Interventional Effect of Laughter Therapy on Resilience in Physically Disabled Adolescents

Dr. Arun Shinde[1], Vivek Kotekar[2]
[1](*Professor and Head of Dept. SGM College, Karad, Maharashtra, India*)
[2](*Research Student, Shivaji University, India*)

Abstract–Population of physically disabled people has been increased day by day. It is important to prevent their problems from childhood. This research focuses on psychological problems of physically disabled adolescents. Resilience is important psychological component to survive in society.The aim of current study was to study the effect of laughter therapy on resilience among physically disabled adolescents. This was control experimental pre post study. The sample of 80 having male and female is taken for this study and their age range was 13-19 years. For this study barthier university resilience scale by Dr. Annalaxmi was used. Mean, S.D., independent and paired sample t test and ANCOVA were used for the analysis of collected data. Researcher concludes thatlaughter therapy intervention significantly affect post test scores of resilience of physically disabled adolescents.

Key Words: Laughter therapy, Resilience, Physically Disabled Adolescents.

I. INTRODUCTION

According to the rights of persons with disability act of 2016, disability is defined as a person with a disability is a person with a long-term physical, mental, intellectual, or social disability that makes it difficult for them to communicate with others. it is difficult for them to have equal and effective participation in society with others. Living life with impairment can be a significant transition, and many people struggle with the complex task of determining how the disability will impact who they are and what their position in society will be. (Marini, Glover-Graf & Millington, 2012). Some people adjust quickly to limitations on major life activities, whereas others take longer (Stuntzner, 2014; Stuntzner & Hartley, 2014). Coping with and adjusting to disability are a personal process, and two people with very similar impairments can have very different consequences and coping processes (Livneh, 1986).

People's resilience is defined as their ability to deal with, adjust to, or recover from adversity or distress. It is the process and result of effectively adjusting to harsh or difficult life situations, as well as the ability to rise above one's circumstances. It demonstrates the ability to cope with severe life events, ongoing challenges and difficulties, and traumatic events while deployed and after returning to normal life. Resilience is defined as the ability to maintain a steady balance and a generally stable, healthy level of psychological and physiological functioning. Even in the face of extremely disruptive, stressful, or traumatic situations.

According to Wagnild and Young (2009), resilience is the ability to cope with change or adversity. Resilient people tend to regain their equilibrium and persevere in the face of adversity, and they find meaning in the midst of uncertainty and upheaval. People who are resilient are self-assured and conscious of their own skills and abilities. They are not forced to conform, but rather enjoy being different and will "go it alone" if necessary. People who are resilient face the same challenges and hardships as everyone else. They are not immune to or hardened by adversity, but they have learned to deal with life's unavoidable challenges, which distinguish them.

Laughing has played a significant role in evolutionary history since its inception (Gervais & Wilson, 2005). Our forefathers used laughter to express their connection to their people, which was important for survival. Laughter is a physical reaction characterized by rhythmical diaphragmatic contractions as well as other components of breathing processes. Grimaces, vocalization, and postural movements are also involved (Caruana, 2017). Laughter is universal and an important part of human communication. It's thought to be a socio - cultural bonding process (Kashdan, Yarbro, McKnight, & Nezlek, 2014).

Laughter, from a psychological point of view, decrease not only negative feelings, such as symptoms of depression, but also improves psychological health (Martin & Ford, 2018). Laughter also boosts self-efficacy (Beckman, Regier, & Young, 2007; Greene, Morgan, Traywick, & Mingo, 2016), which is a belief in one's ability. Laughter also improves one's quality of life (Fukuoka et al., 2016) and, as previously stated, increases

---

connectedness (Kashdan et al., 2014; Kurtz &Algoe, 2015; DeCaro& Brown, 2016).The main aim of this study is to see how laughter therapy affects the level of resilience in physically disabled adolescents.

II. METHOD

This experimental pre post study was carried out on physically disabled adolescents of Gharonda hostel of Helpers of the Handicapped Institution at Uchagaon (East), Karveer, Kolhapur, Maharashtra, India from 15 November 2021 to 31 November 2021. A total of 80 physically disabled adolescents both male and female included in this study.

