

# Effects of Mindfulness-Based Stress Reduction (MBSR) on Decrease Fear of Negative Evaluation in Social Anxiety Disorder

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**Abstract**— The purpose of this research was to determine the effectiveness of "Mindfulness-based Stress Reduction" treatment on reducing fear of negative evaluation, and increasing mindfulness in a sample of Iranian female university students. 21 subjects who were diagnosed with Social anxiety were chosen using the Social Phobia Inventory (SPIN) and the Structured Clinical Interview for DSM-IV (SCID-I). 10 subjects were assigned to the Experimental group and 11 subjects were assigned to the Control group. The control group underwent an eight-session "Mindfulness-based Stress Reduction" treatment while the control group waited. Before the beginning of the treatment and after the treatment ended, the subjects completed the the Brief Scale Fear of Negative Evaluation (BFNE-S). Data analysis was performed by comparing the means of the difference between the pretest-posttest marks of the subjects based on the Mann-Whitney u-test. The results showed that "Mindfulness-based Stress Reduction" program has resulted in the reduction of the fear of negative evaluation. and it seems that it is possible to use this program and intervention method in the clinical environment in order to reduce Social anxiety or similar disorders, considering the limitations of the current research.

**Index Terms**— Mindfulness-Based Stress Reduction Treatment; Fear of Negative Evaluation; Social Anxiety Disorder.

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## 1 INTRODUCTION

THE Social Anxiety or Social Phobia Disorder is a weakening disorder that is characterized by fear from incidence of inappropriate and unreasonable behavior, fear from negative evaluation, and high levels of anxiety and avoidance from social and functional situations (Kerlingen et al, 2001; quoted from Atrifard, 2012). This disorder is prevalent throughout the society with a relatively high rate so that it is highly epidemic after depression and alcohol- dependency (Kessler et al, 1994). On the other hand, this disorder causes a serious trauma in some of performances of the patients (Lacher et al, 2003). Fear from Negative Evaluation is one of the cases, which have been noticed by specialists in patients with social anxiety. The people, who suffer from social anxiety disorder, may have some negative beliefs regarding other individuals and social situations and they imagine the people evaluate them negatively (Leiri et al, 1988; Stupa & Clark, 2000). Also Reppy and Himberg (1997) refer to this point and argue that in patients with social anxiety, it is mainly assumed that others basically criticize and evaluate them negatively. Hence, fear from negative evaluation has been purposed as a risk factor for social anxiety (Lewinson & Rudberg, 2013).

Several therapeutic efforts have been designated for this disorder in clinical psychiatry. These interventions have formed in various effects based on several theories. Cognitive- behavioral approach is one of the important approaches, which have shown favorable achievements in treatment of disorder based on clinical- medical evidences during recent years while some of researchers have purposed the integration of mindfulness-

based approaches with the existing cognitive- behavioral interventions in the new wave of this type of treatments (Kayon et al, 2003). Since that time more than 240 mindfulness plans have been executed in North America and Europe (Kayon, 2005). The most prevalent technique of training mindfulness is to train Mindfulness-Based Stress Reduction (MBSR) that is recognized as a plan for reducing stress and program for training relaxation and it is appropriate within the large scale of clinical and non-clinical population. The researches have supported from these results based on which MBSR program may positively affect on various elements like mindfulness and exam anxiety and fear from negative evaluation (Goldingen et al, 2009; Zeev et al, 2010; & Goldingen et al, 2012).

The investigation that has been done by Goldingen and Graus indicates that full application of MBSR method may lead to improvement in symptoms of anxiety, depression, rising of self-esteem, reduced negative evaluations and decrease in avoidant behaviors and also improvement of clinical symptoms and reduced negative evaluation emotional response in turn. Given that the aforesaid treatment method is considered as an efficient technique for social anxiety disorder in the west (Goldingen et al, 2004; Graus et al, 2007; Jazayeri et al, 2009). The present research is intended to determine the effect of the plan of reducing impact of mindfulness in reduced fear of negative evaluation in academic students.

## 2 METHODOLOGY

The current survey is of quasi-empirical with experimental and control groups along with pretest- posttest. Thus, treatment of reducing Mindfulness- Based Stress Reduction (MBSR) is assumed as independent variable and fear from negative evaluation is considered as dependent variable in this project.

