



Comparison Of the Effect of Mindfulness and Self-Differentiation Trainings on The Level of Assertiveness of Anxious Educational Students

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ABSTRACT

Background & Objective : The presence of anxiety and lack of assertiveness leads to disruption in academic performance, destruction of intelligence and learning abilities, reduction of abstract thinking and stagnation of talents, and also by creating economic problems, it will bring harmful effects to the individual, family and society. Therefore, the aim of the present study was to Comparison of the effect of mindfulness and self-differentiation trainings on the level of assertiveness of anxious medical students.

Materials and Methods: The statistical sample included 45 female Educational students in Tabriz university in 2021-2022, who had low assertiveness and high anxiety. They were selected by convenience sampling and then randomly assigned into two experimental groups (15 people) and a control group (15 people). Mindfulness-based stress reduction training was applied to the first group (8 sessions; one 90-minute session per week) and to the second group, self-differentiation training (8 sessions; one 90-minute session per week) and the control group did not receive training. All people in the sample group filled out the Gambrill and Ritchie assertiveness test questionnaire in the pre-test and post-test stages and the Kettle anxiety questionnaire in the pre-test stage. One-variable covariance analysis was used to analyze the data. Analysis of covariance was used to analyze the data.

Findings: The results showed that the average assertiveness scores of anxious medical students in the mindfulness training group based on stress reduction compared to the self-differentiation training group and in the self-differentiation training group compared to the control group in the post-test significantly decreased ($p < 0.05$).

Conclusion: The results showed that mindfulness training based on stress reduction is more effective than self-differentiation training in improving assertiveness of anxious medical students.

Keywords: *Mindfulness-based stress reduction (MBSR), Self-Differentiation, Assertiveness, Anxiety, students*

INTRODUCTION

Educational colleges all over the world strive to train and produce competent and empathetic doctors to help patients, advance educational knowledge, and improve public health [1]. However, pedagogy is considered one of the most academically and emotionally educational programs in any profession, and as a result, the time and emotional commitment required for pedagogic students to devote to education is extensive [2]. Such demands and stress have a negative effect on students' psychological well-being and can aggravate depression and anxiety [3]. Anxiety, although as common and potentially debilitating as depression, has received less attention and is often underdiagnosed and undertreated in the general population [4]. In addition to the intense feeling of fear or panic [5], anxiety sufferers can experience other physiological symptoms such as fatigue, dizziness, headache, nausea, abdominal pain, palpitations, shortness of breath, and urinary incontinence [6]. Anxiety can also impair purposeful attention and concentration [7], working memory [8] and perceptual-motor performance [9], all of which are important domains that enable students and clinicians to provide safe and effective educational care to patients. In the current literature, anxiety among education students is less studied than depression, and in a 2014 systematic review, the prevalence of anxiety among education students outside of North America was reported to be between 7.7% and 65.5% in 11 studies and stated that Anxiety has had a negative impact on their academic results [10]. One of the obvious results of high anxiety is the emergence of problems in interpersonal relationships, as a result of which the person suffers from lack of self-expression and lack of appropriate daring [11]. For the first time, the term daring and its training was proposed by Volpe [12]. He introduced people with anxiety who lack courage and cannot use the word "no" in response to others. According to his belief, there is a conflict between courage and anxiety [13]. Courageous people have appropriate social behaviors to express themselves, express feelings, attitudes, wishes, points of view and interests, and express their opinions, beliefs, feelings and emotions easily

and without fear or worry. [14]. In a research, Alghamdi [15] showed that educational students have higher anxiety and less self-expression than non-educational students and believed that the difficulties of academic life and social skills deficiencies of female students play a significant role in the occurrence of psychological problems such as anxiety. Self-expression skills are needed in people's social, academic, professional and personal life. Therefore, when girls join academic institutions, they are prone to face the aforementioned problems as well.

One of the problems plaguing therapists and, by nature, therapy seekers, is the lack of determination regarding the effectiveness of therapeutic methods for selection. In recent years, some researchers have put forward the idea of prudent care and the need to examine treatment from different aspects. According to them, in choosing the treatment, the effectiveness of the economic costs, the side effects caused by the application and the response rate to the treatment should be evaluated [16]. Therefore, among the interventions to reduce the level of anxiety and promote self-expression of education students, we can mention mindfulness training based on stress reduction [17] and self-differentiation [18, 19].