Research Design: Control experimental pre post design.

Research Location: Control group's data was collected from Shravanbal Vikalang Sanstha, Nandani Tal. Shirol dist. Kolhapur, Maharashtra. Actual laughter therapy intervention had conducted at Gharonda hostel of Helpers of the Handicapped Institution at Uchagaon (East), Karveer, Kolhapur, Maharashtra.

Sample: For this study, a total of 80 physically disabled adolescents were chosen from the Kolhapur district. A total of 80 adolescents were split into two groups. The first group of 40 adolescents from the 'Gharonda Hostel' of the Helpers of the Handicapped in Kolhapur was included in the experimental group. Another group of 40 adolescents served as the control group. Shravanbal Viklang Seva Sanstha, Nandani, Tal. Shirol, Dist. Kolhapur, was the source of this group. To collect data, this sample was chosen using a random sampling method. Adolescents with physical disabilities range in age from 13 to 19 years.

Psychological Tool: Bharathiar UniversityResilience Scale (BURS):

The Bharathiar University Resilience Scale (BURS) is the most broadly used in resilience research. Most researchers recommend this scale for assessing sample resilience. Annalaxmi developed this scale (2009). This scale has 30 items. Each item has five options. It consists of seven domains related to resilience, namely the duration taken to return to normalcy, the reaction to negative events, the response to risk factors in life, the perception of the effect of past negative events, the definition of problems, hope/confidence in dealing with the future, and openness to experience and flexibility.Some items on this scale are positive, while others are negative. The scale manual includes a scoring formula. A high score denotes high resilience, while a low score denotes low resilience. On 577 samples, the Spearman-Brown method, Guttman Split-Half, and Cronbach Alpha were used to calculate the reliability coefficient. This scale's reliability with the Spearman-Brown method is 0.81, with the Guttman Split-Half method is 0.81, and with Cronbach Alfa is 0.87. This scale has been thoroughly validated in comparison to other well-known resilience scales.

Variables: Intervention Variable- Laughter Therapy, **Dependent variable-** Resilience

Statistical analysis:
Mean, SD. Independent and paired't' test, Cohen's *d* and ANCOVA were used for the analysis of collected data.

Procedure of data collection:

The information was gathered from adolescents with disabilities aged 13 to 19. For this, the Barthaiar resilience scale was used. This test 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. This group was formed using the intelligence quotient, emotional intelligence quotient, self concept score, and introversion and extroversion scores of the students. The researcher then divided the participants into two identical groups.

The hostel of Shravanbal 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 15th to December 31st, 2021.

III. RESULT TABLE

Table no. 1 shows mean, SD, r value and t value of pre-post test of physically disabled adolescents in experimental group

Test	Pre Post	Mean	SD	r value	Paired Differences (Post-Pre)		t Value	Sig. (2-tailed)	Cohen's d
					Mean	SD			
Resilience	Pre	92.45	3.82	.847	29.22	2.30	80.23	.000	12.69
	Post	121.68	2.15						

In table no.1, the mean value obtained by physically disabled adolescents in the experimental group's pre-test is 92.45, with a standard deviation of 3.82. The mean value of physically disabled adolescents in the experimental group's post test is 121.68, with a standard deviation of 2.15. The calculated value of t is 80.23, which is significant at 0.01 for 78 df. The mean value of the post test is high in the table above. It means that the resilience of physically disabled adolescents in the post test is greater than the resilience of physically disabled adolescents in the experimental group's pre test.

Table no. 2 shows means, t value and level of significance for post test of physically disabled adolescents from control and experimental group

Test	Group	Mean	SD	t Value	Sig. (2-tailed)	Cohen's d
Resilience	Control	92.73	3.13	48.30	.000	12.69
	Experimental	121.68	2.15			

In table no.2, the mean value obtained by physically disabled adolescents in the post test of the control group is 92.73, with a standard deviation of 3.13. The mean value of physically disabled adolescents in the experimental group's post test is 121.68, with a standard deviation of 2.15. The calculated value of t is 48.30, which is significant at 0.01 for 78 df. The mean value of the experimental group is high in the table above. This means that the resilience of physically disabled adolescents in the experimental group is greater than the resilience of physically disabled adolescents in the control group.

