

Comparison of the effects of emotional intelligence training and yoga exercises on the social anxiety of women with depression

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Abstract

Background: Depression is a common mood and emotional disorder that affects millions of people worldwide. Social anxiety, which is a common problem among individuals with depression, refers to the fear or discomfort experienced in social situations.

Objectives: This study aims to compare the effectiveness of emotional intelligence training and yoga exercises in reducing social anxiety in women with depression.

Methods: This study employed a quasi-experimental research design. Sixty women with depression who were receiving counseling and psychotherapy at centers in Tabriz City were selected as available. Forty-five participants were randomly assigned to either the emotional intelligence training group, the yoga exercise group, or the control group. The emotional intelligence training group received ten sessions, each lasting 90 minutes per week, while the yoga exercises group participated in eight weeks of qigong exercises, with two sessions per week, each lasting 75 minutes. The control group did not receive any training. All participants completed Leibovitz's social anxiety questionnaire before and after the intervention, as well as Beck's depression questionnaire before the intervention. Data analysis was conducted using one-variable covariance analysis.

Results: The results showed that the average scores of social anxiety in the emotional intelligence training group (32/61) and the yoga exercises group (34/38) significantly decreased compared to the control group (38/88) in the post-test ($p < 0.05$).

Conclusion: The findings suggest that emotional intelligence training is more effective than yoga exercises in reducing social anxiety in women with depression. This study highlights the importance of emotional intelligence training as a potential intervention for individuals with depression and social anxiety. Further research is needed to investigate the long-term effects of emotional intelligence training and compare its effectiveness with other interventions for social anxiety.

Keywords: Emotional Intelligence, Yoga, Anxiety, Women, Depression.

Introduction

Depression, also known as the common *cold of mental* health, is a mood disorder that affects a person's emotions. This chronic disease can be life-threatening and tends to recur.¹ Women are more likely than men to suffer from depression, with a lifetime prevalence of roughly 17% among mental diseases.²

Social anxiety is a component that can be studied in depressed women.³ People with social anxiety disorder (SAD) are afraid of behaving in a way that may lead to negative evaluation by others,⁴ which can cause them to

avoid social situations or experience discomfort. Social anxiety is more common among women, with a prevalence ranging from 2.4% to 16% in the general population.⁵

If left untreated, depression can cause chronic and hidden periods of disturbance in various aspects of a person's life, including work, social, scientific, family, and personal functions. This can lead to a decrease in the quality of life of the affected person.⁶ In the past few years, there has been a growing emphasis on the concept of compassionate care and the importance of approaching treatment from various perspectives.⁷ Consequently,

experts argue that incorporating emotional intelligence training and yoga, tailored to the recommendations of therapists, can be a valuable intervention in alleviating social anxiety among women suffering from depression. This viewpoint is supported by several studies.⁸⁻¹⁰

Emotional intelligence plays a crucial role in various aspects of our lives, including education, career success, and interpersonal connections.¹¹ It has been found that individuals with higher emotional intelligence tend to experience greater life satisfaction and overall quality of life.¹² Moreover, they also enjoy more positive social interactions¹³ while experiencing lower levels of loneliness, depression, and social anxiety.¹⁴ Understanding the emotions of others accurately not only enhances opportunities for social engagement but also helps in maintaining healthy relationships.¹⁵ However, it is important to note that depressed women with social anxiety may face challenges expressing and managing their emotions due to underlying factors. This can make them more susceptible to emotional, behavioral, and physical disorders.¹⁴ Emotional intelligence, unlike cognitive intelligence, is not a static and unalterable capacity. It has the potential to be enhanced through specific training, leading to improvements in both its quantitative and qualitative aspects.¹⁶ By teaching individuals the various components of emotional intelligence and equipping them with the ability to identify, regulate, and manage their own emotions as well as those of others, participants can become more adaptable and effectively utilize active listening skills. This, in turn, helps prevent the negative consequences that may arise from impulsive emotional reactions.¹⁷ Wang et al., studied the relationship between social anxiety and gray matter volume in the right middle temporal gyrus (MTG).¹⁸ The study found a positive correlation between the two, with emotional intelligence playing an indirect mediating role. The MTG is a key brain region for the cognitive processing of emotions and feelings. These findings are in line with previous studies by Naderi deh, Sheikh, and Borna.¹⁰ According to Bakhshi and Sedighi Arfai,¹⁹ as well as Shahni Yeylaq et al.²⁰ emotional intelligence training has been found to effectively reduce social anxiety and uncompromising perfectionism in participants. Mashhadi et al.'s research²¹

also revealed that the clarity of emotions and mood modification components can predict anxiety symptoms. Additionally, Delhom et al.'s¹⁷ study found that emotional intelligence interventions led to a significant increase in the use of adaptive coping strategies and a reduction in hopelessness and depressive symptoms among participants.