It is necessary to have bold behavior to have self-awareness, abilities and effective perception of the environment. The existence of this knowledge can also help a person to analyze his current experiences and performance [20]. Although awareness is a part of consciousness and includes sensitivity to a limited range of experiences, but mind-awareness is considered as enhanced attention and awareness to current experiences or current reality as well as awareness to past experiences [21]. Mindfulness therapy; It is derived from cognitive behavioral therapy and is one of the important components of the third wave of psychological therapy models. All exercises of this treatment are designed to increase attention to the body [22]. The most common method of mindfulness training is mindfulness training based on stress reduction, which is based on attention and self-focus. This attention is purposeful attention with non-judgmental acceptance of experiences in the

present moment. In this program, people learn to expand acceptance and compassion instead of judging their experience; and create awareness of the present moment instead of automatic guidance and learn new ways of responding to situations [23]. It seems that the main mechanism of mindfulness is the self-control of attention, because repeatedly focusing attention on a neutral stimulus such as breathing creates a suitable attention environment and prevents mental preoccupation with threatening thoughts and worrying about academic expectations. It prevents professional and situational assessment. Preliminary data show that mindfulness training may be a suitable alternative to common psychological treatments in the field of anxiety disorders [24] and such ability allows people to think before reacting to worry and irrational thoughts related to social relations, have healthier and more rational behaviors and improve self-expression [25]. Based on this, in a systematic review and meta-analysis, da Silva et al. [26] examined the effectiveness of mindfulness-based training programs in reducing psychological distress and improving the well-being of education students and concluded that students who participated in mindfulness training Psychological distress including stress, depression and anxiety decreased and psychological well-being improved. In a research, Aherne et al. [27] stated that mindfulness-based stress reduction programs, especially when offered as an option for first- and second-year education students, are associated with high levels of satisfaction and play a significant role in reducing psychological problems, including depression and He was anxious. In addition, the results of studies by Cary et al.[28], Naghizadeh Alamdari and Najarpour Ostadi[29] and Arab Qaeni et al.[17] indicated that the stress reduction training program based on mindfulness significantly increased Academic self-regulation, self-expression and reduction of psychological distress, including students' anxiety, have resulted.

On the other hand, anxiety is one of the most common mental states that is somehow related to self-differentiation [30]. Bowen (1985) presented

differentiation as the most important concept of the family system theory and defined it as the ability of a person to separate his intellectual and emotional processes from others [31], which causes an increase in the person's knowledge and awareness of personality traits and characteristics. and this issue has a great impact on the academic and professional performance of students. In fact, self-differentiation is introduced in such a way that a person can maintain his position in facing different situations. Distinguished people have a clear definition of themselves and their beliefs and are able to choose their own path in life. They can make decisions in cases that lead to involuntary behavior and wrong decisions in some people keeping in mind their own reason and logic adopt correctly [32]. According to Bowen's opinion, a person who has reached a balanced self-differentiation from the family experiences the lowest level of anxiety and psychological symptoms [33]. In addition, in Bowen's theory, he emphasizes the necessity of differentiation at the behavioral and cognitive level; because the existence of self-separation creates compatibility in interpersonal interactions and intra-individual peace and provides the basis for self-expression. On the other hand, courageous behavior is a behavior based on moderation and away from extremes, a behavior that is the middle ground between passive and aggressive behavior and makes the person more compatible in his relationships with others [34]. Based on this, in a study, Pirsaghi et al. [19] investigated the effectiveness of self-differentiation therapy on the level of self-expression of female students of Allameh Tabatabai University in Tehran and concluded that self-differentiation therapy increases the level of self-expression of the participants. In addition, in another study, Farhan and colleagues [35] stated that as the level of differentiation in women increases, the incidence of their bold behaviors increases. The research results of Liu et al. [36] showed that the level of self-differentiation of undergraduate nursing students affects their professional adaptation. Also, Zhao & Li [37] believed that students' self-differentiation not only has a direct effect on their mental health, but is also related to anxiety and depression, and anxiety is part of the mediating

role between self-differentiation and depression. However, the results of Huang et al.'s research [38] indicated that the average self-differentiation score of education students was higher than that of students of other disciplines, but their mental status was worse.

In general, anxiety and lack of daring are among the newest problems of teenagers and young people. In addition to this fact, the student period is considered a special period due to reasons such as being away from the family, participating in social responsibility and academic pressures, and it affects the performance and productivity of people. Therefore, ignoring this problem has harmed and will harm the formation of a young healthy identity as well as his professional, educational, family and social life. Considering the conducted studies, it seems that mindfulness and self-differentiation trainings are very important as basic skills to control anxiety and improve the level of daring of education students. Considering the importance of this issue, the research gap and the lack of experimental researches in the field of comparing the effect of the aforementioned trainings on improving anxiety and promoting the daring of educational students, this study aims to compare the effect of mindfulness and self-differentiation trainings on the level of daring of anxious educational students. It has been done.

MATERIALS AND METHODS

The present research method was semi-experimental (pre-test-post-test) using two experimental groups and one control group. The statistical population of this research is all the female students of Tabriz University Faculty of Educational Sciences who were busy with their studies in the academic year of 1401-1402 and were diagnosed with high anxiety by the psychologist of the university. After entering the counseling and psychotherapy centers of Tabriz University Faculty of Educational Sciences, 60 anxious female students who had a case in that center and were diagnosed with high anxiety according to the psychologist's opinion, were selected as available. In order to ensure the diagnosis of anxiety, after written consent from these people, Cattle's anxiety questionnaire was

also implemented on them. Then, among these people, 45 people were randomly assigned to two groups of mindfulness training based on stress reduction and self-differentiation training (15 people in each group) and a control group (15 people).

