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EFFECT OF MUSIC ON SOCIAL SKILLS AMONG CHILDREN WITH INTELLECTUAL DISABILITY HAVING AUTISM

Tanuja Kumari¹ and Prem Kumar¹

¹Director, Vimalashraya, A High Fly Ranchi, Jharkhand, India.

²Research Scholar, Enrollment No: SSSSED1686W, SSSUTMS- Sehore, Madhya Pradesh, India.

ABSTRACT

The present study is focused to find out the “Effect of music on social skills among children with Intellectual Disability having Autism”. In this study 8 samples were selected based on the set criteria which were divided into experimental and control group, 4 in each group within age group of 7-12 years with intellectual disability having autism attending at Special Education Center, Secunderabad. A pre-test, post-test was used for the study. Statistical treatment of data was done by using mean (Mann Whitney u test) and (Wilcox signed rank test). The findings revealed that the post test score of both experimental and control group is higher than the pre-test score however, the experimental group performed better in post-test comparative to the post test of control group.

KEYWORDS

Music, Social skill, Intellectual disability, Autism and Children.

Author for Correspondence:

Tanuja Kumari,
Director, Vimalashraya,
A High Fly Ranchi, Jharkhand, India.

Email: tanuja.choudhary@gmail.com

INTRODUCTION

As we know the children with Intellectual Disability have problem in their Cognition areas, due to this they have many social and communication skill deficits. Apart from these the Other Health Impairment or associate condition are more frequently found among children with intellectual disability as well. Smith and Luckasson, 2005, has stated that In turn these social problems may affect a Childs ability to learn.

In order to make them success and productive citizen of this Nation of India, the Ministry of Social Justice and Empowerment, Govt. of India has provided

many different programs, schemes, and other benefits to the individual with an ID. Under Rehabilitation Council of India, there are many courses which prepare an Individual to work for these children.

Further, this book of dissertation talks about how Music helps the children with Intellectual Disability having Autism, to improve their Social deficits areas and maximize their potential to have an equal participation with the other children. Music intervention offers the potential to enhance social ad to maximize social development (Ronski and Sevcik, 2005)¹.

Music

Music can enhance the quality of life. It is a `Universal language` that crosses age, ability and cultural lines. It is a socially appropriate activity and leisure skill. Most of Music plays a major role in the every day and special day lives of most of the people. Music has been used extensively throughout history as a healing force to alleviate stress and illness (Feder and Feder 1981)².

By means of music, we can assist these children to come to maturity in many ways. Music confers non-musical benefits that have particular consequences for pupils with special needs. It contributes to:- Reasoning ability, Reading skills, Feelings and Response, Personal fulfillment, Language Development, The promotion of Communication, Motor control and Physical well-being, Positive attitude to school, Socializing and Pleasurable experience in a group.

Elements of Music

Elements of music are rhythm, melody, harmony, dynamics, timbre, and form. Whether used individually or grouped, when there tools are thoughtfully applied towards adaptive goals they are unsurpassed in their ability to address sensory integration issues.

Rhythm

Rhythm is everywhere, and it is one of the first elements human beings instinctively detect when experiencing music. The universe consists of rhythmically paced functions: form pulsing lights and sound frequencies to the orbiting of planets;

from the cycles of seasons and weather to phenomenal cosmic forces.

Components of Rhythm

Pulse, pattern, perseveration (repetition), tempo.

Social Skill

The social skills are as individual's ability expresses both in positive and negative feeling in the interpersonal context, involving the coordinate delivery of appropriate verbal and nonverbal responses (Bellock and Herson).

Autism

Students with autism have significant difficulty with pro-social behaviors (Brady, Shores, Mc. Evoy, Eills, Fox, 1987³; Goldstein, Kaczmarek, Pennington, Shafer, 1992⁴; Gonzalez Lopez and Kamps, 1997⁵; Krantz and Mc. Clannahan, 1998⁶; Pierce and Schreibman, 1995⁷). By definition, children with autism exhibit deficits in age appropriate social skills (American psychiatric association, 1995). These social skill problem manifest concomitant with difficulties in communication; together they impact the degree to which a student with autism can independently navigate common social experiences. The result of these difficulties can be that formation of friendships for people with autism can be a difficult task (Wing, 1992).