Table 3 showing pre-post tests scores of control experimental group on Resilience in physically disabled adolescents

Group	N	Pre		Post	
		Mean	SD	Mean	SD
Control	40	92.70	3.22	92.73	3.13
Experimental	40	92.45	3.82	121.68	2.15

The table above shows the mean and standard deviation of resilience scores of physically disabled adolescents in the control and experimental groups. The pre-test mean for the control group is 92.70, with a standard deviation of 3.22, and the post-test mean is 92.73, with a standard deviation of 3.13. The pre-test mean in the experimental group is 92.45, with a standard deviation of 3.82, and the post-test mean is 121.68, with a standard deviation of 2.15. Statistical estimates of resilience show that the distribution of scores in all four groups was roughly normal.

Levene's Test of Equality of Error Variances			
Dependent Variable: Post_resilience			
F	df1	df2	Sig.
2.123	1	78	.149
(a. Design: Intercept + Pre_resilience + Group)			

This table displays the test statistic for Levene's Test. The p-value is .149 and the test statistic is 2.123. Because the p-value is greater than 0.05, the researcher cannot reject the null hypothesis. The variances for resilience in the control and experimental groups are equal, according to Levene's test. As a result, when performing ANCOVA, the assumption of normalcy was met. As a result, ANCOVA is used to analyse the collected data. The summary of the ANCOVA is shown in the table below.

Table no. 4 shows summary of ANCOVA for testing the intervention effect of laughter therapy on Resilience in physically disabled adolescent's experimental group

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	17150.748[a]	2	8575.374	3793.716	.000	.990

Intercept	285.485	1	285.485	126.297	.000	.621
Pre_resilience	388.698	1	388.698	171.959	.000	.691
Intervention	16921.853	1	16921.853	7486.169	.000	.990
Error	174.052	77	2.260			
Total	936672.000	80				
Corrected Total	17324.800	79				
a. R Squared = .990 (Adjusted R Squared = .990)						

The intervention's effect on post-adjusted means of resilience was investigated using ANCOVA, with pre-test scores used as a covariate. As shown in the table above, significant F ratios of 388.698 and 16921.853 (where df are 1 and 77) were found for the pre and intervention groups, indicating significant differences in post adjusted resilience scores based on laughter therapy intervention between the experimental and control groups.

The size of the effect is represented by the partial Eta Squared value, which should be compared to Cohen's criteria. It can be seen that the intervention group has a large effect size (.990). This value can also be used to express how much of the variance in the dependent variable the independent variable can explain. This figure should ideally be quite large. This table's Sig. column can be used to determine the covariate's influence. In a linear model, the researcher computes the value of squared R, which is a measurable statistic that indicates how much of the variation in the dependent variable can be explained by independent variables. The R value (0.990) indicates that the covariates influence the value of Y by a factor of 1 to a large extent. This means that the covariates can be used to predict Y with confidence.

Estimated Marginal Means
Dependent Variable: Post_resilience

Group	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Control	92.647[a]	.238	92.174	93.121
Experimental	121.753[a]	.238	121.279	122.226

The corrected group means are provided in the output above, and these values should be used to explain the data. Researchers may conclude that the intervention of laughter therapy had a significant impact on resilience because only two groups were compared in this study; specifically, physically disabled adolescents in the experimental group had significantly higher resilience than physically disabled adolescents in the control group.