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### 3 PARTICIPANTS

The statistical population in this study includes female students from Shahed University where 21 students, who indicated symptoms of social anxiety disorder, were elected for this purpose. This 21-member group was randomly classified into two groups of 10-member experimental group and 11-member control group. The aforesaid sample size has been determined close to the similar studies, which have been carried out by means of cognitive-behavioral methods in patients with social anxiety outside Iran (Goldingen et al, 2009; Goldingen & Graus 2010; Chamarkoochi & Amini 2012; Atrifard & Shaeeri, 2012). The criteria for entering into research sample group consisted of study in Master's Course in Shahed University or Tehran University in academic year 2013-14 within age range 18-30 and with symptoms social anxiety disorder based on Social Phobia Inventory (SPIN) and according to (SCID-I) DSM-IV as well as their consent and readiness to participate in intervention sessions and at the same time the criteria for exclusion from the present research include taking drug and or receiving non-drug or psychological treatments at present for social anxiety or other psychiatry disorders, the participants' rejection from attendance in this course before completion of sessions and receiving simultaneously diagnosis for avoidant personality disorder, obsessive-compulsive disorder, and depression.

### 4 TOOLS

**Social Phobia Inventory (SPIN):** This questionnaire was prepared for the first time by Connor et al (2000) to evaluate social anxiety. In this questionnaire, clinical implications present the clinical symptoms of fear, avoidance, and informative physiological symptoms in three fields. The appropriate psychometric traits have been reported from this inventory in American population. The test-retest coefficient of this inventory ranged from 0.78 to 0.89 during two weeks and its internal consistency has been reported by means of Cronbach alpha as 0.89-0.94 (Connor et al, 2000). Also in Iran, this test has been done in three groups of patients with social anxiety, group of patient with anxiety, and healthy group while the results of analyses signify a significant difference in mean value for three groups (Abdi, 2003; quoted from Atrifard, 2012). In investigation of Hassanvand Amuzadeh et al (2010), the Cronbach alpha coefficient for this questionnaire ranged from 0.74 to 0.89 and its retest coefficient was 0.68 while the validity of its subscale of social phobia (SCL-90-R) and with Self-Esteem Rating Scale (SERS) (Nugent & Thomas, 1993; after Atrifard, 2012) are among 0.64 and 0.78 (Hassanvand Amuzadeh et al, 2010; after Atrifard, 2012). In general, it can be implied that this inventory has high validity (Fathi Ashtiani, Dastani, 2009).

**DSM-IV based diagnostic interview (First et al, 1996, 2010):** It is an interview based on diagnostic criteria in fourth statistical and diagnostic classification of psychiatry diseases in American Psychological Association (DSM-IV) and it has been designated for diagnosis of mental disorders in structured form and thereby diagnosis of social anxiety may be confirmed by asking question about symptoms of social anxiety disorder. In

a study, Amini et al (2007) have explored the validity of diagnostic interview based on DSM-IV where the results of this survey assess the validity higher than 0.4 based on kappa parameter. Likewise, this investigation reports the results of this characteristic better than sensitivity (robustness) results given that if the purposed diagnoses by psychologists from Gold Standard have been taken into consideration. In most of diagnoses the rate of this attribute was evaluated higher than 0.85 and in half of them it was higher than 0.9 so this indicated the appropriate trait for this diagnosis. This interview has been translated by Mohammadkhani et al (First et al, 1996, 2010) in which the related questions to social anxiety disorder and the given differential diagnoses have been isolated from the main system and this part of interview was employed to verify diagnose the patients with social anxiety in this study.

**Brief Scale Fear of Negative Evaluation (BFNE-S):** Brief Scale Fear of Negative Evaluation form includes 12 articles with five choices in Likert scale (Leiri 1983; after Atrifard, 2012). The exploration in group of MA students by the aid of this scale showed that this tool is highly correlated with the main form of this scale (FNES). Similarly, BFNE-S scale possesses internal consistency at high level (Cronbach alpha = 0.90). The correlation coefficient was 0.75 in exploration of retest method during four weeks (Miller, 1995). In another investigation, Wicks et al (2005) reported internal consistency or total Cronbach alpha 0.89. Likewise, one-way ANOVA showed that there was a significant difference ( $P < 0.001$ ) among group of patients with social anxiety disorder and non-anxious testees in control group. BFNE-S scale is correlated with Social Interaction Anxiety Scale (SIAS) at level 0.56 and reliability of this test was acquired 0.98 with retest method and its internal consistency was achieved 0.83 by means of Cronbach alpha coefficient (Roodbagh et al, 2004; after Atrifard, 2012). Similarly, this tool possesses the appropriate internal consistency (Cronbach alpha = 0.81), and reliability of retest ( $r = 0.73$ ) and suitable convergent validity ( $r = 0.52 - 0.92$ ) with other existing scale in the field of social anxiety in Iranian sample including Social Interaction Anxiety Scale (SIAS), Social Phobia Scale (SPS), Social Phobia Inventory (SPIN), and Leibowitz Social Anxiety Scale-Self-Report (LSAS-SR) (Shaeeri et al, under publication).

