



Effectiveness of Laughter Therapy on Emotional Intelligence and Adjustment among Physically Disabled Adolescents

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Abstract

Nowadays disability is rapidly increasing in society. It is very important to find some sustainable solutions to their emotional, social, and physical difficulties from childhood. This research focuses on the psychological problems of physically disabled adolescents. Emotional intelligence and adjustment are important psychological factors to survive in society. Laughter therapy is the best alternative therapy in the world. The effect of laughter therapy on the mental, physical, and social state of human beings was evaluated by researchers. In this research, the researcher concentrated on the emotional intelligence and adjustment of physically disabled adolescents. The aim of the current study was to study the effect of laughter therapy on emotional intelligence and adjustment among physically disabled adolescents. This was a quasi-experimental, control experimental pre-post study. A sample of 60 males and females is taken for this study and their age range was 13-19 years. For this study, the emotional intelligence scale and the Adjustment inventory for school students were used. Mean, S.D., independent, and paired sample t-tests were used for the analysis of collected data. The researcher focused on emotional intelligence and its sub-factors along with the emotional, social, and educational adjustment of disabled adolescents. Results showed that laughter therapy intervention significantly affects post-test scores of emotional intelligence and adjustment of physically disabled adolescents. In the conclusion, the researcher concludes that laughter therapy intervention is very useful for physically disabled adolescents to improve their emotional intelligence and adjustment. Through the laughter therapy intervention physically disabled adolescents experienced self-awareness, calmness, more positive emotions, better social connections, enhanced positive emotion coping mechanisms, good emotional adjustment.

Keywords: Laughter Therapy; Emotional Intelligence; Adjustment Physically Disabled Adolescents

Abbreviations: EI: Emotional Intelligence; NK: Natural Killer Cells; EmA: Emotional Adjustment; SA: Social Adjustment; EdA: Educational Adjustment; OA: Overall Adjustment.

Introduction

Emotional intelligence is one of the most popular concept of the 21st century [1,2], emphasizes on the role of emotions

in an individual's success or failure in workplace. The adolescent is a crucial stage of a personality development as well as involves a lot of physiological and psychological changes, which directly effect on the personality of an individual. This stage approximately ranges from 13 to 20 years. It is also called Stress and Storm Phase. The term Emotional Intelligence was coined by Mayer JD, et al. [3] in their academic paper to describe qualities like understanding one's own and others emotions and to use this information

for guiding thoughts and actions. This concept was made popular by Goleman D [4] with publication of his book *Emotional Intelligence: why it can matter more than IQ*. Emotional intelligence is the capacity to create positive outcomes in relationships with others and with oneself. Emotional intelligence has inspired applied research in every field such as psychology, academics, management and life sciences. Emotional intelligence (EI) has in recent times attracted a lot of significance in the academic literature [5,6]. Emotional intelligence as a form of intelligence has its distal roots traced back to the concept of social intelligence coined by Thorndike EL [7]. Emotional intelligence describes the ability, capacity, or skill to perceive, assess, and manage the emotions of oneself, those of others and of groups [3]. The construct has also been described as the ability to recognize the meanings of emotions, relationships, to reason and solve problems [8-10]. EI have been found to be associated with outcomes such as life satisfaction and social network size and quality [11,12]. Emotional intelligence has furthermore been shown by research to predict academic performance and other cognitive outcomes [13-15].

Adolescents with disabilities are becoming more prevalent in India every day. It is a given that most disabled adolescents and young adults in India are between the ages of 11 and 30. Being in their mid-adolescence and late early adulthood, they face a variety of difficulties throughout the transition to school and college, including issues with physical, social, academic, and emotional adjustment. The adolescents' struggle with managing their emotions, developing independence, and forming relationships with others throughout this period is significant [16]. An adolescent person's capacity to successfully acclimatize to his or her surroundings while taking into account emotional, behavioral, and social factors is known as psychological adjustment [17]. Adolescent substance addiction, hostility, violence, and delinquency are all increased when the immediate social context is not appropriately adjusted [18]. Moreover, psychological maladjustment raises the possibility that emotional issues (such as distressing emotions, fears, and worries) and physical ailments will manifest (e.g., headache and stomach pain) [19]. Along with the potential for problems brought on by a lack of adjustment, adolescence frequently sees a reduction in subjective well-being [20].