Pairwise Comparisons
Dependent Variable: Post_resilience

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
Control	Experimental	-29.106[*]	.336	.000	-29.776	-28.436
Experimental	Control	29.106[*]	.336	.000	28.436	29.776

Based on estimated marginal means
*. The mean difference is significant at the .05 level.
b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

The mean difference between groups was calculated using pair wise comparisons, and the result is a mean difference of 29.106. Figure 4.22 of estimate marginal means shows that the experimental group is significantly larger than the controlled group in terms of post test means score.
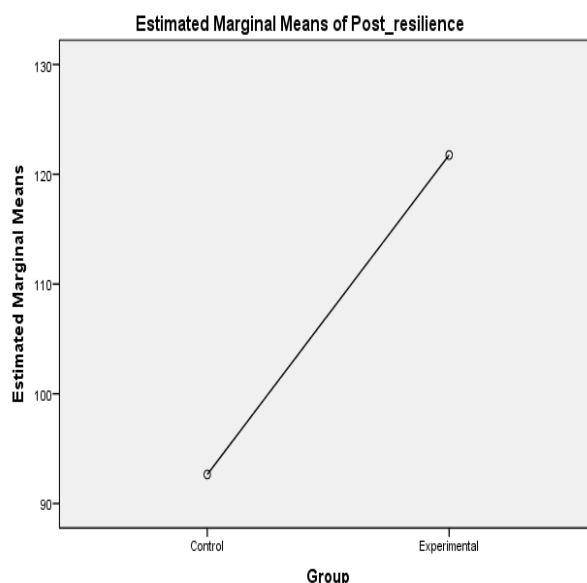
Figure no. 1showing estimated marginal means of post resilience of physically disabled adolescent's control experimental group

IV. INTERPRETATION

The goal of this study was to evaluate the effect of laughter therapy on resilience in physically disabled adolescents. In this study, the dependent variable was resilience. Laughter therapy was used to aid in the development of this resilience. In response to the above objective, the following hypothesis was developed: Laughter therapy intervention will have a significant impact on resilience. Statistical analysis was used to investigate this hypothesis. The following are the results of the discussion and observations:

Pre and post tests of physically disabled adolescents from the experimental group, As a result, hypothesis is accepted because the post-test resilience score of physically disabled adolescents in the experimental group is higher than the pre-test resilience score of physically disabled adolescents in the control group (Table no. 2).

For 45 days, the Intervention Program has been running on adolescent handicapped children. In this study, the researcher discovered some important insights about resilience. Many new things came to the researcher's attention while talking with and interviewing the children. Prior to the assessment, these adolescent disabled children denied being in any unfavourable situation. In essence, their disability was the most important issue in his life. They refused to accept the situation. This rejection mindset was causing them additional problems. Several adolescents, however, reported that laughter therapy helped them to cope effectively.

Positive emotions, according to the adolescents, improve their ability to adapt to life's challenges. Some adolescents reported feeling depressed as a result of negative life events. There was a great deal of rage. They used to irritate each other. As laughter therapy became a part of their lives, they were able to control their negative emotions. They can look back on their lives and see the good in them. Many people also stated that laughter therapy gave them more freedom in their lives. They can deal with any situation by maintaining a positive attitude. Positive thinking and optimism are strong predictors of high resilience (Sagone & Coroli. 2015; Dawson & Pooley, 2013).

Every person's life is fraught with difficulties. Its appearance varies from person to person. People who know how to deal with problems can get out of them quickly, but what about those who aren't? This is the exact question that these disabled teenagers were posing. How do we deal with difficulties in our lives, and how do we spot problems? They now believe that laughter therapy is beneficial based on their conversations with the adolescents and their own experiences. They regard laughter therapy as a valuable gift and a new coping strategy in their lives. Because when problems are accepted with a smile, they are naturally solved rather than persisting. As a result, there is speculation among adolescents that laughter therapy has given us a way to accept any scenario. Effective coping styles can have an impact on resilience capacity (Iacoviello & Charney, 2014; Dawson & Pooley, 2013; Gillham, Brunwasser & Freres, 2007; Hurts & Allen, 2001).

VIII. CONCLUSION

In the conclusion, researcher concludes that laughter therapy intervention is very useful for physically disabled adolescents. On the basis of research objectives following conclusions have drawn. There is a large

difference in resilience between before and post tests of physically disabled adolescents from the experimental group. With the help of the laughter therapy intervention experimental group is differ from control group. There is a significant difference between the control and experimental groups of physically disabled adolescents post test score of resilience. It means laughter therapy intervention significantly affect post test scores of resilience of physically disabled adolescents.

