

## EFFECT OF RELAXATION THERAPY ON STRESS MANAGEMENT AMONG TEENAGERS AND ADULTS

ESHITA ISLAM AFRIN AND RAJEKA FARDOSH TANY\*

*Department of Psychology, Jagannath University, Dhaka-1100, Bangladesh*

*Keywords:* adult, relaxation therapy, stress management, teenager

### Abstract

The title of the present experiment is Effect of Relaxation Therapy on Stress Management Among Teenagers and Adults. The main purpose of the present experiment was to investigate the impact of relaxation therapy on stress reduction among teenagers and adults in Dhaka city. Utilizing purposive sampling, 30 participants (15 teenagers, 15 adults) engaged in a 28-day relaxation program. The Bangla version of Life Stress Questionnaire and other stress management tools were used. Data were collected and analyzed by using ANOVA, t-test, and descriptive analysis. Results indicate a significant reduction in stress levels gradually across both groups for teenagers  $F$  for row (relaxation therapy) = 12.480,  $F$  for column (among participants) = 9.270 and for adults  $F$  for row (relaxation therapy) = 5.519,  $F$  for column (among participants) = 1.175. The study also explores relationships between stress and various variables such as gender, age, financial condition. Descriptive analysis showed that there was no significant difference between female and male but it reduced slowly for male (from 22.13 to 16.87) and for female (from 23.13 to 18.47) and decreased respectively in both financial groups for higher group (from 22.29 to 18.50) for lower group (from 22.94 to 16.94). The findings underscore the effectiveness of relaxation therapy in managing stress among adults and teenagers in Bangladesh. This study suggests the integration of relaxation therapy into stress management interventions and highlights avenues for future research in this area.

### Introduction

Life presents various challenges and threats, each person navigating their unique blend of daily demands. Though an ideal scenario would see problems effortlessly resolved, reality confronts us with personal and environmental hurdles, inducing stress. Daily trials can push us to our limits, fostering suffocating situations and potential breakdowns, leading to significant setbacks if not managed. Minor occurrences like unwanted interactions or work pressure can compound stress, necessitating strategies for relief and composure amidst adversity<sup>(1)</sup>.

Stress, inherent to human existence, manifests as a complex interplay of emotional,

---

\* Author for correspondence: [rajekafardosh@yahoo.com](mailto:rajekafardosh@yahoo.com)

behavioral, biochemical, and physiological responses to challenges, whether acute or chronic. Its perception is highly individualized, influenced by both external demands and internal psychological and biological factors, shaping reactions to varied circumstances and events. According to Mandler (1984); "Stress can be defined as any condition that has an effect on the body<sup>(2)</sup>". Also, R.S. Feldman (2004) defined it as "a phenomenon in which a person's response to events that are threatening or challenging<sup>(3)</sup>". Thus, Stress encompasses the mental, physical, emotional, and behavioral responses triggered by perceived demands or threats. Before managing stress, a person should become stress conscious. Stress consciousness involves the mindful recognition and identification of stressors, enabling individuals to discern their impact on mental health, physical well-being, and emotional stability. A study published in the Journal of Psychosomatic Research found that mindfulness-based stress reduction (MBSR) increased stress consciousness and improved mental health outcomes in individuals with chronic pain<sup>(4)</sup>.

In Bangladesh, approximately 7 million individuals suffer from stress, depressive and anxiety disorders. Study indicates alarming levels of depression (54.3%), anxiety (64.8%), and stress (59.0%) within the population<sup>(5)</sup>. Teenage stress is prevalent in Bangladesh due to the myriad of physical, psychological, and social changes during adolescence, compounded by academic pressure, family issues, financial constraints, and societal expectations. Research indicates that over half of Bangladeshi teenagers experience moderate to high levels of stress, linked to factors like academic performance, family income, and parental education, as per a 2018 study in the Journal of Public Health Research. In Bangladesh, adults contend with pervasive stress stemming from dynamic societal, economic, and personal pressures, including work demands, relationship issues, and internal conflicts, amid fast-paced and evolving environments. In Bangladesh, 42.2% of adults experience stress, with higher prevalence observed among women, older individuals, those with lower education levels, and residents of rural areas<sup>(5)</sup>.