The criteria for subjects to enter the group were: 1: having the age of 19 to 23 years; 2: Students who scored higher in the Cattle anxiety test and scored 100 or higher in the courage test; 3: not taking psychiatric drugs; 4: Failure to receive psychological treatment at the same time as the purpose of treatment; 5: Informed consent and voluntary participation in the meetings and criteria for exiting the present study: 1: Not attending more than one meeting; 2: Failure to carry out relevant instructions and exercises in meetings and 3: Failure to respond to questionnaires were considered.

After coordination with the officials of counseling and psychotherapy centers of Faculty of Educational Sciences of Tabriz University and obtaining informed consent from the anxious students, it was decided that the selected anxious female students at the designated time in the amphitheater of the Faculty of Educational Sciences of Tabriz University, which has the necessary facilities including computers, video projectors and ... was, to attend. In the preliminary meeting, after the researcher established with the participants, the anxious students' questions were answered and the way to complete the questionnaires was explained. After the implementation of the pre-test (Kettle's anxiety and Gambrill and Ritchie's courage questionnaires), an agreement was reached about the date of the next sessions, and 45 anxious female students who met the entry criteria were randomly divided into 2 experimental groups of 15 people (Group 1: Education Mindfulness based on stress reduction and group 2: self-differentiation training) and a group of 15 people were divided. After selecting the test groups, in the preliminary meeting of the test groups, a summary of the goals and methods of mindfulness training based on stress reduction and self-differentiation was given to the test groups, and the test groups were asked to talk about the content of the sessions with other

anxious female students and also by asking anxious female students, it was ensured that they are not under any other educational and treatment program. Anxious students of experimental group 1 as a group in sessions, mindfulness training based on stress reduction (8 sessions; one 90-minute session per week) and anxious students of experimental group 2, self-differentiation training (8 weeks: one 90-minute session per week)) received as a group and the control group did not receive training. All educational materials were presented in the form of PowerPoint with pictures in the training groups. After the completion of the training sessions, the post-test (Gambril and Ritchie's courage questionnaire) was measured in all 3 groups (2 experimental groups and one control group). It should be noted that in order to comply with the ethical principles of the research, after the post-test (Gambril and Ritchie-Courage Questionnaire) was done by all 3 groups, the aforementioned trainings were implemented for the control group.

The following tools were used to collect information

Kettle Anxiety Questionnaire

Cattle Anxiety Questionnaire is one of the most reliable tools that is presented in the form of a short questionnaire. This questionnaire has 40 three-choice questions that are scored as (0, 1, and 2). The final score of the subject can be chosen from three types of scores: 1) only one score which is the total score of anxiety, 2) distinction between two scores of hidden and overt anxiety and 3) distinction between five scores which are related to personality structures that They have an intervention in anxiety, it corresponds (tendency to sin, paranoid tendency, evolution of self-awareness, my power, tendency to stress and tension) which is the total score of anxiety considered in this research. The first 20 questions are dedicated to hidden anxiety and the next 20 questions are dedicated to overt anxiety, and the total scores of 40 questions reflect general anxiety, then they are converted into aligned scores based on the raw scores table. This scale has been standardized by the prosecutor and others in the student population of Tehran

University in 1998-99. The validity of this test, which has been repeated many times, has always been higher than 0.70, and it has the ability to distinguish between anxious and normal people, and Cronbach's alpha coefficient was 0.76 [17].

Gambrill and Ritchie's courage questionnaire

This questionnaire has 40 items and consists of two parts, and each item shows a situation that requires bold behavior. In the first part, the subject is asked to express the level and intensity of his discomfort when faced with these situations according to the five-choice rating. The range of scores in this questionnaire is between 40 and 200, and a higher score indicates lower courage. This test has several categories of questions: a) rejecting the request; b) expressing his limitations, such as admitting that he does not know some things; c) Asking you (advancing at the beginning of a possible encounter); e) Expressing positive feelings; c) Coping with and accepting criticism; c) Accepting being different from others; k) Expressing oneself in situations where one should help; f) Giving negative feedback. Factor analysis by Gambrill and Ritchie [39] showed that this scale has high validity and has the ability to distinguish between high and low courageous people. The reliability coefficient of this test was investigated by Gambrill and Ritchie [39] using Cronbach's alpha method and bisecting method and it was reported as 0.81 and 0.83 respectively. In their research, Rezapour Mirsaleh, Abu Tarabi Kashani and Ebrahimi Qavam [40] obtained the reliability of the questionnaire at 0.86 using Cronbach's alpha coefficient.

Intervention methods

Mindfulness training based on stress reduction: For the first experimental group, a stress reduction intervention based on mindfulness was taught one session a week for a total of 8 sessions of 90 minutes, based on the package codified by Bowen and Marlatt [41]. Below is a summary of the content of the mindfulness-based stress reduction group sessions:

The first meeting: the first stage: explaining the nature of the meeting, introducing and

familiarizing the members with each other; Second stage: 1) brief description of 8 sessions; 2- Doing the meditation of eating a raisin and then scanning the body for 30 minutes and talking about the feelings caused by doing these meditations; 3- Homework: implementing what they learned from eating a raisin about eating or washing dishes.

