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Effects of Social Skills on Language Development in Preschoolers with Autism Spectrum Disorder

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ABSTRACT

Background: Autism Spectrum Disorder (ASD) is characterized by deficiencies in social communication skills and the presence of restricted, repetitive behaviors. Diagnosis can occur as early as 18 to 24 months. For children with ASD, developing early social skills is crucial for adapting to social contexts and interactions.

Objective: This study aimed to evaluate the impact of social skills training on language development in preschoolers with ASD.

Methods: A purposive sampling method was employed to select a sample of 20 children with ASD, aged 3-6 years. The study used an analytical experimental design within a quantitative framework. Participants were divided into two groups: Group A received speech therapy, while Group B received both speech therapy and social skills training. The Portage Early Education Program assessed social and language development pre- and post-intervention over sixteen weeks. Data were analyzed using SPSS version 21, applying both dependent and independent t-tests.

Results: Group A exhibited a significant pre- and post-intervention improvement in social ($p < 0.001$) and language ($p < 0.001$) skills. Group B showed even greater enhancements in social ($p < 0.001$) and language ($p = 0.002$) development. The independent t-test indicated significant differences between the two groups both pre- and post-intervention, confirming the superior efficacy of the combined treatment.

Conclusion: The study concluded that incorporating social skills training with speech therapy significantly improves language abilities in preschool children with ASD, suggesting the importance of a multifaceted therapeutic approach.

Keywords: Autism Spectrum Disorder, social skills, preschoolers, language development, speech therapy.

INTRODUCTION

Autism is a neurodevelopmental disorder that presents challenges in reciprocal social interaction, alongside fixated and repetitive actions and interests. According to DSM-5, Autism is defined by variations in social interaction and stereotypic actions, along with limited interests that significantly impact major life areas, leading to a reduced quality of life (1}. As a broad term, neurodevelopmental disorders encompass conditions resulting from significant differences in neurodiversity or qualitative changes in the brain's development, maturation, and function (2}.

In preschool years, children with Autism often exhibit repetitive behaviors, such as spatially lining up objects or fixating on specific parts of objects, like car wheels, or displaying unique hand and finger movements. Although symptoms vary among individuals with Autism Spectrum Disorder (ASD), the disorder is predominantly characterized by deficits in two key areas: social communication and restricted, repetitive behaviors, which include sensory issues (3}.

During early childhood, children with Autism may display unusual developmental milestones. By six months, many exhibit motor and sensory issues. While these signs alone are not definitive for Autism, they serve as early indicators for parents to seek developmental screening (4}. In the latter half of the first year, some children show cognitive, social communicative, and adaptive deficits, making it possible to identify Autism by age 2, with diagnoses typically occurring between ages 2 to 3. This diagnosis tends to remain consistent throughout various

life stages (5}. However, many children with Autism remain undiagnosed or misdiagnosed until preschool age. Statistics show that the number of children diagnosed with Autism at age 4 is 30% less than those diagnosed by age 8. Parents' early concerns often center around cognitive, social, and expressive language delays, prompting them to seek screening and potentially leading to a referral for a developmental evaluation to confirm or rule out Autism (6}.

Language plays a crucial role in human life, with children acquiring language skills based on their cognitive level and social environment. Language acquisition is a complex and fascinating process, with toddlers initially responding to frequently heard utterances. During preschool years, children's language skills improve, using diverse semantics and developing syntax structures. Their vocabulary expands, enhancing both receptive and expressive language abilities (7,8}. Imitation, joint attention, and play are key social skills in language and social development. In imitation, the child replicates gestures, expressions, and movements of others, which facilitates learning and social functioning (9}. By 18 months, children at risk of ASD often show deficits in imitation skills, impacting their overall social and communicative development (10}. Enhancing imitation skills is thus vital for addressing social communicative deficits in children with ASD, as a lack of imitation can delay language acquisition and learning (11}.

