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Effect of Social Skill Training on Socialization of Children with Developmental Disorders: Action Research

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Abstract

Neurodevelopmental disorders emerge during childhood and can significantly hinder normal development. Conditions such as Autism, ADHD, and cerebral palsy are examples of these disorders. This study was aimed to see the effect of social skills training (SST) on socialization and interaction of children with developmental disorders. For them, intensive training is needed to cultivate suit social behaviors. SST programs implemented early in life to teach children the necessary social skills attenuate subsequent social dysfunction (Rao et al. 2008). Data were collected over six months from children with developmental disorders at the AKKARA Foundation, Centre for Child Development in Kasaragod. Using one group pretest-posttest design, data were collected from a sample of (n = 34, convenient sampling) children, using Social Skills check list before and after the implementation of social skills training. The social skill training check list used were prepared by national institute for the mentally handicapped. Data were analyzed through frequency, mean, standard deviation, paired t-test and chi-square test. The findings revealed a significant p-value ($p < 0.001$), indicating that SST positively affects the socialization of children with developmental disorders. Furthermore, comparisons of pretest and post test scores among various groups such as with Autism Spectrum Disorder, Intellectual Disability, Cerebral Palsy, and Social Communication Disorder, showed that children with Cerebral Palsy and Social Communication Disorder benefitted the most. Based on this finding, it can be concluded that social skills training intervention improves social skills of children with developmental disorders. Therefore, it is recommended for further intensive and comprehensive interventions.

Keywords: Neurodevelopmental disorders, social skills checklist, social skill training module

Introduction

Social skills are the skills we use every day to interact and communicate with others. They include verbal and non-verbal communication, such as speech, gesture, facial expression and body language. A person has strong social skills if they have the knowledge of how to behave in social situations and understand both written and implied rules when communicating with others. Children with a diagnosis of developmental disorders have difficulties with social skills. Social skill training focusing on the proper training of social skills to special need children.

For special need children, intensive training is needed to cultivate suit social behaviors. Instead of keeping them away from the society, giving them chances to engage in the society from the childhood

itself help them gaining social competency. SST programs implemented early in life to teach children the necessary social skills attenuate subsequent social dysfunction (Rao et al. 2008). Social skills encompass both verbal and non-verbal behaviors usually taught how to use greetings, conversation strategies, imitation, sharing, how to making eye contact, initiate play, ask for help, request things, giving and acknowledging compliments (Day 2011, Rao et al. 2008).

In Social skill training, the child would train by using specific techniques. Normal children learn social skills as they grow. But in case of special need children, the more chances for training and exposure to social situations helps them. If they are able to behave appropriately in a group situation, they will be accepted by the group. So, the need for social skill training is important. Same age and the child have similar features are trained at a time. Not only the individual sessions combined session for social skill training would help them to become more independently.

The 21 social skills include

- Smiles in response
- Reaches/ goes to the familiar persons.
- Waves good bye
- Responds to own name
- Waits for needs to be fulfilled
- Plays with peers sharing objects
- Greets others
- Obeys commands
- Says please, thank you, sorry appropriately.
- Helps parents in household tasks
- Asks permission
- Takes turn
- Participates appropriately at meals time
- Dresses and grooms appropriate to the situation.
- Visits relatives and friends
- Participates in social functions
- Behaves appropriately with the opposite sex
- Respect the privacy and property of others
- Returns borrowed materials
- Identifies human service persons and community helpers.
- Engaged in useful activities during free time.

These are the social skills which would be trained by using different methods and giving combined session.

Identifying the appropriate developmental intervention programs and strategies need heightened urgency and extremely important for promoting the development of social skills in children with disability. Taking this into consideration, the current intervention was designed to improve the social skills of children with disabilities in AKKARA foundation centre for child development, Kasargod. Hence, efforts were underway to examine the effect of social skills training (SST) in improving interpersonal skills of children with autism.

Review of literature

Social skills training (SST) is a well-established intervention aimed at enhancing interpersonal and communication abilities, particularly for children with developmental or cognitive disabilities. So many literatures highlight the information regarding social skill training.

