



EFFECTIVENESS OF A SOCIAL SKILL ENHANCEMENT PACKAGE IN DEVELOPING THE SKILL OF COOPERATION IN CHILDREN WITH AUTISM SPECTRUM DISORDER

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ABSTRACT

This paper reports the effectiveness of a theatre technique based Social Skills Enhancement Package (SSEP) in improving the skill of 'cooperation' in children with autism spectrum disorder (ASD). A pre-test post-test control group design was adopted for the study. The participants of the study were two convenient groups of children with ASD (control group, n = 23; experimental group, n = 27) enrolled to the Urban Resource Centre, Kozhikkode and the Block Resource Centres, Perambra, under Sarva Shiksha Abhiyan (SSA), Govt. of Kerala. Pre-test and post-test data on the social skill 'cooperation' were collected from the parents and teachers by administering two versions of the Social Skill Assessment Scale for Children with Autism (SASCA), the P-version for parents and the T-version for teachers. A three months long psycho-pedagogic intervention was done on the experimental group with a theatre technique based Social Skills Enhancement Package developed by the investigators. Analysis of data by employing independent sample t-test, paired sample t-test and one-way ANCOVA revealed that theatre technique based SSEP is effective in enhancing the skill of 'cooperation' in child with ASD.



KEYWORDS: Autism spectrum disorder, Social skills, Theatre technique, Social Skills Enhancement Package.

INTRODUCTION

'Autism Spectrum Disorders' (ASD) is a generic term used to designate a group of human neurodevelopmental disorders characterized by lack of social reciprocity, presence of restricted, repetitive behaviours, and limited range of interests, or activities (American Psychiatric Association [APA], 2013). It involves delayed development of social skills, significant disability to socialize, deficits in communication, difficulty to bond emotionally with others, sensory processing disorder, presence of rigid and repetitive behaviors, and limited interests (Case-Smith, Weaver & Fristad, 2014).

Autism spectrum disorder is incurable. Researchers and professionals are continuously searching for effective interventions that can improve the lives of affected persons. The prime concern in such interventions is to improve the affected person's ability to understand and interact with others by improving their communication and relationship skills. Educational intervention for children with autism includes planned programmes for stimulating socialization, instilling adaptive skills, developing language and communication, promoting academic learning and reduction of problem behaviors to

maximise functional independence and improve quality of life (Stahmer, Schreibman & Cunningham, 2011; Myers & Johnson, 2007). Such programmes are usually eclectic in nature and include structured teaching procedure delivered in individualised manner apart from typical classroom activities (Stahmer, Schreibman & Cunningham, 2011). The educational programmes for children with ASD usually include behavioural intervention techniques such as Applied Behavioural Analysis (ABA), Discrete Trial Training (DTT), sensory integration therapy, and speech-language therapy, taught over trials usually repeated several times, till effectively retained (Lord & McGee, 2001). Among the different therapeutic measures available for improving the social and communication skills of children with autism, Applied Behavioural Analysis (ABA) is perhaps the most generally successful one (Klintwall, Gillberg, Bolte & Fernell, 2012; Vismara & Rogers, 2010; Sulzer-Azaroff, Fleming, Tupa, Bass & Hamad, 2008; Foxx, 2008; Remington et al., 2007). The underlying presumption of ABA is that behavior is mostly formed by its consequences and that the increase of positive outcomes supports learning and thus development. Researchers have pointed out that socio-cultural milieu of the disabled child is critical in the effectiveness of any social skill development programme meant for child with ASD (e.g., Broder-Fingert, Silva, Silverstein & Feinberg, 2017; National Autism Center, 2015; Pierce, O'Reiley, Sorrels, Fragale, White, Aguilar & Cole, 2014; West et al., 2016; Wong et al., 2015). This paper, limited to one of the social skills (cooperation), is part of a larger research to study the effectiveness of a social skill enhancement package based on theatre techniques on social skill development of children with ASD.

OBJECTIVE OF THE STUDY

The objective of the study is to find out the effectiveness of a theatre technique based social skills enhancement package in developing the skill of 'Cooperation' in children with autism spectrum disorder.

HYPOTHESIS OF THE STUDY

Hypothesis H₀ (1): The social skills enhancement package will not be effective in developing cooperation in children with autism spectrum disorder.

METHODOLOGY

Method

A quasi-experimental research which followed pre-test post-test control group design was adopted for the study.

Population

Children with mild autism spectrum disorder in the age range 6-14, living within the revenue territory of the State of Kerala (India) constituted the population for the study.