The second session: 1- Performing body scan meditation and discussing this experience; 2- Discussion about homework, training obstacles and mindfulness program solutions for it; 3- Doing meditation in a sitting position; 4- Assignments; Mindfulness is a pleasant event, sitting meditation and body scanning and mindfulness is a daily activity.

The third session: 1- The calm and mindful movements of yoga are proposed as methods of calming the physical symptoms of stress and becoming aware of the subtle movements of the body; 2- Seeing and listening exercise (in this exercise, the participants are asked to look and listen in a non-judgmental way for 2 minutes); 3- Sitting meditation and breathing along with paying attention to physical senses; 4- Assignments: sitting meditation, body scan, 3-minute breathing space exercise, awareness of a new daily activity and awareness of unpleasant events.

Fourth session: 1- Sitting meditation with emphasis on breathing, body sounds and thoughts (which is also called four-dimensional meditation); 2- Discussion about stress responses and a person's reaction to difficult situations and alternative attitudes and behaviors; 3- Practicing conscious mind walking, 4- Homework: sitting meditation, body scan or one of the conscious mind body movements and 3-minute breathing space practice (in a pleasant event).

The fifth session: sitting meditation; 2- Presenting and performing movements of the conscious mind of the body; 3- Assignments: sitting meditation, three-minute breathing space in an unpleasant event and mindfulness of a new daily activity.

Sixth session: 1- Three-minute breathing space exercise; 2- Discussion about homework in pairs; 3- Presentation of an exercise entitled "Creation,

thought, separate views" with this theme: the content of thoughts are mostly not real; 4- Four meditation exercises were presented consecutively for one hour; 5- Tasks: choosing a combination of meditations that is a personal preference. In addition, performing a three-minute breathing space in an unpleasant event and mindfulness of a new daily activity.

Seventh session: 1- Four-dimensional meditation and awareness of everything that comes into consciousness at the moment; 2- The theme of this meeting is: What is the best way to take care of myself? 3- Providing an exercise in which the participants determine which of the events in their lives are pleasant and which are unpleasant, and in addition, how to make a plan that has enough pleasant events in it; 4- three-minute breathing space; 5- Tasks: performing a combination of meditation that is preferable for the person; A three-minute breathing exercise in a pleasant event. Mindfulness is a new daily activity.

Eighth session: 1- Scan; 2- The theme of this session is: using what you have learned so far; 3- 3-minute breathing space exercise; 4- Discussion about the methods of coping with the obstacles of meditation; 5- Asking questions about the entire sessions.

Self-differentiation training

For the second experimental group, self-differentiation training was taught in 8 sessions and each session lasted 90 minutes. This treatment method was developed by Pirsaghi and colleagues [19] and its effectiveness on anxiety and self-expression has been confirmed.

First meeting: In the first meeting, the members got to know each other and establish a good relationship. The goals, principles and rules of the group were explained to the members. After the pre-test, the training started by introducing the concept of self-differentiation, the concept of individuality and unity, and the characteristics of differentiated and undifferentiated people. At the end, an assignment was given to the members.

Second and third session: In the second and third sessions, after dealing with the assignment of the

members, the components of differentiation, how behavior is influenced by thoughts and feelings, and the concept of multi-generational transmission were discussed and related tasks were given to the members to perform.

4th and 5th session: In the 4th and 5th sessions, after dealing with the tasks of the previous sessions, rules were taught to the members to separate thoughts from feelings. The members were asked to provide examples of how they deal with stressful situations. The concept of triangle and triangulation was studied and the members were taught the rules for non-triangulation.

6th and 7th session: In these sessions, after dealing with the tasks of the group members, the issue of double vision of the mind regarding issues and communication was studied. Also, there was a discussion about the concept of social return and the role of society in imposing values and opinions. Finally, returning home was taught to the members and tasks to be performed were presented to the members.

The eighth session: In this meeting, after dealing with the duties of the members, the leader and the group members summed up what was said and done in the group, and at the end, the group members were given a post-test.

Finally, the data were analyzed using spss-22 software. In the data description section from the mean and standard deviation and in the inference section from the univariate analysis of covariance test with the assumptions of the normality of the distribution of scores through the Shapiro-Wilk test, the assumption of the homogeneity of the regression slope using the interaction effect of the pre-test group* and the Levine test for the homogeneity of the variable variance error. Dependent was used.

Findings

Table 1 presents the descriptive findings (mean and standard deviation) related to assertiveness scores before and after training for the research groups.