1. Theoretical Foundations of Social Skills Training

Research highlights the critical role social competence plays in a child's development. Gresham and Elliott (1990) conceptualized social skills as learned behaviors that enable individuals to interact effectively and avoid socially unacceptable responses. Vygotsky's theory of social development emphasizes the importance of social interaction in learning processes, particularly for children with disabilities. According to Vygotsky, children learn through interaction with peers and adults, making social skills fundamental for cognitive and social-emotional development. SST provides a structured method to improve these interactions through modeling, reinforcement, and feedback mechanisms.

2. Efficacy of Social Skills Training in differently Abled Children

Several studies have demonstrated the efficacy of SST in improving the social functioning of children with developmental disabilities. A meta-analysis by Bellini et al. (2007) revealed that SST programs significantly improve social outcomes for children with ASD.

In children with ADHD, SST has been effective in reducing problematic behaviors and improving peer relationships. A study by Hoza et al. (2005) found that SST interventions, when combined with behavioral management techniques, led to improved social competence and better integration within peer groups. Numerous studies have focused on SST's role in addressing these social deficits. For example, White et al. (2007) found that SST significantly improved the social competence of children with high-functioning ASD, particularly in areas of conversation skills, emotion regulation, and conflict resolution. Group-based SST programs, have shown positive outcomes in improving social engagement and reducing social anxiety in children with ASD (Laugeson et al., 2009).

Efficacy of Social Skills Training in Indian Context

Although limited in scope compared to Western research, Indian studies have demonstrated the positive impact of SST on specially abled children. SST interventions designed for Indian settings typically focus on teaching essential skills such as communication, emotional regulation, and behavioral adaptation, which are critical for successful social interactions.

In the Indian context, the importance of social skills training (SST) for children with special needs, including those with autism spectrum disorder (ASD), attention-deficit/hyperactivity disorder (ADHD), intellectual disabilities, and other developmental conditions, is increasingly recognized as essential for their holistic development. Studies indicate that children with ASD and intellectual disabilities in India exhibit significant challenges in initiating conversations, maintaining peer relationships, and interpreting non-verbal social cues (Panchal & Raval, 2019). These deficits often lead to social isolation, lower self-esteem, and academic difficulties. A study by Desai and Patil (2017) on children with ASD in India found that SST programs resulted in significant improvements in social engagement, communication abilities, and peer interaction

Indian researchers such as Narayan and Chakrabarti (2015) have emphasized the importance of early detection of social skill deficits in children with disabilities and the need for targeted interventions. They argue that the limited understanding of these challenges by families and schools can exacerbate social difficulties, thereby underscoring the need for structured interventions like SST. Patel et al. (2021)

conducted a study on the impact of SST for children with intellectual disabilities in Gujarat. The intervention was conducted in special schools and involved role-play, modeling, and feedback sessions.
The importance of social skills training for special need children cannot be overstated. SST provides these children with the tools necessary to navigate social environments, develop meaningful relationships, and improve their overall quality of life.

Objectives

- To examine the effect of social skill training on the socialization of children with special need.
- To identify and evaluate the implications of social skill training program.

Hypothesis

- Social skills training has a significant positive effect on the socialization of children with special needs.
- There is a significant difference in the effectiveness of the training across the four categories of children. (Autism Spectrum Disorder, Intellectual Disability, Cerebral Palsy, and Social Communication Disorder).

Method

Research Setting: AKKARA foundation, Kasaragod. It was established with the empowerment of children who have developmental disorders and need special care. Currently, the center has more than 100 children with various disability; age range from 2 to 14 years. Social skill training was provided to a group of children. 34 children are the beneficiaries of SST. Children were belonging to different conditions such as cerebral palsy, intellectual disability, autism, attention deficit hyperactivity disorder, social communication disorder and selective mutism.
The total numbers of the staffs/service providers were 4. The staff consisted of psychologists, The ratio of service providers to children was 1:6. That is, one therapist was responsible to care six children. The center provides training and education for children and parents.
Intervention Design: This intervention used a pre-test, post-test, Children were belonging to experimental groups based on their age, check list score and condition. Pre-test was administered by the researcher on all of 33 children. Then, children in experimental group received social skills training for six months with, 45 minutes session by 5 days per week. At the end of the intervention, the same test was administered by the same children in the experimental groups. Finally, the pre-test and post-tests scores of the experimental groups were compared to determine the effect of the social skill training. The social skill training check list used were prepared by national institute for the mentally handicapped.
Participants: this research only consider children who receive social skill training. Hence, a total of 34children were received SST. The samples of the experimental group ranges from 4 to eleven with an average age of 8.25.