Engaging activities like playing peek-a-boo, using non-verbal gestures, or singing rhymes such as "Head, Shoulders, Knees, and Toes" are not only enjoyable but also educational for children (12}. Complex play skills, crucial for language and communication development, emerge between 6 to 12 months of age. Play allows children to explore, manipulate objects, interact, and express emotions and feelings, contributing to their emotional, cognitive, and social functioning (13,14}. Parents' responses to early gestures, translating them into spoken words, aid in the child's expressive and receptive language development (15}. Using gestures in conjunction with spoken words, especially between 12 to 24 months, significantly aids speech learning and comprehension in children (16,17}. At the pre-lingual level, from early infancy onwards, social communication involves complex triadic expressions, serving as a preverbal form of interaction between parent and infant and providing early indicators for those who may later be diagnosed with autism (18}. Therefore, the objective of study was determining the effects of Social Skills on Language Development in Preschoolers with Autism Spectrum Disorder.

METERIAL AND METHODS

In a recent study, an analytical experimental research design paired with a purposive sampling technique was utilized. The research was conducted over a period of 16 weeks, with data collection occurring at The Children's Hospital in Lahore, Pakistan. The study focused on a sample size of 20 participants, calculated using Epitool to ensure a 95% confidence level with a 5% margin of error (17).

Participants were pre-diagnosed autistic children, both male and female, aged 3 to 6 years, categorized as mild to moderate and selected from The Children's Hospital in Lahore. The study excluded children with other co-morbidities or developmental disorders. Each participant only attended sessions in one setting (19).

The group of 20 participants was divided into two groups, each consisting of 10 children. Group A, the non-experimental group, received only speech therapy, which included Portage receptive and expressive tasks. Group B, the experimental group, received both social skills training (encompassing imitation, joint attention, play, and turn-taking activities) and speech therapy (again, focusing on Portage receptive and expressive tasks). Both groups underwent therapy sessions three times a week, each lasting between 40 to 45 minutes.

After the 16-week intervention period, which involved both social skills and speech therapy for Group B, and only speech therapy for Group A, the impact on the language development of the autistic children in both groups was assessed. The Social Skills and Language Aspects of the Portage Early Education Program (PEEP) were employed to measure the children's language and social age both before and after therapy (18).

The data was analyzed using SPSS 21. Statistical analysis included paired sample t-tests and independent t-tests to determine the differences in language development before and after the interventions in both groups. A p-value of less than 0.05 was considered statistically significant in this context, indicating notable changes in language development attributed to the therapeutic interventions.

RESUTLS

The study aimed to evaluate the effects of speech therapy alone versus a combination of speech therapy and social skills therapy on social and language development in children with autism. It involved a total of 20 children, divided into two groups: Group A (non-experimental, receiving only speech therapy) and Group B (experimental, receiving both speech therapy and social skills therapy). The sample included 14 boys and 6 girls.

From the provided data, the results are summarized as follows: At baseline, Group A had a mean social age of 17.05 years (SD = 3.66) and Group B had a mean social age of 21.46 years (SD = 5.69). The independent samples t-test revealed a mean difference of-4.404 between the groups, which was not statistically significant (t =-2.060, p = 0.054). Post-treatment, Group A's mean social age increased to 19.67 years (SD = 4.00), while Group B's mean social age rose to 28.67 years (SD = 9.54). The mean difference between the groups post-treatment was-9.000, which was statistically significant (t =-2.751, p = 0.013).

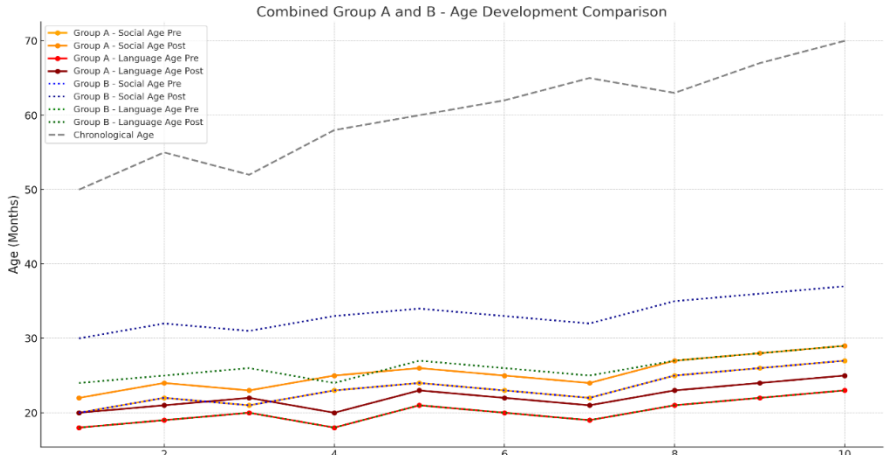

Figure 1 Presentation of Pre and Post Age Development Comparison in Group A and B