Exercise and regular physical activity, in addition to promoting physical health, also have a profound impact on the mental and social well-being of individuals.²² Numerous adults who experience anxiety and depression seek alternative interventions that do not involve medication, such as exercise, meditation, tai chi, qigong, and yoga.⁸ A study comparing the effects of exercise, yoga, and meditation on individuals with depression and anxiety disorders revealed that both yoga and exercise, when used as supplementary treatments, yield positive outcomes in comparison to meditation, tai chi, and qigong meditation.²³ Researchers have been exploring alternative approaches to treat anxiety and depression, considering the negative consequences associated with drug usage. In some instances, these medications prove to be ineffective or even detrimental. As a result, non-pharmacological and non-invasive methods have been sought after. Among these methods, cognitive-behavioral techniques have gained popularity due to their affordability, simplicity, and absence of side effects. Notably, engaging in physical activities like yoga has been found to be particularly effective.²⁴ Yoga involves a series of physical and posture exercises, controlled breathing exercises, and relaxation exercises.²⁵

The objective of this activity is to attain optimal balance between the body, mind, and spirit.²⁶ Yoga-based interventions have been found to enhance symptoms of anxiety, mental health, and psychological well-being, as well as improve physical health, behavioral regulation, and interpersonal behavior.^{27,28} The practice of physical postures (asanas) enhances musculoskeletal and cardiopulmonary functions, while voluntary, regulated breathing exercises improve lung function.^{29,30} Equilibrate the functioning of the autonomic nervous system and alleviate anxiety and stress-related ailments. The mitigation of mental agitation is linked to the alleviation

of mental diversions, which in turn is associated with the reduction of anxiety and depression.³¹ According to Dipeshwar and Kumar's study, a yoga-based lifestyle intervention effectively decreased symptoms of anxiety and depression while enhancing overall health, potentially promoting a wholesome household. Gammage et al.'s research findings³² suggest that yoga exercises have a notable impact on reducing social and physical anxiety and enhancing body satisfaction among women. However, Asiachi et al.'s study³³ contradicts these results, as they reported that yoga exercises do not have a significant effect on the social anxiety of elderly women and men.

Objectives

Given the importance of this issue, the existing research gap, and the scarcity of experimental studies assessing the impact of the mentioned trainings on alleviating social anxiety in women suffering from depression, this study was conducted to compare the effects of emotional intelligence training and yoga exercises on the social anxiety levels of women suffering from depression.

Methods

The research conducted in this study utilized a quasi-experimental (pre-test, post-test) design with two experimental groups and one control group. The target population for this research consisted of all women seeking counseling and psychotherapy services in Tabriz City during the years 2022–2023. Specifically, the participants were those who had existing files at the center and had been diagnosed with depression disorder by the center's psychologist. To select the research sample, a total of 60 participants with depression disorder who had sought treatment at the center and were diagnosed as depressed by the psychologist were chosen based on availability. To ensure the accuracy of the depression diagnosis, the participants were also administered the Beck Depression Questionnaire after obtaining their written consent. From this group of participants, 45 individuals were randomly assigned to either the emotional intelligence training group or the yoga exercises group, with 15 participants in each group. The remaining 15 participants were assigned to the control group.

To be eligible for group participation, individuals had to meet the following criteria: be between the ages of 25 and 40, score at least 1 standard deviation above the mean on Leibovitz's social anxiety test, not have a severe personality disorder (such as borderline, paranoid, or schizotypal), not be taking psychiatric medication, and not be receiving concurrent psychological treatment. Additionally, participants were required to provide informed consent and participate voluntarily. Criteria for exiting the study included attending no more than one meeting and experiencing a specific problem during the research.

Following coordination with counseling and psychotherapy centers in Tabriz and obtaining informed consent from depressed women, it was determined that the chosen individuals would convene at the Health Department's amphitheater in Tabriz at the designated time. The venue is equipped with essential amenities, such as computers and video projectors. During the initial meeting, the researcher addressed the participants' inquiries and provided instructions on how to complete the questionnaires. Following the completion of the pre-test, which involved the administration of Leibovitz's Social Anxiety Scale (LSAS-SR), a consensus was reached regarding the scheduling of the subsequent sessions. Subsequently, a total of 45 women who met the specified criteria for depression were randomly assigned to two experimental groups, each consisting of 15 individuals (Group 1: emotional intelligence training and Group 2: yoga exercises), while another group of 15 participants was designated as witnesses.

