The Effect of Group Therapy Based on Psychodrama Approach on Anxiety and Sleep Quality in University Entrance Exam Candidates

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A r t i c l e   I n f o

A B S T R A C T

Objective: The present study aimed to examine the effect of group therapy based on the psychodrama approach on anxiety and sleep quality in students preparing for the national university entrance examination.

Materials and Methods: This study employed a quasi-experimental design with pretest-posttest and a control group. The statistical population included all university entrance exam candidates who experienced anxiety and sleep quality problems and had referred to the Mehraban Clinic. From this population, 30 students were selected through convenience sampling and randomly assigned to experimental (n = 15) and control (n = 15) groups. The participants in the experimental group attended ten 60-minute sessions of group therapy based on psychodrama. Data were collected at two stages—pretest and posttest—using the Beck Anxiety Inventory (Beck, 1990) and the Pittsburgh Sleep Quality Index (Buysse et al., 1989). The collected data were analyzed using analysis of covariance (ANCOVA) and multivariate analysis of covariance (MANCOVA) via SPSS software.

Findings: The results of ANCOVA indicated that group therapy based on the psychodrama approach had a significant effect on reducing anxiety and improving sleep quality in students preparing for the university entrance examination.

Conclusion: Accordingly, psychodrama appears to be an effective method in reducing anxiety symptoms and enhancing sleep quality among university entrance exam candidates.

Keywords: *Group therapy, psychodrama, anxiety, sleep quality, students.*

1. Introduction

Education serves as the foundational infrastructure for professional training in the modern world and is consequently the primary driver of social mobility. In many countries, admission to higher education requires passing entrance examinations, where competition and pressure are intense, and the academic system eliminates those who fail to succeed in this race (Fathabadi et al., 2017).

In our society, the increasing number of university applicants, the limited capacity of universities, and the high cost of higher education enable the admission system to select among numerous candidates. Accordingly, the

national university entrance examination (Konkur) functions as a centralized selection tool for higher education institutions. As a result, the Konkur has become a significant social phenomenon that greatly impacts the structure of general and secondary education, as well as the psychological, economic, and educational conditions of students and even their families (Heydarieh Zadeh & Baghestani, 2019).

Factors related to the entrance exam, such as fear of ranking—which determines one's future path—create psychological and neurological stress, along with psychological problems such as anxiety, insomnia, emotional eating, and aggression. These factors affect the quality of life of candidates before the exam (Kakuei et al., 2010), resulting in social withdrawal, decreased communication with others, and social avoidance. Ultimately, this leads to reduced self-confidence, negative thoughts such as suicidal ideation, and diminished self-belief and self-efficacy (Mansouri et al., 2018). In other words, the Konkur—being the most extensive and competitive exam in the educational system—can be a major source of anxiety experienced by students during their academic careers, negatively affecting their performance and both physical and mental health (Shadzi et al., 2020).

This type of anxiety has two dimensions. The first is cognitive, characterized by worry and intrusive thoughts, which reflect the individual's conscious attention to performance-related concerns—such as fear of failure, social comparison, and expectation of poor outcomes. The second is emotional, accompanied by physiological symptoms and tension, such as increased heart rate, digestive issues, and sweating (Majidai et al., 2015). Test anxiety emerges under maladaptive cognitive conditions—such as distressing perceptions and irrelevant thoughts—and is manifested through somatic symptoms and physical tension. This maladaptive response to high-pressure situations can impair performance and working memory (Asgari, 2019). The affected individual may understand the material but is unable to demonstrate their knowledge due to the intensity of their anxiety (Kushki & Haroon Rashidi, 2019).

Anxiety related to the university entrance exam may also be a cause of sleep problems among candidates (Jafari et al., 2018). Sleep is one of the most vital circadian cycles, governed by a complex biological pattern and fulfilling essential physiological needs. It can influence various aspects of quality of life. Sleep quality affects an individual's ability to feel rested and energized for the following day and helps reduce daytime drowsiness (Shadzi et al., 2020).