Participants

The participants of the study were two convenient groups of children with ASD (control group, n = 23; experimental group, n = 27) enrolled to the Urban Resource Centre, Kozhikkode and Block Resource Centres at Perambra, under Sarva Shiksha Abhiyan, Govt. of Kerala.

Tools and Materials Used

a) Social Skill Assessment Scale for Children with Autism – Parents' Version (SASCA-P) and Teachers' Version (SASCA-T): The social skill (cooperation) of the participants were assessed by employing a dual-version psychometric instrument named as the Social Skill Assessment Scale for Children with Autism – Parents' Version (SASCA-P) and the Social Skill Assessment Scale for Children with Autism – Teachers' Version (SASCA-T), developed by the investigators. These instruments are designed to produce an objective measure of the ability of children with autism to exhibit a socially acceptable learned behaviour that enable them to interact with others in ways

elicit positive responses and assist in avoiding negative responses. The P-version of the instrument (SASCA-P) is for the parents or other caretakers of the child at home, who will evaluate the social skills of the child by considering his/her social behaviour in family/ neighbourhood situations. Whereas, the T-version of the instrument (SASCA-T) is for the teachers of the child, who will evaluate the social skills of the child by considering his/her social behaviour in the classroom/school situations. The instruments are intended to assess six component social skills, viz., Cooperation, Responsibility, Assertion, Self-control, Communication, and Empathy. For the present study the scores produced by the Sub-scale Cooperation alone were taken for analysis. The SASCA-P has a criterion validity of 0.77 and inter-rater reliability of 0.86; while the SASCA-T has validity and reliability coefficients in the order of 0.74 and 0.81 respectively.

b) Social Skills Enhancement Package (SSEP): It is a psycho-pedagogic package based on theatre techniques, developed by the investigators for promoting the social skills of children with ASD. The SSEP consists of modelling, written and behavioural rehearsal, instructional strategies, and behaviour management to enhance important social skills needed for daily life. The SSEP was developed based on the Instructional System Design (ISD) using the ADDIE Model (Analysis-Design-Development-Implementation-Evaluation) put forth by McGriff (2000). The SSEP is a 50 hours teacher assisted package consisting of a total of 74 activities, focusing on enhancement of a particular component of social skill. The activities in the SSEP were evaluated by a panel of 30 experts from different areas for their Transparency, Relevance, Attractiveness, Participation, Flexibility, Reliability and Simplicity, and reported to be either 'highly satisfactory' or 'satisfactory'.

Procedure

The social skill (cooperation) of each participant in the control group and experimental group were assessed by two persons – a Resource Teacher and either of the Parents. The Resource Teachers used the SASCA-T for evaluating the social skills of a disabled child, while the parent employed the SASCA-P for evaluating his/her child. The participants in both the control group and experimental group were subjected to pre-test measurement of the social skill (cooperation) by administering the SASCA-P and SASCA-T. The experimental group (n = 27; Mean age = 8.50 years, SD = 2.58) was then exposed to three months long social skill training with the help of the SSEP, at the Centre for Research and Development of Autistic Children (CRDAC), Kozhikode, an R & D Centre for children with autism under the Urban Resource Centre (URC), Sarva Shiksha Abhiyan (SSA), Govt. of Kerala. Though the participants in the control group (n = 23) were restrained from getting any social skills development training during the experimentation period, they were not restricted from receiving any routine educational exposure in the school, assistance of the Special Education Teachers of the school, assistance of the Resource Teachers in the Block Resource Centre, or any medical or psychological assistance during the period of experimentation. After the completion of the experimental period, the social skills of the participants in the control group and experimental group were assessed once again by a Resource Teacher and either of the parents by employing the relevant version of the Social Skill Assessment Scale for Children with Autism.

ANALYSIS AND INTERPRETATION

Table 1 presents the result of the independent sample t-test performed to compare the control group and experimental group with respect to the pre-test scores of 'cooperation'.

Table 1: Comparison of pre-test scores of 'cooperation' of control group and experimental group

Groups	Statistical Indices				t	Sig.
	N	M	SD	SE _M		
Control	23	23.43	5.044	1.052	0.679	NS
Experimental	27	22.52	4.492	.865		

The t-value obtained on comparing the mean pre-test scores of 'cooperation' for the control group and experimental group is not significant ($t = 0.679$; $p > .05$). It shows that the control group and the experimental group are alike with respect to the pre-test scores of 'cooperation'. The result of the paired t-test performed to find out the significant difference, if any, between the pre-test and post-test scores of cooperation in the experimental group is given in Table 2.