During the preliminary meeting of the test groups, he provided an overview of the objectives and teaching approach for emotional intelligence and yoga exercises to the selected groups. The participants were instructed not to discuss the session content with other depressed women and were also ensured that they were not undergoing any other educational or therapeutic program. The experimental group 1 received emotional intelligence training in group sessions for 10 weeks, with each session lasting 90 minutes per week. The experimental group 2 received yoga exercises in group sessions for 8 weeks, with each session lasting 75 minutes twice a week. The control group didn't receive any training. The educational

materials for the emotional intelligence training group were presented in PowerPoint format, accompanied by pictures. Depressed women in the second experiment group received yoga exercises in a well-ventilated gym, with each subject provided a soft mat. The health protocol was followed during these sessions. Once the training sessions were completed, the post-test (Leibovitz's Social Anxiety Scale) was conducted for all three groups (two experimental groups and one control group). It is crucial to emphasize that, in line with ethical research principles, the control group also underwent the aforementioned training after the post-test was carried out for all three groups.

Ethical considerations

The research took into account several ethical considerations, including: 1) Participants provided informed consent; 2) Participants were assured that their information would remain confidential and only accessible to the researcher; 3) Participation in the research was voluntary, and participants could withdraw at any stage; and 4) To adhere to ethical principles, the control group received additional training after completing the post-test (Leibowitz Social Anxiety Scale). The study was conducted in accordance with the Declaration of Helsinki, and approval was obtained from the Institutional Review Board.

The following tools were used to collect information

Beck depression questionnaire (short form)

The Beck Depression Questionnaire, developed by Beck, is a well-known depression test. It comprises 21 items, each with four sentences that rate depression symptoms from zero to three. The overall score is calculated by adding all the scores together. The questionnaire has been thoroughly researched and has consistently produced high-quality results. In 1988, Beck and his colleagues reported that the questionnaire items had an internal consistency reliability coefficient ranging from 0.73 to 0.86, and the correlation coefficient between the Beck depression questionnaire and the MMPI scale was 0.74. A recent study at Tehran University of Medical Sciences (Ruzbeh Hospital) found that the questionnaire had a validity of 0.70 and a reliability of 0.77 for both healthy and

clinical populations.³⁴

This clinical tool is designed to assess a broad range of social situations that individuals with social anxiety disorder may find challenging. The questionnaire comprises 24 statements, divided into two subscales: performance anxiety (13 statements) and avoidance (11 statements). Respondents are asked to rate their level of anxiety and avoidance (separately) for each situation on a 4-point Likert scale ranging from 0 to 3, based on their experiences over the past week or their visualization of the given scenarios. The maximum score for performance anxiety is 78, while the maximum score for social situation anxiety is 66. The total maximum score is 144. The test's Cronbach's alpha coefficient is reported to be 0.95, indicating high internal consistency. The alpha coefficient for the performance anxiety subscale is 0.82, and for the avoidance behavior subscale, it is 0.91. The test's validity is deemed satisfactory.³⁵

Intervention methods

Training of emotional intelligence

The training program for the first experimental group focuses on developing the various components of emotional intelligence. This program is based on Mayer and Salovey's ability model³⁶ and consists of 10 sessions, each lasting 90 minutes. Each session is dedicated to one specific component of emotional intelligence. The breakdown of these 10 sessions is as follows:

Session 1: Introduction to emotional intelligence and getting acquainted with its concepts

Session 2: Training on emotional self-awareness

Session 3: Teaching self-expression, assertiveness, and decision-making skills

Session 4: Instruction on methods to enhance self-confidence and self-esteem

Session 5: Training on self-fulfillment, personal growth, and self-motivation

Session 6: Teaching emotional intelligence to manage stress

Session 7: Training on controlling negative emotions and fostering positive thinking

Session 8: Instructions on Building Intimate Interpersonal Relationships and Empathy

Session 9: Problem-solving training

Session 10: Recapitulation, addressing questions, and conducting a post-exam.

Yoga exercises

The second experimental group underwent yoga exercises for a duration of 8 weeks, with two 75-minute sessions per week. The yoga activities were performed in accordance with the protocol outlined by Aghili and Afzali's research.³⁷ The participants started with basic exercises and gradually progressed to more advanced activities as they improved. The yoga instructor initially focused on teaching correct posture, breathing control, and proper standing. Throughout the sessions, the participants engaged in deep breathing exercises, stretching, upper body exercises, yoga balance movements, asanas (physical exercises), pranayama (breathing exercises), release exercises, relaxation (shavasana), and meditation. Each week, new and more challenging exercises were introduced, while also incorporating the exercises from previous weeks. This progression continued until the final week of the program. At the conclusion of the yoga training sessions, a post-test was conducted.

Statistical analysis

Data were analyzed using SPSS (version 22.0, SPSS Inc, Chicago, IL, USA). 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. A "P-value" less than 0.05 was considered significant.

Results

Table 1 displays the mean and standard deviation of social anxiety scores before and after the intervention for the studied groups. The effect of emotional intelligence training and yoga exercises on reducing social anxiety in women with depression was compared using univariate covariance analysis. Before presenting the results of the analysis, the covariance analysis presuppositions were tested, including the normality of the dependent variable's distribution, the homogeneity of the slope of the regressions in the groups, and the homogeneity of the variance error of the dependent variable in the groups.