Various approaches have been developed to reduce psychological problems. Psychodrama, one of the branches of art therapy, offers a distinct perspective within psychotherapy. It was proposed by Moreno in the early 1920s as a therapeutic tool (Gattaa et al., 2010). This therapeutic dimension encourages individuals to engage with their life narratives, dreams, and imaginations in an effort to express unspoken emotions, gain new insights, and rehearse healthier and more adaptive behaviors (Eshaghi & Bahari, 2019). In this approach, the therapist organizes group strategies that ultimately increase the patient's awareness of their social roles. Through the psychodramatic process, individuals learn how to better navigate interpersonal and social relationships, and this process supports the exploration of psychological dimensions of the self (Seyidabrahimi, 2019).

Pourrezaian's study showed that psychodrama can reduce symptoms of social anxiety (Pourrezaian, 2016). The study by Shefai-Golmakani et al. found that psychodrama may positively influence academic achievement and reduce anxiety in university students (Shefai-Golmakani et al., 2022). Previous research has demonstrated the effectiveness of psychodrama for various mood disorders (Pylypenko et al., 2023), but no study was found that specifically investigated the effect of psychodrama-based group therapy on student anxiety.

Previous studies have examined the effectiveness of mindfulness-based cognitive therapy and acceptance and commitment therapy on sleep quality (Naserim et al., 2017), the effectiveness of self-determination theory training (Najafi Khorramabad et al., 2017) and emotion-focused therapy (Omrani et al., 2017), but no study has been found that examines the impact of psychodrama-based group therapy on improving sleep quality in students.

Nevertheless, no comprehensive study has addressed the impact of psychodrama group therapy on reducing anxiety in national entrance exam candidates. Therefore, the central question of this study is: Does group therapy based on a psychodrama approach reduce anxiety in students preparing for the national university entrance examination?

2. Methods and Materials

2.1. Study Design and Participants

The research design was quasi-experimental with a pretest-posttest control group design. The statistical population of this study included all students in the city of Yazd who registered for the national university entrance

examination in the 2023–2024 academic year and visited Mehraban Clinic for treatment due to experiencing anxiety. From this population, 30 students were selected through convenience sampling and randomly assigned to two groups: experimental (n = 15) and control (n = 15). It is noteworthy that prior to the commencement of the study, all participants were assessed using anxiety and sleep quality tests. Only students who scored high in both anxiety and sleep problems were included in the study.

A field method was used for data collection to confirm or reject the study hypotheses. To collect the data via tests, an introduction form was obtained from the university. After approval of the test, the researcher's introduction letter was issued. Following this authorization, the researcher conducted sampling and proceeded with training and administering the tests. In this study, both experimental and control groups were measured twice: once before the start of the intervention and once after its completion. Accordingly, the experimental group was exposed to the independent variable, while the control group received no intervention. The experimental group participated in ten 60-minute sessions of psychodrama.

2.2. Measures

2.2.1. Anxiety

This self-report questionnaire consists of 21 items that assess the severity of individuals' somatic and cognitive symptoms over the past week. Each item is scored on a 4-point scale from 0 to 3, with a maximum possible score of 63. Beck and colleagues (1988) reported an internal consistency of 0.92, a one-week test-retest reliability of 0.75, and item-total correlations ranging from 0.30 to 0.76. In Iran, the content, concurrent, diagnostic, and factorial validity of the scale have been assessed and confirmed, demonstrating high efficacy in measuring anxiety severity. The test-retest reliability over a two-week interval was reported at 0.80 (Rafiei & Seifi, 2013). Additionally, the Cronbach's alpha reliability coefficient was reported at 0.92 (Asgari, 2019). In the present study, the Cronbach's alpha reliability was found to be 0.75.

