

## **Comparing the Efficacy of Three Therapeutic Methods of Emotional Expression, Mental and Combined Relaxation in Reducing Perceived Stress**

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### **Abstract**

The phenomenon of stress and its role in sickness and health is overt. Furthermore, various studies have confirmed the role of emotions in psychological well-being, but the relation between stress and emotions is one of the important issues about which there are different theories. The aim of the present study is to compare the effect of three interventions including: emotional expression, meditation and compound method on perceived stress. The design used in the present study is quasi-experimental, pretest-posttest with control group and a two-month follow-up stage. Forty men who voluntarily had referred to Tavan Afza Clinic were chosen using hand-to-hand sampling method and were randomly assigned to four groups. The Cohen's Perceived Stress Scale was used in the pretest, posttest and follow-up stages and the intervention lasted for eight sessions within one month. The data were analyzed by covariance and T-test independent group test. The statistical data indicated that the difference between the compound treatment group and control group by the significance level of 5% and the confidence level of 95% was significant, but the difference between the other groups was not significant. The results indicated that the compound method can be effective in reducing perceived stress of the youth. Therefore, this method can be used as an effective way to reduce stress in the stressed-out people and to improve psychological well-being in the youth.

**Keywords:** Emotional expression, Meditation, Perceived stress

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## **Introduction**

Stress (tension) is one of the natural and inevitable aspects of contemporary human life. Third millennium started in conditions that human society has faced with serious problems in various sectors; among these problems is social change and its consequences in psycho-social dimensions of human beings. Despite the progress and development made and the plenty of facilities, it includes fundamental problems (Mousavi Asl et al., 1388).

Adi Cymerblit et al. (2015) showed that dealing with stress at different time points of mental development has an important effect on people's brain structure which is involved in psychiatric disorders. Social factors have created a lot of stresses for all human but the mental health of youth is more threatening in some ways. In addition to social and environmental issues in terms of transformation, the youth at these ages are grappling with three crises of identity, love and work (Laura Berg, 2007; Seyed Mohammad, 1389) and therefore, this age group is more vulnerable to mental-health effects caused by stress.

Perceived stress is a condition that reflects the whole individual assessment of this issue which shows how much the life situations are stressful (Cohen, Kamarck & Mermelstein, 1983) and in this research the scores that participants gain from the Cohen, Kamrak and Mrmlstan Perceived Stress Scale (1983) and emotional expression include behavioral changes along with exciting changes such as face, voice, gestures and body movements. Smiling, frowning, crying or escaping are examples of emotional expression (Gross, John and Richard, 2000). Mental relaxation is a method in which a person will focus his thoughts on an object, event or idea and hereby they will be away from their feelings, thoughts and environmental conditions (Seif, 1392). The aim of combined method is a proposed hybrid method that uses music therapy, outpouring anxiety, relaxation and meditation, so that at first, some physical exercise will be conducted to raise the heart rate of participants (5 minutes), then a trance music without words was played (10 minutes) where in this meanwhile subjects have done physical activities without rule, then did the variable assignments to externalized emotions (10 minutes). Two sessions of writing negative thoughts - two sessions of laughing using laugh Yoga techniques implemented by Indian Dr. Madan Kataryay - two sessions of screaming and clapping and -two sessions singing opera and

eventually progressive physical relaxation (10 minutes ) was conducted based on Jacobson and mental relaxation methods (10 minutes), by the imagery.

Stress and its role in the health of patient and the ways to deal with it has attracted an increasing attention of psychologists. Nowadays, in various psychological studies, an emphasis has been laid on the role of emotion in individuals' health and disease (Forgas, 2000). Today, an important aspect of human health is emotional health of people and a research conducted by Daniel Vegnro et al. concluded that the suppression of emotional thoughts can lead to negative emotional responses and create fear (irrational fears) and obsession (being caught of uncontrollable thoughts) (Parvin, 2001; Kadivar and Jafari, 1392).

In popular culture, the term mental refining or emotional evacuating to express the emotions teaches us a way to reduce hostility and aggression. Our self-help books encourage us to build our way out to vent anger over something inanimate, like punching a pillow, plate breaking, or punching a bag. Will it be useful? Does aggressive acting reduce negative emotions? In a study conducted Bushman, Bamystr and Stack (1999) and Bushman (2002) on mental refinement concluded that people who have evacuated their anger punching a bag showed more aggression towards the source of anger and punching bag did not removed their negative emotions (Schultz, 2005; Seyed Mohammadi, 1391). According to the conflicts existing in these findings, some further studies on releasing of excitement and its effectiveness in reducing stress (tension) seems necessary.