To check the normality of the distribution of social anxiety scores, the Shapiro-Wilk test was conducted. The results indicated that the social anxiety scores in both the pre-test and post-test in the three studied groups follow a normal distribution ($p < 0.05$) [Table 2]. The assumption of homogeneity of the regression slope was tested using the interaction effect of the group pre-test. The results showed that the homogeneity of regression slopes in groups for social anxiety scores is maintained ($p < 0.05$) [Table 3].

Table 1. Pre-test and post-test comparison of social anxiety in the emotional intelligence training group, yoga exercises group, and control group

| Variable | Group | pre-test | post-test | Adjusted mean |
|----------------|---------------------------------|-------------|------------|---------------|
| Depression | Emotional intelligence training | 30.60±10.78 | | |
| | Yoga exercises | 30.07±9.80 | | |
| | Control | 29.63±8.74 | | |
| Social anxiety | Emotional intelligence training | 41.47±6.21 | 33.33±6.00 | 32.61 |
| | Yoga exercises | 41.13±6.30 | 34.80±5.57 | 34.38 |
| | Control | 39.40±6.04 | 37.73±5.42 | 38.88 |

Table 2. Assessment of the normality of social anxiety data distribution through the Shapiro-Wilk test

| variable | Group | pre-test | | post-test | |
|----------------|---------------------------------|--------------|---------|--------------|---------|
| | | Shapiro-Wilk | P value | Shapiro-Wilk | P value |
| Social anxiety | Emotional intelligence training | 0.936 | 0.336 | 0.914 | 0.158 |
| | Yoga exercises | 0.932 | 0.312 | 0.940 | 0.386 |
| | Control | 0.916 | 0.168 | 0.932 | 0.292 |

Table 3. Analysis of the assumption of homogeneity of regression slopes for social anxiety across the different groups

| The source of the change | Sum of the squares | df | Sum of the squares | F | P value |
|--------------------------|--------------------|----|--------------------|-------|---------|
| Group effect | 1.087 | 2 | 0.543 | 0.361 | 0.699 |
| Error | 58.689 | 39 | 1.505 | | |

Furthermore, the homogeneity of variance assumption for the dependent variable (social anxiety) across the groups was assessed through Levine's test [Table 4]. The findings reveal that there is no significant difference in the variance error of social anxiety among the three examined groups ($p < 0.05$). Consequently, all the prerequisites for conducting univariate covariance analysis are met.

Table 4. The results of Levine's test for equality of variance error for social anxiety in the studied groups

| F | Fd1 | Fd2 | P value |
|-------|-----|-----|---------|
| 0.487 | 2 | 42 | 0.618 |

After adjusting for pre-test scores, the univariate covariance analysis revealed a significant difference in the post-test social anxiety level of women with depression in the emotional intelligence training, yoga exercises, and control groups ($p = 0.001$, $F = 105.14$). The impact intensity was found to be 0.84, according to Table 5. Post hoc LSD test results indicated that the emotional intelligence training group had significantly lower average scores of social anxiety compared to the control and yoga exercise groups. Additionally, the yoga practice group had significantly lower average scores of social anxiety compared to the control group, as shown in Table 6.

Table 5. The results of the covariance analysis test, which was conducted to compare social anxiety in the post-test among the groups

| The source of variation | Sum of the squares | df | Sum of the squares | F | P value | Eta square |
|-------------------------|--------------------|----|--------------------|---------|---------|------------|
| Pre-test Effect | 1316.891 | 1 | 1316.891 | 903.253 | 0.001 | 0.975 |
| Group effect | 306.566 | 2 | 153.283 | 105.137 | 0.001 | 0.837 |
| Error | 59.776 | 41 | 1.458 | | | |
| Total | 57566 | 45 | | | | |

Table 6. Results of the LSD post hoc test, which was used to perform pairwise comparisons of social anxiety among the groups

| Comparisons | Mean difference | Criterion error | P value |
|--|-----------------|-----------------|---------|
| Emotional intelligence training - yoga exercises | -1.768 | 0.441 | 0.001 |
| Training emotional intelligence-control | -6.27 | 0.445 | 0.001 |
| Yoga exercises - control | -4.501 | 0.444 | 0.001 |

Discussion

The aim of this study was to examine the impact of emotional intelligence training and yoga exercises on social anxiety among women with depression. The findings from the covariance analysis revealed that the average scores of social anxiety in women with depression who underwent emotional intelligence training were significantly lower compared to those in the yoga training group and the control group during the post-test. Additionally, the yoga practice group also experienced a significant decrease in social anxiety scores compared to the control group.

There is no existing research literature that compares the effectiveness of the mentioned trainings in reducing social anxiety among women with depression. However, research by Naderi deh Sheikh, and Borna,¹⁰ Delhom et al.,¹⁷ Bakhshi and Sedighi Arfai,¹⁹ and Shahni Yeylaq et al.,²⁰ shows that emotional intelligence training has a significant positive impact on reducing social anxiety, maladaptive perfectionism, frustration, and depression.