Table 2: Comparison of pre-test and post-test scores of cooperation of experimental group

Groups	Statistical Indices				t	Sig.
	N	M	SD	SE _M		
Pre-test	27	22.52	4.492	.865	11.642	.001
Post-test	27	27.33	3.731	.718		

The t-value obtained on comparing the pre-test and post-test scores of 'cooperation' for the experimental group of the children with autism is significant ($t = 11.642$; $p < .001$). The post-test mean score is significantly higher than the pre-test mean score which may be attributed to the effect of experimental treatment. The social skill score of cooperation obtained for the control group before and after the experimental period was compared to find out the significant difference, if any, happened to the social skill factor during the experimentation period. The data and result of the paired t-test done in this context is given in Table 3.

Table 3: Comparison of pre-test and post-test scores of cooperation of control group

Groups	Statistical Indices				t	Sig.
	N	M	SD	SE _M		
Pre-test	23	23.43	5.044	1.052	1.412	NS
Post-test	23	24.13	4.383	.914		

The t-value obtained on comparing the pre-test and post-test scores for the social skill of cooperation for the control group is not large enough to be significant at least at .05 level ($t = 1.412$; $p > .05$). It shows that no significant change had happened in the social skills of cooperation of control group during the experimental period. In order to find out whether any significant change has happened to the social skill of cooperation as a result of the experimental intervention, the post-test scores of the control group and the experimental group were compared by applying the independent sample t-test. The data and result of the analysis performed in this context is given in Table 4.

Table 4: Comparison control group and the experimental group with respect to the post-test scores of cooperation

Groups	Statistical Indices				t	Sig.
	N	M	SD	SE _M		
Control	23	24.13	4.383	.914	2.792	.01
Experimental	27	27.33	3.731	.718		

The t-value computed on comparing the control group and experimental group regarding the post-test scores of the social skill of cooperation is significant ($t = 2.792$; $p < .01$). Inspection of the mean

scores estimated for the groups shows that the experimental group out shines the control group in their social skill of cooperation, which can be attributed to the effect of pedagogic intervention with the SSEP. In order to find out the effectiveness of the Social Skill Enhancement Package in promoting the social skill 'cooperation' in children with autism, the post-test scores of cooperation of control group and experimental group were compared after partialling out the effect of pre-test scores by employing ANCOVA. The data and result of the tests of between subjects effect performed is given in Table 5.

Table 5: Result of the ANCOVA of the post-test scores on the social skill of cooperation of control group and experimental group

Dependent Variable: Post-test scores of Cooperation

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Squared	Eta
Corrected Model	736.984 ^a	2	368.492	98.946	.000	.808	
Intercept	142.682	1	142.682	38.312	.000	.449	
Pre-test	609.573	1	609.573	163.680	.000	.777	
Group	186.138	1	186.138	49.981	.000	.515	
Error	175.036	47	3.724				
Total	34349.000	50					
Corrected Total	912.020	49					

a. R Squared = .808 (Adjusted R Squared = .800)

The F-value obtained on comparing the post-test scores of the social skill of cooperation for the control group and experimental group, after partialling out for the pre-test scores, is significant ($F = 49.981$; $p < .001$). It shows that there is significant difference in the post-test score of the social skill of cooperation between control group and experimental group even after adjusted for pre-test score of cooperation. Put another way, there is an overall statistically significant difference in post-intervention score of the social skill of cooperation between the control group and experimental group when their means had been adjusted for pre-intervention score of cooperation. The Hypothesis H_0 (1) (*the social skills enhancement package will not be effective in developing cooperation in children with autism spectrum disorder*) is, therefore, rejected.

CONCLUSIONS

The control group and the experimental group of children with autism spectrum disorder were similar with regard to their social skill of 'cooperation' before the experimentation. Intervention with SSEP brought about a significant change in the social skill of 'cooperation' of children with ASD in the experimental group. No significant change had happened in the social skill of 'cooperation' of children with autism in the control group during the experimentation period. Significant difference was observed between the control group and the experimental group with regard to the post-test scores of the social skill of cooperation. The effect of SSEP on the social skill of cooperation of child with ASD in the experimental group remained significant even after adjusting for the pre-test scores of the groups, showing the effectiveness of the theatre technique in enhancing the social skill of 'cooperation' of children with ASD.

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