2.2.2. Sleep Quality

This instrument was developed in 1989 by Dr. Buysse and colleagues at the University of Pittsburgh Sleep Medicine Institute. As the name suggests, the PSQI measures individuals' sleep quality, considering sleep as a key component of the circadian rhythm and a contributor to physical and mental restoration. The PSQI consists of 19 items scored on a 4-point Likert scale ranging from 0 to 3. The questionnaire comprises seven components: subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, use of sleep medication, and daytime dysfunction. The reliability of the PSQI has been reported with a Cronbach's alpha coefficient of 0.83, and its content validity has been confirmed (Kakuei et al., 2010). In the present study, the Cronbach's alpha reliability was found to be 0.76.

2.3. Intervention

2.3.1. Psychodrama-Based Group Therapy

The psychodrama-based group therapy intervention consisted of ten structured sessions, each lasting 60 minutes, designed to alleviate anxiety and enhance sleep quality among high school students preparing for university entrance examinations. Session 1 introduced participants to the group through the "ball toss" technique, fostering cohesion via synchronized singing and individual monologues expressing current emotions. Session 2 incorporated physical movements set to music, exercises involving writing with the non-dominant hand to recall distressing childhood memories, and techniques such as emotional exaggeration and role reversal to process these experiences, concluding with breathing exercises. In Session 3, participants engaged in the "statue" technique to externalize distressing emotions, followed by monologues on current issues, emotional exaggeration, and the "mirror" technique, where peers reflected participants' behaviors to promote self-awareness. Session 4 revisited the "ball toss" and introduced reading poetry aloud, confronting anxiety-inducing thoughts through monologues, and employing the "double" technique, wherein a supporting actor echoed participants' expressions to deepen emotional insight. Session 5 utilized storytelling and role-playing to dissect anxiety triggers, personal interpretations, and cognitive appraisals. Session 6 emphasized confronting anxious thoughts, exploring their interpretations, dramatizing anxiety-driven behaviors, and revisiting the "mirror" technique, supplemented by breathing exercises. In Session 7, the "self-realization" technique prompted participants to envision actions unencumbered by anxiety, followed by dialogues between the aspects of the self that desire and resist change. Session 8 centered on enacting personal aspirations on stage, facilitating experiential engagement

with desired outcomes. Session 9 reintroduced the "double" technique to challenge catastrophic interpretations, allowing participants to reconstruct narratives with alternative meanings. Finally, Session 10 provided a comprehensive review and consolidation of the therapeutic journey, reinforcing insights and progress achieved throughout the intervention.

2.4. Data Analysis

This study utilized both descriptive and inferential statistical methods for data analysis. In the descriptive statistics section, the data were reported using measures of mean, variance, and standard deviation. In the inferential statistics section, to test the hypotheses and given that the assumptions of ANCOVA and MANCOVA were met, these tests were used for statistical analysis. Data analysis was performed using SPSS version 21.

3. Findings and Results

In this study, among the total of 30 university entrance exam candidates who participated, 15 individuals (50%) were assigned to the experimental group and 15 individuals (50%) to the control group. Table 1 presents the descriptive statistics for the variables of anxiety and sleep, separated by group.

Table 1

Mean and Standard Deviation of Anxiety and Sleep Quality Variables by Group

Variable	Stage	Pre-test Mean	Pre-test SD	Post-test Mean	Post-test SD
Anxiety (Experimental)		31.46	5.66	20.73	5.93
Anxiety (Control)		30.00	8.78	33.86	6.33
Sleep latency (Experimental)		1.80	1.01	0.66	0.81
Sleep duration (Experimental)		1.33	0.61	2.06	0.79
Sleep efficiency (Experimental)		1.80	0.94	3.66	0.72
Sleep disturbances (Experimental)		1.26	0.70	0.46	0.51
Sleep medication use (Experimental)		0.33	0.48	0.13	0.35
Daytime dysfunction (Experimental)		1.26	0.70	0.40	0.82
Total PSQI score (Experimental)		9.46	2.06	11.13	1.50
Subjective sleep quality (Control)		1.60	0.63	1.46	0.51
Sleep latency (Control)		1.93	1.09	1.66	0.72
Sleep duration (Control)		1.00	0.65	1.13	0.91
Sleep efficiency (Control)		1.86	0.91	1.86	0.83
Sleep disturbances (Control)		1.33	0.81	1.06	0.88
Sleep medication use (Control)		0.27	0.45	0.33	0.48
Daytime dysfunction (Control)		1.20	0.86	1.53	0.91
Total PSQI score (Control)		9.20	1.42	9.06	2.40

