years	6.5 years	7 years	7.5 years	8 years	8.5 years	9 years
Total ISAA Domain score	45	43	40	35	33	29	24	20	18	15	14

Thus, the difference between the baseline and the final assessment scores was 31, which shows 68.9 % improvement. Figure 1 shows the changes in ISAA Social Relationship and Reciprocity domain scores longitudinally from 4 years to 9 years graphically

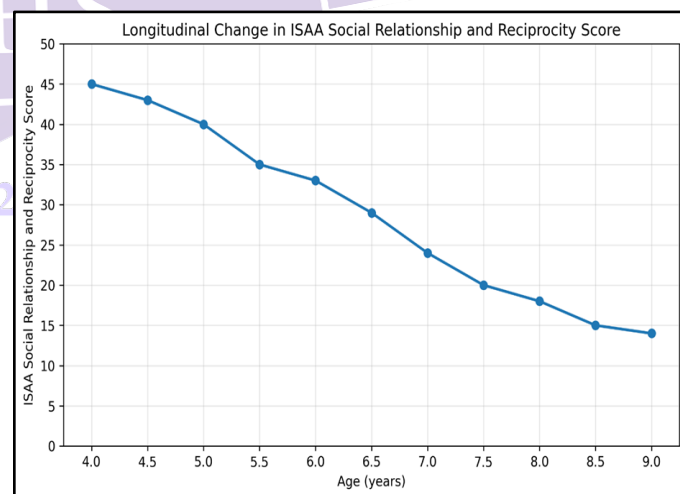


Figure 1: Social Relationship and Reciprocity domain scores longitudinally

Reciprocity domain over the follow-up period. Table 3 shows the item-wise changes in the social relationship and reciprocity domain of ISAA over the 5-year follow-up period.

Item-wise analysis shows that there is an overall reduction in scores in all items of the Social Relationships and

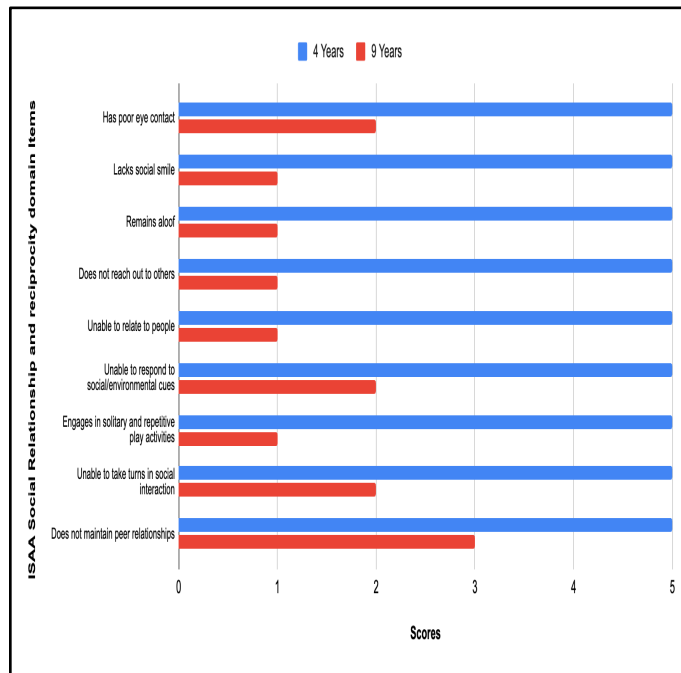
Table 3: Item-wise Changes in Social Relationship and Reciprocity domain of ISAA over the follow-up period

