



## EFFECTIVENESS OF LAUGHTER THERAPY AMONG STUDENTS WITH PERCEIVED ACADEMIC STRESS

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### Abstract

Academic stress among students may produce physiological and other psychological symptoms which affect the willpower of students against life stressors. Conventional psychotherapy is sometimes difficult to conduct with these students along with the ongoing academic activities. Hence many stress management skills have been introduced. Laughter therapy is a therapeutic technique designed for controlling and reducing stress and tension symptoms. Current study mainly intended to check the effectiveness of laughter therapy in reducing academic stress. It was hypothesized that students who undergo laughter therapy will show less academic stress on the post-test as compared to students who do not get laughter therapy. A sample of 64 students diagnosed with academic stress was pre-tested on the LASRS scale. After that, 32 students received laughter therapy twice a week for a month while the other 32 patients did not receive any psychotherapy. Both groups were re-tested by using the same scale. Results indicated that laughter therapy reduced academic stress among students (pretest=50.7, posttest= 44.93), while students in the control group showed increased academic stress (pretest=47.36, post-test=50.16). Thus, these results supported the hypothesis of the current study, and it can be concluded that laughter therapy can be used as a treatment for academic stress among students who are facing life strains and tensions.

**Keywords:** Laughter therapy, Academic stress, Lakeav Response Stress Scale (LASRS-2)

### Introduction

Stress denotes the discrepancy between the apparent hurdle and the perceived capabilities. Stress is an individual's physical or psychological reaction to a specific stressor (Crosswell & Lockwood, 2020). Academic stress is an emotional condition that results due to academic failure process of academic assessment, such as school examination or inability to respond and participate in class discussions and queries (Trigueros et al., 2020). It is a student's state of denial for such failures that in turn results in a drastic condition in which the student faces many unable to understand classroom instruction, dealing with class followers, and coming up to teachers' and parents' expectations and

standards. A student who must complete the assigned task within the prescribed time and other academic performance-related activities produce stress (De Paola & Gioia, 2016).

Hamizah et al., (2000) advocated a significant association between academic stress and self among undergraduate students in Malaysia. Similarly, Khan et al. (2013) also suggested the significant impact of academic stress on students' academic performance. Shah et al., (2010) indicated that an insignificant negative correlation exists between the level of stress and academic performance. While female students displayed significantly higher levels of academic and psychosocial-natured stress (Fawzy & Hamed, 2017).

Acute stress is considered a transitory period of pressure (Trigueros et al., 2020) and is most generally triggered by negative thoughts (Legg, 2016). Acute stress that is sustained for a long time is known as episodic stress. Acute stress has a strong negative impact on both the physiological and psychological health of a person (Joseph et al., 2021).

Studies have shown that females usually display "tend and befriend" whereas males adopt "fight and flight" to respond to stress-full situations (Ban et al., 2022). Stress management is one of the effective techniques used to cope with stress. It involves measures ranging from modifying one's life condition to practicing self-care and self-help techniques (Del Giudice et al., 2018).

There are several techniques to reduce stress, of which meditation makes an individual to free his mind and look at his inner self with a feeling of constancy and compassion (Sinha et al., 2000). Stress-coping approaches include interactive communication, revitalizing the mind by movie-watching, and indulging oneself in other outdoor activities (Abouammoh et al., 2020).

Yoga as a stress management technique helps an individual to discharge nervous tension out of their body and to clear their minds (Rouhi et al., 2020). Laughter therapy as one of the best techniques for managing stress comprises different steps, it implies laughter and humor to recover in all aspects of health (Kataria, 2005).

Laughter Yoga as an advanced form consists of laughing purposefully for a sustained time period. Another study has revealed that to overcome the stress college students depend on coping measures such as movies/TV watching/shopping/ internet/ music, etc., (Sinha et al., 2000).