A stress makeover, akin to stress management, involves taking incremental steps to effectively reduce stress and enhance overall well-being, thus fostering a healthier and more positive lifestyle. (WHO) on Mar 17, 2013, provide a stress guideline to cope with stress effectively<sup>(6)</sup>. Stress management therapy refers to these Therapies which are invented by therapists that intend to help everyone to cope with and remove stress from their life. According to the APA, stress management therapy involves "a variety of techniques aimed at reducing the negative impact of stress on a person's physical and mental health" (APA, 2021)<sup>(7)</sup>. Stress management therapy involves a combination of techniques such as CBT, MBSR, relaxation methods, and lifestyle adjustments to identify and address stressors, though some individuals may benefit from a single technique<sup>(7)</sup>.

Relaxation techniques are most promising intervention in stress among all the stress management techniques. Relaxation techniques encompass diverse practices aimed at reducing stress, anxiety, and tension in both body and mind, fostering improved sleep and overall wellbeing. Common methods include deep breathing, meditation, yoga, and spa treatments, all contributing to muscle relaxation and enhanced resilience<sup>(8)</sup>. According to

the (NCCIH, 2021), relaxation techniques “may help reduce symptoms associated with a variety of conditions, including anxiety, insomnia, chronic pain, and high blood pressure<sup>(8)”. Deep breathing entails slow, deliberate breaths in a serene setting, impacting heart rate, muscle relaxation, brain activity, and hormonal balance. Research findings suggest that both diaphragmatic breathing and deep breathing techniques exhibit significant efficacy in reducing physiological and psychological stress among adults and college students, respectively<sup>(8-10)</sup>. Progressive Muscle Relaxation (PMR) involves sequentially tensing and releasing muscles to heighten awareness of tension, aiding in stress management by facilitating ease of relaxation. Quasi-experimental demonstrates the efficacy of progressive muscle relaxation and stress management programs in reducing academic stress among students, while meta-analysis reveals the significant impact of mindfulness-based stress reduction on stress, anxiety, depression, and quality of life<sup>(11-12)</sup>.</sup>

Research investigated the effectiveness of PMR, deep breathing, and guided imagery in reducing stress among healthy undergraduate participants, demonstrating that these techniques positively impact both psychological and physiological relaxation states<sup>(9,13)</sup>. Similarly, in another research Adolescent stress was addressed through progressive muscle relaxation and deep breathing techniques, with both methods demonstrating effectiveness in reducing stress scores among high school students<sup>(14)</sup>. Researchers also respectively demonstrate Quasi experiments to see the effectiveness of progressive muscle relaxation and deep breathing techniques in reducing stress and anxiety among elderly populations. Those Subjects (elderly persons) were naturally selected and given treatment (muscle relaxation and deep breathing) was manipulated by the experimenter. The main objective of this study was reducing stress and anxiety among elderly population. Findings of this research was to decrease stress and anxiety of old population after using muscle relaxation and deep breathing<sup>(15,16)</sup>.

One study found no gender differences among coping behavior but other studies found significance difference<sup>(10)</sup>. Another study indicated that, female have higher stress level when they tended toward negative strategies such as substance use<sup>(17)</sup>. Research also found that, when female person applied positive coping strategies like seeking help, contrasting with males they have better coping skilled<sup>(17-19)</sup>.

Research highlighted a link between lower socioeconomic status (concern in income level, residential area, educational status, living quality) and chronic stress, which encompasses various social and environmental factors<sup>(20)</sup>, another research finding shows that during the Covid pandemic situation there was no significant difference in stress levels among different earning groups<sup>(14)</sup>.