As shown in Table 2, in the experimental group, the mean anxiety score in the post-test significantly decreased compared to the pre-test. In contrast, the control group exhibited a slight increase in mean anxiety scores from pre-test to post-test. Moreover, in the experimental group, the mean score of sleep quality and most components related to sleep problems improved significantly in the post-test compared to the pre-test. However, in the control group, no notable change was observed in sleep quality scores and its components from pre-test to post-test.

According to the scoring guide for the PSQI, scores of 6 or higher indicate poor sleep quality. Based on this criterion, participants in both groups had poor sleep quality at pre-test. However, in the post-test, the experimental group's sleep quality improved (mean = 4.13), while the control group continued to experience poor sleep quality (mean = 9.06).

To analyze the data, analysis of covariance (ANCOVA) was used. Prior to performing the statistical test, its assumptions (normal distribution of data, homogeneity of variances, and homogeneity of regression slopes) were examined. The results of the Shapiro-Wilk test showed that the significance levels were greater than 0.05, indicating that the data could be considered normally distributed with high confidence. Therefore, both pre-test and post-test scores of the variables were normally distributed.

To test the homogeneity of variances assumption, Levene's test was used. Results indicated that the significance level in Levene's test was greater than 0.05, confirming the homogeneity of variances between the groups. The assumption of homogeneity of regression slopes was also checked.

Table 2

Multivariate Tests (MANCOVA) for Anxiety and Sleep Quality Variables

Source	Test Name	Value	F	Hypothesis df	Error df	Sig. Level	Partial Eta Squared
Group	Pillai's Trace	0.80	8.80	7	15	0.001	0.80
	Wilks' Lambda	0.19	8.80	7	15	0.001	0.80
	Hotelling's Trace	4.10	8.80	7	15	0.001	0.80
	Roy's Largest Root	4.10	8.80	7	15	0.001	0.80

Table 2 shows the F-statistic, degrees of freedom for the hypothesis, and error distribution. To interpret the significance of the Pillai's Trace, Wilks' Lambda, Hotelling's Trace, and Roy's Largest Root tests, the p-values are used. If the significance level of the effect being tested is less than 0.05, it is considered statistically significant and has a role in the model.

According to the table results, the significance values for all tests were below the 0.05 threshold, indicating that the group effect was statistically significant. Therefore, there is a significant difference between the experimental and control groups in at least one of the dependent variables. To more precisely determine the differences, a one-way ANCOVA was subsequently performed within the MANCOVA framework.

Table 3

One-Way ANCOVA within the MANCOVA Framework for Components of Anxiety and Sleep Quality

Source of Variation	Component	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Group	Anxiety	3.64	1	3.64	0.49	0.02	0.42
	Subjective Sleep Quality	4.78	1	4.78	17.25	0.001	0.45
	Sleep Latency	4.97	1	4.97	11.94	0.002	0.36
	Sleep Duration	0.002	1	0.002	0.004	0.94	0.001
	Sleep Efficiency	9.41	1	9.41	15.38	0.001	0.42
	Sleep Disturbances	2.43	1	2.43	7.12	0.01	0.25
	Use of Sleep Medication	0.17	1	0.17	0.99	0.33	0.04
	Daytime Dysfunction	9.76	1	9.76	11.15	0.003	0.34

According to the results, all components except sleep duration and use of sleep medication showed statistically significant differences between the experimental and control groups, based on a significance level of less than 0.05.