NEED AND SIGNIFICANCE OF THE STUDY

Participation in music is non threatening way to allow the individual to experience outside stimuli while avoiding direct human control.

The music will facilitate and support the desired to communication, it breaks pattern of isolation and engage the individual in external experiences; reduce echolalia responses and facilitate functional language, decreases stereotyped pattern; teach social skills.

Music is a positive influence in the teaching of ID with autism it's a powerful tool to enhance social skills.

The study well be useful for: Teacher, Professional, Future researcher and Parents

REVIEW OF RELATED LITERATURE

Wolfe and Noguchi (2009) conducted study to examine the use of music to sustain attention of young children during condition of auditory distractions. Kindergarten students (N=76) were randomly assigned to one of four condition/ groups: (a) spoken story with no distraction (b) spoken story with distraction (c) musical story with no distraction, musical story with distraction. Participants were asked to listen to the story and to identify specific action and animals that were presented within the story. A tally of correct responses was recorded during the listening task. A one-way ANOVA was computed to assess the difference in mean scores across the four experimental conditions. Significant results were found.

Rhoda Persis (2008)⁸ conducted study to investigate effect of music on communication skills and social skills among children with mental retardation at pre-primary level. The research design used was pre-post experimental and control group design. Children who have problem in communication and social adjustment at pre-primary level were identified from spars special school. 10 children in experimental and control group were selected. Music checklist was developed in order to measure outcomes of intervention, spread across for 15 sessions for durations of 15 days. Results of the study revealed that music intervention was effective on given sample group, and it helped improve communication and social skills.

Beck, Dennis and Stoner (2006) aim of research is to increase social skills and intervention patterns among adults with disabilities aided language stimulation were the interaction method. An ABAB single subject design was used and there were 14 participants, separated two groups of 7 members and sessions were held in groups for 30 minutes 2 times a week and two researchers collected data individually during sessions to establish inter-rate reliability. The results of the study showed that a notable increase in common skills and social skills the client's verbalizations were intelligible and appropriately increased during intervention.

Langone and Ayres (2004)⁹ effect of combining video and computer based instruction to teach social

skills to 4 students with autism were evaluated with a multiple probe design across behaviors. The teacher designed a computer based program with embedded video clips of peers without disabilities displaying examples and non-example of the targeted social skills: sharing, following teacher directions and social greetings. Students were required to discriminate the examples from non-examples displayed in the video clips. Following computer based training, students participated in group activities with peers without disabilities. This allowed for evaluation of social skill acquisition. All students showed rapid improvements in targeted social skills in the natural environment.

Brownell (2002)¹⁰ musically adapted social stories to modify behaviors in students with autism: use of musical- social stories was equally effective to reading of social stories in 3 to 4 cases and significantly more effective in one of the cases.

Statement of the Problem

The researcher intends to investigate the effect of music on social skills among children with intellectual disability having autism.

OPERATIONAL DEFINITION

Music

In the present study, the term music refers to songs, rhymes, action songs composed for teaching social skills.

Social Skill

Social skills refer to maintain appropriate eye contact, imitation, greeting others, turn taking and ability to take part in group activity.

Intellectual Disability

Intellectual Disability is a disability characterized by significant limitation both in intellectual functioning and in adaptive behavior, as expressed in conceptual, social and practical skills. This disability originates before the age of 18.

Students with Intellectual Disability having autism refer to individuals having an IQ below 70 on a standardized test.

Autism

Refer to the developmental disability significantly affecting on social interactions. Interacting with their peer/ their age group.

Objectives of the Study

To find out Effect of Music on Social Skills among Children with Intellectual Disability Having Autism.

Hypothesis

There will be a significant difference in pre-test and post-test mean scores on social skills among children with mild ID having autism who receive music (T-MOTIVE).

There will be a significant difference in pre-test and post-test mean scores on social skills among children with mild ID having autism who receives conventional method.

There will be a significant difference between post-test mean scores on social skills between who receive music and who receive conventional method (experimental - control group) of children with mild ID having autism.

