The Study to Develop Social Communication in Children with Mild Autism Through Social Skills Training Between the Age Group 4 to 7 Years

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Abstract

Autism Spectrum Disorder (ASD) is a complex neurodevelopmental condition characterized by impairments in social communication, restricted interests, and repetitive behaviors. Among these challenges, deficits in social interaction are particularly significant, as they adversely affect a child's academic performance, peer relationships, and overall daily functioning. The present study aimed to determine the effect of social skills training on the development of social skills in children with mild autism, using the Vineland Adaptive Behavior Scales–Third Edition (VABS-3), specifically under the domains of social skills and relationships, as well as the generalization and maintenance of acquired skills. A pre–post intervention design was employed, with outcomes assessed through the Parent/Caregiver Form of VABS-3. Results demonstrated a substantial improvement in social functioning following the intervention. For the VABS Domain Level, mean scores increased from 9.37 ± 3.40 pre-intervention to 32.27 ± 5.44 post-intervention, indicating significant enhancement in social skills and interpersonal relationships as perceived by parents and caregivers. Similarly, the VABS Comprehensive Level scores showed marked improvement from a pre-test mean of 9.56 ± 4.92 to a post-test mean of 30.85 ± 5.11. These findings suggest that structured social skills training is effective in improving social competence, as well as supporting the generalization and maintenance of social skills in children with mild autism.

Keywords: Autism Spectrum Disorder; Mild Autism; Social Skills Training; Vineland Adaptive Behavior Scales-3; Social Interaction; Adaptive Behavior.

I. Introduction

Autism Spectrum Disorder (ASD) is a neurodevelopmental condition characterized by persistent deficits in social communication and social interaction, along with restricted and repetitive patterns of behavior, interests, or activities. Among these core features, impairments in social functioning are particularly pervasive and significantly influence the overall development, independence, and quality of life of affected children. Children with ASD frequently experience difficulty initiating and maintaining conversations, understanding and appropriately responding to nonverbal communication such as gestures, facial expressions, and body language, and sustaining eye contact during social interactions. These challenges often interfere with their ability to engage meaningfully with peers, teachers, and family members, thereby limiting opportunities for social learning and participation in everyday activities [1].

Reciprocal social interaction, which involves turn-taking, shared attention, emotional responsiveness, and mutual enjoyment, is another area of marked difficulty for children with ASD.

A growing body of research highlights the effectiveness of SST in improving social functioning among children with ASD. Studies have consistently demonstrated that participation in SST programs leads to improvements in social engagement, peer interactions, and communication skills. Children who receive SST often show increased peer acceptance, greater participation in group activities, and improved confidence in social situations. Importantly, these benefits are not limited to short-term outcomes; evidence suggests that SST can contribute to long-term improvements in adaptive functioning within academic, social, and community environments [2].

Understanding and evaluating the effectiveness of Social Skill Training is particularly vital given the central role of social deficits in the diagnostic framework of ASD. While pharmacological interventions may help manage associated symptoms such as hyperactivity, irritability, or anxiety, they have limited efficacy in directly addressing the core social impairments that define the disorder.

Consequently, non-pharmacological interventions grounded in behavioral and cognitive-behavioral principles—such as SST—remain indispensable. These interventions complement medical approaches by equipping children with ASD with practical tools for meaningful social participation and long-term adaptation [2].

Therefore, the present study aims to critically examine the effectiveness of Social Skill Training in improving social behavior among children with Autism Spectrum Disorder. By systematically evaluating the impact of SST, this study seeks to generate evidence that can inform clinical practice, guide educational interventions, and support family-centered therapeutic approaches. Ultimately, enhancing social competence in children with ASD contributes to a more holistic model of care, promoting inclusion, independence, and improved quality of life.

II.   Rationale of the Study

Autism Spectrum Disorder (ASD) is a neurodevelopmental condition characterized by persistent deficits in social interaction and communication, along with restricted and repetitive patterns of behavior [3]. Difficulties in social communication are a core feature of autism and are often evident from early childhood, even in children with mild autism who may demonstrate adequate language abilities but limited social reciprocity and pragmatic communication skills [4].