Additionally, it has been found to increase emotional intelligence, social adaptation, adaptive coping strategies, and mental health in individuals. Furthermore, research conducted by Wang et al.,¹⁸ and Mashhadi et al.,²¹ suggests

that the components of emotional intelligence, such as emotion clarity and mood modification, can predict anxiety symptoms. It is also worth noting that emotional intelligence indirectly relates to gray matter volume and mediates social anxiety. Furthermore, Dipeshwar and Kumar's research,⁸ along with Gammage et al.'s³² and Asiachi et al.'s³³ studies, support the notion that practicing yoga can lead to a noteworthy decrease in social anxiety, depression, and physical anxiety related to social situations, as well as an improvement in overall health, behavioral control, and social interactions.

Depression, being the most prevalent form of psychopathology, is linked to psychosocial impairments across various domains of functioning, including work, family, and social interactions. Failure to address depression or ineffective treatment can result in a cascade of maladaptive behaviors, exacerbating the severity of the condition. Moreover, depression often coexists with heightened levels of anxiety. Consequently, women with depression may experience social anxiety as a comorbidity, significantly impacting their overall quality of life.³⁸ As per Beck et al.'s research,³⁹ individuals with anxiety tend to have distorted perceptions of themselves and their social connections, leading to erroneous judgments regarding the behaviors of others. A person's inability to engage in effective communication and their tendency to withdraw from social situations can be attributed to two different ways of thinking and behaving. Emotional self-awareness plays a crucial role in helping individuals recognize and understand their emotions. Consequently, through the enhancement of emotional intelligence skills in training programs (such as emotional self-awareness, self-expression, self-motivation, and problem-solving), individuals can make informed decisions and respond appropriately even in stressful situations and when faced with stressful stimuli. By maintaining a calm and positive demeanor, controlling impulsive reactions, and seeking new strategies to cope with stress, individuals can avoid the pressure associated with feelings of failure. This heightened emotional intelligence enables individuals to develop a more accurate and logical understanding of both their own circumstances and those of others. As a result, they are less prone to misunderstandings and no longer

fear or avoid social situations.⁴⁰

Hence, through the instruction of emotional intelligence, women suffering from depression acquire valuable skills such as active listening (which is crucial for adaptation), the ability to compromise and maintain peaceful relationships with others, a focus on people, and respect. They also learn to acknowledge and understand their own and others' emotions, as well as develop empathetic skills (i.e., the capacity to connect with others by recognizing their thoughts and feelings). As a result, they become more adept at navigating personal and interpersonal relationships, leading to potential improvements in social adaptation and a reduction in social anxiety among depressed women.¹⁹ A study conducted by Tomaka et al.,⁴¹ further supports this notion, revealing that individuals with lower levels of courage experience heightened anxiety in their social interactions. Women who lack courage may struggle to assert their rights and often face anxiety when expressing their opinions in society. Consequently, this factor hampers their social performance and contributes to an escalation of social anxiety over time. It is important to note that women who struggle to express their opinions often experience frustration and failure. These issues can lead to a decrease in their self-esteem and an increase in anxiety when in social situations with friends, family, or acquaintances. Additionally, this can result in a lower quality of life and a cycle of abnormal behaviors and emotions. Therefore, providing timely training in emotional intelligence skills such as courage and self-expression can help women with depressive symptoms avoid such unreasonable cycles to a certain extent. Ultimately, it is possible to learn decisiveness and boldness through teaching and learning methods, which can eliminate these issues.

On the contrary, engaging in sports and physical activities can have a significant impact on the development of social skills. It fosters a sense of interaction and cooperation with others, particularly when done as part of a group. Moreover, continuous participation in physical and sports activities can help alleviate feelings of loneliness. This discovery suggests that taking part in sports activities, particularly yoga, is closely linked to the enhancement of interpersonal skills, communication with

peers, and leadership abilities, ultimately contributing to individual and social well-being.⁴² Specifically, practicing yoga exercises induces a series of physiological changes in the body that counteract mental tension. Through conscious breathing, anxiety and stress levels are reduced in affected individuals, and the positive effects of yoga in managing anxiety can be attributed to its distraction technique. By emphasizing muscle relaxation, the yoga method directs attention towards pleasant inner sensations, thereby reducing focus on stressful situations and stimuli. This aspect has a beneficial impact on reducing anxiety levels in individuals.⁴³

