

THE EFFECT OF SIMULATED THERAPEUTIC LAUGHTER ON POSITIVE MENTAL HEALTH IN UNIVERSITY STUDENTS

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Abstract

Objective: This experimental study was conducted to determine the effect of simulated therapeutic laughter on positive mental health of the students.

Methodology: for this study semi experimental design with random sampling method and data was collected using pretest and posttest technique. 60 participants 30(50%) were male and 30(50%) females with the age range (20 to 30), The mean age of 60 students participating in the study was 22.05 ± 1.29 [min: 20- max: 30] from foundation university from April 2021 to July 2021. Total sample was divided in to two groups one was experimental and other was control. A short demographical questionnaire was administered to get the personal information with consent and administered Positive mental health scale (PMHs) before and after training session of simulated therapeutic laughter to assess the positive mental health of participants (pre and post)

Results: for statistical analysis SPSS 24 and one-way ANOVA was used for finding out the therapeutic efficacy. it revealed that simulated therapeutic laughter modality significantly improved positive mental health, the baseline of post therapy the mean value of PMH was 29.92 ± 7.15 , the mean value of simulated therapeutic laughter was 39.15 ± 2.3 , and the mean value of no intervention 20.6 ± 8.3 , and has significant difference between groups $p < 0.01$

Conclusion: It was seen that simulated therapeutic laughter was an effective approach to improve positive mental health in the university students.

Keywords: Simulated Therapeutic Laughter, Positive Mental Health.

1. INTRODUCTION

Laughter is a best medicine. Dr dexter Louie wrote in his book “a tool for life style medicine” that laughter is a prescription. Laughter is a human behavior which is executed by the brain, helps the social interactions of people, and adds an emotional context to conversations. It alleviates fear and anger at least for a moment and evokes the senses of both control and hope. Laughter is usually contagious and a person who laughs will start positive feedback for other people to laugh. Laughter is an intricate emotional reaction to one’s atmosphere, state, situation and provocations. Studied for many years, it was not generally perceived to have any particular healing effect until 1979, when Norman Cousins published as Anatomy of an Illness. In this book, Cousins defined laughter as generating an analgesic effect for pain produced by ankylosing spondylitis. Since that time, interest in laughter as a potential therapeutic option has grown, both in popular culture as well as in scientific research, where the field of psychoneuroimmunology efforts to discover the effect of laughter on our physiology and psychology.

“Laughter” and “humor,” though often used replaceable, but they have different descriptions. Humor denotes to the stimulus, such as a joke, which arouses a response. In contrast, laughter denotes to a physical reaction

categorized by a separate repetitive vocal sound, certain facial expressions, and contraction of numerous muscle groups. One study recognized 5 separate types of laughter: genuine (“spontaneous”), self-induced (“simulated”), stimulated, (tickling), induced (by drugs), and pathological.² Pathological laughter and crying is typically clear as a disorder of emotional expression due to damage of pathways in the cortex and brainstem, and this is definitely dissimilar from the laughter and humor debated in this article. Laughter can be experienced both individually or in group, for example, while recalling a particular event, watching television, or reading a book, or socially in groups, for example, participating in a yoga laughter group or sharing stories with friends. It is generally believed that laughter produces psychological benefits, such as improving affect, depression, anxiety, and stress. Nevertheless, there is growing evidence that laughter as a physical activity can furthermore produce small but calculable positive physiological benefits.

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The literature on laughter can be separated based on the type of laughter studied: spontaneous or simulated (self-induced). Spontaneous laughter varies considerably from self-induced laughter.

The former refers to “genuine” or unforced laughter, often in response to a stimulus, whereas the latter defines laughter that is simulated self-induced. Spontaneous laughter is often linked with positive mood, whereas simulated laughter is mainly physical and is not essentially linked with positive emotions or feelings. Neuroimaging recommends that different neural pathways are used in these two procedures of laughter.