In the field of outpouring anxiety effects, relaxation, meditation, music and laughing and also reducing perceived stress some things had taken place separately. Keith et al (1998) have concluded that although the suppression of evoked negative emotions can be a way to ethics regulation but suppression of emotional thoughts can damages the immune system. Ali Pour, Noorbala, Yazdanfard and Harris (2011) showed that although written emotional disclosure is painful at the time of writing, but it has a positive impact on declining stress levels in the long term. Generally, the analysis conducted about the relationship between emotional expression and different health dimensions shows the relationship between externalizing or draining emotions and stressful event with human health (Smith, 1998; Qorbani, 1378; Mendes Reese and Blaskych, 2003), the protective

role of positive emotions expression against diseases (Richman, Roth and Gorman 2005, quoting Nejat, 1385) and verbal and written self-exposure effect in increasing mental health of people (Petrie, K. J., Booth, R. J., Pennebaker, J. W., Davison, K. P., & Thomas, M. G) (Zare, Shafiabadi 1386). Song, Y., Lindquist, R., (2015) Jonathan, Matthew and Alexandra (2015) have showed the effect of mindfulness meditation to reduce stress.

Zhou et al. (2015) have found that music therapy and progressive muscle relaxation training can reduce depression and anxiety. Bahramkhani et al. (1390) showed that relaxation significantly reduces perceived stress, systolic blood pressure, diastolic blood pressure and heart rate. Moshtaq Eshgh and et al. (1389) have concluded that laugh therapy reduces fatigue and depression in patients with MS. Estflah, Sohrabi, Zadeh Mohammadi (1390) concluded that music therapy is effective in reducing anxiety. Hing, White, Bouaaphone, Lee (2008), in the research of reviewing the effectiveness of treatment contrary, has accepted this method hesitantly and its acceptance was subject to further research. But the combined approach that we intend to examine in this research is a proposed method whose sample was not available in studies conducted in the literature. Therefore, researchers are going to do it for the first time in this project. The theoretical logic of this approach is based on tension - relaxation logic which are used in "opposites treatment" and "progressive muscle relaxation" and argument for combining and comparing it with other methods of outpouring anxiety and mental relaxation will create emotional tension by planning activities and consequently the activation of sympathetic system and relieve tension by tasks related to mental relaxation which cause sympathetic-parasympathetic autonomic activation and combine them to reduce stress (tension).

## **Method**

The outline of this research is a quasi-experimental design with pretest-posttest control group along with follow-up with respect to the objectives and the research nature. Thus, out of 80 subjects who voluntarily entered the study, 40 people were chosen which reported a higher score of perceived stress and were randomly assigned into four groups of 10 people in externalized mental and emotional relaxation control group and they were reviewed after intervention again

conducted in the post-test and were tested after two months once again in order to track the subjects. In the research community, all men aged 20-40 had turned to the clinic in order to get psychological help to reduce their stress. Sampling in this study is available sampling and the research objective is to determine the effectiveness of combined approach and externalized emotional method and mental relaxation on perceived stress in youth. According to above objectives, the following assumptions are discussed.

1. The combined approach is effective in reducing youth's perceived stress.
2. Emotional externalizing methods are effective in reducing youth' perceived stress.
3. Mental relaxation methods are effective in reducing youth' perceived stress.

The measurement tool of questionnaire is Cohen's Perceived Stress. The dependent variable is the perceived stress and the interventions of the independent variables which were applied in three forms of combined, mental relaxation and emotional expression. In order to analyze the data after exploring the results, analyzing the data and calculating the mean and standard deviation, the covariance analysis method and t-test was used.

**Combined interventionist method:**

1. Physical exercise to raise the heart rate (5 minutes).
2. Playing trance without words music (10 minutes) where in this meanwhile the subjects will do physical activities without rule.
- 3- Do variable assignments to externalizing emotions (10 minutes). Two sessions of writing negative thoughts. Two sessions laughing and using laugh yoga techniques implemented by Indian Dr. Madan Kataryay - two sessions screaming and clapping- two sessions opera singing.
- 4- Progressive relaxation based on Jacobson method (10 minutes).
5. Mental relaxation (meditation) (10 minutes), supposing that captions of meetings are as follows:

Initially, the subject lies in a low light room with relax cloths on soft mattresses where a light instrumental music is played and begin to visualize what the presenter says.