The age group of 4 to 7 years is a crucial developmental period for acquiring foundational social and communication skills, as children are increasingly exposed to structured learning environments and peer interactions [5]. During this stage, children with mild autism commonly experience challenges such as poor eye contact, difficulty initiating or sustaining conversations, limited understanding of social cues, reduced turn-taking skills, and inappropriate social responses [6]. If these difficulties are not addressed early, they may negatively impact academic performance, peer relationships, emotional regulation, and overall social participation later in life [7].

Social Skills Training (SST) is a structured intervention approach designed to teach appropriate social behaviors through techniques such as modeling, role play, reinforcement, feedback, and repeated practice in naturalistic settings [8]. Research has demonstrated that SST can effectively improve social communication, peer interaction, and adaptive social behaviors in children with autism, particularly when implemented during early childhood [9]. Early intervention targeting social communication has been shown to yield better developmental outcomes and improved long-term social functioning [10].

Despite growing evidence supporting SST, there is a need for age-appropriate, structured intervention programs specifically focusing on children with mild autism within the early childhood age range. Additionally, limited research is available in the Indian context addressing social communication interventions tailored to culturally relevant settings and practices [11].

III.   Aim and Objectives of the Study

3.1 Aim

To develop and evaluate the effectiveness of a structured social skills training program incorporating social play, self-regulation, emotional competence, and social language in enhancing social communication abilities of children aged 4 to 7 years with mild autism, and to determine the generalization and maintenance of these skills beyond the intervention period.

3.2 Objectives

- To determine the effect of development of social skills in children with mild autism using Vineland adaptive behavior scale – 3 assessment tool under the area social skills and relationships.

- To determine the effect of development of social skills in children with mild autism, after social skills training under the area generalization and maintenance of the skill.

IV. Hypothesis

- **H₀:** There is no significant difference in the mean scores of social skills and relationships among children with mild autism before and after the structured social skills training program, as measured by VABS-3.
- **H₁:** There is no significant improvement in the generalization and maintenance of social skills in children with mild autism after completion of the structured social skills training program.

V. Methodology

5.1 Research Design

The present study adopted an **experimental repeated-measures research design** to evaluate the effectiveness of a structured Social Skills Training (SST) program on social communication skills in children with mild Autism Spectrum Disorder (ASD). Assessments were conducted at three time points: **pre-intervention, mid-intervention, and post-intervention**.

5.2 Participants and Sampling

A total of **100 children** with mild ASD, aged between **4 and 7 years**, participated in the study. Participants were recruited using a **convenience sampling technique** from special education centers, pediatric clinics, and early intervention programs.

5.3 Inclusion Criteria

- Children diagnosed with mild Autism Spectrum Disorder
- Age range of 4–7 years
- Both male and female participants

5.4 Exclusion Criteria

- Children with moderate or severe ASD
- Presence of other psychiatric conditions
- Physical disabilities or impairments in speech, hearing, or vision

5.5 Assessment Tools

- **Indian Scale for Assessment of Autism (ISAA):** A standardized diagnostic tool comprising 40 items rated on a 5-point scale, used to determine autism severity. The scale demonstrates strong reliability (Cronbach's $\alpha = 0.93$).
- **Vineland Adaptive Behavior Scales – Third Edition (VABS-3):** Selected items from the Communication and Socialization domains were used to assess social communication and adaptive functioning relevant to the SST intervention.

5.6 Procedure

Ethical approval was obtained from the Institutional Ethics Committee, and written informed consent was secured from caregivers prior to participation. Baseline assessments were conducted using ISAA and VABS-3. Following this, all participants underwent a 16-week structured Social Skills Training program designed to enhance social communication, emotional regulation, and peer interaction.

VI. Data Analysis

Table 1.0 Correlation Analysis (Pearson's r)

Variables Compared	Pearson r	Direction	Strength
ISAA vs VABS Domain Level	–0.245	Negative	Weak
ISAA vs VABS Comprehensive	–0.340	Negative	Moderate
VABS Domain vs VABS Comprehensive	0.889	Positive	Very Strong

The correlation analysis presented in the table explains the relationship between autism severity and social skill performance, as well as the association between different Vineland Adaptive Behavior Scale–3 (VABS-3) measures, in line with the study objectives. The correlation between ISAA and VABS Domain Level (Interview form) showed a weak negative relationship (r = –0.245).