Spontaneous and simulated laughter have the similar outcome on the body? the theory of motion creates emotion theory (MCET), suggests that the body does not really know the difference between deliberately laughing and laughing mechanically. So, if one makes oneself to laugh (by simulating or self-inducing laughter), the body can be persuaded into an identical physiologic response. According to the MCET, simulated laughter can capture the positive benefits of spontaneous laughter—but without using any humor at all. This is definitely different the other theories of laughter, which claim that the benefits arise from nonphysical sources, for example, positive mood.

Other studies have connected laughter and humor with increased levels of pain tolerance. In one, 200 respondents were subjected to a painful cold-pressor stimulus after being shown a film. Those who viewed a humorous film had a significant advantage in pain tolerance time after a 30-minute wait period.

Another research of 40 participants found that a laughter-inducing tale, as different to other methods of interruption such as an interesting story audio tape, increased discomfort thresholds. Similarly, a study of threat-induced anxiety involving 53 participants found that those exposed to a humorous tape recording steadily valued themselves as less anxious and reported lesser increases in stress as the time to receive an electric shock approached.

The cardiovascular effects of laughter appear to be quantifiable, although potentially short-lived. A study of 10 healthy subjects showed that cardiac parasympathetic activity decreased immediately on watching a comedy video and simulated laughter.

Another study used laughter therapy as “medication” to treat agitation in patients with dementia. The SMILE study found a 20% reduction in agitation using humor and laughter therapy, which is an improvement comparable to the common use of antipsychotic drugs but without the side effects. Agitation levels remained lower at the 26-week follow up. In this study, humor therapy used trained staff as “Laughter Bosses” to act much like the “Clown Doctors” used in hospitals on children’s wards to help improve mood and increase lightheartedness. (SMILE study results were presented at the National Dementia Research Forum 2011 on September 22 and 23.).

Laughter therapy which was developed in India back in 1995 is a combination of imitating laughter and yoga breathing exercises implemented in a group environment. Laughter therapy includes applause, arm and leg movements, deep breathing exercises and smiling

exercises. Studies aiming to determine the effects of laughter therapy on human health have continued actively. When examining these studies, it is seen that they have been generally conducted with dialysis patients, elderly, organ transplant patients, postpartum women and patients with breast cancer. Laughter therapy reduces heart rate and blood pressure and increases oxygen uptake. Thus, it is useful for both mental and physical health.

The studies have shown that laughter therapy has positive effects on anxiety, depression, blood pressure, general health, insomnia, and pain experience. In addition, it improves pulmonary functions and strengthens the immune system. Individuals experience stress at various levels in diverse stages of their lives. Similarly, students experience stress at various levels due to a number of reasons such as a new life environment, life style, health, academic performance, competition, choice of career, relations with peer group, and expectations of parents. And it effects on mental health. In the literature, one of the most important positive physiological effects of laughter therapy is stated to help individuals to cope with positive mental health as well as physical health. Thus, this study was conducted to determine the effect of simulated therapeutic laughter on positive mental health of the students.

2. MATERIALS AND METHODS

This experimental study was conducted to determine the effect of simulated therapeutic laughter on positive mental health of the students. Necessary permissions were obtained for the study. The students were informed and their verbal consent was obtained. The sample was consisted of 60 students (male & female) from foundation university at the department of psychology and behavioral sciences. In the study, pretest and posttest technique was used. In the pretest, positive mental health score was evaluated with 9 items with (0-4) point scale and other information were obtained with the demographical data form, it consisted 7 questions After 20-minute simulated laughter therapy, the pretest was applied and positive mental health scale scores were evaluated again. In the literature, it is indicated that a 20-minute laughter therapy only 4 consecutive sessions are enough for improvement of all physiological and psychological benefits. The simulated laughter therapy started with warm-up exercises and then breathing exercises were applied to prepare the body to laughter. Then, the group activities including simulated laughter were recognized to increase the interaction of the group with each other. Following the laughter therapy, the students were asked to evaluate their positive mental health scale with a scale of 0-4 points. No simulated therapeutic laughter applied on control group, this group only pretest and posttest without any therapeutic intervention. The data were assessed statistically using percentage, mean value and one-way ANOVA.