As the research emphasizes the pervasive impact of stress on psychological and physical health on human life. Particularly in Bangladesh where most of the population are ignored their mental health and psychological wellbeing because of lack of knowledge and financial weakness. Teenagers and adults often suffer from stress-related issues that affecting their mental health and interpersonal relationships. A forthcoming study aims to evaluate the efficacy of relaxation therapy in stress management within the context

of experience on a daily basis. This relaxation therapy also intending to uncover coping strategies and stressors while maintaining mindfulness, concern and awareness. Thus, the main purpose of this experiment is to see whether relaxation therapy has any significant effect on reducing stress for teenagers and adults. Other objectives of the present study on the basis of gender, age group and different financial level varies according to application of stress management techniques.

## Materials and Methods

There was a total 30 participants in the present experiment. Amongst them 15 were male and 15 were female. Among them 15 were teenagers (13 - 19 years) and 15 were adults (23 - 60 years). Current research procedure was following a time-consuming process that's why most of the people are not interested to participate. Few participants were lost their attention and few were not maintaining regularity. After that they drop out from this study. Finally, 30 participants were persisting for this research. The participants were selected by using purposive sampling techniques from different areas of Dhaka city. Here "Life stress questionnaire" (Cohen, 1999)<sup>(21)</sup> was used to measure the current level of stress for the participants. Participants with moderate level stress persons were selected for this study. Participate relaxation therapy regularly and their stress level will be changed like moderate to mild, that is the main focus of this study. And sever level stressed person are not capable to practice relaxation therapy regularly. For this reason, only moderate level stressed adult and teenagers were selected. Every one of them were suffering from mild to severe level daily stress problems. Education level of the participants varies from class-7 to master's degree. Among teenagers all of them were students by profession but in adult occupations were varied such as student, businessman, job holder, housewife and retired person. These people were come from various types of social status and family background. The number of participants according to demographic variable is shown below in Table 1.

**Table 1. Percentage of Participants According to Different Demographic Variables**

Variable	Level	N	Percentage (%)
Gender	Male	15	50%
	Female	15	50%
Age Limit	Adult	15	50%
	Teenager	15	50%
Financial condition	Higher than 50k(<100000tk)	14	46.67%
	Lower than 50k	16	53.33%

For conducting this experiment, researcher used the following instruments.

*Bangla Version of Life Stress Questionnaire:* The Bangla version of the "How stressful is your life scale?" originally developed by Cohen (1999)<sup>(21)</sup> and translated by Fahim (2001)<sup>(22)</sup>

consists of 10 items, scored on a 5-point Likert scale ranging from very strongly disapproved to approve very strongly. Positive items are scored 4 to 0, while negative items are reverse scored from 0 to 4. The total score ranges from 0 to 40, with higher scores indicating higher levels of life stress. Classification of stress levels includes mild (10-19), moderate (20-29), and severe (30-40). The Bangla version demonstrates satisfactory reliability, with significant correlations with the English version ( $r=0.90$ ,  $p<.01$ ) and high test-retest reliability over a 2week period ( $r=0.94$ ,  $p<.01$ ), along with face and content validity.

*Personal Information Questionnaire:* A questionnaire was used to collect personal information (such as age, gender, financial condition, residential area and educational background) of the participants before measuring their stress level.

*Stress Management Tools:* Some necessary tools were used to complete 28 days long therapy session. These are:

- a. A (5 to 1) grounding List
- b. A Joy List
- c. A To-Do List
- d. A PMR Video
- e. (Chandra Bhedana) Deep Breathing Instruction tool<sup>(23)</sup>

**Design:** Researchers utilized Quasi Experimental Design, specifically Interrupted Time Series Design<sup>(24)</sup>, to assess the effects of an intervention by tracking data before and after its implementation.