Item	4 yrs	4.5 yrs	5 yrs	5.5 yrs	6 yrs	6.5 yrs	7 yrs	7.5 yrs	8 yrs	8.5 yrs	9 yrs
Has poor eye contact	5	5	5	4	4	4	3	3	3	2	2
Lacks social smile	5	5	4	4	4	3	3	2	2	1	1
Remains aloof	5	5	5	4	4	3	3	2	2	2	1
Does not reach out to others	5	5	4	4	3	3	2	2	2	1	1
Unable to relate to people	5	4	4	4	3	3	2	2	1	1	1
Unable to respond to social/environmental cues	5	5	5	4	4	3	3	2	2	2	2
Engages in solitary and repetitive play activities	5	4	4	3	3	3	2	2	2	1	1
Unable to take turns in social interaction	5	5	5	4	4	3	3	2	2	2	2
Does not maintain peer relationships	5	5	4	4	3	3	2	2	2	2	3
Total Score	45	43	40	35	32	28	23	19	18	14	14

The parental rating in the item eye contact was 5 and 2 at years 4 and 9, respectively. It shows that the child's eye contact has improved and is able to maintain eye contact most of the time. Social smile has also improved from the score of 5 to 1, showing a significant improvement in the child's social smile. The child can respond with social smiles almost always.

In the items remaining aloof, not reaching out to others, inability to relate to people, and engagement in solitary and repetitive play activities, the scores have improved from 5 to 1 after the final assessment. This shows that the participant is now able to interact with others, reach out to others for help, and is able to relate to others in almost all situations. In the items

difficulty responding to social and environmental cues and unable to take turns in social interactions, the scores reduced from 5 to 2 over the follow-up, which shows that the child can effectively respond according to the environmental demands and has improved turn-taking capacity.



The rating in the item 'does not maintain peer relationships' showed comparatively lesser improvement compared to other items, and the scores were fluctuating. During the baseline assessment, the score was 5, and it was reduced to 4 between the ages 5 and 6.5 years, then decreased to 3 at 7 and 7.5 years, and further reduced to 2 at 8 years. However, the score increased from 2 to 3 at the ages of 8.5 and 9 years. The scores show that this item had a gradual but fluctuating improvement.

DISCUSSION

The current study follows a longitudinal research design to examine the changes in social relationships and reciprocity in an individual with Autism Spectrum Disorder over a period of 5 years. The results show that there is an overall improvement in social relationships and reciprocity in the child, which was assessed using the social relationships and reciprocity domain of the Indian Scale for Assessment of Autism (ISAA). An individualised Social Skills Training was given for a period of 5 years, starting from 4 years to 9 years. The scores reduced from 45 to 14 in the baseline assessment

and final assessment, respectively. There were overall improvements in most of the areas, such as eye contact, social smile, turn-taking, relating to people, reaching out to others, and responding to environmental cues. Gradual improvements and fluctuations were also noted in maintenance of peer relationships over the follow-up period.

The gradual reduction in ISAA scores over the course of several evaluations suggests that social functioning improved gradually rather than immediately. The child's ongoing exposure to tailored social skills training and frequent opportunities to practice social behaviors can help to explain this tendency. Beginning with basic social behaviors like eye contact, reaction to name, social smile, and joint attention, the intervention followed a developmental sequence that advanced to more specialized skills including turn-taking, cooperative play, peer engagement, and reciprocal communication. This pattern of advancement is consistent with the developmental nature of social skill learning, which involves building complex social behaviors on previously established core skills.

The improvement in social relationships and reciprocity is in line with earlier research on social skills training in children with ASD. A similar finding was seen in a study conducted by Yizengaw in 2021, where Social reciprocity, social involvement, and general social skills all improved as a result of structured social skills training (Yizengaw, 2021). Additionally, it has been demonstrated that social skills training helps children with ASD communicate, interact, and participate in social situations. The present results offer a longitudinal scenario demonstrating these changes within a person and imply that continued opportunities for structured practice may be associated with progressive gains in social functioning.

The increased eye contact, social smile, reaction to social cues, and beginning of social engagement may all be explained in terms of the behavioral concepts integrated into the intervention. Target behavior acquisition was facilitated by modeling, prompting, shaping, and positive reinforcement. To help with maintenance and generalization, repeated practice was recommended. According to Bandura's 1977 Social Learning Theory, social behaviors are acquired through imitation, modeling, observation, and reinforcement (Bandura, 1977). The implementation of these concepts in structured social activities has given the child multiple opportunities to observe and practice proper social responses.