In yoga, individuals have the ability to conquer their fears, worries, and deep negative emotions through the practice of breathing exercises and breath control. By doing so, they can effectively counteract the disruptive effects of excitement, ambition, and despair, thus fostering the development of sustainable habits. Through consistent practice, not only can one attain mental tranquility but also success in personal and social interactions, leading to a more serene and less socially anxious life. Engaging in both mental and physical exercises in yoga diminishes one's irritability towards others, as well as the irritability others may have towards them. Asana, a set of physical movements, is one of the exercises recommended for women experiencing depression. It plays a crucial role in maintaining the body's well-being and promoting peace of mind. Yoga empowers the human spirit and establishes a connection between individuals and the universe by delving into the inner essence of one's being, fostering self-awareness, and facilitating communication and connection.⁴⁴

Yoga exercises have been proven to enhance relationships with the external environment, contributing to the enhancement of social well-being.⁴⁵ Additionally, practicing yoga can empower women who are experiencing depression, enabling them to make more informed decisions by cultivating inner peace when confronting life's challenges and crises. This state of tranquility allows individuals to think rationally and wisely, promoting a more successful approach to personal and interpersonal relationships. Moreover, it enables them to navigate social situations with ease, eliminating the

tendency to avoid such interactions. Conversely, individuals with social anxiety disorder tend to excessively concern themselves with how others perceive them before, during, and after social engagements. This preoccupation with negative evaluations significantly impacts their performance and exacerbates their anxiety.⁴⁶

This study has successfully combined the use of yoga exercises and emotional intelligence skills training to explore the impact on the physical, emotional, and cognitive aspects of social anxiety in women with depression. The integration of these factors is a notable strength of this research. However, a limitation of this study is its focus on only one gender and the inability to conduct follow-up programs to assess the long-term effectiveness of the interventions.

Conclusions

Based on the findings of this study and its validation by previous research, it can be inferred that emotional intelligence training is more successful than yoga exercises in alleviating social anxiety among women with depression. Consequently, it is recommended to implement a comprehensive program that combines emotional intelligence training and yoga exercises to effectively reduce social anxiety and enhance the overall quality of life for women with depression across all healthcare facilities. In order to facilitate a smoother and quicker social adaptation, as well as to improve the mental well-being of depressed women, it is crucial for the authorities in the country to prioritize counseling and treatment services. By shifting from a treatment-focused approach to a health-oriented approach, the country can not only mitigate the exorbitant costs of healthcare but also provide guidance and support to depressed women, enabling them to lead healthier and more fulfilling lives.

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Competing interests

The authors declare that they have no competing interests.

Abbreviations

Middle temporal gyrus: MTG; Social anxiety disorder: SAD.

Authors' contributions

All authors read and approved the final manuscript. All authors take responsibility for the integrity of the data and the accuracy of the data analysis.

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Availability of data and materials

The data used in this study are available from the corresponding author on request.

Ethics approval and consent to participate

The study was conducted in accordance with the Declaration of Helsinki. Institutional Review Board approval was obtained.

Consent for publication

By submitting this document, the authors declare their consent for the final accepted version of the manuscript to be considered for publication.