In this study, data was collected from 30 participants over a period of 28 days using a standardized procedure. Prior to administering the questionnaire, a rapport was established with the participants. Participants were initially provided with consent forms, followed by verbal instructions and demographic information before completing the life stress questionnaire. Participants were encouraged to ask questions if they had any queries regarding the instructions or the scale. Essential materials such as a grounding list, joy list, a To-Do list, and a relaxation video were then provided to them. Throughout the study, participants engaged in relaxation therapy (they listened to the PMR video each morning and practiced deep breathing each night before sleep), adhering to a prescribed routine and reporting weekly on their progress. After 14 days, they completed the questionnaire again, and upon completion of the 28-day period, they filled it out for the final time. Upon conclusion, feedback was collected, and participants were encouraged to continue their relaxation practices. Data analysis was conducted after scoring and counting the responses of demographic variables (age, gender and financial condition) of the participants. Most of the responses for demographic variables was divided into two options like yes and no.

## Results and Discussion

The aim of the present experiment was to see whether relaxation therapy has any significant effect on reducing stress for teenagers and adults. The result was also investigated

whether there is any relationship of stress with gender, age and financial condition. A standardized questionnaire was used to measure stress level 3 times. Like before conducting the study which is called pre phase. Second is post phase, after using stress management tools (14 days). And the third one is post phase two (28 days), when measure the stress of participants after using stress management tools after 28 days. while practicing relaxation techniques. Attained data were analyzed using applicable statistical styles. Discussion of these findings is delineated in the following parts.

- ANOVA of stress score to discriminate stress level such as before using stress management tools, after using stress management tools (for 14 days), (for 28 days) of the participants while applying relaxation techniques.
- t - test of stress level to see significant difference among gender, age and financial condition.
- Mean difference of stress level in relation to different demographic variables such as gender, age, financial condition during usage of stress management program.

Effect of relaxation therapy on stress management for teenagers and adults has been measured through statistical analysis that is highly signified and also supported by previous research studies.

ANOVA (F – test) was used to measure the effect of relaxation therapy on stress management. From the result, researchers found that relaxation therapy has a significant effect on reducing stress level gradually in both teenagers and adults. For teenagers the ANOVA result showed significant effects for both the rows (relaxation therapy) and columns (among participants) factors. In Table-2, for the rows factor, F-value is 12.48, and the p-value is ( $p < 0.001$ ), which is less than the significance level ( $\alpha = 0.05$ ). This suggests that there are significant differences between the treatment conditions in terms of their effects on stress level. For the columns factor), F-value is 9.27, and the p-value is 0.009( $p < 0.01$ ), which indicates significant differences between the stress levels from time to time. The F critical value for rows is 2.57 and for columns is 4.66. Therefore, based on these results, it can be concluded that both the relaxation therapy and daily practice have significant effects on stress management. The result fully supported by many researchers who also found that relaxation therapy has positive and rapid effect on reducing stress<sup>(5,7,20)</sup>.

**Table 2. Comparison in stress level according to application of relaxation therapy for teenagers**

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Rows (relaxation therapy)	950.75	13	73.13	12.48	0.03	2.57
Columns(teenagers)	54.32	1	54.32	9.27	0.09	4.66
Error	76.17	13	5.85			
Total	1081.25	27				

Level of Significance:  $P < 0.05$

For adults, the (ANOVA) results indicates a significant effect for the rows (relaxation therapy) factor but not for the columns factor (among teenagers). In Table -3, for the rows factor, the calculated F-value is 5.51, with a corresponding p-value of 0.002 ( $p < 0.01$ ). This suggests that there are significant differences between the treatment conditions in terms of their effects on the stress level. However, for the columns factor, the calculated F-value is 1.17, with a corresponding p-value of 0.29 ( $p > 0.05$ ), indicating that there are no significant differences between the stress level among participants. The F critical value for rows is 2.57 and for columns is 4.66. Therefore, it can be concluded that the relaxation techniques have a significant effect on the stress management. research found that relaxation therapy has great effect on reducing psychological and physiological stress. They also mostly focused on deep breathing and PMR<sup>(4,5,7,22)</sup>.