Females were more stressed than male students. Generally, positive behavior pattern such as quality time spent with friends was used to effectively handle the level of stress, on the other hand, to a lesser extent used coping schemes were smoking, alcohol consumption and other forms of drug addiction (Barbayannis et al., 2022) The number of stress managing stress is utilized by which Laughter is the nonverbal pattern of expressing pleasure and joy (Bänninger-Huber & Salvenauer, 2022).

The latest studies have advocated the effectiveness of laughter therapy and laughter yoga to manage stress. It comprises the use of humor and laughter in therapeutic mode to boost mental well-being (Rychlowska et al., 2022). Laughter therapy comprises several phases for handling stress and it is one of the best techniques for decreasing stress. Laughter yoga is a type of yoga in which purposely for an extended period (Park et al., 2021).

Laughter yoga designed by Kataria, (2005) based on the notion that intended laughter could give comparable remedial benefits to a general involuntary form of laughter (Heidari et al., 2020). Heidari et al., (2020) regarded laughter therapy as a type of treatment strategy that activates laughter to lessen distress and anxiety and can develop a feeling of satisfaction. Laughter therapy may include laughing activities, joking, comedy films, books, riddles, and entertainment. Now a day's all around the world, Laughter Yoga Clubs have been established where individuals gather to practice laughter therapy (Bahari & Lorica, 2019).

Laughter is also a highly effective treatment than medications which often are accompanied by many side effects on mental and physical health. (Adams & McGuire, 1986) Laughter yoga moreover improves breath, vitality level food absorption, and improves circulation of blood (Neal & Gonot-Schoupinsky, 2022), humor allows a person to "overlook" discomforts and pains (Scott et al., 2015) which in turn improves the sleep cycle and decreases sleep-related problems (Dziegielewski, 2003). With the application of laughter, females seem to benefit more than male patients with hypertension (Rouhi et al., 2020). In general chats, females have a tendency to laugh more whereas male participants only laughed with a real sense of humor (Rouhi et al., 2020). Giggling Yoga

categorically reduced the signs of physical problems, anxiety, and depression (Park et al., 2021) The present research was carried out to determine the positive effect of laughter therapy on academic stress among students. The aim was to introduce this new stress management strategy among students once its effectiveness was established.

## **Materials and methods**

### ***Study design and participants***

In the current experimental study, a two-group design with a randomized controlled trial was utilized to assess the effects of laughter therapy on academic stress. The therapeutic sessions were carried out at Hazara University from November 2018 to May 2019. The study procedure was approved by the Advance Studies and Research Board (ASRB) of Hazara University. The declaration of the article was reported according to Established Standards of Reporting Trials standards. Informed consent was obtained from all participants.

Participants were recruited between November 2018 and May 2019. Their level of academic stress was evaluated using ASS for study eligibility. Eligible students were handed over a leaflet and the aim of the research study was clarified. Students were enlisted in order of their screening phase till the number of subjects ranged the targeted sample size. Earlier, randomization to reduce the reporting bias among the control group study subjects were informed that similar laughter therapy sessions would be persisted after the study period.

### ***Intervention***

All study subjects experienced definitive laughter therapy sessions for academic stress. The attendees in the intervention group underwent a laughter therapy session twice a week over 12 weeks. Previous studies suggest time period for effective sessions of laughter therapy may range from 4 weeks to 8 weeks (Stiwi & Rosendahl, 2022) and it may extend to 12 weeks (Cramer et al., 2013) Consequently, for the current study, 12 weeks of intervention was considered as appropriate. In the initial phase of every session, subjects were briefed about laughter therapy and mental health (10 min), followed by a 50-min laughter therapy session. Following the certified laughter therapy protocol all the sessions of laughter therapy were group-based intervention and for unifying the intervention all sessions were completed by the same laughter therapist.

### **Objective**

The objective of current study was to check the positive effects of laughter therapeutic intervention among students facing academic stress.

**Hypothesis.** Students with academic stress who received laughter therapy will show improvement in academic stress-related symptoms as compared to the students who do not get any psychotherapy.