TABLE 1: Descriptive indicators of boldness variable in sample people in the group of mindfulness training, self-differentiation and control training in pre-test and post-test

Variable	Group	pre-test		post-test		
		Shapiro-Wilk	Sig.	Shapiro-Wilk	Sig.	
Anxiety	Mindfulness	56.60	8.46			
	Self-differentiation	58.27	9.29			
	Control	55.33	8.67			
Daring	Mindfulness	87.87	18.87	99.53	18.09	99.22
	Self-differentiation	88	17.40	95.87	16.68	95.42
	Control	86.73	20.31	90.20	19.80	90.96

Univariate covariance analysis was used to compare the effect of mindfulness training based on stress reduction and self-differentiation on the level of boldness of educationally anxious students. It should be noted that before presenting and reviewing the results of the tests related to the analysis of the research hypothesis, the presuppositions of covariance analysis were first tested. The important presuppositions of analysis of covariance include the normality of the distribution of the dependent variable, the

homogeneity of the slope of the regressions, and the homogeneity of the variance error of the dependent variable in groups.

The Shapiro-Wilk test was used to check the normality of the distribution of boldness scores. The results showed that assertiveness scores in both pre-test and post-test in the three studied groups follow a normal distribution ($p < 0.05$) (Table 2).

TABLE 2: Examining the normality of the distribution of boldness data using the Shapiro-Wilk test

Variable	Group	pre-test		post-test	
		Shapiro-Wilk	Sig.	Shapiro-Wilk	Sig.
Daring	Dare to teach mindfulness	0.946	0.466	0.97	0.864
	Teaching self-differentiation	0.97	0.852	0.975	0.927
	Control	0.931	0.279	0.95	0.521

The assumption of homogeneity of the regressions slope was checked using the interaction effect of group* pre-test. It showed that the assumption of homogeneity of regression slope for assertiveness scores is maintained ($p < 0.05$) (Table 3).

TABLE 3: The results of the assumption of homogeneity of the slope of the regressions for boldness in the studied groups

Source	SS	F	MS	F	Sig.
Group Effect* Pretest	3.44	2	1.72	0.136	0.873
Error	492.471	39	12.627		

Also, the assumption of homogeneity of variance error of the dependent variable (boldness) in the groups was checked using Levine's test (Table 4). The results show that there is no significant difference in the variance error of boldness in the three studied groups ($p < 0.05$). Therefore, all assumptions of univariate covariance analysis are valid.

TABLE 4: The results of Lune's test for the equality of variance error in the studied groups

F	Df1	Df2	Sig.
1.387	2	42	0.419

The results of univariate covariance analysis showed that by adjusting pre-test scores, the amount of post-test assertiveness of educationally anxious students in the mindfulness training group based on stress reduction, self-differentiation and control training has a significant difference ($p = 0.001$, $F = 21.17$). The impact intensity is equal to 0.51 (Table 5).

TABLE 5: The results of the covariance analysis test to compare assertiveness in the post-test in the studied groups

Source	SS	Df	MS	F	Sig.	Eta
Pretest Effect	13470	1	13470	1113.65	0.001	0.964
Group Effect	512.025	2	256.012	21.166	0.001	0.508
Error	495.911	41	12.095			
Total		45				

Based on the results of the post hoc LSD test, it can be seen that the mean scores of courage in the mindfulness training group based on stress reduction have increased significantly compared to the control group and the self-differentiation training group. Also, the mean scores of assertiveness in the self-differentiation training group have increased significantly compared to the control group (Table 6).

TABLE 6: LSD post hoc test results for bold pairwise comparisons in the studied groups

Comparisons	MD	SE	Sig.
Mindfulness training - self-differentiation training	3.793	1.27	0.005
Mindfulness training - control	8.256	1.27	0.001
Self-differentiation-control training	4.463	1.27	0.001

DISCUSSION

The purpose of this research was to compare the impact of mindfulness training based on stress reduction and self-differentiation on the amount of daring of educationally anxious students, and the results of univariate covariance analysis showed that the daring scores of educationally anxious female students in the group of mindfulness training Awareness based on stress reduction compared to the self-differentiation training group and in the self-differentiation training group compared to the control group has increased significantly in the post-test. Regarding the comparison of the effectiveness of the above-mentioned trainings on the level of courage of educationally anxious students, there has been no report in the research literature; But the result obtained with the results of studies by da Silva et al[26]; Aherne et al.[27]; Cary et al.[28]; Naghizadeh Alamdari and Najarpour Estadi[29] and Arab Qaeni et al.[17] that stress reduction programs based on mindfulness play a significant role in reducing psychological problems including anxiety, stress and depression, as well as promoting academic self-regulation and consensus interactions. And self-expression in students is aligned. Also, with the results of the findings of Hosack et al. [18]; Salehian et al [19]; Factory and colleagues [35]; Liu et al.[36] and Zhao & Li[37] who stated that self-differentiation therapy plays a significant role in increasing the professional adaptation and self-expression of female students, as well as improving their mental health and reducing their anxiety and depression. But it is inconsistent with the research results of Huang et al. [38] that education students with higher self-differentiation had worse mental health status.