Over the world, laughter (or humour) therapy has been employed in a variety of participant groups and programmes as an easily accessible, non-invasive, non-pharmacological intervention [21-24]. The enjoyable mood brought on by laughter or humour may decrease stress and anxiety as well as affect the psychological functioning of people who have dementia or depression. In reality, some earlier clinical investigations showed that using laughter as a psychotherapy

tool had positive effects on stress, dementia, and depression [25-27]. It has been strongly indicated that laughter therapy has an impact on bodily processes. It has been suggested that laughter has an impact on the immune system, increases the activity of natural killer cells (NK), and lowers stress [28,29]. Living with a disability has several challenges. The person's mental health is the area where impairment has the most impact. Due to their impairment, the person's mental health deteriorates. They experience life-related frustration. Their lives experience stress. For them, managing their impairment is a challenging challenge. Such individuals need to relearn who they are [22,30]. To achieve their aims and goals, the person must work hard, doing so without becoming impatient or worrying. They must develop fresh strategies for doing that. Negative feelings and thoughts cause mental disruption and damage to one's perception of themselves [31-33]. Social values are diminished. An individual like this is more prone to be shy. It's important to recognize the circumstance and find an acceptable solution. Because of this, laughter therapy is quite effective throughout the world. The research on laughter therapy is energizing for those with disabilities. Hence, laughter therapy may be a useful rehabilitation technique nowadays.

The purpose of this study was to examine the effect of laughter therapy on emotional intelligence and adjustment among physically disabled adolescents. On the basis of the above-mentioned studies, researcher postulated that

- Laughter therapy intervention will positively influence emotional intelligence in the experimental group compared to the control group.
- Laughter therapy intervention will positively influence adjustment in the experimental group compared to the control group.

Methods

This study was quasi-experimental in nature. This control experimental pre-post study was carried out on physically disabled adolescents of Helpers of the Handicapped Institution, Kolhapur, Maharashtra, India from November 2022 to December 2022. A total of 60 physically disabled adolescents both male and female included in this study.

Research Design

Quasi experimental, control experimental pre-post design.

Research Location

Control group's data was gathered from Nandani, Kolhapur, Maharashtra. Actual laughter therapy intervention had conducted at Gharonda hostel Uchagaon (East), Karveer,

Kolhapur, Maharashtra.

Sample

The study included 60 physically disabled adolescents aged between 13 and 19 years old ($M = 15.90$, $SD = 1.94$, 41.67% girls) from 2 disabled institutions in the Kolhapur district (India). Intentionally selecting the sample, the following inclusion criteria were used:

- Physically disabled adolescent's age was between 13 to 19 years.
- This research included only those adolescents who have physical disabilities.
- Those physically challenged adolescents who speak well, listen well, and understand well were included. After that, two groups were formed which was experimental group and control group. In experimental group 30 adolescents were included whereas in experimental group 30 adolescents were included.

Psychological Tools

Emotional intelligence, 2013: Emotional intelligence scale was developed by Hyde, Pethe and Dhar (2012). This scale includes 34 items. Each item has five alternatives, which are strongly agree, agree, undecided, disagree and strongly disagree. This scale covers ten areas related to emotional intelligence i.e. self-awareness (EIA), empathy (EIB), self-motivation (EIC), emotional stability (EID), managing relations (EIE), integrity (EIF), self-development (EIG), value orientation (EIH), commitment (EII), and altruistic (EIJ) Score range of the scale is from 34 to 170. For measuring reliability coefficient, Split-Half method was used. Reliability of this scale Split-Half method is 0.88. This scale is highly validated with other recognized resilience scales. Validity of the scale is 0.92.

Adjustment Inventory for School Students, 2013: The Adjustment Inventory for School Students (AISS) developed by Sinha & Singh (2013) having 60 items with 20 items in each of the three areas of adjustment: emotional, social and educational was used. Responses are taken in 'yes' and 'no' for each item. The split half reliability is 0.95, the test retest reliability is 0.93 and the K-R formula-20 reliability is 0.94. For each response indicative of adjustment '0' is given otherwise '1' is given. The inventory was validated by correlating inventory scores with ratings by hostel superintendent and for this product moment coefficient of correlation was found to be 0.51. High scores on AISS indicate poor levels of adjustment while low scores indicate good adjustment.

Variables

Intervention Variable: Laughter Therapy

Dependent variable

- Emotional Intelligence
- Adjustment

Statistical Analysis

Means, standard deviation, and other relevant statistics were employed as appropriate statistical methods. The independent sample t-test was used to determine the difference between the post-test scores of the control and experimental groups. The paired sample t-test was used to determine the difference between the pre- and post-test scores for both the experimental and control groups. Moreover, Cohen's d was used to calculate the effect size.