**Sample.** Through purposive sampling technique a sample of (N=64) students with academic stress were recruited from colleges of Abbottabad, Mansehra, and Haripur. Further study subjects were divided into two groups, i.e., laughter therapy group (n=32) and control group (n=32). Potential study subjects were included in the study according to the inclusion and exclusion criteria given below.

**Inclusion criteria:** Students with academic stress were evaluated with a cut-off score of 70 on the Lakeav Response Stress Scale (LASRS-2). Moreover, students passing through peak academic stress periods i.e., sessional workload and different projects, were excluded from the main study.

**Exclusion criteria:** Scores obtained on Lakeav Response Stress Scale (LASRS-2) is less than 70. Suffering from any other diagnosed psychological problem • physical or Intellectual disability that prohibited the students to follow the procedure of laughter therapeutically • Had a diagnosis of any other major mental health disorder •

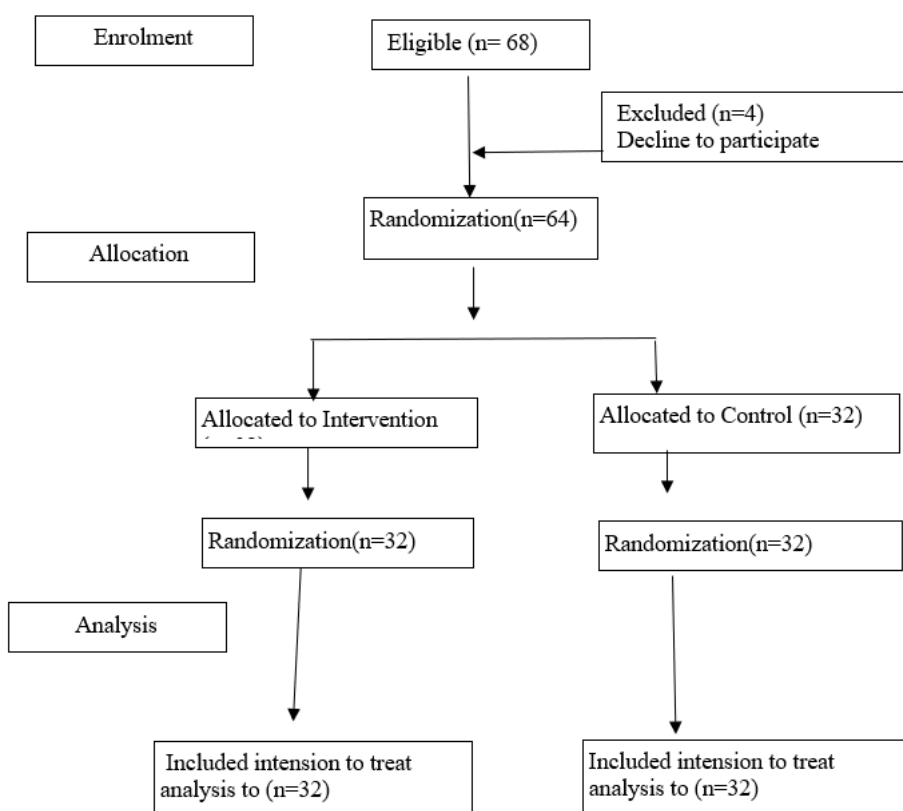
**Measures**

**Lakeav Response Stress Scale (LASRS-2)**

LASRS-2 comprises 26 items with a five-point scale developed by Lakaev (2016). A score of 70 or more suggests a high level of academic stress.

**Laughter Therapy Procedure** The study was conducted inside the classrooms in a controlled environment. Both groups were pre-tested by using LASRS-2. Then a group of 32 students (experimental group) had to undergo a laughter therapy session of 50 minutes for two days a week whereas the rest of the 32 patients (control group) remained unattended. Laughter therapy consists of different phases ranging from deep breathing to voluntary laughter in a sitting or standing position. Laughter yoga comprised of warm-up exercises, clapping, deep breathing and simultaneously moving towards next steps including hearty laughter, silent laughter, greeting laughter, appreciation laughter, swinging laughter, lion laughter, and argument laughter and in last sitting calmly for relaxation). In the beginning, along with saying “Ho, Ho, Ha, Ha, Ha” the participants were instructed to clap their hands. Then, the participants were asked to participate in voluntary laughing.