In explaining this research finding, it can be stated that university students are faced with significant demands in the university and family, which leads to significant psychological stress

that may lead to serious disorders and mental health issues such as depression and anxiety. As a result, the academic performance, physical well-being and mental health of university students may deteriorate significantly during the academic period and can only be detected in the advanced stages [2]. In addition, studies conducted among graduates of the Faculty of Education showed that psychological distress is associated with less than optimal quality of patient care, patient safety, and professionalism [42] and also affects their courage [43]. Self-expression is one of the issues that is effective in improving a person's adaptation to the environment and makes a person feel satisfied with his performance. This skill allows people to communicate with others in a regular framework based on specific goals, a communication that is based on trust, creativity, conscientiousness and maintaining professional qualities, and on the other hand, it gives people a sense of self-efficacy and internal control. Having this skill helps a person to become aware of his feelings and emotions and how to face criticism, how to express dissatisfaction, how to refuse and not accept an offer or a request, define the desirable behavior of others and participate to know that these skills help the individual to be active in education and educational environments and to express his wishes in the classroom environment without any anxiety that this being active helps the individual to learn and makes academic success possible [29]. Assertiveness is a learned skill, not a trait that a person possesses or lacks. Therefore, a comprehensive educational program that is designed to strengthen people's beliefs and increase self-expression can change people's view of themselves, strengthen their self-confidence and self-belief, and improve their interpersonal relationships [17].

The reason for the advantage of mindfulness intervention compared to other treatments is that

it addresses both the physiological and cognitive aspects of stress and anxiety and teaches new ways of thinking in stressful situations and its management [44]. Based on this, since the mindfulness-based stress reduction program strengthens both physical and mental performance, it can be expected that the participants in the mindfulness-based stress reduction program will have a more positive attitude towards have their own abilities and act successfully in coping with anxiety and worry. In fact, mindfulness training by encouraging people to repeatedly practice attention on neutral stimuli and purposeful awareness towards the body and mind, frees anxious people from mental preoccupation with threatening and worrying thoughts about their educational and professional performance takes it out of automatic mode. In other words, this method reduces worry, physiological arousal, and anxiety by increasing a person's awareness of current experiences and returning attention to the cognitive system and more efficient processing of information [45]. Such states, on the one hand, increase people's knowledge and awareness of their bodies, feelings, and thoughts, and provide effective coping with negative events, and on the other hand, improve self-acceptance and realism. This, in turn, controls thoughts in interpersonal relationships and increases people's compromise in their social relationships. Considering that having the skill of self-expression leads to the development of successful and open communication and the expression of positive feelings, love and appreciation, and increasing self-respect and respect in dealing with others, mindfulness can improve self-expression [46].

On the other hand, from the perspective of systems theory, when self-differentiation is low, there will probably be self-mixing, which will lead to a decrease in individuality and the sameness of one's thoughts and feelings with others. Considering that the basis of the self-differentiation process is the conscious control of anxiety, therefore, self-differentiation training, which is a method of expressing and separating feelings and thoughts, reduces anxiety in interpersonal relationships and creates an opportunity for self-discovery. It strengthens and

expresses personal opinions. Since a person who lacks the ability to dare feels that he has no control over his anxiety and it is this anxiety that arouses and controls him, therefore, by receiving self-differentiation training, he gains the ability to control anxiety in interpersonal situations and acts boldly. A person with the ability to express himself evaluates the situation and decides how to act without anxiety or guilt [35]. While the non-courageous people have difficulty in expressing their opinions, expressing their feelings and putting forward their attitudes, which is the important goal of self-differentiation education, and they do not have enough power to establish appropriate and correct relationships with the people around them. Therefore, it is expected that with self-differentiation training, students will be more daring in their interpersonal relationships, have a firm position, and be better and more easily able to express their opinions and feelings to others. A person who has sufficient self-expression is a person who is able to express his point of view, and this indicates the strengthening of my position in the individual, which is possible with the training of self-differentiation. In the education of self-differentiation, students learn to respond to situations in a different way by differentiating themselves from others, and such a change leads to an increase in individual courage, because choosing and responding in a different way, It takes courage [19].

One of the limitations of the current research is that it is single-sex and not being able to implement follow-up programs in order to follow the effectiveness over time.

CONCLUSION

In general, it can be concluded that mindfulness training based on stress reduction is more effective than self-differentiation training on improving the courage of anxious students of educational sciences. According to the results of this research and its confirmation through previous researches, the use of mindfulness training based on stress reduction along with self-differentiation training is suggested as an effective program to reduce the anxiety of students, especially educational students, by all

psychologists. and psychotherapists of educational sciences universities of Iran with the aim of guiding and helping anxious students to adapt better and faster and increase their social health and self-expression should be taken into consideration by the officials of the Ministry of Health and Medicine of the country.

Sponsor

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Contribution of the authors

All authors met the standard writing criteria based on the recommendations of the International Committee of Educational Journal Publishers (ICMJE).

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest regarding the current research.