Procedure of Data Collection

The information was gathered from adolescents with disabilities aged 13 to 19. For this, the Emotional Intelligence and adjustment scale was used. These tests took no more than 15 minutes to complete. The sample was collected by following the instructions in the test manual given to the students to solve these tests. Adolescents with disabilities aged 13 to 19 were divided into two groups, one experimental and one control. The hostel of Shraavanbal Viklang SevaSanstha was chosen as the control group for this study, while the hostel of Helpers of the Handicapped was chosen as the experimental group. The current experiment ran from November to December 2022. After completion of the laughter therapy intervention immediately the next day the post-test was taken by the researcher.

Development of Laughter Therapy Intervention

An important element of this research was the use of laughter therapy intervention. Dr. Kataria's laughter yoga was the inspiration for this intervention's design. There were around twenty-five laughter exercises included in this intervention, which were suitable for physically disabled adolescents. Three stages are included in laughter therapy. Exercises for the body made up the first part; exercises for actual laughter therapy made up the second; and discussion and self-autosuggestions made up the third. Overall, this therapy kept their moods high and energy levels high. This laughter therapy intervention is a 4-week exercise program delivered daily for 30 minutes each session using progressive exercise routines. Laughter therapy intervention is a moderate-intensity exercise program for physically challenged adolescents that combine simulated laughter exercises with a dedicated strength, balance, and flexibility exercise program.

Result Table

Test	Pre Post	N	Mean	SD	Gain Score	t Value	Sig.	Cohen's d
EI	Pre	30	127.1	6.62	5.07	6.22	0	1.14
	Post	30	132.16	4.61				
EmA	Pre	30	5.63	1.42	1.1	4.74	0	0.87
	Post	30	4.53	0.92				
SA	Pre	30	11.46	1.28	1.6	5.17	0	0.95
	Post	30	9.86	1.05				
EdA	Pre	30	9.13	1.6	1.77	5.22	0	0.96
	Post	30	7.36	1.72				
OA	Pre	30	26.23	2.91	4.47	8.34	0	1.53
	Post	30	21.76	1.78				

Table 1: Mean, SD, r value and t value of pre-post-test of physically disabled adolescents in experimental group.

Note: EI: Emotional Intelligence; EmA: Emotional Adjustment; SA: Social Adjustment; EdA: Educational Adjustment; OA: Overall Adjustment.

Results of the paired-t test in experimental group indicated that there is a significant difference between pre (M = 127.1, SD = 6.62) and post (M = 132.16, SD = 4.61), $t(29) = 6.22$, $p < 0.001$ for emotional intelligence, pre (M = 5.63, SD = 1.42) and post (M = 4.53, SD = 0.92), $t(29) = 4.74$, $p < 0.001$ for emotional adjustment, pre (M = 11.46, SD = 1.28) and post

(M = 9.86, SD = 1.05), $t(29) = 5.17$, $p < 0.001$ for social adjustment, pre (M = 9.13, SD = 1.60) and post (M = 7.36, SD = 1.72), $t(29) = 5.22$, $p < 0.001$ for educational adjustment, pre (M = 26.33, SD = 2.91) and post (M = 21.76, SD = 2.91), $t(29) = 8.34$, $p < 0.001$ for overall adjustment.

Test	Group	N	Mean	SD	t Value	Sig.	Cohen's d
EI	Control	30	126.83	6.39	3.71	0.05	0.96
	Experimental	30	132.16	4.61			
EmA	Control	30	5.43	1.3	3.09	0.05	0.8
	Experimental	30	4.53	0.92			
SA	Control	30	11.06	1.31	3.91	0.05	1.01
	Experimental	30	9.86	1.05			
EdA	Control	30	8.73	1.41	3.37	0.05	0.87
	Experimental	30	7.36	1.72			
OA	Control	30	25.23	2.41	6.34	0	1.64
	Experimental	30	21.76	1.78			

Table 2: Means, t value and level of significance for post-test of physically disabled adolescents from control and experimental group.

Note: EI: Emotional Intelligence; EmA: Emotional Adjustment; SA: Social Adjustment; EdA: Educational Adjustment; OA: Overall Adjustment.

The 30 participants who received laughter therapy treatment (M = 132.16, SD = 4.61) compared to the 30 participants in the control group (M = 126.83, SD = 6.39) demonstrated significantly better emotional intelligence, $t(58) = 3.71$, $p < 0.05$. The 30 participants who received laughter therapy treatment (M = 4.53, SD = 0.92) compared to the

30 participants in the control group (M = 5.43, SD = 1.30) demonstrated significantly better emotional adjustment, $t(58) = 3.09$, $p < 0.05$. The 30 participants who received laughter therapy treatment (M = 9.86, SD = 1.05) compared to the 30 participants in the control group (M = 11.06, SD = 1.31) demonstrated significantly better social adjustment,

$t(58) = 3.91, p < 0.05$. The 30 participants who received laughter therapy treatment ($M = 7.36, SD = 1.72$) compared to the 30 participants in the control group ($M = 8.73, SD = 1.41$) demonstrated significantly better educational adjustment, $t(58) = 3.37, p < 0.05$. The 30 participants who received laughter therapy treatment ($M = 21.76, SD = 1.78$) compared to the 30 participants in the control group ($M = 25.23, SD = 2.41$) demonstrated significantly better adjustment, $t(58) = 6.34, p < 0.01$.