First session: illustration stroll along the beach.

Second Session: imaginative walking in the woods in autumn on the leaves.

Third session: illustration rowing in a small boat on a calm pond.

Forth session: Illustration going into the depths of the sea and diving.

Fifth session: illustration flying on cloud and go into the sky.

Sixth session: illustration entering into a basin of warm water in winter and walking in it.

Seventh session: illustration walking in a rose garden in spring.

Eighth Session: illustration walking in the rain on the farm.

**Interventionist method of emotional expression:**

1. Physical exercise to raise the heart rate level (5 minutes).
2. Playing trance without words music (10 minutes) during which subjects do physical activity without rule.
3. Conducting variable assignments to externalized emotions (10 minutes). Two sessions writing negative thoughts. Two sessions laughing and using laugh Yoga techniques implemented by Indian Dr. Madan Kataryay - two sessions screaming and clapping- two sessions opera singing.

**Intervention Methods of mental relaxation (meditation):**

Initially, the subject lies in a low light room with relax cloths on soft mattresses where a light instrumental music is played and begin to visualize what the presenter says (25 minutes).

First session: illustration of a stroll along the beach (15 minutes) and go inside a white room without stimulus (10 minutes).

Second Session: illustration of walking in the woods in autumn on the leaves (15 minutes) and go inside a white room without stimulus (10 minutes).

Third session: illustration of rowing in a small boat on a quiet lake (15 minutes) and going inside a white room without stimulus (10 minutes).

Forth Session: illustration of going into the depths of the sea (15 minutes) and going inside a white room without stimulus (10 minutes).

Fifth Session: illustration of flying on the clouds, going to heaven (15 minutes), and going inside a white room without stimulus (10 minutes).

Sixth Session: illustration of entering into a basin of warm water in winter, walking in it (15 minutes), and going into a white room without stimulus (10 minutes).

Seventh Session: illustration of walking in a rose garden in the spring (15 minutes), and go into a white room without stimulus (10 minutes).

Eighth Session: Illustration of walking in the rain on the farm (15 minutes) and go into a white room without stimulus (10 minutes).

## Results

### Descriptive information:

Table 1: Average perceived stress based on questionnaire to separate the sample group and implementation phases

Follow up		Post-test		Pre-test		Number	Grouping
Standard deviation	Average	Standard deviation	Average	Standard deviation	Average		
2/27	31/6	3/74	32/6	4/92	32/7	10	Evidence
4/16	29/4	3/87	29/1	5/07	31/3	10	Expression
5/44	30/4	3/99	30/8	4/85	33/0	10	Relaxation
5/10	26/3	4/44	26/3	7/07	29/5	10	Combined

As it can be seen from above table, average obtained scores on pre-test of perceived stress variable based on questionnaire for the evidence group is equal to 32.7, expression group equal to 31.3, relaxation group is equal to 33 and for the combined group is 29.5. The average of obtained scores on post-test in mentioned variables is the same way equal to 32.6, 29.1, 30.8 and 26.3, respectively.

### Inferential statistical data:

#### A) An intervention study based on questionnaire scores

Before entering the implementation of covariance analysis, first the necessary assumptions will be studied to carry out this analysis. In the following table, there is no difference between two groups of covariate variable; thus the normality assumption will be examined. Kolmogorov-Smirnov test was used to test this assumption.

Table 2. Comparing the scores of perceived stress covariate in 4 groups

Significance level	Degree of freedom	F- Value	Non-variable
.49	36 و 3	0/827	Perceived stress pre-test

As F-test results shows, there will not be a significant difference between groups in terms of obtained scores in Pre-test.

Table 3. Examining the normality of perceived stress distribution in 4 groups

Control group	Combined	Relaxation	Expression	Kolmogro Z-Value Smirnov
/53	0/62	0/57	0/35	
0/94	0/84	0/90	0/99	Significance level

As it can be seen from above table, based on Kolmogorov-Smirnov test results related to comparing the distribution of observed data with normal distribution, there is no significant difference between the group distribution and normal distribution; therefore, the assumption of the normality of the distribution of the dependent variable in groups is established.

Table 4- Reviewing the homogeneity of perceived stress variance by helping Levene's test

Significance level	value-F	$df_2$	$df_1$
0/48	0/843	36	3

It can be seen from the above table that based on the statistical test of F-Levene, error variance of dependent variable is established in two groups, which reflects the assumption of homogeneity of error variance between the groups.