**Mindfulness-Based plan of Stress Reduction (MBSR):** MBSR treatment sessions were held in group and they are convened in eight (2-hours) sessions per week. In this study, the given treatment plan has been drawn up with reliance on content MBSR (Kabat-Zinn, 2008) plan and MBSR workbook (Stahl & Goldstein, 2012). These sessions have been arranged by means of meditation and yoga techniques and exercises by aiming at training of mindfulness concept, awareness of relationship among mind and body, concentration upon breathing, staying at present time, and training of eight mindfulness attitudes (non-judgment, beginner's mind, acknowledgement, letting be, non-striving, equanimity, self-reliance on their own feelings).

#### Execution techniques

First one can refer to total screening and selection of the studied sample based on Social Phobia Inventory (SPIN) and then conducting structured interview based on DSM-IV for the testees at first stage, which suffered from social anxiety at high level where this interview was done by the researcher. And

then it was deal with completion of consent letter by the elected participants and substitution of testees in two experimental and control groups and execution of pretest based on Brief Scale Fear of Negative Evaluation (BFNE-S) and after execution of eight sessions for group treatment the plan of Mindfulness- Based Stress Reduction (MBSR) was done for the experimental group and control group waited for execution of posttest based on Brief Scale Fear of Negative Evaluation (BFNE-S) during this period.

## 5 METHOD OF DATA ANALYSIS

Rather than using descriptive statistics in this study and due to non- application of assumptions in parametric statistics, the related mean values to difference among pretest- posttest for both groups and also pretest in two groups were compared according to non-parametric Whitney – Mann U- Test.

## 6 RESULTS

TABLE 1  
 THE RELATED DESCRIPTIVE PARAMETERS TO BRIEF SCALE FEAR OF NEGATIVE EVALUATION SCALE (BFNE-S) IN PARTICIPANTS BETWEEN TWO EXPERIMENTAL AND CONTROL GROUPS AT TWO PRETEST AND POSTTEST PHASES

Group	Phase	Mean	Standard deviation	Minimum	Maximum	Mean difference of scores (pre- & post-tests)	Standard deviation of difference of scores (pre- & post-tests)
Experimental	Pretest	47.4	5.50	39	57	17.20	8.76
	Posttest	30.20	8.20	20	41		
Control	Pretest	43.72	8.79	31	56	-0.27	4.40
	Posttest	44	10.26	31	60		

As it shown in Table (1), mean and standard deviation of total score for experimental group in pretest of brief scale fear of negative evaluation (BFNE-S) were 47.4, 5.50 and in control group as 43.72 and 8.79 respectively. And experimental and control groups indicated some variances in posttest compared

to pretest so rate of these variances has been higher in experimental group than in control group (17.20). Nevertheless, significance or insignificance of these variances will be followed up at next steps.

TABLE 2  
 COMPARISON OF VARIABLE THE FEAR OF NEGATIVE EVALUATION AMONG TWO EXPERIMENTAL AND CONTROL GROUPS (AT PRETEST STEP)

Group	Quantity	Pretest mean	Pretest standard deviation	Sum of ranks	Mean rank	z	Significance level
Experimental	10	4.74	5.5	119	11.9	-0.635	0.526
Control	11	43.72	8.79	112	10.18		

As it indicated in Table (2), the observed z-value that was caused by comparison among experimental and control

groups regarding variable fear of negative evaluation is -0.635, which is not significant compared to critical values.

TABLE 3  
 COMPARISON OF VARIABLE FEAR OF NEGATIVE EVALUATION AMONG EXPERIMENTAL AND CONTROL GROUPS BASED ON WHITNEY-MANN U-TEST REGARDING DIFFERENCE OF PRE- & POST-TESTS SCORES

Group	Quantity	Sum of ranks	Mean rank	z	Significance level
Experimental	10	161.50	16.15	-3.634	0.0001
Control	11	69.50	6.32		

The listed results in Table (3) suggest this point that the observed z-value due to comparison of two groups regarding fear of negative evaluation is -3.634 based on Whitney-Mann U-Test and this rate is significant with respect to critical value at level ( $\alpha = 0.0001$ ).The current finding indicates that plan of mindfulness- based stress reduction (BSMR) may lead to the reduced fear of negative evaluation in participants of experimental group compared to control group.