Interpretation

The adjustment is becoming big problem for physically disabled adolescents. A developing country like India still has inadequate facilities for persons with disabilities. Their place in the wider community is still neglected. Many persons with disabilities do not have recognition in society. Because of all this, many disabled adolescents face social and psychological adjustment problems while moving around in society. Laughter therapy was used to find a solution for this. The main goal of this study was to examine the effect of laughter therapy on emotional intelligence and adjustment in physically disabled adolescents. In this study, the dependent variables were emotional intelligence and adjustment. Laughter therapy intervention was used to development of emotional intelligence and adjustment. For four weeks, the Intervention Program has been running on disabled adolescents. In this study, the researcher discovered some important insights about emotional intelligence and adjustment. Many new things came to the researcher's attention while talking with and interviewing the adolescents. Prior to the assessment, these adolescent disabled denied being in any unfavourable situation. In essence, their disability was the most important issue in his life.

Adolescents with disabilities had a poor outlook on their own lives. The multiple difficulties that disabled adolescents faced at work each day led to their experience of unpleasant emotions and maladjustment. Some of the individuals described feeling extremely depressed as well as experiencing physical symptoms associated with stress such as severe headaches, sickness, exhaustion, and difficulty concentrating on their studies. Hence, adolescents with disabilities reported feeling emotionally exhausted to high levels. The hostel supervisors provided the disabled adolescents with official forms of help. They also benefited from unofficial assistance from their friends, the hostel's staff, and management. They talked about how sharing their worries and disappointments helped them deal with daily challenges. They were capable of overcoming the feeling that their workload and other restrictions were too much for them. Their levels of distress were tempered by support systems. The majority of the participants had doubts regarding the effectiveness of laughter therapy at first. Yet,

as the sessions went on, they began experiencing pleasure in it. Compared to the pre, they claimed to have felt a range of good emotions, including joy, happiness, relief, and hope. The individuals claimed that laughing had changed how they perceived circumstances. The individuals were able to see an unpleasant event positively with the assistance of laughter. Daily opportunities for participants to express and let go of their suppressed emotions were provided. As a result, they let out previously repressed feelings and experienced relief. The disabled teenagers gained support from management, staff members, and friends by participating in the laughter sessions as a group, which served as an efficient coping strategy in a demanding setting.

Laughter served as a unifying element in relationships for adolescents with disabilities. They believed that sharing a laugh together benefited not only their professional but also their personal ties. It made them desire to interact and socialize with people more [34]. Laughing made individuals more cognizant of themselves and their negative emotions, allowing them to be accepted without being avoided. As a result, rather than concentrating on other people's needs and avoiding their own, they would be better equipped to become aware of their own needs and the resources necessary to meet them. Laughing promotes realistic self-centering with a stronger emphasis on personal emotional experiences [35,36]. Results indicated that after receiving laughter therapy, the majority of physically challenged adolescents reported experiencing lower levels of anxiety, anger, depression, high emotional intelligence, good social adjustment. All these results are in line with Yoshikawa Y, et al. [37], Hatzipapas I, et al. [38], Colom GG, et al. [39] and Falkenberg I, et al. [40]. The researcher had a few limitations when conducting the current study. The following unavoidable limitations were due to the time constraint and limited resources.

- No prior research conducted before in this field, this is the main limitation of this study.
- The sample size was insufficient to generalize the findings.
- This study only looked at those adolescents who were only physically disabled.
- The data was gathered from only two hostels in the Kolhapur area. Due to Covid-19 Pandemic not some institutes gave permission to conduct research on physically challenged adolescents.
- In this intervention programme, only psychological aspects were examined. The researcher could not check some physiological measures like, heart rate, pulse rate, blood pressure, etc. because lack of proper instruments.

Conclusion

In the conclusion, researcher concludes that laughter

therapy intervention is very useful for physically disabled adolescents. On the basis of research, results following conclusions have drawn. Through the laughter therapy intervention physically disabled adolescents experienced self-awareness, calmness, more positive emotions, better social connections, enhanced positive emotion coping mechanism, good emotional adjustment. Laughter therapy is easily available and accessible, non-invasive and low cost strategy to enhance emotional intelligence and adjustment.

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