Hypothesis

1. (HA) Level of positive mental health in experimental group will increase with consecutive sessions of simulated laughter therapeutic intervention as compared to control group.
2. (HO) Level of positive mental health in experimental group will not increase with

consecutive sessions of simulated laughter therapeutic intervention as compared to control group.

3. RESULT

Socio demographical characteristics of respondents (table 1) The cronbach's alpha value for positive mental health scale was .93(> .90) which indicated high internal consistency. (Table 2) Mean, Standard deviation, and the one-way analysis of variance of simulated therapeutic laughter in Positive Mental Health (table 3)

Table 1 Demographical Characteristic of Respondents

Characteristics	N	%
Gender		
Males	30	50
Females	30	50
Age		
Early Adolescence	25	41.6
Middle age adolescence	35	58.0
Marital Status		
Married	15	25.0
Unmarried	45	75.0
Family System		
Separate	45	75.0
Extended	15	25.0
Birth Order		
First born	27	45.0
Second born	9	15.0
Last born	24	40.0
Residence		
Rural	12	20.0
Urban	48	80.0
Psychiatric History		
Yes	8	13.3
No	52	86.6

Table 1 shows that equal number of male (n=30, 50%) and female (n=30, 50%) were participated. middle age was (n=35, 58%). majority number of participants were single (n=45, 75.0%) as compared to married (n=15, 25.0%). More number of respondents from separate family system (n=45, 75.0%) while from extended family system (n=15, 25.0%). Mostly respondents were first born (n=27, 45.0%) as compared to second born (n=9, 15.0%) and last born (n=24, 40.0%). Higher number of respondents from urban areas (n=48, 80.0%) were participated as compare to urban areas (n=12, 20.0%) mostly respondents were not had psychiatry history (n=52, 86.2%) while (n=8, 13.3%) had psychiatric history.

Table 2 Psychometric Properties for Scale

Scale	M	SD	Range	Cronbach's alpha
Positive Mental Health Scale	29.86	7.12	11-41	0.936

Table 2 depicts psychometric properties for the scale used in present study. The cronbach's alpha value for positive mental health scale was .93(> .90) which indicated high internal consistency

Variables	STL		NI		F(1,57)	η^2	Post-HOC
	M	SD	M	SD			
PMH	39.15	2.30	20.6	8.3	23.869***	.45	1>2

***p < .001

Table 5 shows means, standard deviation and F-value for positive mental health on two groups (STL, NI). Results shows significant mean difference of groups on positive mental health with $F(1, 57) = 23.869$, $p < .001$. Finding reveals that STL (Simulated therapeutic laughter) exhibited higher level of positive mental health as compared to NI group. The value of η^2 was .45(< .50) which indicated small effect size. The post-Hoc comparison indicated significant difference between group mean of with two groups.

4. DISCUSSION

In this study results shows that simulated therapeutic laughter aids persons to cope with positive mental health. In some studies, it has been reported that laughter therapy is an effective approach to reduce anxiety and other mental health issues.

A randomized control longitudinal study was conducted in India enlisted 115 IT professionals to contribute in 7 sessions of laughter yoga as a method to decrease stress. The type of laughter yoga used consisted of bursts of simulated laughter followed by deep breathing relaxation techniques. This study found no significant change in heart rate, respiratory rate, heart rate variability, breath rate, or secretory IgA in either group. However, the laughter yoga group had a significantly greater drop in blood pressure (Laughter Yoga group = 7.46 mm Hg; Control group = 3.03 mm Hg), as well as a lower post intervention systolic blood pressure (Laughter Yoga group = 120.78 mm Hg; Control group = 125.96 mm Hg, $P < .04$). Additionally, the Laughter Yoga group showed a significant drop in cortisol levels (pre-intervention: 0.25 ± 0.14 ; post-intervention: 0.18 ± 0.11) whereas the Control group did not. Our current study provided same results and offered positive mental health after STL.