## 7 DISCUSSION

The results of effectiveness of mindfulness based stress reduction plan in reduction of fear of negative evaluation are consistent with many findings from other authors and several studies support from the current finding.

In another survey that was conducted by Goldingen et al (2009) about the effect of mindfulness- based stress reduction (MBSR) in

adults with generalized social anxiety disorder, the results suggested that MBS affected on reduction of social anxiety with negative self-evaluation and also it has increased self-esteem and positive self-evaluation in individuals. In other investigation that was done by Goldingen and Graus (2010) regarding the impact of the plan of mindfulness-based stress reduction (MBSR) on emotional regulation in social anxiety, the results showed that persons, who have terminated MBSR might indicate improvement in symptoms of anxiety, depression, and self-esteem as well. Likewise, they indicated reduced negative emotional experience and reduced activity of amygdala and increased activity in the related cerebral areas to expansion of attention. Training of MBSR in patients with social anxiety disorder may probably reduce emotional responsiveness and enhance emotional regulation. These changes may lead to reduction in avoidant behaviors among patients with social anxiety disorder and clinical symptoms as well as reduced automatic emotional response in negative self-evaluation within adults, who suffered from social anxiety disorder (Goldingen & Graus, 2010).

Chambers, Galwen and Allen (2009) argue that the mechanism of MBSR effect on reduction of social anxiety and fear of negative evaluation in effectiveness of this method is related to improvement of emotional regulation capabilities. Similarly, some studies have dealt with the effects of mindfulness exercises on metacognitive processes and they tried to interpret effectiveness of this method by the aid of extracted evidences from metacognition theories. For instance, Clark and Wels (1995) and Clark and Mac News (2002) have purposed this assumption in their studies that patients with social anxiety might create some assumptions about their own and social position based on their primary experiences. These assumptions will lead to them to evaluate social interactions as fearful and negative. Thus, the patients with social anxiety disorder can observe their assumptions about their own and situation through this therapy method without any judgment they may be exposed more easily to fearful facts and eventually this will lead to reduction of symptoms in them.

On the other hand, it seems that mindfulness may provide the possibility for non-judgmental recognition of thoughts, feelings, and emotions without individual involvement and or avoidance from them with its two fundamental components i.e. attention to current situation and welcoming to this experience and this issue leads to emotional sustainability. Therefore, this effect may reduce fear and exposure to these stresses in constructive and efficient form. If the individuals are mindful of their reaction to stressful situation (e.g. fear from not being evaluated appropriately by others), they learn how to react more constructive and coordinated to them (Stahl & Goldstein, 2009).

The findings of the present research are consistent with other findings regarding the impact of MBSR plan in reduced fear of negative evaluation. It is noteworthy of course that given no systematic research has been yet carried out in Iran regarding the impact of mindfulness interventions on reduced fear of negative evaluation but nevertheless there are a few studies, which have implicitly dealt with determination of effectiveness of mindfulness-based stress reduction (MBSR) in various disorders like exam anxiety (Chamarkoohi & Amini, 2012), obsessive-compulsive disorder (Sajadian et al, 2010; Madani et al, 2011), and panic dis-

order (Sohrabi et al, 2011) and explained about achievement of this type of intervention. As we know, mindfulness is a relatively new and complementary new treatment approach that requires several explorations, especially in Iranian samples and within several fields. Sherry et al (2011) highlighted this point that exploration of effectiveness and potential acceptability of this plan is placed at the start point of this path. Doubtlessly, the future investigations may expose new outlooks before us.

The current study included some constraints out of which one can refer to some of them as follows: The present study has been restricted to samples from Iranian academic students with demographic characteristics and limited quantity and certain geography. Thus, it is not an easy task to explain about generalization of findings, restriction of this study to female patients may limit generalization of results to male patients with social anxiety disorder. The primary evaluation and execution of MBSR as well as post-treatment secondary evaluation have been done by treatment physician so this may restrict the given results. The placebo psychiatry group has not been employed in the current study. Fear evaluation from negative evaluation has been done by certain tools, which have served as basis for reporting. The follow-up conditions for intervention results after treatment have not been prepared in the present study. Similarly, some suggestions are purposed proportional to the aforesaid constraints and some other tools are utilized in future studies based on which clinical specialists may evaluate status of referent patients and or those tools, which are not exclusively employed for self-reporting. It is suggested to use placebo psychiatry treatment plan in a similar study and or to conduct a similar investigation in which the medical effects to be followed up within several intervals.

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