Sample Size

For the study 8 between the age group of 7 to 12 yrs. The samples were selected in SEC-NIMH. Students were divided into two groups, 4 experiment and 4 control groups. In experimental group 3 male and 1 female in control group all subjects were male having mild intellectual with autism.

Sampling Technique

The sampling techniques used for the present study is Non-probability, Purposive sampling technique.

Inclusion Criteria

Students whoever is diagnosed as intellectual disability having autism, students within the age group of 7-12 years were selected for the study. Who score 60% and above in pre requisite skills checklist.

Exclusive Criteria

Students whoever is diagnosed as other associate conditions and below 7 and above 12 Years. Who score 60% and less in pre requisite skills checklist.

Tools

All research studies involve data collection to test hypothesis. For collecting the data, the research has used two tools. (FACP, T-MOTIVE)

FACP

This check list is used for assessing functional areas it is developed by NIMH. The researcher has used to assess pre-requisites for social skills in primary (FACP) and the scoring key is Independent-5,

Gesture-4, Verbal prompt-3, Modling-2, Physical prompt-1, Dependent-0.

T-MOTIVE

The second tool used for the study was T-MOTIVE (Tanuja's- music of turn taking, imitation, initiation, vocalization eye-contact) to measure social skills. Based on the skills taken for the intervention 5 rhymes related to checklists were selected namely:-

- a) Brush your teeth,
- b) Five little duck,
- c) Clap your hand,
- d) If you happy and
- e) Family finger

Description of the Tool

For the assessment of children's social skills a checklist was needed. Therefore, a checklist for assessing social skills for children with special needs having autism in special school has been developed by using following steps:

Polling of the Items

In order to develop a checklist, the main checklists which are using in the special education centre are MDPS (Madras developmental programming system), FACP (Functional assessment checklist for programming), and portage were taken. These checklists have a domain on social skills. The researcher went through all these checklists and items included in the social skills domain. As according to the purpose of the research the items were arranged.

Procedure

(a) Key: Always-3, Occasionally-2, Rarely-1, and Never-0. The subjects in the experimental group were taught social skills through rhymes. A total of 20 sessions were carried out and are conducted in the morning at 10:30 to 11:15 the time for each session was 40 minutes and 5 minutes for evaluation of the subjects performance in the experimental group. Material used; laptop, duck model, picture of father, mother, brother, sister

(b) The subject in the control group received conventional classroom instructions. The baseline of the children was assessed on the checklist developed by the researcher. The data which obtained was considered as pre-test scores. Based on the performance level students were divided

randomly into two groups that is control and experimental group followed by control group receiving conventional classroom instruction and experimental group receiving music. The music was selected and developed and principles of learning social skills were taken into consideration while planning the music. Reinforcement was provided to the subjects during the intervention such as-social reinforcement (good, nice, very good) and materialistic reward provided at the end of the session.

Analysis of data

The scores obtained on the performance of the subjects at the end of the intervention were subjected to statistical analysis. As per design and plan, the selected sample the intervention provided for a period of 20 sessions. The collected data has been analyzed in terms of pre-test and post-test. The qualitative data has been gathered through observations and quantitative data manually, and using suitable statistical techniques (Mann Whitney u test) and (Wilcox signed rank test).

DATA ANALYSIS AND RESULTS

The present study was done to find out Effect of Music on Social Skills among Children with Intellectual Disability Having Autism. In the present study, the experimental method was used to examine the effect of music on social skills among children with intellectual disability having autism. The experimental design used for the study is pre, post-test experimental and control group design where pre-test is conducted to know the baseline performance and after intervention a post test is conducted to measure the outcomes. Intervention was given for 20 sessions at SEC-NIMH. Data analysis was done using statistical package for social sciences (SPSS).

Pre-test and post-test mean scores data analysis was done using statistical package for Social Science (SPSS IMP 20). Means and standard divisions was calculated, t-Test was conducted to find out the statistical significance. The results of the data is tabulated and discussed as follow.