**Table 3. Comparison in stress level according to application of relaxation therapy for adults**

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Rows(relaxation therapy)	787.17	13	60.55	5.519	0.03	2.57
Columns(adults)	12.89	1	12.89	1.175	0.29	4.66
Error	142.60	13	10.96			
Total	942.67	27				

Level of Significance:  $P < 0.05$

The statistical analysis of mean difference of stress level among male and female was not significant in Table – 4. Bernard L. Misigo<sup>(10)</sup> also found the same result and also found the use of positive coping strategies is higher in female than male. Though the stress level reduced gradually in both groups while using stress management techniques, but the stress is always higher in female (18.47) than male (16.87), even after 4 weeks of treatment. In

contrast the t- test showed there is no significant difference in male and female over the whole period. The result of t- test is supported by many research evidence<sup>(6)</sup>.

**Table 4. Comparison of stress level in relation to Gender (N= 30)**

Variable	level	N	mean (before using stress management tools)	mean (using tools after 2 weeks)	mean (using tools after 4 weeks)	mean (total)	SD	df	t	t crit( 2tailed)
Gender	Male	15	22.13	20.4	16.86	59.4	16.93	28	0.20	2.04
	Female	15	23.13	19.06	18.46	60.66	17.62			

Level of Significance:  $P < 0.05$

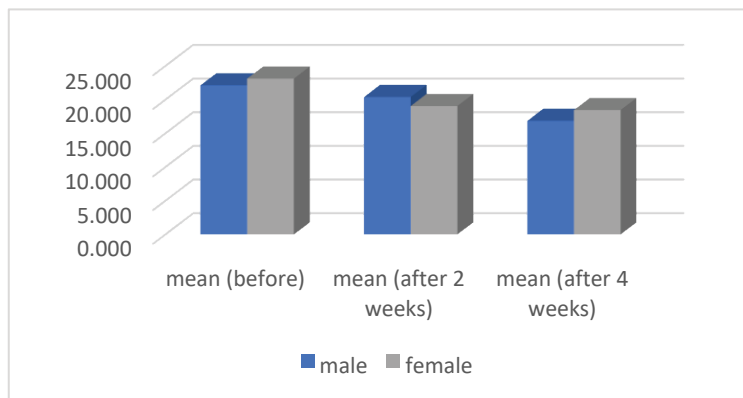


Fig 1. Mean difference of stress level between male and female

In the present experiment, the result of mean difference and t- test of stress level among adult and teenager in Table – 5, showed that there is no significant contrast between both groups. The stress level was almost same in both groups from the beginning (22.53) to end of the treatment (17.8). But researchers can find that gradual decrease in score of adult and teenager participants. So, relaxation therapy has significant effect to reduce stress level of both age group (adult, teenagers). Hopper also found effective result of stress management program on stress reduction<sup>(1)</sup>. Deep breathing and PMR is also found to be the most useful techniques for elderly adults and students<sup>(4,8)</sup>.



**Table 5. Comparison of stress level in relation to Age (N= 30)**

Variable	level	N	mean (before using stress management tools)	mean (using tools after 2 weeks)	mean (using tools after 4 weeks)	mean (total)	SD	df	t	T crit( 2tailed)
Age	Adult	15	22.53	19.06	17.53	59.13	15.83	28	0.28	2.04
	Teenager	15	22.73	20.4	17.8	60.93	18.59			