References

1. Afshar A, Rostami C, Afshar A, Karimi A, Ardalan A. The study of Acceptance and Commitment Therapy (ACT) on the Depression in housewives. *J Jiroft Univ Med Sci.* 2020;6(2):244-52.
2. Sadock BJ. Kaplan & Sadock's synopsis of psychiatry: behavioral sciences/clinical psychiatry: Wolters Kluwer Philadelphia, PA; 2015.
3. Asher M, Asnaani A, Aderka IM. Gender differences in social anxiety disorder: A review. *Clin Psychol Rev.* 2017; 56:1-12. doi:10.1016/j.cpr.2017.05.004 PMID:28578248
4. Alden LE, Taylor CT. Interpersonal processes in social anxiety disorder. *Interpersonal Processes in the Anxiety Disorders: Implications for understanding psychopathology and treatment: American Psychological Association;* 2010. p. 125-52. doi:10.1037/12084-005
5. Rietdijk J, Ising HK, Dragt S, Klaassen R, Nieman D, Wunderink L, et al. Depression and social anxiety in help-seeking patients with an ultra-high risk for developing psychosis. *Psychiatry Res.* 2013; 209(3):309-13. doi:10.1016/j.psychres.2013.01.012 PMID:23433870
6. Khorshidzadeh M, Borjali A, Sohrabi F, Delavar A. The effectiveness of schema therapy in the treatment of women (females) with social anxiety disorder. *Res Clin Psychol Couns.* 2012;1(2). doi: 10.22067/ijap.v1i2.9420.
7. 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. doi:10.1136/bmjopen-2021-050197 PMID:35078836 PMCid:PMC8796219
8. Deepeshwar S, Kumar D. Beneficial Effect of Yoga-based Lifestyle Intervention on Anxiety and Depression in Young adults: Non-randomized Controlled Study. *Int J Med Public Health.* 2022;12(1). doi:10.5530/ijmedph.2022.1.3
9. Javed D, Mishra S. Yoga practices in Social Anxiety Disorder (SAnD): A case report WSR to paruresis. *J Ayurveda Integr Med.* 2022;13(3):100622. doi:10.1016/j.jaim.2022.100622 PMID:36087392 PMCid:PMC9468380
10. Naderi De Sheikh M, Borna MR. The effectiveness of training of emotional intelligence on social anxiety, social adaptability, and mental health of students of Azad University of Ahvaz. *Sci J Soc Psychol.* 2020;7(54):125-35.
11. Alipor A, Aliakbari Dehkordi M, Hasanzadeh Pashang S, Faraji R. The Effect of Emotional Intelligence Training on Mental Health of the Patients Hospitalized in Cardiology Department of Shahid Modares Hospital, Tehran, Iran. *Neurosci J Shefaye Khatam.* 2016; 4(3):41-50. doi:10.18869/acadpub.shefa.4.3.41
12. Anjum A, Swathi P. A study on the impact of emotional intelligence on quality of life among secondary school teachers. *Int J Psychol Couns.* 2017;7(1):1-13.
13. Lopes PN, Brackett MA, Nezlek JB, Schütz A, Sellin I, Salovey P. Emotional intelligence and social interaction. *Personal Soc Psychol Bull.* 2004;30(8):1018-34. doi:10.1177/0146167204264762 PMID:15257786
14. Nolidin K, Downey LA, Hansen K, Schweitzer I, Stough C. Associations between social anxiety and emotional intelligence within clinically depressed patients. *Psychiatr Q.* 2013; 84:513-21. doi:10.1007/s11126-013-9263-5 PMID:23632828
15. Motamedi F, Beh-Pajooh A, Shokoohi Yekta M, Afrooz GA, Ghobari-Bonab BG. Effect of training emotional intelligence on components of social adjustment of female adolescents with emotional and behavioral problems with single parents. *Knowl Res Appl Psychol.* 2021;22(1):79-92. doi: 10.30486/jrsp.2020.547921.0.
16. Fernandez-Berrocal P, Alcaide R, Extremera N, Pizarro D. The role of emotional intelligence in anxiety and depression among adolescents. *Individ Differ Res.* 2006;4(1).
17. Delhom I, Satorres E, Meléndez JC. Emotional intelligence intervention in older adults to improve adaptation and reduce negative mood. *Int Psychogeriatr.* 2022;34(1):79-89. doi:10.1017/S1041610220003579 PMID:33153515
18. Wang S, Zhao Y, Wang X, Yang X, Cheng B, Pan N, et al. Emotional intelligence mediates the association between middle temporal gyrus gray matter volume and social anxiety in late adolescence. *Eur Child Adolesc Psychiatry.* 2021;30: 1857-69. doi:10.1007/s00787-020-01651-z PMID:33011842
19. Bakhshi R, Sedigh Arfaei F. The effectiveness of emotional intelligence training mediated by social self-efficacy on social anxiety and perfectionism of sixth grade elementary school female