The above table shows the mean scores of pretest for (18.6) and Control Group (18.8) reveal that both

group shared homogenous status of performance in Music. Paired mann Whitney u test was conducted to find out whether there was any significant difference in pre and post scores of Experimental and Control Group. The Z value, 0.45 showed non-significant at $P>0.05$ and this show that there is a homogeneity among the group.

Hypothesis 1

There will be significant difference in pre-test and post-test mean scores on Social Skills among children with mild ID having Autism who receives intervention through music.

The above table shows the mean scores of pretest (18.6) and post-test (131.9) of Experimental Group. It was observed that there was an increase in the post scores of the Experimental Group. Paired Mann Whitney u test was conducted to find out whether there was any significant difference in pre and post test score. Paired Mann Whitney u test was conducted to find out the significant difference within the group. Hence hypothesis is accepted.

According to Bellini (2006)¹¹, Effective programs follow a series of steps. Beginning with an assessment of a student's social functioning, educators distinguish between those deficits that can be successfully addressed and those that are unlikely to respond to intervention. For example, the inability to ask a question may be due to either inadequate socialization or an aspect of a specific condition or disability. Such behavior may also be due to a performance problem, in which a student knows what to do, but uses an "inappropriate" response because it meets his/her needs, in any case, successful treatment begins with a thorough, individualized assessment, which then forms the basis for a specific intervention strategy, educators then monitor student progress to modify or refine the intervention, if needed.

Hypothesis 2

There will be significant difference in pre-test and post-test mean scores on Social Skills among children with mild ID having Autism who receives intervention through conventional method.

The above table shows the mean scores of pretest (18.8) and post-test (48) of Control Group. It is observed that there was an increase in the post scores

of the Experimental Group compared to Control Group. Paired Mann Whitney u test was conducted to find out whether there is any significant difference in pre and post test score. Paired Mann Whitney u test was conducted to find out the significant difference within the group. Hence hypothesis is accepted.

The similar results have been reported in Beck, R. A, Dennis, M and Stoner B.J. (2009) the aim of research project is to increase social skills and interaction pattern among adults with disabilities aided language stimulation (ALS) were the interaction method. An ABAB single subject design was used and there were 14 participants, separated two groups of 7 members and sessions were held in groups for 30 minutes 2 times a week and two researchers collected data individually during session to establish inter-rater reliability. The results of the study showed that a notable increase in common skills and social skills, the clients verbalizations were intelligible and appropriately increased during intervention.

Hypothesis 3

There will be significant difference between post-tests mean scores on social skills between Experimental Group and Control Group of children with mild ID having Autism.

From the above table, the results showed that post-test mean scores of Experimental Group and the Control Group. This shows that the achievement scores of the Experimental Group was much higher compared to the Control Group. The Wilcoxon signed rank test was conducted to find out the significant difference between Experimental and Control Groups. The Wilcoxon signed rank test showed significant difference between the mean scores of Experimental and Control Group. This shows that Experimental Group who were taught through Music showed higher performance than the subjects of the Control Group who were taught through conventional method of teaching. Hence hypothesis is accepted.

The similar results have been reported in some other earlier studies listed in the review of literature. Bischof (2001)¹² describes the use of music improvisation in the development of vocalizations of

an eleven-year-old girl who suffered severe brainstem damage related to a road traffic accident. Early vocalizations, initially perceived as moans, were placed in a tonal context through instrumental accompaniment by the therapist. It is suggested the musical context of the child's vocalizations facilitates a transformation of the meaning of the vocalizations from expressions of physical effect into interactive communicative music actions

SUMMARY OF RESULTS

Data collected have been analyzed. There was highly significant difference between pre-test and post test scores. The gain in the post test score compared to the pre-test score shows that music has improved social skills. There was also highly significant gain between pre and post test scores of experimental control group.

Summary

The present study was conducted to find out the whether the effect of music on Social Skills among children with Intellectual Disability having Autism. Music was administered on group 4 children with intellectual disability having autism. The group showed positive response to music treatment.