Level of Significance:  $P < 0.05$

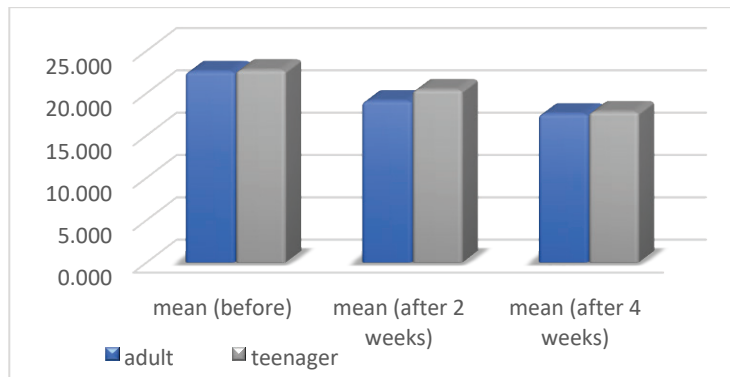


Fig. 2. Mean difference of stress level between adults and teenagers

There is significant difference of stress level among various financial groups in Table – 6, was shown by the mean difference (Higher group =22.29) and (Lower group =22.94), but the stress level decreased gradually in both groups for (Higher group =18.50) and (Lower group =16.94), which is supported by research evidence of (Andrew Baum, et al; 2006) where he found that lower SES have higher stress <sup>(2)</sup>. But the result of t – test showed there is no significant difference in financial groups. But using stress management methods are reduce stress steadily. Before using stress management tools and after using stress management tools (14 days, 28 days) conditions are different. After using stress management tools, participants gradually decreased their stress level. In Table 6 shown that, after using stress management tools for higher than 50k group, the mean score of stress was 20.28 for tools practicing 14 days and mean was 18.50 for 28 days tools practicing. On the other hand, the mean score of stress was 19.43 for tools practicing 14 days and the mean was 16.93 for practicing 28 days for lower than 50k financial group.

**Table 6. Comparison of stress level in relation to financial condition (N= 30)**

Variable	level	N	mean (before using stress management tools)	mean (using tools after 2 weeks)	mean (using tools after 4 weeks)	mean (total)	SD	df	t	tcrit (2 tailed)
Financial condition	Higher than 50k	14	22.28	20.07	18.50	60.85	17.57	27	0.24	2.05
	Lower than 50k	16	22.93	19.43	16.93	59.31	17.01			

Level of Significance:  $P < 0.05$

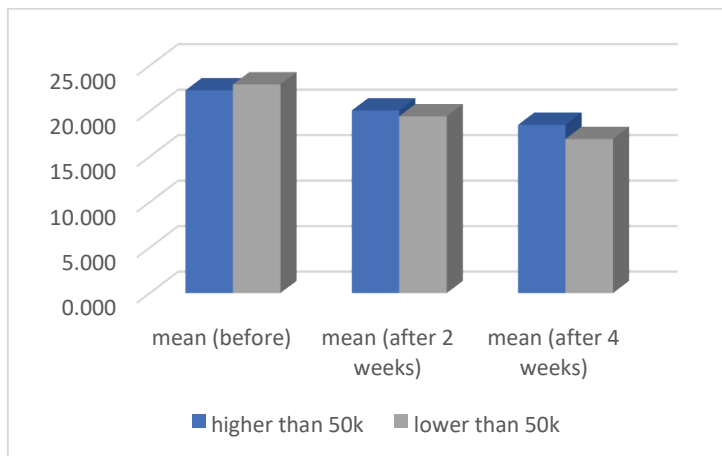


Fig. 3. Mean difference of stress level between different financial conditions

Hence, the final findings of this experiment is that, relaxation therapy has an important effect on stress management among teenagers and adults. Now a days life is too stressful and full of complexity. Most of the people are suffering from stress in their life. This stress can impact a significant negative consequence in their productivity, creativity and psychological wellbeing. So, relaxation therapy and different stress management tools can play an important role for daily life to manage stress level in a healthy way. The result is also mostly supported by previous research and demographic variables like different gender, age and financial group also show variety of findings.