Table 4

Bonferroni Post-Hoc Test to Determine the Direction of the Effect of Psychodrama-Based Group Therapy on Study Variables

Component	Group I	Group J	Mean Difference (I – J)	Std. Error	Sig.
Anxiety	Experimental	Control	-11.33	0.20	0.001
Subjective Sleep Quality	Experimental	Control	0.38	0.20	0.001
Sleep Latency	Experimental	Control	-0.85	0.24	0.002
Sleep Duration	Experimental	Control	0.01	0.28	0.94
Sleep Efficiency	Experimental	Control	1.17	0.30	0.001
Sleep Disturbances	Experimental	Control	-0.59	0.22	0.01
Use of Sleep Medication	Experimental	Control	-0.15	0.15	0.33
Daytime Dysfunction	Experimental	Control	-1.19	0.35	0.003
Total Sleep Score	Experimental	Control	1.19	0.35	0.003

The results of the Bonferroni post-hoc test indicated that there were statistically significant differences between the experimental and control groups across all variables except for *sleep duration* and *use of sleep medication*. In the experimental group, post-test means showed reduced anxiety and improved sleep quality.

4.   Discussion and Conclusion

The aim of this study was to investigate the effect of group therapy based on a psychodrama approach on anxiety and sleep quality in students preparing for the national university entrance examination. The results of the ANCOVA test indicated that the anxiety post-test scores of the experimental group significantly decreased compared to the control group. Therefore, the findings showed that group therapy based on psychodrama was effective in reducing anxiety among entrance exam candidates. This result is consistent with the prior findings (Homai et al., 2022; Jafari et al., 2018; Pourrezaian, 2016; Shefai-Golmakani et al., 2022; Wang et al., 2020).

This finding can be explained by noting that the national entrance exam is the most extensive and comprehensive examination within the Iranian educational system. The competitive environment it creates among students becomes a major source of anxiety during their academic journey. Since university admission in Iran is highly dependent on this exam and academic records, students experience considerable levels of anxiety and stress both before and after the test. The present findings suggest that group therapy with a psychodrama approach is one viable intervention for helping this population of students.

One probable reason for the effectiveness of psychodrama is its performance-based nature. By enabling the reconstruction of anxiety-inducing social scenarios, it helps clients explore the underlying causes of their anxiety in a safe environment—free of fear or shame—and take active steps toward resolving them through repeated dramatizations. With its use of role-playing and creative techniques, psychodrama proves to be particularly suitable and effective for children and adolescents, given that it is more engaging than other methods, especially cognitive-behavioral therapy (Verseh et al., 2017).

In behavioral therapies that rely on reinforcement, structured planning, homework assignments, and similar techniques, the therapist directs and shapes the client's behaviors. In contrast, psychodrama not only focuses clinically on client behavior but also teaches self-management strategies. Moreover, other therapeutic methods rarely allow clients to practice behavior in realistic or even semi-realistic settings. In psychodrama, however, the sessions are so realistic that participants quickly believe they are in an actual situation and respond accordingly (Eshaghi & Bahari, 2019).

In addition to these features, the emphasis on creativity and spontaneity in psychodrama sessions plays an essential role in healing. Valuing the client's creativity and rejecting rigid therapeutic frameworks may be one of the key reasons for the long-term efficacy of psychodrama. Based on these observations, psychodrama—being an experiential, performance-based method—can be effectively utilized to treat anxiety (Basharpour et al., 2018).

Furthermore, psychodrama sessions employ several practical techniques. The monologue technique, for instance, helps clients express their thoughts and emotions, aiding self-awareness and reducing emotional tension that might otherwise erupt in inappropriate contexts. The role reversal technique enables clients to gain accurate insight into anxiety and anxiety-provoking conditions. In future projection, the protagonist is guided to envision future events as if they are occurring in the present moment, thereby gaining greater mastery and the ability to transfer these experiences to real life. In the empty chair technique, individuals achieve a form of self-awareness regarding their anxiety, which significantly contributes to goal-setting and empowerment. The emphasis on creativity and spontaneity in group therapy sessions is another crucial factor in their effectiveness (Seyidabrahimi, 2019). Hence, psychodrama can be regarded as an effective method in reducing anxiety symptoms among entrance exam candidates.