Another study of laughter therapy examined 60 depressed geriatric patients in Tehran, Iran. Study subjects were randomized to receive laughter therapy, exercise therapy, or nothing. Both laughter therapy and exercise therapy groups had a significant decrease in depression scores compared to the control group ($P < .001$ and $P < .01$, respectively), and the laughter therapy group had an additional increase in life satisfaction compared to the control group ($P < .001$). Interestingly, no significant differences were found between the laughter yoga and exercise groups.

Another study was conducted with university students in Iran; it was detected that the depression levels of female students after 6 laughter therapies dropped. In another randomized controlled study conducted with 42 first-year nursing students; a laughter therapy was applied to the experimental group for 15-20 minutes per day for 10 days and the stress levels of the students were assessed before the first laughter therapy and after the last therapy. As a result of the study, it was stated that laughter therapy reduced the stress level in a statistically significant way. Our present study gave similar results but in only 4 sessions for 20 minutes' laughter therapy.

In another randomized controlled study, a one-hour laughter therapy was used to the nursing students for a total of 8 times twice a week. result of the study was that laughter therapy had a positive effect on the general health

of students, enhanced the symptoms of physical and sleep disorders, reduced anxiety and depression and assisted to mend social roles. As in these studies, in this present experimental study, it was perceived that simulated laughter therapy significantly improve positive mental health of students.

5. CONCLUSION

There are two important insights that were got from the finding of this study-

1. Simulated, self-induced therapeutic laughter led to significant changes in positive mental health
2. Simulated, self-induced therapeutic laughter has great helpful and highly significant in shorter period of time, mostly outcome shows after single session.

6. LIMITATION & RECOMMENDATION

The sample size is not that much large and furthermore it has been taking from a single institution, further studied on the subject may be conducted with a larger and varied sample from different institutions and cities, only four sessions of STL were applied to all participants in a group session, where as it should be applied as per needed. Individual and one-to- one session were not included, lastly all participants were selected from general population and clinical cases were ignored. For future recommendation: use NLP & Silva Mind methods along with positive energy Psychotherapeutic treatment for more rapid and desirable outcomes.