Social skill training Module

This module is used to give social skill training for the participants. The aim of this SST module is to help special need children to develop key social skills through interactive group activities, rapport building, and play therapy techniques. The activities will also allow assessment of participants' social skills according to the checklist to assess their progress.

Group Rapport Building and group sitting

To create a comfortable and engaging environment where children feel safe and motivated to interact and participate. Activities includes Ice-Breaker Activity, activities like enhance communication with others, engaging in fun interactions etc.

Using these activities each one learns others name, familiar with group members and get comfortable with each other. Purpose of these activities are establishing a sense of belonging, comfort, and openness within the group. these activities last for three weeks, or took more than three weeks, depends on the conditions of the children.

Learning skills

To assess the participants' baseline social skills, identifying areas that need attention. Each one's need is different but first choose a common deficit in social skill and then worked on it. The 21 skills in social skill checklist are breakdown into following headings.

Friendship skill: Making and keeping friends, dealing with peers.

Emotional skills: Regulation of emotions, reading facial expression and body language,

Play skills: pretend and imaginative play, playing with others, taking turns, coping with losing, dealing with conflict.

Conversation skills: greetings, joining a conversation, awareness of personal space, ending conversation.

Different activities are given for teach these skills, includes play therapy activities, role plays, video modeling, different activities, outdoor and indoor games etc. all the activities following behaviour therapy techniques too. The facilitator can plan the sessions based on the needs of the children. **Reinforcement and punishment** are also uses, social reinforces, rewards, time out etc are given.

Everyday session

Social skill training session have 40 minutes session, it includes group interaction and sitting for first 10 minutes, teaching skills for next 20 minutes and concluding activities at last 10 minutes.

Follow-Up Activities

1. Home Training: Provide children with simple homework such as practicing a social skill (e.g., asking for help or enhance eye contact, say "thank you", "please") in their daily interactions.
2. Peer Interaction: Encourage child to engage with a peer outside the session, focusing on practicing newly learned social skills.

Evaluation

Every three months of SST program, conduct a final assessment using the social skills checklist, to evaluate the participants' progress. Additionally, gather feedback from parents' other therapist etc.

RESULT

Table: 1- Sample Composition (Gender-wise classification)

Gender	Frequency	Percentage
Male	27	79.4
Female	7	20.6
Total	34	100

The given table is the descriptive statistical Analysis of data, it is helpful to know the characteristics of data. The sample consists of 34 children, with 27 males (79.4%) and 7 females (20.6%). This distribution shows a significantly higher number of male participants in the sample.

Table 2

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
PRETEST	34	15	87	50.38	22.214	.070	.403	-1.218	.788
POSTTEST	34	16	98	59.74	23.885	-.257	.403	-1.054	.788

Pre-test Scores: The average (mean) pre-test score is 50.38, with a standard deviation of 22.214. This spread indicates moderate variability in the pre-test scores. Scores range from a minimum of 15 to a maximum of 87, showing a broad range of initial skill levels before the training. The skewness is close to zero (0.070), indicating that the pre-test scores are nearly symmetric. However, the negative kurtosis value (-1.218) suggests a slightly flatter distribution than normal, with fewer extreme scores. Post-test Scores: The average post-test score increased to 59.74, indicating a positive shift in scores after

The training. This higher mean suggests that, on average, participants performed better in the post-test than in the pre-test. The standard deviation increased slightly to 23.885, indicating a slightly wider distribution of scores after the training.

The range expanded, with scores from 16 to 98, showing that some participants achieved very high scores post-training. The slight negative skewness (-0.257) suggests a minor tail on the left side, implying a few lower scores. The kurtosis value of -1.054, similar to the pre-test, indicates a flatter-than-normal distribution with fewer extreme scores.

The increase in the mean score from 50.38 (pre-test) to 59.74 (post-test) suggests an improvement in social skills after the training. Given the nature of the paired t-test, this difference can be tested for statistical significance to determine if the observed improvement is statistically significant.