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REFERENCES

1. Abdolazade Estakhry G, Heidarzadeh A, Yazdani s, Taheri Ezbarami Z. Identification of Top Medical School's Educational Structure in the World. *Research in Medical Education*. 2014;6(2):19-27. doi: 10.18869/acadpub.rme.6.2.19.
2. Tian-Ci Quek T, Wai-San Tam W, X. Tran B, Zhang M, Zhang Z, Su-Hui Ho C, et al. The global prevalence of anxiety among medical students: a meta-analysis. *International journal of environmental research and public health*. 2019;16(15):2735.
3. Pokhrel NB, Khadayat R, Tulachan P. Depression, anxiety, and burnout among medical students and residents of a medical school in Nepal: a cross-sectional study. *BMC psychiatry*. 2020;20(1):1-18.
4. Kroenke K, Spitzer RL, Williams JB, Monahan PO, Löwe B. Anxiety disorders in primary care: prevalence, impairment, comorbidity, and detection. *Annals of internal medicine*. 2007;146(5):317-25.
5. LeDoux J. *Anxious: Using the brain to understand and treat fear and anxiety*: Penguin; 2016.
6. Testa A, Giannuzzi R, Sollazzo F, Petrongolo L, Bernardini L, Daini S. Psychiatric emergencies (part I): psychiatric disorders causing organic symptoms. *Eur Rev Med Pharmacol Sci*. 2013;17(Suppl 1):55-64.
7. Eysenck MW, Derakshan N, Santos R, Calvo MG. Anxiety and cognitive performance: attentional control theory .*Emotion*. 2007;7(2):336.
8. Moran TP. Anxiety and working memory capacity: A meta-analysis and narrative review. *Psychological bulletin*. 2016;142(8):831.
9. Runswick OR, Roca A, Williams AM, Bezodis NE, North JS. The effects of anxiety and situation-specific context on perceptual-motor skill: A multi-level investigation. *Psychological Research*. 2018;82:708-19.
10. Hope V, Henderson M. Medical student depression, anxiety and distress outside North America: a systematic review. *Medical education*. 2014;48(10): 963-979.
11. Larijani T, Aghajani M, Baheiraei A, Neiestanak N. Relation of assertiveness and anxiety among Iranian University students. *Journal of psychiatric and mental health nursing*. 2010;17(10):893-9.
12. Wolpe J. *Reciprocal inhibition: Major agent of behavior change*. 1995.
13. Mohagheghi M, Pourmohamadreza-Tajrishi M, Shahshahanipour S, Movallali G, Vahedi M. The Effectiveness of Assertiveness Training on Anxiety Symptoms in School-Age Children With Specific Learning Disorder. *Archives of Rehabilitation*. 2021;22(4):408-29. doi: 10.32598/rj.22.4.487.15.
14. Speed BC, Goldstein BL, Goldfried MR. Assertiveness training: A forgotten evidence-based treatment. *Clinical Psychology: Science and Practice*. 2018;25(1):e12216.
15. Alghamdi NG. Anxiety and assertiveness in females: a comparison of medical and non-medical university students. *Mediterranean Journal of Social Sciences*. 2015;6(3 S2):84.
16. Plessen CY, Karyotaki E, Cuijpers P. Exploring the efficacy of psychological treatments for depression: a multiverse meta-analysis protocol. *BMJ open*. 2022;12(1):e050197.