The study exhibits several limitations and errors. Firstly, the sample size was relatively small, and participants were not randomly selected, affecting the generalizability of the findings. The complexity of the experiment, involving pretest and posttest measures collected thrice from the same participants, may have led to participant attrition, further reducing the sample size. Additionally, the requirement for participants to be available for an extended period raises concerns about feasibility. Lack of direct observation and reliance

on self-monitoring may introduce bias. Furthermore, the extended data collection time, limited geographic scope to Dhaka City, and absence of financial funding pose additional constraints on the study's reliability and applicability.

The study's findings offer some implications for future research in Bangladeshi perspectives. Such as this study is a starting key for further potential research opportunities. Another one is highlighting the benefits of relaxation therapy for stress management and mental health for all kind of people. Also apply those stress management tools for students and job holders in considering their current level of stress. Using properly these tools make sure and after finding its benefit for their daily life like students can improve their academic performance for reducing stress. Employees are performing better for decreasing their stress level. This study will be fostering awareness of life discipline and self-observation among people.

## References

1. S. I. Hopper, S. L. Murray, L. R. Ferrara, and J. K. Singleton, "Effectiveness of diaphragmatic breathing for reducing physiological and psychological stress in adults," *JBIR Database of Systematic Reviews and Implementation Reports*, **17**(9): pp. 1855–1876, Sep. 2019, Doi: <https://doi.org/10.11124/jbisrir-2017-003848>.
2. G. Mandler NY: Robert E. Krieger. and W. Kessen, *The Language of Psychology*. 1964.
3. R. Feldman, *Understanding Psychology.*, 14th ed. S.L.: McGraw-Hill Education, 2018.
4. L. E. Carlson, M. Speca, K. D. Patel, and E. Goodey, "Mindfulness-Based Stress Reduction in Relation to Quality of Life, Mood, Symptoms of Stress, and Immune Parameters in Breast and Prostate Cancer Outpatients," *Psychosomatic Medicine*, **65**(4): pp. 571–581, Jul. 2003, Doi: <https://doi.org/10.1097/01.psy.0000074003.35911.41>.
5. M. D. Hossain, H. U. Ahmed, W. A. Chowdhury, L. W. Niessen, and D. S. Alam, "Mental disorders in Bangladesh: a systematic review," *BMC Psychiatry*, **14**(1): July 2014, Doi: <https://doi.org/10.1186/s12888-014-0216-9>.
6. World Health Organization and Mark Van Ommeren, *Guidelines for the Management of Conditions Specifically Related to Stress*. 2013.
7. C. Padilla, "Greater Stress Level Fluctuation in Lower Income Earners since onset of Coronavirus Pandemic," *Journal of Student Research*, **10**(1): Mar. 2021, Doi: <https://doi.org/10.47611/jsrhs.v10i1.1291>.
8. "Relaxation Techniques for Health," NCCIH, May 2021. <https://www.nccih.nih.gov/health/relaxation-techniques-for-health>
9. L. Toussaint *et al.*, "Effectiveness of Progressive Muscle Relaxation, Deep Breathing, and Guided Imagery in Promoting Psychological and Physiological States of Relaxation," *Evidence-Based Complementary and Alternative Medicine*, **2021**(1): pp. 1–8, Jul. 2021, Doi: <https://doi.org/10.1155/2021/5924040>.
10. A. Joshi, R. Kiran, H. K. Singla, and A. N. Sah, "Stress management through regulation of blood pressure among college students" **54**(3): pp. 745–752, Jul. 2016, Doi: <https://doi.org/10.3233/wor-162308>.