Another important component of the intervention was parental involvement. Parents were encouraged to practice social skills through regular interactions and provided routine tasks to do at home. This may have given the child regular exposure to social situations and allowed for the generalization of abilities outside of the therapeutic setting. Previous research has emphasized the role of caregiver interaction and intervention in natural settings in supporting developmental outcomes for children with ASD (National Research Council, 2001). Therefore, the observed progress in this instance may be the result of the combined efforts of developmental maturation, repeated practice, structured instruction, and opportunities for social engagement in various contexts.

The limited and variable progress in maintaining peer relationships was one significant finding. The score decreased from 5 at baseline to 2 at 8 years, then increased to 3 at 8.5 and 9 years. This progression implies that compared to some of the more fundamental social behaviors that are the focus of intervention, peer relationships may be more complicated and challenging to develop and sustain. White et al., in a study conducted in 2007, found that Social skills interventions can improve social interaction, but the acquisition and generalization of these skills in different social contexts can be difficult (White et al., 2007). Skills such as eye contact, responding to cues, and turn-taking can be taught and practised in structured interactions, whereas maintaining peer relationships necessitates a variety of interacting abilities, including reciprocal communication, perspective-taking, emotional understanding, social problem-solving, flexibility, and the ability to respond appropriately to changing social situations. Developing fundamental social skills does not always increase peer relationships.

People with autism spectrum disorder exhibit diverse and non-linear social development, as seen by their fluctuating behavioral patterns during peer interactions. Specifically, Howlin et al. (2004) showed in their long-term investigation of the results in children with ASD that while some social skills improved, other issues with social reciprocity and adaptive functioning remained. These findings have unequivocally shown that, depending on the individual and domain, children with ASD may experience significantly diverse developmental outcomes. The same variability is seen in this instance.

The present findings have a number of clinical implications. These findings demonstrate the necessity for early, individualized, and persistent therapies to improve social

interactions and reciprocity in children with an autism diagnosis. The intervention can be developed in a way that teaches more complex skills like reciprocal communication and peer relations after teaching more fundamental ones like eye contact, social interaction, reacting to social cues, and taking turns. Higher-level social skills require continuous and specialized attention, as evidenced by the comparatively weak and uneven improvement in peer connections. Programs for at-home training and parental involvement can aid in the generalization of acquired abilities. Professionals can monitor progress, identify challenges, and establish new intervention objectives with the aid of longitudinal assessments.

However, there are certain research limitations that need to be considered while evaluating the findings. The findings cannot be generalized to the larger population of children with ASD because it was a single case study and a longitudinal one at that. The lack of a control or comparison group further limits the ability to attribute observed changes to the impacts of Social Skills Training alone, as the growth process, education, parent engagement, and other factors may have influenced the outcomes. Additionally, observations, parent self-reports, and the Social Relationship and Reciprocity dimension of ISAA served as the primary foundation for the study's findings, which can be subject to biases. Future studies could include larger samples and control groups, multiple standardized tests for measuring social skills, and longitudinal investigations at various developmental stages. Other research directions could focus on what causes the development of basic social skills, as well as the more complex aspect of social relationships and reciprocity.

Conclusion

Overall, the current longitudinal case study shows gradual improvement in social relationships and reciprocity over a follow-up period of 5 years, where the child who was diagnosed with ASD at the age of 4 years was given individualised Social Skills Training. Improvements were noted in areas of eye contact, social smile, relating with others, reaching out to others for help, turn-taking, and other fundamental social skills. A fluctuating development was seen in the case of maintaining peer relationships, as it is considered a higher-level social skill and requires continued intervention and training. The findings highlighted the need for early, individualised, developmentally sequenced, structured and regular intervention for the improvement in social relationships and reciprocity in children diagnosed with ASD. The study

findings also demonstrated the importance of caregiver or parental involvement in the social skills development of children.