A total of 8 student's age ranging from 7-12 years mild intellectual disability having Autism participated in the study. The subjects were randomly grouped into two groups (Experimental and Control Group). Each group was having four students. The Experimental Group was given intervention through Music. The Control Group was taught through conventional method of teaching. A total of 20 sessions were taken to teach social skills to both the groups. The performance of the students was evaluated after 20 sessions of teaching and the achievement scores were analyzed.

Statistical Package for social sciences (SPSS) was used for statistical analysis of the data. Mean standard deviation and Mann-Whitney u test was calculated for analyzing the data. A Mann Whitney u test was done to find out the baseline performance of students in both Experimental and control group, secondary to compare the achievement scores of Experimental and control group task wise. To find out any significant difference between and within the

experimental and control groups in the achievement scores.

FUTURE RESEARCH

More exposure is required to operate the system independently.

Once the music is developed it can be used for different students in school.

This study can be conducted for different age group of children belongs to various levels of intelligence, socio-economic status and educational background.

Research may be conducted with different types of music.

Concept which may be taught through music also can be listed and tested. Children should be exposed as a self-instructional material in the classroom by a special teacher and at home by parent.

Table No.1: Comparison of pre-test mean achievement scores of Experimental Group and Control Group NS P>0.05

S.No	Test	N	Mean	SD	Z value
1	Pre-E	4	18.6	0.921	Z = 0.45 Df = 6
2	Pre-C	4	18.8	0.33	-

The above table shows the mean scores of pretest are (18.6) and Control group is (18.8). The difference between pretest and pre mean score was score was (0.2). The Z value, 0.45 showed non-significant at p>0.05.

Table No.2: Comparison of pre and post mean achievement scores of Experimental Group NS P<0.01

S.No	Test	N	Mean	SD	Z value
1	E pre-test	4	18.6	.921	2.887
2	E post-test	4	131.4	4.9	-

The above table shows the mean scores of (18.6) and post-test (131.4) of Experimental Group. The difference between pre and post mean scores is (113.2). The Z value, is 2.887 showed highly significant at P<0.05.

Table No.3: Comparison of pre and post-test mean achievement scores of Control Group NS P<0.01

S.No	Test	N	Mean	S.D	Z value
1	Pre-c	4	18.8	0.33	Z=2.533
2	Post-c	4	48	5.196	-

The above table shows the mean scores of pretest (18.8) and post-test (48) of control group. The difference between post and pre mean score was 29.2. The Z value, 2.533 showed highly significant at P<0.05.

Table No.4: Comparison of post-test mean achievement scores of Experimental Group- Control Group

S.No	Test	N	Experimental		Control	
			Mean	S.D	Mean	SD
1	Post	4	131.4	4.9	48	5.196

The above table, the result showed that post mean scores of Experimental Group (131.4) and Control Group (48). The Z value 2.72 showed highly significant at P<0.05.

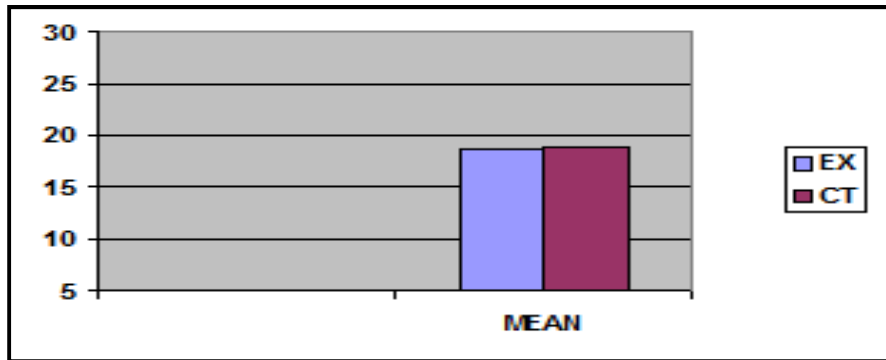


Figure No.1: Graphical representation of comparison of pretest mean achievement scores of Experimental and Control Group