The results were analyzed and compared by using SPSS. (As just a cut-off score of 70 on the screening test of academic stress was the focus of the researcher, hence the severity of symptoms was also the same. That is why almost all the variables were controlled). These students were given a brief description of laughter therapy, its effects, and how to follow it. Those students, who were not willing, could drop the experiment.



**Figure 1:** Figure 1 shows non-significant baseline characteristics differences among 64 study subjects graded by groups.

**Table 1** Alpha Reliability of the study Variables in experimental and control group (N=64)

Scales		n	M	SD	α	Range		Skew
						Potential	Actual	
Pre- LT LASRS	LASRS	32	87.09	7.21	.82	26-130	34-117	.78
Post-LT LASRS	LASRS	32	53.34	14.61	.80	26-130	55-116	.2
Pre- Cont. LASRS	LASRS	32	86.71	6.033	.79	26-130	69-118	.41
Post- Cont. LASRS	LASRS	32	83.90	5.514	.81	26-130	71-102	.39

Note. LT = Laughter therapy; LASRS = Lakaev Academic Stress Response Scale

Table- 1 shows that LASRS does have a reliability coefficient alpha of .82 and .80 in the pre-test of the LT, and control group respectively while it has a reliability coefficient alpha of .79 and .81 in the post-test of the two groups respectively. Overall, study variables have good and acceptable reliability coefficients.

**Table 2** Mean, the difference between the laughter group and control group on the variable of the Lakaev Academic Stress Response Scale

Variables	Pre-test (n=32)		Post-test (n=32)		<i>t</i> (62)	<i>P</i>	95% CI		Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			<i>LL</i>	<i>UL</i>	
LT	87.09	7.21	53.34	14.61	11.71	.00	0.48	8.40	2.92
CON	86.72	6.03	83.91	5.51	1.94	.02	-1.59	2.40	0.49

Note. LASRS = Lakaev Academic Stress Response Scale; CON = Control; EXP = Experimental; LT= Laughter Therapy. \* $p < .05$ .

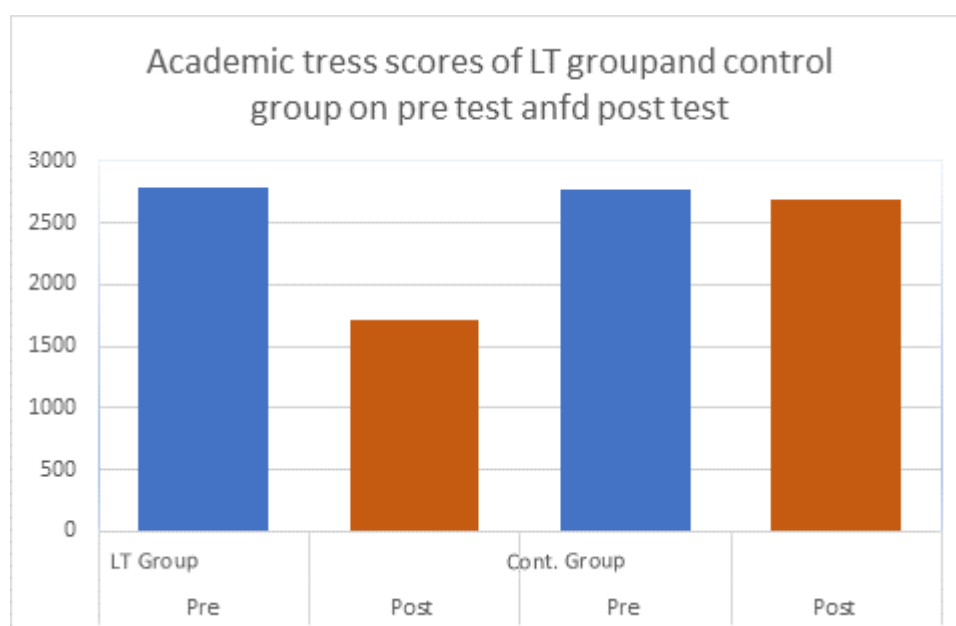
Table 2 shows significant difference in the pre and post-test results of intervention group. The laughter group shows a decrease in academic stress scores, however in the control group scores slightly increased. Findings revealed that laughter therapy was remarkably effective in reducing academic stress as compared to the control group which consisted of participants who did not receive laughter therapy.