Another finding indicated that psychodrama-based group therapy significantly improved sleep quality in students preparing for the national entrance exam. This result aligns with the prior findings (Shefai-Golmakani et al., 2022; Şimşek et al., 2020).

The entrance exam is a life-defining event for students and causes substantial stress and anxiety, which can lead to sleep problems and poor sleep quality in this group of adolescents. In this regard, Kushki and Haroon Rashidi (2019) demonstrated that treating and reducing anxiety can significantly enhance sleep quality. These researchers asserted that anxiety predicts poor sleep quality, and by understanding this relationship, clinicians can improve sleep quality using anxiety-reducing treatments (Kushki & Haroon Rashidi, 2019). Thus, it can be concluded that psychodrama-based group therapy improves sleep quality among entrance exam candidates by reducing their anxiety levels.

It appears that psychodrama does not directly impact all dimensions of sleep quality; rather, its positive influence on sleep stems from its ability to reduce anxiety. Some theorists believe that theater uniquely connects the conscious and unconscious mind, facilitates emotional processes, and lays the foundation for cognitive processing (Homai et al., 2022). Acquiring cognitive-emotional readiness and achieving this

connection between conscious and unconscious levels leads to improved insight, self-awareness, reduced resistance, and ultimately the alleviation of psychological symptoms, including anxiety (Ulusoy et al., 2023).

One of the key techniques in psychodrama is role-playing, which may help explain the reduction in anxiety symptoms. Theater inherently possesses purgative and cathartic forces, especially for suppressed and hidden emotions. There is no doubt that catharsis can reduce symptoms of anxiety disorders. In fact, theatrical expression facilitates the release of negative emotions related to initial anxiety-provoking experiences. Psychodrama is rooted in imagination and creativity. Through imagination, role substitution, projection, and other techniques, students can experience various roles—enhancing their psychological flexibility. By engaging in roles they have not encountered in real life, students gain new abilities and rehearse multiple life scenarios through psychodrama (Urrila et al., 2017).

These features of psychodrama—among others—can contribute to anxiety reduction. And reduced anxiety, in turn, improves subjective sleep quality. When individuals experience restful sleep, avoid frequent awakenings, and do not feel pain or discomfort while asleep, the quality of their sleep increases. Moreover, decreased anxiety shortens the time between going to bed and falling asleep. When students are highly anxious, their minds race with intrusive thoughts upon lying down, preventing quick sleep onset. However, when anxiety is reduced (Van Teijlingen et al., 2018), students go to bed with greater calm and fall asleep more quickly.

Additionally, decreased anxiety increases sleep efficiency. When individuals fall asleep without worries, they are less likely to wake due to nightmares, and even if total sleep time is limited, they still wake up feeling refreshed. All of these factors contribute to improved daytime functioning. Students preparing for the entrance exam face high-stakes decisions and must use their time effectively to enhance their chances of success. Thus, reducing sleep time and managing anxiety before the exam may increase the amount of effective study time and improve the probability of success (Veldi et al., 2005).

5.   Limitations & Suggestions

This study was conducted only among students preparing for the national entrance exam in the city of Yazd. Therefore, caution is advised when generalizing the findings to other groups. Another limitation was the lack of extensive theoretical and empirical literature—both domestically and internationally—on the impact of psychodrama on anxiety and sleep. Consequently, it is recommended that future studies be conducted with students in other cities and contexts, and that their findings be compared with the current study to gain a more comprehensive understanding of the effect of psychodrama on anxiety and sleep quality.

It is also suggested that researchers examine the effectiveness of psychodrama-based group therapy for different types of anxiety, such as test anxiety, separation anxiety, and social anxiety, to better understand the therapeutic mechanisms of this approach. Given the findings of this study—that psychodrama-based group therapy can reduce anxiety and improve sleep quality—psychologists and therapists are encouraged to employ psychodrama as an effective method for treating clients suffering from anxiety.

Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

Authors' Contributions

All authors equally contributed to this article.

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