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Appendix A

Socio-demographic Sheet

Participant ID: _____

Name: _____

Age: _____

Sex: ☐ Male ☐ Female

Date of Birth: _____

Religion: _____

Place of Residence: ☐ Urban ☐ Rural

Informant: ☐ Mother ☐ Father ☐ Guardian ☐ Other: _____

Family Type: ☐ Nuclear ☐ Joint ☐ Extended

Birth Order: _____

Number of Siblings: _____

Primary Caregiver: ☐ Mother ☐ Father ☐ Other: _____

Father's Age: _____

Father's Educational Qualification: _____

Father's Occupation: _____

Mother's Age: _____

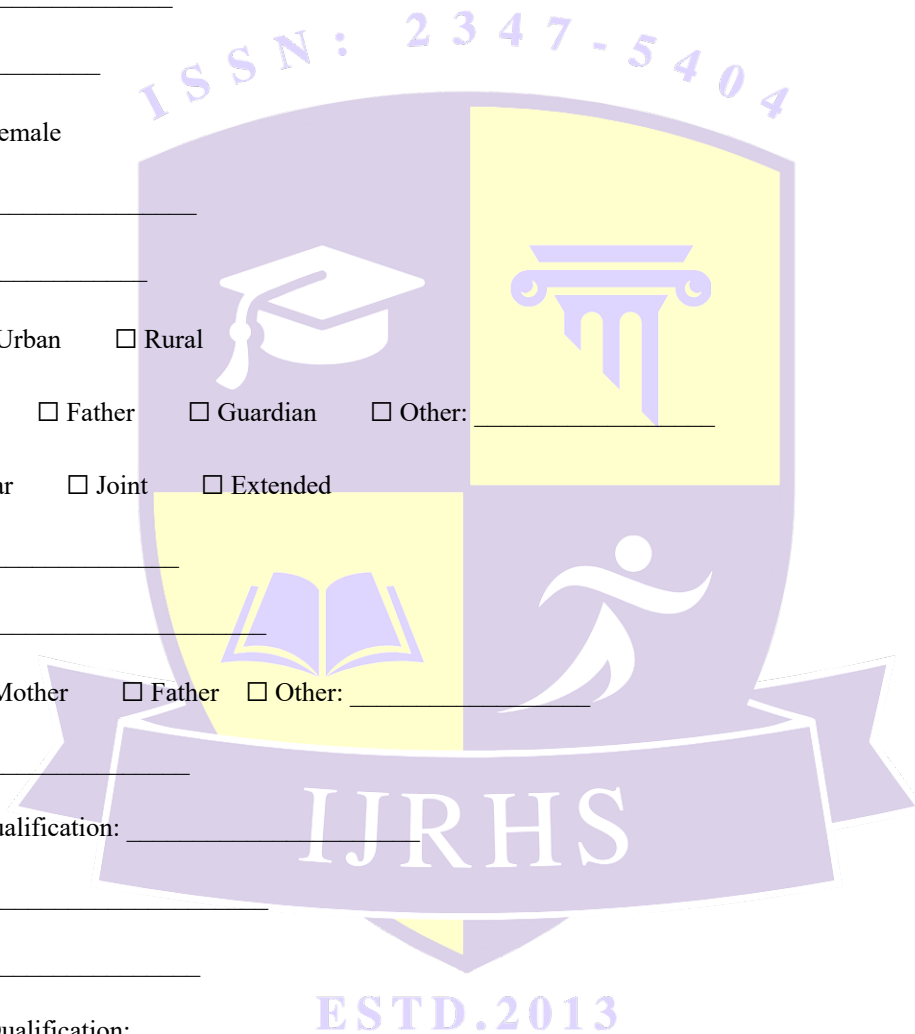
Mother's Educational Qualification: _____