Two remaining assumptions based on establishing a linear relationship between the dependent and covariate variable, as well as the equality of regression coefficients in two groups will be done at the next table along with covariance analysis.

Table 5. Examining the effect of intervention on perceived stress

Significance level	Value F	Mean Square	Degrees of freedom	Sum of squares	Effect Source
0/01	36/316	297/483	1	297/843	The effect of covariate variable
0/78	0/37	3/029	3	0/087	Covariate interaction and main variable
0/93	0/156	1/275	3	3/826	The main variable effects
		8/192	32	262/130	Error



Second row of the above table is to examine the assumption of linear relationship between covariate and dependent variables, and F-statistical test with 36.316 of value will confirm the linear relationship between the two variables. So the assumption of linear relationship of covariate and dependent variable is confirmed. The third row of above table related to reviewing regression lines parallel with each other. Lack of the significance of the results shows the parallelism of two regression lines between the two groups and no interactive relationship was found between the grouping and pre-test. The observed results show that the assumption of parallelism of two regression lines is established in groups. The results of covariance analysis test with F being equal to 0.156 indicate a lack of significance in the main effect (grouping) in general state; in the following, the experimental groups are mutually compared.

Table 6. Mutual comparison of groups based on perceived stress reduction

Significance level	Mean differences	Comparison groups	
0/32	2/62	Expression	
0/99	1/84	Relaxation	Evidence
0/05	4/52	Combined	
0/95	-1/90	Expression	
0/33	-2/68	Relaxation	Combined
0/99	-0/77	Combined	Expression

Groups were compared using Ben Fronyh test. There are not any significant differences between the evidence group and two experimental groups of expression and relaxation in terms of reducing perceived stress. But the difference between the evidence group and the combination group was statistically significant at the .95 confidence level, and this ensures the impact of the expression in reducing the perceived stress, so based on the results of the other comparisons between the groups, there is no significant difference between them.

**Evaluate the effectiveness of test using differential scores analysis (pre-test post-test and follow-up)**

In order to calculate the differential scores, post-test scores as well as follow-up scores were deducted from pre-test scores in both groups; these scores actually represent the change in dependent variable and the independent variable. After removing the effect of pre-test by deducting the initial base score of post test scores and also follow-up

scores, the effectiveness of intervention methods will be examined by comparing the differential post-test scores and the differential follow-up scores. In the case of treatment effectiveness, it is expected that results remain stable over time, so we will expect that a comparison between post-test and follow-up differential scores won't show significant differences. This comparison is done in separately therapies ways.

Table 7. Comparison of post-test and follow-up differential scores in perceived stress variable based on questionnaire scores

Significance level	Degrees of freedom	t-value	Mean differences	Standard deviation	Differential * Average	Levels	
0/41	9	0/873	1	2/23	-0/1	Post-test	Evidence
				4/28	-1/1	Following-up	
0/63	9	0/502	-3	4/34	-2/2	Post-test	Expression
				5/08	-1/9	Following-up	
0/56	9	0/612	0/4	3/55	-2/2	Post-test	Relaxation
				4/22	-2/6	Following-up	
-	9	0	0	4/59	-3/2	Post-test	Combined
				3/08	-3/2	Following-up	

\* The purpose of differential average is scores difference mean of every stage from pre-test.

As it can be seen in the table above, comparing the differentiate scores between post-test and follow-up did not show a significant difference and it represents the stability of results; hence, confirming the effectiveness regarding the interventions which have been effective. Of course, this sustainability also applies regarding the interventions that have not been effective, because in any case there is no appreciable difference between the post-test and follow-up.

### Discussion and conclusion

This research first hypothesis exclusively deals with the effectiveness of combined intervention method in the reduction of the youth's perceived stress. The results showed that the combination method was significant at 0.05 level, and we can say with 95% of confidence that