For language age, Group A's baseline mean was 16.56 years (SD = 5.38), and Group B's was 17.16 years (SD = 4.14). The mean difference in language age at baseline was not significant (t = -0.280, p = 0.783). After treatment, Group A's language age mean was 19.16 years (SD = 5.61), and Group B's was 24.76 years (SD = 8.70). The post-treatment mean difference was-5.592, approaching significance (t =-1.708, p = 0.105). Within-group analyses using dependent samples t-tests showed significant improvements in both social and language ages from pre to post-treatment for both groups. Group A showed a social age improvement with a paired difference of-2.62 (p < 0.001) and language age with a paired difference of-2.60 (p < 0.001). Group B demonstrated even larger improvements, with a social age paired difference of-7.212 (p < 0.001) and language age paired difference of-7.596 (p = 0.002).

Table 1 Group Statistics

Outcome Measurements	Speech Therapy		Speech and Social Therapy		Mean Difference	t	P Value
	Mean	Std. Deviation	Mean	Std. Deviation			
Baseline Social Age	17.05	3.66	21.46	5.69	-4.404	-2.060	0.054
Post-Treatment Social Age	19.67	4.00	28.67	9.54	-9.000	-2.751	0.013
Baseline Language Age	16.56	5.38	17.16	4.14	-0.600	-0.280	0.783
Post Treatment Language Age	19.16	5.61	24.76	8.70	-5.592	-1.708	0.105

The figures provided illustrate the individual participant changes within each group, with marked improvement in both social and language ages post-treatment, especially in Group B. Group A showed more modest gains in comparison. The data indicate that while both groups benefited from the therapies, the addition of social skills training in Group B resulted in significantly greater improvements in social age, with a trend towards greater

language development, underscoring the potential value of integrating social skills training with traditional speech therapy in treating children with autism.

DISCUSSION

The present study aimed to discern the efficacy of combined speech and social skills therapy on language development in children with Autism Spectrum Disorder (ASD). The investigation revealed that the integrated approach yielded more substantial improvements in language development than speech therapy alone. These results are particularly significant in the context of ASD, where language deficits are a core challenge.

The current findings resonate with those of Su and Rogers (2021) (19}, who demonstrated a positive association between early social motivation and language development in ASD toddlers, thereby highlighting the critical role of social engagement in early language acquisition. Similarly, Carpente and Casenhiser (2022) (20} examined the influence of imitation and engagement in improvisational music therapy. Their study reported a meaningful effect of therapeutic interaction on child engagement, which is in line with the present study's emphasis on the benefits of social interaction.

Pecukoins (2019) (21} also investigated the social communication predictors of expressive language in minimally verbal children with ASD. The research found significant correlations between imitation, play activities, and expressive language skills, supporting the hypothesis that social skills enhancement facilitates language development.

The strength of the current study lies in its analytical approach to therapy comparison, providing empirical support for the inclusion of social skills training in therapeutic regimens for children with ASD. However, the study's limitations, such as the small sample size and limited age range, may impact the generalizability of the findings to the broader ASD population. In summary, the current study, along with the works of Su and Rogers (2021) (19}, Carpente and Casenhiser (2022) (20}, and Pecukoins (2019) (21}, underscores the importance of integrating social skills training with traditional speech therapy to promote language development in children with ASD. These integrated interventions offer promising avenues for enhancing the communicative abilities of this population (22-26).

CONCLUSION

The results of the current study indicate that a combination of social skills training and speech therapy significantly enhances language outcomes in children with Autism Spectrum Disorder (ASD). The intervention strategies that focused on imitation, play activities, and joint attention skills led to notable improvements in the children's receptive, expressive, and functional language during developmental stages. Not only did the children's ability to identify, discriminate, remember, and use visual prompts for expressing their needs improve, but these gains were complemented by enhanced social interactions and relationships with peers. Consequently, the children demonstrated increased verbal expression and communicative engagement, suggesting the efficacy of integrating social skills training with traditional speech therapy in therapeutic programs for children with ASD.

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