Hypothesis 1: Social skills training has a significant positive effect on the socialization of children with special needs.

Paired t-test: comparing pre- and post-test scores for the same group of children (before and after social skills training).

Table 3

Paired Samples Test									
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	pretest - posttest	-9.353	9.303	1.595	-12.599	-6.107	-5.863	33	.000

Inference: There is significant difference between pre and post test score. The paired t-test was conducted to compare the pre-test and post-test scores of children with special needs before and after receiving social skills training. The results showed a t-value of -5.863 and a p-value of 0.000. Since the p-value is less than the standard significance level (usually α=0.05), we reject the null hypothesis that there is no difference between the pre-test and post-test scores. This indicates that the social skills training had a significant effect on the socialization of children with special needs.

The significant p-value ($p<0.001$) suggests that the social skills training led to a meaningful improvement in the post-test scores compared to the pre-test scores. Therefore, we conclude that social skills training has a positive and statistically significant impact on the socialization of children with special needs.

Hypothesis 2: there is a significant difference in the effectiveness of the training across the four categories of children. Comparing pre- and post-training scores within the same group across different categories (Autism Spectrum Disorder, Intellectual Disability, Cerebral Palsy, and Social Communication Disorder).

Chi-square

Case Processing Summary						
	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
pretest * posttest * condition	34	100.0%	0	0.0%	34	100.0%

Chi-Square Tests						
condition		Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
1	Pearson Chi-Square	2.000[b]	1	.157		
	Continuity Correction[c]	.000	1	1.000		

	Likelihood Ratio	2.773	1	.096		
	Fisher's Exact Test				1.000	.500
	Linear-by-Linear Association	1.000	1	.317		
	N of Valid Cases	2				
2	Pearson Chi-Square	15.000[d]	9	.091		
	Likelihood Ratio	13.322	9	.149		
	Linear-by-Linear Association	2.615	1	.106		
	N of Valid Cases	5				
3	Pearson Chi-Square	104.000[e]	99	.346		
	Likelihood Ratio	55.598	99	1.000		
	Linear-by-Linear Association	10.674	1	.001		
	N of Valid Cases	13				
4	Pearson Chi-Square	28.000[f]	24	.260		
	Likelihood Ratio	21.698	24	.597		
	Linear-by-Linear Association	5.772	1	.016		
	N of Valid Cases	7				
5	Pearson Chi-Square	3.000[g]	2	.223		
	Likelihood Ratio	3.819	2	.148		
	Linear-by-Linear Association	1.235	1	.266		
	N of Valid Cases	3				
6	Pearson Chi-Square	2.000[b]	1	.157		
	Continuity Correction[c]	.000	1	1.000		
	Likelihood Ratio	2.773	1	.096		
	Fisher's Exact Test				1.000	.500
	Linear-by-Linear Association	1.000	1	.317		
	N of Valid Cases	2				
7	Pearson Chi-Square	.[h]				
	N of Valid Cases	1				
8	Pearson Chi-Square	.[h]				
	N of Valid Cases	1				
Total	Pearson Chi-Square	386.278[a]	360	.163		
	Likelihood Ratio	153.475	360	1.000		
	Linear-by-Linear Association	27.997	1	.000		
	N of Valid Cases	34				

CP and SCD groups are more benefited, p-value is less than .05.

Discussion

In our analysis of social skills training for children with special needs, two key hypotheses were tested. The first hypothesis posited that social skills training has a significant positive effect on the socialization of these children. A paired t-test was performed to compare pre-test and post-test scores from the same group of children before and after the training. The results showed a mean difference of -9.353, a t-value of -5.863, and a p-value of 0.000. This strong statistical significance ($p < 0.001$) indicates a meaningful improvement in post-test scores compared to pre-test scores. Consequently, the null hypothesis, which suggested no difference between the two sets of scores, was rejected. These findings confirm that social skills training has a positive and statistically significant impact on the socialization of children with special needs.

The second hypothesis examined whether there is a significant difference in the effectiveness of training across four categories of children: Autism Spectrum Disorder, Intellectual Disability, Cerebral Palsy, and Social Communication Disorder. In the analysis of the effectiveness of social skills training across different categories of children with special needs, a series of Chi-square tests were conducted to compare pre- and post-training scores within four specific conditions: Autism Spectrum Disorder, Intellectual Disability, Cerebral Palsy, and Social Communication Disorder.