REFERENCES

- [1] Cousins N. An Anatomy of an Illness. New York, NY: WW Norton; 1979. [Google Scholar]
- [2] Mora-Ripoll R. The therapeutic value of laughter in medicine. *Altern Ther Health Med*. 2010;16(6):56-64. [PubMed] [Google Scholar]
- [3] Parvizi J, Anderson SW, Martin CO, Damasio H, Damasio AR. Pathological laughter and crying: a link to the cerebellum. *Brain*. 2001;124(pt 9):1708-1719. [PubMed] [Google Scholar]
- [4] Foot H, McCreddie M. Humour and laughter. In: Hargie O, ed. *The Handbook of Communication Skills*. 3rd ed. London, England: Routledge; 2006:293-322. [Google Scholar]
- [5] Smuts A. Humor. *Internet Encyclopedia of Philosophy*. <http://www.iep.utm.edu/humor/>. Accessed November 10, 2011.
- [6] Mulder MP, Nijholt A. Humour research: state of the art. http://wwwhome.cs.utwente.nl/~anijholt/artikelen/ctit24_2002.pdf. Accessed August 29, 2014.
- [7] Seaward BL. Humor's healing potential. *Health Prog*. 1992;73(3):66-70. [PubMed] [Google Scholar]
- [8] Foley E, Matheis R, Schaefer C. Effect of forced laughter on mood. *Psychol Rep*. 2002;90(1):184. [PubMed] [Google Scholar]
- [9] Weisenberg M, Raz T, Hener T. The influence of film-induced mood on pain perception. *Pain*. 1998; 76:365-375. [PubMed] [Google Scholar]
- [10] Cogan R, Cogan D, Waltz W, McCue M. Effects of laughter and relaxation on discomfort thresholds. *J Behav Med*. 1987; 10:139-144. [PubMed] [Google Scholar]
- [11] Yovetich NA, Dale JA, Hudak MA. Benefits of humor in reduction of threat-induced anxiety. *Psychol Rep*. 1990; 66:51-58. [PubMed] [Google Scholar]
- [12] Sakuragi S, Sugiyama Y, Takeuchi K. Effects of laughing and weeping on mood and heart rate variability. *J Physiol Antropol Appl Human Sci*. 2002; 21:159-165. [PubMed] [Google Scholar]
- [13] Boone T, Hansen S, Erlandson A. Cardiovascular responses to laughter: a pilot project. *Appl Nurs Res*. 2000; 13:204-208. [PubMed] [Google Scholar]
- [14] McMahon C, Mahmud A, Feely J. Taking blood pressure—no laughing matter! *Blood Press Monit*. 2005; 10:109-110. [PubMed] [Google Scholar]
- [15] O'Riordan M. Laughter and therapy could go a long way for the heart. *Medscape Today News*. <http://www.medscape.com/viewarticle/748773>. Published August 29, 2011. Accessed August 31, 2011.
- [16] Farifteh SH, Mohammadi-Aria AR, Kiamanesh AR, Mofid B. The Impact of Laughter Yoga on the Stress of Cancer Patients before Chemotherapy. *Iran J Cancer Prev*. 2014; 7:179-183.
- [17] Dolgoff-Kaspar R, Baldwin A, Scott Johnson M, Edling N, and Sethi GK. Effect of laughter yoga on mood and heart rate variability in patients awaiting organ transplantation: a pilot study. *Altern Ther Health Med*. 2012; 18: 61–66.11.
- [18] Shin HS, Ryu KH, and Song YA. Effects of laughter therapy on postpartum fatigue and stress responses of postpartum women. *Journal of Korean Academy of Nursing* 2011;41[3]: 294–301.12.
- [19] Low LF, Goodenough B, Fletcher J, et al. The effects of humor therapy on nursing home residents measured using observational methods: the SMILE cluster randomized trial. *J Am Med Dir Assoc*. 2014; 15: 564-569.13.
- [20] Mora-Ripoll R. Potential health benefits of simulated laughter: A narrative review of the literature and recommendations for future research. *Complementary Therapies in Medicine* 2011; 19: 170-177.
- [21] Cho EA, Oh HE. Effects of laughter therapy on depression, quality of life, resilience and immune responses in breast cancer survivors. *J Korean Acad Nurs*. 2011; 41: 285–293.15.
- [22] Christie W and Moore C. The impact of humor on patients with cancer. *Clin J Oncol Nurs*. 2005; 9: 211–218.16.
- [23] Capps D. The psychological benefits of humor. *Pastoral Psychology* 2006; 54:393-411.17.
- [24] Kaur L, Walia I. Effect of laughter therapy on level of stress: A study among nursing students. *Nursing and Midwifery Research Journal*. 2008; 4: 34-38.18.

- [25] Bast ES, Berry EM. Laugh Away the Fat? Therapeutic Humor in the Control of Stress-induced Emotional Eating. *Rambam Maimonides Medical Journal*. 2014; 5: 0007.19.
- [26] Mora-Ripoll R. Laughter techniques for therapeutic use in medicine. *OA Alternative Medicine* 2013; 1: 25.20.
- [27] Martin RA. Humor, laughter, and physical health: methodological issues and research findings. *Psychol Bull*. 2001; 127: 504-519.23.
- [28] Kim SH, Kim YH, Kim HJ, Lee SH, Yu SO. The Effect of Laughter Therapy on Depression, Anxiety, and Stress in Patients with Breast Cancer Undergoing Radiotherapy. *J Korean Oncol Nurs*. 2009; 9: 155-162.24.
- [29] Karimia F, Jamalib S, Khorani Karimic T, Hematid F, Safaria F. The Effect of Laughter Therapy on Reducing Depression in Female Students of Payam-e-Noor University of Ilam. *Reef Resources Assessment and Management*.