this method reduces perceived stress. This result is in line with researches conducted by Goner and Daniel et al (Parvin, 2001, translated by Kadivar and Ja'fari, 1392) based on the detrimental effects of emotional suppression. Petri et al (1995) showed the benefits of talking or writing about traumatic experiences on the immune system. Zoa *et al.* (2015) showed the effect of music therapy on anxiety and depression. Shahgholian, Marday, Kafi (1386) indicated the effects of outpouring the emotional feelings in writing form which was not in line with Bushman, Bamysr and Stack (1999) and Bushman's research (2002) about mental refinement which have concluded that people who have evacuated their anger by punching the bag were more aggressive; they, in addition, concluded that it won't discharge negative emotions (Schultz, 2005; Seyed Mohammadi, 1391). In explaining the first hypothesis, it can be said that the emotional expression and their expression is a kind of psychological discharge and, if combined with other effective methods such as music therapy and relaxation, its effectiveness will get promoted. But due to the combination of methods, we can't exactly determine how much the share of each intervention is. However, based on the theories aligned with stress-peace logic, in this method, the researchers suggest that because of the physical activity and trance and obligations by the outpouring anxiety in sympathetic system is activated and motivated people, in following the mental relaxation parasympathetic system is activated using kind of similar method to "progressive relaxation" or "opposite" which implement based on this logic that first the stress, or relieve tension will be based on the same logic transition effects.

The second hypothesis of the study is devoted to the effectiveness of the intervention method of outpouring anxiety in reducing perceived stress of the youth. The results showed that expression method had no significant effect on decreasing the perceived stress. The result is in line with researches conducted by Bushman, Bamysr and Stack (1999) and Bushman (2002) about mental refinement. In this study, subjects were asked to evacuate their aggression by punching a bag but at the end it became clear that they were more aggressive and this did not help them to calm down and it was not in line with researches done by Goner and Daniel *et al.* (Parvin, 2001, translated by Kadivar and Ja'fari, 1392) based on the damaging effects of emotional suppression. Petri *et al.* (1995) shows the benefits of

talking or writing about traumatic experiences on the immune system. Shahgholian, Marday, Kafi (1386) showed the benefits of mental health on emotional expression. HrizChi Qadim *et al.* (1388) show the beneficial effect of emotional feelings in written form. To explain the second hypothesis, it could be stated that given the conflicting data on the effectiveness of outpouring anxiety on perceived stress, we should pay attention to the way in which the research is operationally used. It seems that in some researches in which the outpouring anxiety has been used in a cognitive task such as the studies conducted by Shahgholian, Kafi and Moradi (1386) and Haryz Qi Qadim *et al.* (1388). In these studies, the outpouring is in the form of verbal or written, or it will be in the research form. Goner Daniel (1994) asked the subjects to fantasize to determine the impact of outpoured emotional feeling but in cases wherein there has been an asking of practical activities such as studies done by Bushman, Bamysr and Stack (1999), the subjects were asked to evacuate by tapping their excitement. This kind of outflow was not effective. Moreover, according to this study, the researchers wanted to conduct practical expression; so, we can conclude that the intervention method by mental expression will get more practical.

The third hypothesis is devoted to the impact of intervention method on mental relaxation in reducing perceived stress in youth. The results showed that mental relaxation techniques had no significant effect in reducing perceived stress. The result isn't in line with Song and Lindqvist's research (2015) based on the effectiveness of relaxation in reducing stress. Jonathan, Banx, Matthew, Velhaf and Server (2015) provide a preventive effect against the disease. Fathi *et al.* (1389) found an effect of relaxation training in reducing job stress. Bahramkhani, Alipur, Janbozorgi and Qazi (1390) provided the effectiveness of muscle relaxation on perceived stress in patients with essential hypertension. To explain the third hypothesis, it can be stated that the reason for the lack of effective intervention could be short therapy sessions and homework doing. Another reason could be the sample heterogeneity and seems that un-controlling factors such as education and social and economic status has hampered the effectiveness of intervention in this study.

The study had limitations faced up with due to the employment of convenience sampling method, little follow-up period (two months), and the use of self-report rather than a clinical interview. Future

research is suggested to be done due to the lack of sufficient background in this field about these variables. Also necessary is to conduct other similar studies on different age and gender groups. Furthermore, we must use the random sampling method and clinical interview to assess subjects and further follow-up period (6 months to a year). It is also suggested that two ways of excitement expression associated with cognitive activity and issues of emotional and practical research be done to compare their efficacy.

The findings of this research will be applied in the context of proposed hybrid approach to youth education and different age groups and jobs especially stressful jobs such as fire-fighting, employees of the bank and the soldiers. Furthermore, duplicate assignment sessions will prevent boredom and loss of motivated patients in a way that varied sessions and clients will be more encouraged to continue treatment. Moreover, assignments are in line with more effective and enduring intervention. To conclude, this method of counseling and psychological services and mental health promotion programs will be effective for community.

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