REFERENCE

[1]. Beckman Greene, C. M., Morgan, J. C., Traywick, L. S., & Mingo, C. A. (2016). Evaluation of a Laughter-based Exercise Program on Health and Self-efficacy for Exercise. The Gerontologist, 57(6), 1051-1061.

[2]. Caruana, F. (2017). Laughter as a Neurochemical Mechanism Aimed at Reinforcing Social Bonds: Integrating Evidence from Opioidergic Activity and Brain Stimulation. Journal of Neuroscience, 37(36), 8581-8582.

[3]. Dawson, M., Ann Pooley, J., & Dve, J. (2013). Resilience: The Role of Optimism, Perceived Parental Autonomy Support and Perceived Social Support in First Year University Students. Journal of Education and Training Studies, 1(2), 38–49. https://doi.org/10.11114/jets.v1i2.137

[4]. DeCaro, D. S., & Brown, J. L. C. (2016). Laughter Yoga, Adults Living With Parkinson's Disease, and Caregivers: A Pilot Study. Explore: The Journal of Science and Healing, 12(3), 196-199.

[5]. Fukuoka, A., Ueda, M., Ariyama, Y., Iwai, K., Kai, Y., Kunimatsu, M., & Kimura, H. (2016). Effect of Laughter Yoga on Pulmonary Rehabilitation in Patients with Chronic Obstructive Pulmonary Disease.

[6]. Gervais, M., & Wilson, D. S. (2005). The evolution and functions of laughter and humor: a synthetic approach. The Quarterly review of biology, 80(4), 395–430. https://doi.org/10.1086/498281

[7]. Gillham, J., Brunwasser, S., Freres, D., (2007). Preventing depression early in adolescence: The Penn Resiliency Program. In: Abela JRZ, Hankin BL, editors. Handbook of Depression in children and adolescents. Guilford Press; New York: 309–332.

[8]. Hurtes, K.P., Allen, L.R. (2001), Measuring Resiliency in Youth: The Resiliency Attitudes and Skills Profile, Therapeutic Recreation Journal, 35 (4), 333-347.

[9]. Iacoviello, B. M., & Charney, D. S. (2014). Psychosocial facets of resilience: implications for preventing post trauma psychopathology, treating trauma survivors, and enhancing community resilience. European Journal of Psychotraumatology, 5. https://doi.org/10.3402/ejpt.v5.23970

[10]. Kashdan, T. B., Yarbro, J., McKnight, P. E., &Nezlek, J. B. (2014). Laughter with someone else leads to future social rewards: Temporal change using experience sampling methodology. Personality and Individual Differences, 58, 15-19.

[11]. Kurtz, L. E., & Algoe, S. B. (2015). Putting laughter in context: Shared laughter as behavioral indicator of relationship well‐being. Personal Relationships, 22(4), 573-590

[12]. Livneh, H. (1986). A unified approach to existing models of adaptation to disability. Part I: A model of adaptation. Journal of Applied Rehabilitation Counseling, 17, 5-16

[13]. Marini, I., Glover-Graf, N. M., & Millington, M. J. (2012). Psychosocial aspects of disability: Insider perspectives and counseling strategies. New York, NY: Springer Publishing.

[14]. Martin, R. A., & Ford, T. (2018). The psychology of humor: An integrative approach. Academic press

[15]. Sagone, E., & Caroli, M. E. de. (2015). Positive Personality as a Predictor of High Resilience in Adolescence. Journal of Psychology and Behavioral Science, 3(2), 45-53. https://doi.org/10.15640/JPBS.V3N2A6

[16]. Stuntzner, S. (2014). Reflections from the past: Life lessons for better living. Counseling Association of India.

[17]. Stuntzner, S., & Hartley, M. (2014). Disability and the counseling relationship: What counselors need to know? Ideas and research you can use: VISTAS 2014. Retrieved from http://www.counseling.org/knowledge-center/vistas