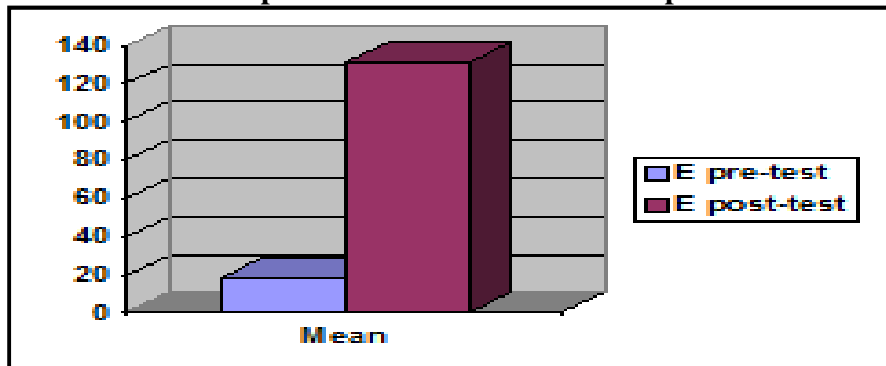


Figure No.2: Graphical representation of pre and post-test mean achievement scores of experimental group

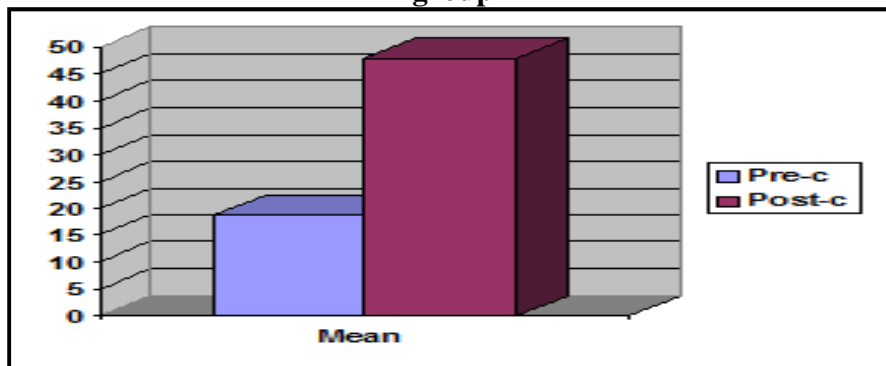


Figure No.3: Graphical representation of pre and post mean achievement scores of Control Group

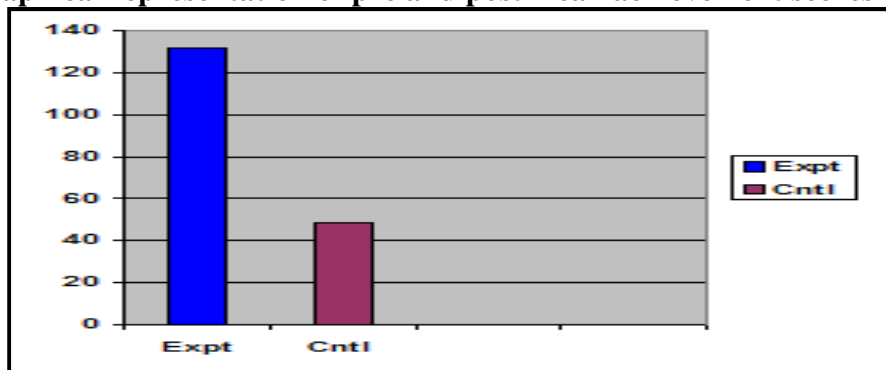


Figure No.4: Graphical presentation of pre and post-test mean achievement scores of Experimental Group- Control Group

CONCLUSION

In the end, it can be concluded that music is a significant tool to help the ID with autism children in developing and assisting in variety of activities. Music Education can be employed as a means of improving the social adjustment of autism children, so that they feel themselves a part of the society. Music will never replace the teacher. But the effective use of music enhances the desired learning. The collective wisdom from real world experience, research supports the view that music has strong positive effect on social skills. There's virtually no evidence of downside risk. Based on the evidence gathered so far, it's both reasonable and prudent that Music should be a significant part of every child's education. It is ethical Scientific and culturally imperative that all children get exposure to music as an equal with every other discipline.

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CONFLICT OF INTEREST

We declare that we have no conflict of interest.

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