- students. *J Educ Psychol Stud.* 2021;18 (43):35-17.
20. Shehni Yailagh M, Maktabi G, Shokrkon H, Haghghi J, Kianpour Ghahfarokhi F. The effects of emotional intelligence training on social anxiety, social adjustment and emotional intelligence of male and female university students. *Psychol Achiev.* 2009;16(1): 3-26.
 21. Mashhadi A, Soltani Shurbakhorloo E, Hashemi Zarrini S. On the relationship between emotional intelligence and its components with symptoms of anxiety. *J Fundamentals Ment Health.* 2011;12 (4): 661-52. doi: 10.22038/jfmh.2010.883.
 22. Casasola CD. Analysis of heart rate during a tennis training session and its relationship with heart-healthy index. *J Sport Health Res.* 2010; 2(1):26-34.
 23. Saeed SA, Antonacci DJ, Bloch RM. Exercise, yoga, and meditation for depressive and anxiety disorders. *Am Fam Physician.* 2010;81(8):981-6.
 24. Raub JA. Psychophysiological effects of Hatha Yoga on musculoskeletal and cardiopulmonary function: a literature review. *J Altern Complement Med.* 2002;8(6):797-812. doi:10.1089/10755530260511810 PMID:12614533
 25. Evin A, Khojasteh F, Ansari H. The effect of hatha yoga on anxiety and self-efficacy of primiparous women in labor. *Open Complement Med J.* 2019;9(1):3546-59.
 26. Hasanpour-Dehkordi A, Jivad N, Solati K. Effects of Yoga on Physiological Indices, Anxiety and Social Functioning in Multiple Sclerosis Patients: A Randomized Trial. *J Clin Diagn Res.* 2016; 10(6):Vc01-vc5. doi: 10.7860/jcdr/2016/18204.7916. PMID: 27504387; PMCID: PMC4963747.
 27. Taso C-J, Lin H-S, Lin W-L, Chen S-M, Huang W-T, Chen S-W. The effect of yoga exercise on improving depression, anxiety, and fatigue in women with breast cancer: a randomized controlled trial. *J Nurs Res.* 2014;22(3):155-64. doi:10.1097/jnr.000000000000044 PMID:25111109
 28. Zoogman S, Goldberg SB, Voursora E, Diamond MC, Miller L. Effect of yoga-based interventions for anxiety symptoms: A meta-analysis of randomized controlled trials. *Spiritual Clin Practice.* 2019; 6(4):256. doi:10.1037/scp0000202
 29. Hosseini SS, Rajabi H, Sahraian MA, Moradi M, Mehri K, Abolhasani M. Effects of 8-week home-based yoga and resistance training on muscle strength, functional capacity and balance in patients with multiple sclerosis: A randomized controlled study. *Asian J Sports Med.* 2018;9(3). doi:10.5812/asjasm.68807
 30. Karthik PS, Chandrasekhar M, Ambareesha K, Nikhil C. Effect of pranayama and suryanamaskar on pulmonary functions in medical students. *J Clin Diagn Res.* 2014;8(12):Bc04-6. doi: 10.7860/jcdr/2014/10281.5344. PMID: 25653936; PMCID: PMC4316242.
 31. Marshall RS, Basilakos A, Williams T, Love-Myers K. Exploring the benefits of unilateral nostril breathing practice post-stroke: attention, language, spatial abilities, depression, and anxiety. *J Altern Complement Med.* 2014; 20(3):185-94. doi:10.1089/acm.2013.0019 PMID:24116880
 32. Gammage KL, Drouin B, Lamarche L. Comparing a yoga class with a resistance exercise class: Effects on body satisfaction and social physique anxiety in university women. *J Phys Act Health.* 2016;13(11):1202-9. doi:10.1123/jpah.2015-0642 PMID:27334125
 33. Asiachi N, Sanat Karan A, Behari S. The effect of yoga on social anxiety of elderly women and men. The First National Conference on the Accomplishments of Sports Science and Health PNU; badan University of Medical Sciences, Ahvaz2017.
 34. Azargoon H, Kajbaf MB, Molavi H, Abedi MR. The Effect of Mindfulness Training on Mental Rumination and Depression of the Students of Isfahan University. *Clin Psychol Pers.* 2009;7(1): 13-20.
 35. Hasani J, Fayazi M, Akbari E. Reliability, validity, and confirmatory factor structure of Persian version of Liebowitz Social Anxiety Scale (LSAS). *Soc Psychol Res Q.* 2015;6(24):35.
 36. Sluyter D, Salovey P. Emotional development and emotional intelligence: Implications for educators. New York: Basic Books; 1997.
 37. Aghili SM, Afzali S. The Effect of Yoga Yoga Breathing Exercises on chronic Low Pain, Anxiety, Psychological and Physical Well-being of Women with MS. *Health Psychol.* 2017;5(20):109-24. doi: 20.1001.1.23221283.1395.5.20.7.0.
 38. American Psychiatric Association D, Association AP. Diagnostic and statistical manual of mental disorders: DSM-5: American psychiatric association Washington, DC; 2013. doi:10.1176/appi.books.9780890425596
 39. Beck AT, Emery G, Greenberg RL. Anxiety disorders and phobias: A cognitive perspective: Basic books; 2005.
 40. Bar-On R, Handley R, Fund S. The impact of emotional intelligence on performance. Linking emotional intelligence and performance at work: Current research evidence with individuals and groups. 2006:3-19.
 41. Tomaka J, Palacios R, Schneider KT, Colotla M, Concha JB, Herral MM. Assertiveness predicts threat and challenge reactions to potential stress among women. *J Pers Soc Psychol.* 1999;76(6): 1008. doi:10.1037/0022-3514.76.6.1008 PMID:10402683
 42. Ghanbari B, Saadat M. The Effectd of Yoga Rhythmic Movements on the Social Interactions of Children with Mental Deficiency. *Found Educ.* 2010;011(1). doi: 10.22067/fe.v1i1.1075.
 43. Jalilvand M, Souri R, Solimanitabar M. The Effectiveness of Yoga Exercises on Anxiety and Depression in Patients with Psoriasis. *Neurosci J Shefaye Khatam.* 2021;9(2):60-7. doi:10.52547/shefa.9.2.60
 44. Khezri Z. Efficacy of yoga training on compliance and the improvement of interpersonal relationships in boushehr juvenile institution: Islamic Azad University Marvasht Branch: Faculty of Educational Sciences and Psychology; 2012.
 45. Taneja DK. Yoga and health. *Indian J Commun Med.* 2014; 39 (2): 68. doi:10.4103/0970-0218.132716 PMID:24963220 PMCID:PMC4067931
 46. Schmidt NB, Richey JA, Buckner JD, Timpano KR. Attention training for generalized social anxiety disorder. *J Abnorm Psychol.* 2009; 118(1):5. doi:10.1037/a0013643 PMID:19222309

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