Mother's Occupation: _____

Monthly Family Income: _____

Socioeconomic Status: ☐ Low ☐ Middle ☐ High

Age at Diagnosis of Autism Spectrum Disorder: _____



Diagnosed By: _____

Birth History: ☐ Full-term ☐ Preterm

Type of Delivery: ☐ Normal Vaginal Delivery ☐ Caesarean Section ☐ Assisted Delivery

Any Birth Complications? ☐ No ☐ Yes (Specify): _____

Developmental Milestones: ☐ Achieved on Time ☐ Delayed

Language Development: ☐ Normal ☐ Delayed

Motor Development: ☐ Normal ☐ Delayed

History of Medical or Neurological Illness: ☐ No ☐ Yes (Specify): _____

Current Medications: _____

Current Educational Placement:

- ☐ Mainstream School
- ☐ Inclusive School
- ☐ Special School
- ☐ Not Attending School

Current Grade/Class: _____

Medium of Instruction: _____

Additional Educational Support (if any): _____

Has the child received any previous intervention? ☐ Yes ☐ No

If yes, specify:

- ☐ Speech Therapy
- ☐ Occupational Therapy
- ☐ Behaviour Therapy
- ☐ Special Education
- ☐ Other: _____

Age at Initiation of Intervention: _____

Duration & Frequency of Intervention: _____

Parent/Caregiver Participation in Intervention: ☐ Regular ☐ Occasional ☐ None

Home-based Practice: ☐ Yes ☐ No

Appendix B

Indian Scale for Assessment of Autism (ISAA)

Items		Rarely Upto 20% Score 1	Sometimes 21 – 40 % Score 2	Frequently 41 – 60% Score 3	Mostly 61- 80 % Score 4	Always 81-100% Score 5
I. SOCIAL RELATIONSHIP AND RECIPROCITY						
1	Has poor eye contact					
2	Lacks social smile					
3	Remains aloof					
4	Does not reach out to others					
5	Unable to relate to people					
6	Unable to respond to social/ environmental cues					
7	Engages in solitary and repetitive play activities					
8	Unable to take turns in social interaction					
9	Does not maintain peer relationships					
II. EMOTIONAL RESPONSIVENESS						
10	Shows inappropriate emotional response					
11	Shows exaggerated emotions					
12	Engages in self-stimulating emotions					
13	Lacks fear of danger					
14	Excited or agitated for no apparent reason					
III. SPEECH-LANGUAGE AND COMMUNICATION						
15	Acquired speech and lost it					
16	Has difficulty in using non-verbal language or gestures to communicate					
17	Engages in stereotyped and repetitive use of language					
18	Engages in echolalic speech					
19	Produces infantile squeals/ unusual noises					
20	Unable to initiate or sustain conversation with others					

	Items	Rarely Upto 20% Score 1	Sometimes 21 – 40 % Score 2	Frequently 41 – 60% Score 3	Mostly 61- 80 % Score 4	Always 81-100% Score 5
21	Uses jargon or meaningless words					
22	Uses pronoun reversals					
23	Unable to grasp pragmatics of communication (real meaning)					
IV. BEHAVIOUR PATTERNS						
24	Engages in stereotyped and repetitive motor mannerisms					
25	Shows attachment to inanimate objects					
26	Shows hyperactivity/ restlessness					
27	Exhibits aggressive behavior					
28	Throws temper tantrums					
29	Engages in self-injurious behavior					
30	Insists on sameness					
V. SENSORY ASPECTS						
31	Unusually sensitive to sensory stimuli					
32	Stares into space for long periods of time					
33	Has difficulty in tracking objects					
34	Has unusual vision					
35	Insensitive to pain					
36	Responds to objects/people unusually by smelling, touching or tasting					
VI. COGNITIVE COMPONENT						
37	Inconsistent attention and concentration					
38	Shows delay in responding					
39	Has unusual memory of some kind					
40	Has 'savant' ability					

Classification	No Autism < 70	Mild Autism 70 to 106	Moderate Autism 107 to 153	Severe Autism > 153
Total score				