11. B. Khoury, M. Sharma, S. E. Rush, and C. Fournier, "Mindfulness-based stress reduction for healthy individuals: A meta-analysis," *Journal of Psychosomatic Research* **78**(6): pp. 519–528, Jun. 2015, Doi: <https://doi.org/10.1016/j.jpsychores.2015.03.009>.
12. A. B. Anuar, M. Anas, and S. Samad, "Effects of Progressive Muscle Relaxation on Academic Stress in Students," *Jurnal Psikologi Pendidikan dan Konseling: Jurnal Kajian Psikologi Pendidikan dan Bimbingan Konseling* **5**(2): p. 134, Dec. 2019,
13. S. U. Hamdani *et al.*, "Effectiveness of relaxation techniques 'as an active ingredient of psychological interventions' to reduce distress, anxiety and depression in adolescents: a systematic review and meta-analysis," *International Journal of Mental Health Systems* **16**(1): Jun. 2022, Doi: <https://doi.org/10.1186/s13033-022-00541-y>.
14. Suyami and D. P. Sari, "THE EFFECTIVENESS OF PROGRESSIVE MUSCLE RELAXATION AND DEEP BREATHING TECHNIQUES TOWARD STRESS SCORES OF ADOLESCENTS," *Journal of Experimental Biology and Agricultural Sciences* **8**(Spl-2AABAS): pp. S336–S340, Dec. 2020,
15. R. Erwanto and F. L. Asmarani, "The Progressive Muscle Relaxation and Deep Breathing as Effective Procedures in Reducing the Stress Levels on Older People," *Jurnal Ners dan Kebidanan Indonesia* **6**(1): p. 42, Mar. 2019, doi: [https://doi.org/10.21927/jnki.2018.6\(1\).42-48](https://doi.org/10.21927/jnki.2018.6(1).42-48).
16. J. Youssef, G. Abdelsaid, M. Mostafa El-Genaidy, M. Maximos, R. Magdy, and M. Abd El-Salam, "Effect of Progressive Muscle Relaxation Technique on Blood Pressure, Anxiety and Stress among Elders in Assisted Living Facilities," *Progressive Muscle Relaxation, Elders' Blood Pressure* **21**(2): 2019, Accessed: Mar. 15, 2024.
17. S. Hamilton and B. I. Fagot, "Chronic stress and coping styles: A comparison of male and female undergraduates.," *Journal of Personality and Social Psychology* **55**(5): pp. 819–823, 1988, Doi: <https://doi.org/10.1037/0022-3514.55.5.819>.
18. B. Misigo, "GENDER DIFFERENCE IN THE PERCEIVED LEVEL OF STRESS AND COPING STRATEGIES AMONG UNIVERSITY STUDENTS IN KENYA: A CASE OF PUBLIC UNIVERSITIES," *International Academic Journal of Social Sciences and Education* **1**(3): pp. 44–52,.
19. María Guadalupe Acosta-Gómez *et al.*, "Stress in High School Students: A Descriptive Study" *Journal of Cognitive Behavioral Therapy* **1**(1): p. 1, 2018.
20. A. BAUM, J. P. GAROFALO, and A. M. YALI, "Socioeconomic Status and Chronic Stress: Does Stress Account for SES Effects on Health?" *Annals of the New York Academy of Sciences* **896**(1): pp. 131–144, Dec. 1999.
21. S. Cohen, T. Kamarck, and R. Mermelstein, "A Global Measure of Perceived Stress," *Journal of Health and Social Behavior* **24**(4): pp. 385–396, Dec. 1983, Doi: <https://doi.org/10.2307/2136404>.
22. Fahim, Y. (2001). "How Stressful of Your Life Stress. The Dhaka University Journal of Psychology, **25**: 24-27. - References - Scientific Research Publishing," [www.scirp.org](http://www.scirp.org). <https://www.scirp.org/reference/referencespapers?referenceid=1119583> (accessed Feb. 12, 2024).
23. Imai and Masaaki. Kaizen (Ky'zen), the key to Japan's competitive success. New York :Random House Business Division, 1986
24. J. Ferron and G. Rendina-Gobioff, "Interrupted Time Series Design," *Encyclopedia of Statistics in Behavioral Science*, Oct. 2005, Doi: <https://doi.org/10.1002/0470013192.bsa312>.

(Manuscript received on 19 March, 2024; accepted on 11 June, 2024)