17. Salehian M H. The predictive role of psychological toughness and adaptability on the actual well-being of mothers with handicapped children, *Journal of African Health Sciences*. 2022; 22(1), 611-8.
18. Salehian M H, Hosseinzadeh Peyghan, R., ShafaeianFard, R., hajeaflaton Mofrad, S. The Effects of Mental Imagery and Physical Practice on Learning a Dart Throwing in Children with ADHD, *Journal of Modern Psychology*, 2023; 4(8), 1-7 .
19. Pirsaghi F, Nazari AM, Hajihassani M, Nad-Alipour H. The Effect of Self-Differentiation Therapy on Assertiveness of Female Students of Allameh Tabataba'i University. *Clinical Psychology Studies*. 2014;4(16):19-34.
20. Hosseinzadeh Peyghan, R, Salehian, MH, Khajeaflaton Mofrad, S. The Effects of Model's Skill Level on Learning a Basketball Skill in Children with Autism. *Journal of Modern Psycholog*. 2022; 3(2): 13-21.
21. Mirsyfi Fard La-S, Akhbari F. The Effectiveness of the Mindfulness-Based Stress Reduction Program in Improving Mindfulness and Assertiveness in Students with Social Anxiety. *Biquarterly Journal of studies and Psychological news in Adolescents and Youth*. 2021;2(1):83-95.
22. McCarney RW, Schulz J, Grey AR. Effectiveness of mindfulness-based therapies in reducing symptoms of depression: A meta-analysis. *European Journal of Psychotherapy & Counselling*. 2012;14(3):279-99.
23. Uysal N, Çalışkan BB. The effects of mindfulness-based stress reduction on mindfulness and stress levels of nursing students during first clinical experience. *Perspectives in Psychiatric Care*. 2022;58(4):2639-45.
24. Salehian, MH, Yadolazadeh, A, Ranjbari, S. Comparison of the effect of Hope Therapy Based on Cognitive-Spiritual Approach and Tai chi Exercises on Anxiety due to Corona Disease in students. *Pars Journal of Medical Sciences*. 2022; 20 (1): 74-84
25. Barghi Irani Z. The effects of mindfulness-based stress reduction (MBSR) on fear of negative evaluation, changing attitude towards life and assertiveness in neglected adolescents. *Quarterly Journal of Child Mental Health*. 2020;7(1):15-31.
26. Da Silva CCG, Bolognani CV, Amorim FF, Imoto AM. Effectiveness of training programs based on mindfulness in reducing psychological distress and promoting well-being in medical students: a systematic review and meta-analysis. *Systematic Reviews*. 2023;12(1):1-28.
27. Aherne D, Farrant K, Hickey L, Hickey E, McGrath L, McGrath D. Mindfulness based stress reduction for medical students: optimising student satisfaction and engagement. *BMC medical education*. 2016;16(1):1-11.
28. Cary E, Bergen-Cico D, Sinegar S, Schutt M, Helminen E, Felver J. Self-regulation mediates effects of adapted mindfulness-based stress reduction on anxiety among college students. *Journal of American College Health*. 2023:1-11.
29. Ghadiri, S., Salehian MH. Anticipation of Emotion Regulation and Psychological Well-being on Athletic Performance of Professional and Semi-professional Athletes. *Sport Psychology Studies*. 2019; 8(29): 151-170.
30. Thomas R, Shelley-Tremblay J, Joanning H. Anxiety Explains Self-Differentiation: Implications for Bowenian Approaches to Marriage and Family Therapy. *The American Journal of Family Therapy* .2021; 49(5): 534-549.
31. Carr A. *Family therapy: Concepts, process and practice*: John Wiley & Sons; 2012.
32. Salehian, MH, Yadolazadeh, A., Ranjbari, S. Comparison of the effect of cognitive-spiritual method of hope therapy and tai chi exercises on anxiety caused by corona disease in university students. *Pakistan Journal of Medical and Health Sciences*. 2021; 15(3): 938-947.
33. Peleg-Popko O. Bowen theory: A study of differentiation of self, social anxiety, and physiological symptoms. *Contemporary Family Therapy*. 2002;24:355-69.
34. Sasani M, Fathi Aghdam G, Rezazadeh M. Comparing the Effectiveness of Self-Differentiation and Really Therapy Training on Intimacy, Compatibility and Assertiveness of Married Women. *Journal of Excellence in counseling and psychotherapy*. 2020;9(34):1-19.
35. Karkhane P, Jazayeri R, Bahrami F, Fatehizadeh M. The study of the effectiveness of the Bowen Self-differentiation counseling on the assertiveness of married women in Isfahan. 2015.
36. Liu S-w, Luo L, Wu M-c, Wang R, Wu Y-p. Correlation between self-differentiation and professional adaptability among undergraduate nursing students in China. *International Journal of Nursing Sciences*. 2016;3(4):394-7.
37. Zhao S, Li J. The Relationship Between College Students' self-Differentiation And Anxiety In The Perspective Of Ideological And Political Education. *Psychiatria Danubina*. 2021;33(suppl 7):280-2.
38. Huang L, Liang Y, MA X, Long X, Zhao X. The Association between self-differentiation and

- mental health among medical students. *Chinese Journal of Medical Education Research*.2018; 853-858.
39. Gambrill ED, Richey CA. An assertion inventory for use in assessment and research. *Behavior therapy*. 1975;6(4):550-61.
40. Rezapour Mirsaleh Y, Aboutorabi Kashani P, Ebrahimi Ghavam S. Effectiveness of Assertive Skills Training on Improvement of Assertion and Self-esteem of Third to Fifth Grade Low-assertive Girl Students in Tehran. *Clinical Psychology and Personality*. 2013;10(2):77-90.
41. Bowen S, Chawla N, Grow J, Marlatt GA. *Mindfulness-based relapse prevention for addictive behaviors*: Guilford Publications; 2021.
42. Mareiniss DP. Decreasing GME training stress to foster residents' professionalism. *Academic Medicine*. 2004;79(9):825-31.
43. González Frago C, Guevara Benítez Y, Jiménez Rodríguez D, Alcázar Olán RJ. Relationship between assertiveness, academic performance and anxiety in a sample of Mexican students in secondary education. *Acta colombiana de Psicología*. 2018;21(1):116-38.
44. Aghababa A, Kashi A. Effect of Mindful Meditation on the Mindfulness' State, Flow State and Sport Performance on Table Tennis Players. 2018.
45. Wielgosz J, Goldberg SB, Kral TR, Dunne JD, Davidson RJ. Mindfulness meditation and psychopathology. *Annual review of clinical psychology*. 2019;15:285-316.
46. Kabat-Zinn J. *Full catastrophe living, revised edition: how to cope with stress, pain and illness using mindfulness meditation*: Hachette uK; 2013.