Table 2.0
Paired Samples Correlations

Stats		N	Correlation	Significance One-Sided p	Two-Sided p
Pair 1	VABS PRE Domain Level Parent/Caregiver Form & VABS POST Domain Level Parent/Caregiver Form	100	.335	<.001	<.001
Pair 2	VABS PRE Comprehensive level Parent/Caregiver form & VABS POST Comprehensive level Parent/Caregiver form	100	.293	.002	.003
Pair 3	VABS PRE Domain Level Teacher Form & VABS POST Domain Level Teacher Form	100	.325	<.001	<.001
Pair 4	VABS PRE Comprehensive level Teacher form & VABS POST Comprehensive level Teacher form	100	.250	.006	.012

The paired descriptive statistics presented in the table demonstrate clear improvements in social skills among children with mild autism following social skills training, as measured using the Vineland Adaptive Behavior Scale–3 (VABS-3) across parent/caregiver and teacher reports. For **Pair 1**, the **VABS Domain Level (Parent/Caregiver Form)** showed a substantial increase from a pre-intervention mean of **9.37 ± 3.40** to a post-intervention mean of **32.27 ± 5.44**.

VII. Results

The relatively narrow dispersion of ISAA scores further suggests a reasonably homogeneous sample with respect to autism severity, strengthening the internal consistency of subsequent analyses related to social skill outcomes. With regard to social skill functioning at baseline, the Vineland Adaptive Behavior Scale–Third Edition (VABS-3) Domain Level (Interview Form) yielded a mean score of 7.28 ± 2.59, with scores ranging from 2 to 15. These findings indicate considerable variability in social skills and interpersonal relationship abilities among the children. Overall, the scores reflect social functioning that was below age-expected norms but clearly present, highlighting measurable deficits in social interaction, communication, and relationship-building skills. These baseline findings underscore the necessity for targeted social skills intervention and support the suitability of VABS-3 as a sensitive measure for assessing social skill development in children with mild autism. In relation to the second objective, baseline assessment using the VABS-3 Comprehensive Form demonstrated a comparatively higher mean score of 8.78 ± 3.25, with a broader range of scores from 2 to 22. The wider distribution suggests variability in adaptive social functioning across different life contexts, including home, school, and community environments, thereby providing an appropriate framework for examining generalization and maintenance of social skills following intervention. Correlation analysis was conducted to examine the relationship between autism severity and social skill performance, as well as the association between different VABS-3 measures. The correlation between ISAA scores and VABS Domain Level (Interview Form) scores showed a weak negative relationship ($r = -0.245$), indicating that higher autism severity was associated with slightly lower social skills and interpersonal relationship abilities. Although modest in strength, this relationship suggests a trend whereby increasing severity of autistic features corresponds with reduced social functioning. A stronger association was observed between ISAA scores and the VABS-3 Comprehensive Form, which demonstrated a moderate negative correlation ($r = -0.340$). This finding indicates that greater autism severity was more clearly associated with lower overall adaptive social functioning across broader, real-life contexts. In contrast, a very strong positive correlation was observed between the VABS Domain Level and the VABS Comprehensive Form ($r = 0.889$), indicating high consistency between domain-specific social skill assessments and comprehensive adaptive behavior outcomes. This strong association confirms that improvements in specific social skills are closely reflected in broader adaptive functioning, supporting the coherence and construct validity of the VABS-3 measures used in the study.

VIII. Conclusion

In conclusion, the findings of this study strongly support the use of structured social skills interventions to improve social functioning and adaptive behavior in children with mild autism. Children demonstrated significant improvements across multiple domains, including pragmatic communication, peer interaction, emotional regulation, and classroom participation. Gains were consistently observed across parent and teacher reports, confirming successful generalization of skills across settings. The intervention's effectiveness highlights the potential for SST to not only address immediate social deficits but also to foster long-term adaptive functioning, quality of life, and resilience.

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