**Table 3** Mean comparison of stress between Experimental and Control groups (N=64)

Variables	Pre-test (n=32)		Post-test (n=32)		<i>t</i> (62)	<i>p</i>	95% CI		Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			<i>LL</i>	<i>UL</i>	
EXP	111.50	5.46	55.33	19.50	7.51	.00	25.62	45.42	3.92
CON	104.38	5.01	111.44	4.80	.72	.47	-4.7	2.25	1.43

Note. CON = Control; EXP = Experimental.

Table 3 describes the significant difference in stress between students belonging to intervention and control group. Study result shows that in experimental group laughter therapy significantly lower down the level of stress among undergraduate students.



**Figure 2** Bar graph of academic stress scores on pretest and posttest of control group and LT group

The above line graph shows a significant level of decrease in experienced academic stress in the posttest LT group while the difference in academic stress assessment scores between pre and post in the control group is not noticeable.

**Discussion**

The data analysis revealed that in the experimental group laughter therapy significantly reduced the level of stress among participants. These results are in line with the findings of the earlier research suggesting the positive impact of laughter therapy on depression, and level of anxiety stress among participants (Neal & Gonot-Schoupinsky, 2022). The findings of the present study are also in line with another study suggesting that laughter therapy has a significant impact on the experienced level of stress among teachers as well (Park et al., 2021). A similar result was found, in the use of laughter yoga practice, resulting in a noticeable decrease in depression and aggression among study participants (Rouhi et al., 2020).

Another study has explored the health benefit of laughter therapy and reported that the mean scores of stresses were significantly reduced in the study group after the administration of a stress management yoga program (Yim, 2016). The findings of the study was confirmed a similar effect of stress management training resulting in a significant reduction of stress and depression (Akimbekov & Razzaque, 2021) Similarly, another study investigating the effects of a stress management program has proved significant positive impact of stress management techniques on overall mental health (DEMİR DOĞAN, 2018) After laughter yoga, results a significant difference concerning the level of experienced academic stress between the two groups, whereas the difference in depression scores between the control and intervention groups was not significant in nature.

**Limitations**

The current research is a noteworthy addition to the field of clinical psychology as it portrayed the impact of laughter therapy as a significant stress management strategy. However, the study has some limitations too. Sample collection areas were limited. (As all the study subjects were taken with post-graduate education only, leaving medical students. In addition, gender and study discipline base differences were left unchecked so it is highly suggested that these domains may be investigated in future research.

**Ethics statement**

The research studies engaging human attenders were evaluated and approved by the advance studies and research board of Hazara University. The participants gave their written informed permission to take part in this study.

**Recommendations**

1. There is a need to continue to explore the impacts of laughter therapy on the student population covering all cadres of education i.e., medical, nonmedical students and fine arts, etc.
2. This stress management strategy was formulated in India. Future researchers can test and validate these kinds of strategies at an international level by conducting multicultural studies.
3. This research may serve as a baseline for formulating other yoga-embedded clinical therapy to develop stress-coping skills among the general population.

**Conclusion**

The current study revealed the impact of laughter therapy on academic stress among students. According to the study, analysis proved that the application of laughter therapy noteworthy decreased the level of experienced stress.

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