For the first condition, the Pearson Chi-square value was 2.000 with one degree of freedom and a p-value of 0.157. This suggests that there was no significant association between the pre- and post-training scores within this category. The continuity correction yielded a p-value of 1.000, further indicating a lack of significant difference. The likelihood ratio also did not show significance, with a p-value of 0.096.

In the second condition, the Chi-square value was 15.000 with nine degrees of freedom, resulting in a p-value of 0.091. This value approaches significance but does not reach the conventional threshold of 0.05. The likelihood ratio was similarly non-significant at 0.149, and the linear-by-linear association test also indicated no significant relationship with a p-value of 0.106.

For the third condition, the results were less conclusive with a Pearson Chi-square value of 104.000 and 99 degrees of freedom, leading to a p-value of 0.346. The likelihood ratio further confirmed this lack of significance, returning a p-value of 1.000. However, the linear-by-linear association test revealed a statistically significant association with a p-value of 0.001, indicating some level of relationship worth exploring.

The fourth condition showed a Pearson Chi-square value of 28.000 with 24 degrees of freedom and a p-value of 0.260, suggesting no significant difference. The likelihood ratio was also non-significant at 0.597, although the linear-by-linear association test yielded a p-value of 0.016, indicating a potentially interesting relationship that could be further examined.

Subsequent conditions had lower case counts, resulting in less robust findings. For the fifth condition, the Chi-square value was 3.000 with two degrees of freedom and a p-value of 0.223, while the sixth condition mirrored this result with a Pearson Chi-square value of 2.000 and a p-value of 0.157.

Overall, when considering all conditions, the total Pearson Chi-square value was 386.278 with 360 degrees of freedom and a p-value of 0.163, indicating no significant overall effect across all categories. However, the linear-by-linear association showed a significant p-value of 0.000, suggesting that some

relationships exist that merit further investigation. The analysis included a total of 34 valid cases, providing a comprehensive overview of the data.

Summary and conclusion

Neurodevelopmental disorders are a condition which affect many ways in once life. Social skill deficit is one of the main issues faced by such kind of children. Social skill training focused on to enhance the social skills of special need children. The current action research study conducted in AKKARA foundation for a time period of six month. The study aims to examine the effect of social skill training on the socialization of children with special need. And to identify and evaluate the implications of social skill training program. From the analysis and discussion, it is found that social skill training was effective in special need children. Significant differences have been observed in their social skills and socialization. Furthermore, comparisons of pretest and post test scores among various groups such as with Autism Spectrum Disorder, Intellectual Disability, Cerebral Palsy, and Social Communication Disorder, showed that children with Cerebral Palsy and Social Communication Disorder benefitted the most. Based on this finding, it can be concluded that social skills training intervention improves social skills of children with developmental disorders.

Implications of the study

Major implications of the study are:

- The effectiveness of SST was understood. Special need children have much benefit on this social skill training.
- The drawbacks of the current groups are identified.
- The different categories of condition and effect of SST on various group also be identified.
- The need for revise SST module should be understood.

The study offers valuable insights into the effectiveness of the Social Skills Training (SST) program for children with special needs. Designed as an action research project, it allows for ongoing evaluation and adjustments to improve the program. Key findings highlight the significant benefits of SST for special needs children, demonstrating its positive impact on their social development. Additionally, the study identifies several drawbacks in the current group settings, revealing areas for improvement. It also distinguishes how SST affects different groups based on their specific conditions, offering a nuanced understanding of its effectiveness across various disabilities. One major implication of the study is the need to revise and adapt the SST module to more effectively to the diverse needs of children. The research emphasizes the importance of integrating SST into therapy centers and suggests incorporating various methods, such as group training and behavior therapy techniques, to further enhance the social skills of children with special needs.

Limitations of the study

While interpreting the results of the current study, some limitations could be considered.

- The present investigation which was conducted in a short time of period.
- The result of the study cannot be generalized to represent the special need children. As the data was collected only from few children.
- Although the study recruited a relatively small sample, the sample itself was unbalanced in terms of gender.

- The study was conducted on the basis of action research so continues evaluation is needed.

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